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09-AFC-4

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February 11, 2010

Mr. Joseph Douglas
Project Manager
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

Subject: Response to the Oakley Generating Station Project (09-AFC-4) Data Request
Set 1 (# 1-43)

Dear Mr. Douglas:

On behalf of Contra Costa Generating Station LLC please find attached 13 hard copies and one electronic copy on CD-ROM of the Contra Costa Generating Station LLC's response to Staff Data Request, Set 1 (# 1-43), dated January 19, 2010. Included in this submittal are two hard copies of the **CAISO Transition Cluster Group I Phase I Interconnection Study Report** in response to Data Request 43. This document has been submitted to the CEC under separate cover and in electronic format because of its large size (>500 pages). Additional copies of the CAISO report are available upon request.

If you have any questions, please contact me at (916) 286-0278.

Sincerely,

CH2M HILL


Doug Davy
AFC Project Manager

Attachment

cc: POS List
Project File

ATTACHMENT DR43-1

CAISO Transition Cluster Group 1 Phase I Interconnection Study Report

Transition Cluster Group 1 Phase I Interconnection Study Report

Radback Energy

Contra Costa Generating Station Project

Final Report



California ISO
Your Link to Power

July 28, 2009

This study has been completed in coordination with Pacific Gas & Electric per CAISO Tariff Appendix Y Large Generator Interconnection Procedures (LGIP) for Interconnection Requests in a Queue Cluster Window

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1. Executive Summary

Radback Energy, an Interconnection Customer (IC), has submitted a completed Interconnection Request (IR) to the California Independent System Operator Corporation (CAISO) for their proposed Contra Costa Generating Station Project (Project), interconnecting to the CAISO Controlled Grid. The Project is a combined cycle plant consisting of one steam and two gas turbine/generators with a total rated output of 537 MW. With a 17 MW plant auxiliary load, the maximum output to the CAISO Controlled Grid is 520 MW. The proposed Commercial Operation Date of the Project is February 1, 2012. The primary Point of Interconnection (POI) is at Pacific Gas & Electric Company's (PG&E's) Contra Costa Substation in Contra Costa County, California. The IC has selected looping the Contra Costa PP – Moraga 230 kV lines Nos. 1 and 2 into the Project switchyard as an alternative POI.

In accordance with Federal Energy Regulatory Commission (FERC) approved Generation Interconnection Process Reform (GIPR) Large Generator Interconnection Procedures (LGIP), the IC, CAISO, and PG&E have agreed to perform the Transition Cluster Phase 1 Interconnection Study (Phase 1 Study) to determine the impact of the Project on the CAISO Controlled Grid.

Under the new process, Interconnection Requests were processed together in Clusters. Transition Cluster projects are initially grouped for study purposes¹ according to their geographical locations. There were twelve (12) generation projects, including this Project, located in the Greater Bay Area that were assigned to the Transition Cluster Group 1 (Group 1) for the Phase 1 Study. This study report provides the following:

1. Transmission system impacts caused by the addition of the Group 1 projects,
2. System reinforcements necessary to mitigate the adverse impact of the Group 1 projects under various system conditions,
3. Preliminary evaluation on the feasibility of the Group 1 projects on the CAISO Controlled Grid, and
4. A list of required facilities and a non-binding, good faith estimate of this Project's cost responsibility and time to construct these facilities.

To determine the system impacts caused by the interconnection of the Group 1 projects, the Phase 1 study for Group 1 was performed using the following full-loop base cases:

- 2013 Summer Peak Conditions
- 2013 Summer Off-Peak Conditions

¹ These initial groupings of generation projects were primarily for the purpose of organizing the work to be done by various CAISO and PG&E engineers. Grouping of the generation projects for cost allocation purposes are based on study results. For example, the Groupings for cost allocation of Delivery Network Upgrades are based on the CAISO's Deliverability Assessment Methodologies posted on the CAISO website.
<http://www.caiso.com/1c44/1c44b5c31cce0.html>

The studies performed for the Group 1 projects included:

- Steady State Power Flow Analyses
- System Fault Duty Analyses
- Dynamic Stability Analyses
- Reactive Power Deficiency Analyses
- On-Peak Deliverability Assessment
- System Protection Requirements
- Substation Evaluation
- Transmission Line Evaluation
- Land/Environment Evaluation

The Phase 1 study results have determined that the interconnection of the Group 1 projects to the CAISO Controlled Grid causes new overloads on the following transmission facilities:

Category “A”

- Castro Valley - Newark 230 kV Line
- Cayetano - North Dublin 230 kV Line
- Contra Costa - Brentwood 230 kV Line
- Contra Costa - Delta Pumps 230 kV Line (Contra Costa - Windmaster)
- Contra Costa - Delta Pumps 230 kV Line (Windmaster - Delta Pumps)
- Delta Pumps - Tesla 230 kV Line (Altamont - Delta Pumps)
- Delta Pumps - Tesla 230 kV Line (Altamont - Tesla)
- Kelso - Tesla 230 kV Line (Kelso - USWP RLF)
- Kelso - Tesla 230 kV Line (USWP RLF - Tesla)
- Las Positas - Newark 230 kV Line
- Lonetree - Cayetano 230 kV Line (Lonetree - USWP JRW)
- Lonetree - Cayetano 230 kV Line (USWP JRW - Cayetano)
- Moraga-Castro Valley 230 kV Line
- North Dublin-Vineyard 230 kV Line
- T171 - Tesla 500 kV Line
- Trimble - San Jose B 115 kV Line
- Vineyard - Newark 230 kV Line

Category “B”

- Birds Landing - Contra Costa 230 kV Line
- Brentwood - Kelso 230 kV Line
- Castro Valley - Newark 230 kV Line
- Cayetano - North Dublin 230 kV Line
- Contra Costa - Brentwood 230 kV Line
- Contra Costa - Contra Costa Sub 230 kV Line

- Contra Costa - Delta Pumps 230 kV Line (Contra Costa - Windmaster)
- Contra Costa - Delta Pumps 230 kV Line (Windmaster - Delta Pumps)
- Contra Costa - Las Positas 230 kV Line
- Cooley Landing - Stanford 60 kV Line (Cooley Landing - SRI)
- Delta Pumps - Tesla 230 kV Line (Altamont - Tesla)
- Delta Pumps - Tesla 230 kV Line (Delta Pumps - Altamont)
- Kelso - Tesla 230 kV Line (Kelso - USWP RLF)
- Kelso - Tesla 230 kV Line (USWP RLF - Tesla)
- Las Positas - Newark 230 kV Line
- Lonetree - Cayetano 230 kV Line (Lonetree - USWP JRW)
- Lonetree - Cayetano 230 kV Line (USWP JRW - Cayetano)
- Moraga - Castro Valley 230 kV Line
- Newark 230/115 kV Bank 11
- North Dublin - Vineyard 230 kV Line
- Oakland C - Oakland L 115 kV Line
- Pittsburg 230/181 kV TBC Bank
- Potrero 115/181 kV TBC Bank
- Sobrante - El Cerrito 115 kV Line No. 1
- Sobrante - El Cerrito 115 kV Line No. 2
- Table Mountain - Tesla 500 kV Line
- Tesla - T171 500 kV Line
- Trimble - San Jose B 115 kV Line
- Vaca Dixon – T171 500 kV Line
- Vaca Dixon - T275 230 kV Line No. 1
- Vaca Dixon - T275 230 kV Line No. 2
- Vineyard - Newark 230 kV Line

Category “C”

- Birds Landing - Contra Costa 230 KV Line
- Birds Landing - Contra Costa Sub 230 kV Line
- Brentwood - Kelso 230 kV Line
- Castro Valley - Newark 230 kV Line
- Cayetano - North Dublin 230 kV Line
- Contra Costa - Brentwood 230 kV Line
- Contra Costa - Contra Costa Sub 230 kV Line
- Contra Costa - Delta Pumps 230 kV Line (Contra Costa - Windmaster)
- Contra Costa - Delta Pumps 230 kV Line (Windmaster - Delta Pumps)
- Contra Costa - Las Positas 230 kV Line
- Delta Pumps - Tesla 230 kV Line (Altamont - Tesla)
- Delta Pumps - Tesla 230 kV Line (Delta Pumps - Altamont)
- Eastshore - San Mateo 230 kV Line
- Kelso - Tesla 230 kV Line (Kelso - USWP RLF)
- Kelso - Tesla 230 kV Line (USWP RLF - Tesla)
- Lambie - Birds Landing 230 kV Line
- Las Positas - Newark 230 kV Line
- Lonetree - Cayetano 230 kV Line (Lonetree - USWP JRW)
- Lonetree - Cayetano 230 kV Line (USWP JRW - Cayetano)
- Moraga - Castro Valley 230 kV Line
- Moraga - Claremont 115 kV Line No. 1
- Moraga - Claremont 115 kV Line No. 2
- Newark 230/115 kV Bank 11
- North Dublin - Vineyard 230 kV Line

- Oakland C - Oakland L 115 kV Line
- Oleum - North Tower - Christie 115 kV Line (Christie - Martinez Jct)
- Sobrante - Christie 115 kV Line
- Sobrante - El Cerrito #1 115 kV Line (El Cerrito Jct - Sobrante)
- Sobrante - El Cerrito #2 115 kV Line
- T171 - Tesla 500 kV Line
- Table Mountain - Tesla 500 kV Line
- Trimble - San Jose B 115 kV Line
- Vaca-Dixon - T275 230 kV Line No. 1
- Vaca-Dixon - T275 230 kV Line No. 2
- Vineyard - Newark 230 kV Line
- Westley - Los Banos 230 kV Line

The non-binding construction schedule to engineer and construct the facilities is approximately 24-36 months from the signing of the Large Generator Interconnection Agreement (LGIA).

The non-binding cost estimate of Interconnection Facilities² to interconnect the Project would be approximately **\$600,000** exclusive of ITCC³. The non-binding cost estimate for the Network Upgrades⁴ to interconnect the Project would be approximately **\$71.1 million**.

2. Project and Interconnection Information

Table 2-1 provides general information about the Project.

Table 2-1: Contra Costa Generating Station Project General Information

Project Location	Contra Costa County, California 94561
PG&E Planning Area	San Francisco Greater Bay Area
Number and Type of Generators	Two Gas Turbines (each rated for 174 MW) and One Steam Turbine (rated for 189 MW)
Maximum Generator Output	537 MW
Generator Auxiliary Load	17 MW
Maximum Net Output to Grid	520 MW
Power Factor Range	0.85 Lagging to 0.95 Leading
Step-up Transformer	Three 18/230 kV 135/180/225 MVA Transformers
Description Of Interconnection Configuration	230 kV Bus at Contra Costa Substation
Connection Voltage	230 kV

² The transmission facilities necessary to physically and electrically interconnect the Project to the CAISO Controlled Grid at the point of interconnection.

³ Income Tax Component of Contribution

⁴ The transmission facilities, other than Interconnection Facilities, beyond the point of interconnection necessary to physically and electrically interconnect the Project safely and reliably to the CAISO Controlled Grid

The map displays the following details:

- CONTRA COSTA GENERATING STATION:** Located in the upper center, with a blue rectangular icon representing the facility.
- CONTRA COSTA SUBSTATION:** Located in the lower right, with a yellow star icon representing the substation.
- Power Lines:**
 - 60 KV:** Labeled in red text, running horizontally across the middle of the map.
 - 230 KV:** Labeled in red text, running diagonally from the bottom left towards the center.
 - 60 KV:** Labeled in red text, running vertically on the right side of the map.
- Roads:**
 - 800 SECOND STREET:** Located at the top left.
 - VERA AVE:** Located on the right side.
 - STATE ROUTE 108:** Labeled in red text at the bottom right.
 - HILLCREST AVE:** Labeled in red text at the bottom right.
 - ANTIOCH STREET:** Labeled in red text on the left side.
 - ANTIOCH RD:** Labeled in red text on the left side.
 - ANTIOCH BLVD:** Labeled in red text at the bottom left.
- Geographical Features:**
 - Water:** Represented by light blue areas at the top and bottom of the map.
 - Land:** Represented by yellow and green areas.
 - Buildings:** Represented by small yellow and green icons.
- Text Labels:**
 - ANTIOCH CSO**
 - ANTIOCH**
 - Owner: nonPGE**
 - GIS ID: 70526**
 - SAP Funct Loc**
 - CONTRA COSTA ACT**
 - 2111 HILLCREST AVE**
 - ANTIOCH**
 - Owner: PGE**
 - GIS ID: 71953**
 - SAP Funct Loc**
 - CONTRA COSTA**
 - 2111 HILLCREST AVE**
 - ANTIOCH**
 - Owner: PGE**
 - GIS ID: 71374**
 - SAP Funct Loc #: ETS-24-10056**

5

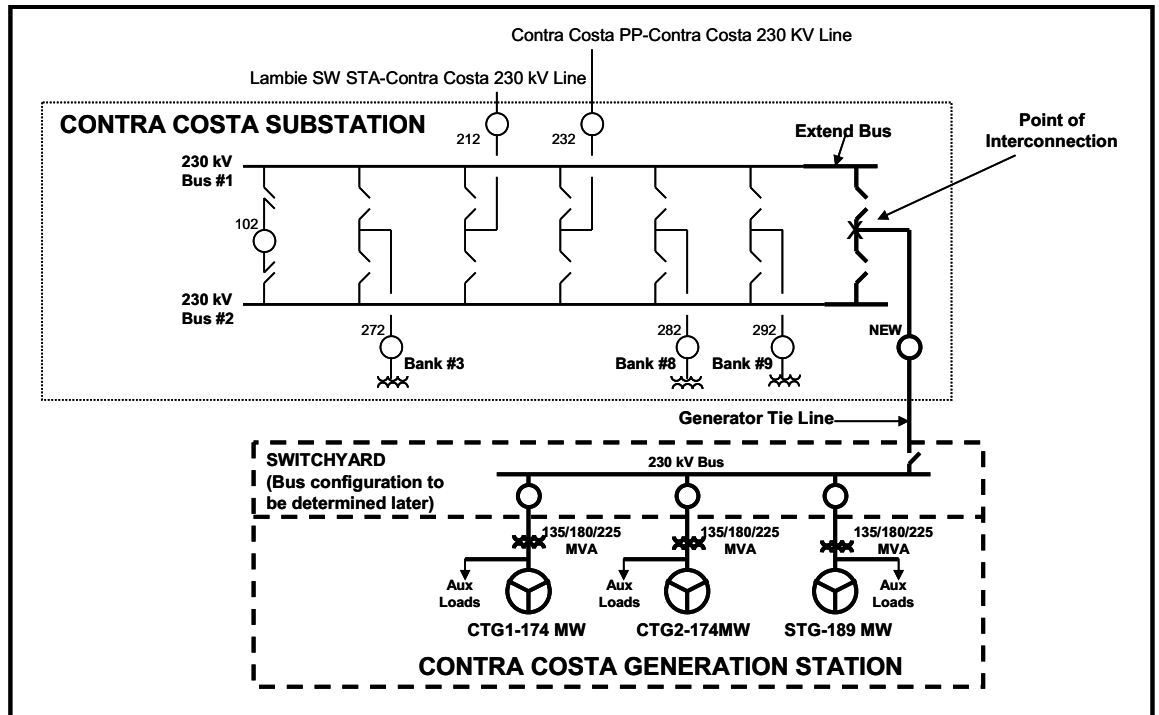


Figure 2-2: Proposed Single Line Diagram

3. Study Assumptions

Under the direction of the CAISO, PG&E conducted the Phase 1 Study using the following assumptions:

1. The Project consists of two combustion turbine generators (CTG) and one steam turbine generator (STG). Each CTG is rated for 174 MW, and the STG is rated for 189 MW. The project's rated output is 537 MW. With a total plant auxiliary load of 17 MW, the net output to the CAISO Controlled Grid is 520 MW.
2. The expected Commercial Operation Date of the Project is February 1, 2012.
3. The Project employs three (3) step-up transformers. Each is a three-phase, 18/230 kV transformer rated for 135/180/225 MVA OA/FA/FOA @ 55 degree C temperature rise with an impedance of 10% at 135 MVA base.
4. The IC will engineer, procure, construct, own, and maintain its project facility, including a new switchyard.
5. The IC shall specify whether PG&E or the IC itself will engineer, procure, construct, own, operate, and maintain the generator tie line from Contra Costa Substation to the Project facility. The generator tie line is about 2.3 miles long with 1590 kcmil coreopsis conductor (note this is not a PG&E standard supply transmission line conductor).

6. The Phase 1 Study for Transition Cluster Group 1 is based on twelve projects including this Project. Table 3-1 is the list of the projects in this group.

Table 3-1: Transition Cluster Phase I Group 1 Generation Interconnection Projects in the Greater Bay Area

Queue	MW	Point of Interconnection	Online Date
171	500	Vaca-Tesla 500 kV Line	12/31/2011
222	60	Birds Landing Substation 230 kV Bus	12/31/2010
257	575	Loop Ignacio-Sobrante and Lakeville-Sobrante #2 230 kV Lines	6/1/2011
258	520	Contra Costa Substation 230 kV Bus	2/1/2012
269	371.3	Tesla Substation 230 kV Bus	4/15/2012
275	630	Loop Vaca Dixon-Peabody and Vaca-Lambie 230 kV Lines	9/1/2012
305	611	Contra Costa Power Plant 230 kV Switchyard	7/30/2012
320	476	Contra Costa Power Plant 230 kV Switchyard	4/29/2011
322	611	Pittsburg Power Plant 230 kV Switchyard	9/30/2012
334	193.6	Kelso Substation 230 kV Bus	6/1/2012
378	123	Los Esteros Substation 115 kV Bus	6/1/2011
417	36	Pittsburg-Tesla 230 kV Line	9/30/2010

4. Power Flow Study Base cases

Two power flow base cases were used to evaluate the transmission system impacts of the Group 1 projects. While it is impractical to study all combinations of system load and generation levels during all seasons and at all times of the day, these two base cases represented extreme loading and generation conditions for the study area.

The CAISO and PG&E cannot guarantee that the Group 1 projects can operate at maximum rated output 24 hours a day, year round, without adverse system impacts, nor can the CAISO and PG&E guarantee that these projects would not

have adverse system impacts during the times and seasons not studied in the Phase 1 Study.

The following power flow base cases were used for the analysis in the Phase 1 Study:

- **2013 Summer Peak Full Loop Base Case:**

Power flow analysis were performed using PG&E's 2013 summer peak full loop base case (in General Electric Power Flow format). This base case was developed from PG&E's 2008 base case series. It has a 1-in-10 year heat wave load forecast for PG&E's Greater Bay Area.

- **2013 Summer Off-Peak Full Loop Base Case:**

Power flow analysis were performed using the 2013 summer off peak full loop base case in order to evaluate the potential congestion on transmission facilities during the lightest loading conditions during the year. The summer 2013 off peak loads are about 50% of the summer peak loads.

These base cases modeled all approved PG&E transmission projects that would be operational by 2013. The base cases also modeled all proposed generation projects that would be operational by 2013 along with their associated transmission upgrades required for their interconnection. The base case assumptions are provided in [Appendix B](#). However, some generation projects that are electrically far from the proposed project were either turned off or modeled with reduced generation to balance the loads and resources in the power flow model.

5. Study Criteria Summary

The CAISO Controlled Grid Reliability Criteria, which incorporate the Western Electricity Coordinating Council (WECC) and the North American Electric Reliability Council (NERC) planning criteria, were used to evaluate the impact of the Group 1 projects on the CAISO Controlled Grid.

5.1 Steady State Study Criteria – Normal Overloads

Normal overloads are those that exceed 100 percent of normal facility ratings. The CAISO Controlled Grid Reliability Criteria requires the loading of all transmission system facilities be within their normal ratings.

5.2 Steady State Study Criteria – Emergency Overloads

Emergency overloads are those that exceed 100 percent of emergency ratings. The emergency overloads refer to overloads that occur during single element contingencies (Category "B") and multiple element contingencies (Category "C").

6. Steady State Power Flow Study and Results

6.1 Contingencies

The Category “B” and “C” contingencies used in this analysis are provided in [Appendix C](#). The single (Category “B”) and selected multiple (Category “C”) contingencies are summarized in Table 6-1:

Table 6-1: Summary of Planning Standards

Contingencies	Description
CAISO Category “A”	All facilities in service – Normal Conditions
CAISO Category “B”	• B1 - All single generator outages. • B2 - All single transmission circuit outages. • B3 - All single transformer outages. • Selected overlapping single generator and transmission circuit outages for the transmission lines and generators.
CAISO Category “C”	• C1 - SLG Fault, with Normal Clearing: Bus outages (60-230 kV) • C2 - SLG Fault, with Normal Clearing: Breaker failures (excluding bus tie and sectionalizing breakers) at the same bus section above. • C3 - Combination of any two-generator/transmission line/transformer outages. • C4 - Bipolar (dc) Line • C5 - Outages of double circuit tower lines (60-230 kV) • C6 - SLG Fault, with Delayed Clearing: Generator • C7 - SLG Fault, with Delayed Clearing: Transmission Line • C8 - SLG Fault, with Delayed Clearing: Transformer • C9 - SLG Fault, with Delayed Clearing: Bus Section

- Although most of the CAISO Category “C” contingencies have been considered as part of this study, it is impractical to study all the CAISO Category “C” contingencies. For this reason, selected critical Category C contingencies (C1 – C9) were evaluated as part of this study.

6.2 Study Results

The overloads caused by the Transition Cluster Group 1 projects and the overload plots are shown in [Appendix D](#). The worst overloads for each facility under the contingencies studied are summarized in Tables 6-2-1, 6-2-2, and 6-2-3.

6.2.1 Normal Overloads (Category “A”)

- Under projected 2013 summer peak conditions, the Group 1 projects caused seventeen (17) new Category “A” normal overloads. Under projected 2013 summer off-peak conditions, the Group 1 projects caused four (4) new normal overloads which are already shown in the

summer peak conditions. The Category “A” normal overloads are summarized in Table 6-2-1.

Table 6-2-1: Summer Peak and Off-Peak Study Category "A" Normal Violations

Over Loaded Component	Rating (Amps)	Pre- Project Loading(Amps [%Rating)		Post- Project Loading(Amps [%Rating)		% Change from Pre- Project Loading	Mitigation
Category A Normal Overloads – 2013 Summer Peak Greater Bay Area Transition Cluster							
Castro Valley - Newark 230 kV Line	743	503	67%	781	105%	38%	Reconductor with 795 ACSS or equivalent (23 miles)
Cayetano - North Dublin 230 kV Line	1004	707	70%	1023	102%	32%	Install 230 kV Switching Station. Loop Lonetree- Cayetano, Contra Costa-Las Positas, and North Dublin Vineyard 230 kV Lines. No reconductor.
Contra Costa - Brentwood 230 kV Line	826	718	87%	1108	134%	47%	Reconductor with 954 ACSS or equivalent (10 miles)
Contra Costa - Delta Pumps 230 kV Line (Contra Costa - Windmaster)	826	637	77%	1287	156%	79%	Reconductor with 1113 ACSS or equivalent (17 miles)
Contra Costa - Delta Pumps 230 kV Line (Windmaster - Delta Pumps)	826	634	77%	1285	156%	79%	Reconductor with 1113 ACSS or equivalent (1.4 miles)
Delta Pumps - Tesla 230 kV Line (Altamont - Delta Pumps)	996	631	63%	1282	129%	66%	Reconductor with 1113 ACSS or equivalent (4.7 miles)
Delta Pumps - Tesla 230 kV Line (Altamont - Tesla)	996	631	63%	1281	129%	66%	Reconductor with 1113 ACSS or equivalent (3 miles)
Kelso - Tesla 230 kV Line (Kelso - USWP RLF)	997	399	40%	1261	127%	87%	Reconductor with 1113 ACSS or equivalent (3.3 miles)
Kelso - Tesla 230 kV Line (USWP RLF - Tesla)	997	412	41%	1277	128%	87%	Reconductor with 1113 ACSS or equivalent (4.7 miles)
Las Positas - Newark 230 kV Line	743	743	83%	999	134%	51%	Reconductor with 954 ACSS or equivalent (21 miles)
Lonetree - Cayetano 230 kV Line (Lonetree - USWP JRW)	886	767	87%	1083	122%	35%	Reconductor with 954 ACSS (12 miles)
Lonetree - Cayetano 230 kV Line (USWP JRW - Cayetano)	886	764	86%	1081	122%	36%	Install 230 kV Switching Station. Loop Lonetree- Cayetano, Contra Costa-Las Positas, and North Dublin Vineyard 230 kV Lines. Reconductor with 954 ACSS (3 miles)

Moraga - Castro Valley 230 kV Line	911	688	76%	965	106%	30%	Reconductor with 795 ACSS or equivalent (15 miles)
North Dublin - Vineyard 230 kV Line	886	654	74%	969	109%	35%	Reconductor with 954 ACSS (10 miles)
T171 - Tesla 500 kV Line	2430	1821	75%	2636	108%	33%	Congestion Management
Trimble - San Jose B 115 kV Line	703	427	61%	728	104%	43%	Reconductor with 477 ACSS or equivalent (1.1 miles)
Vineyard - Newark 230 kV Line	743	440	59%	749	101%	42%	Reconductor with 954 ACSS (14 miles)
Category A Normal Overloads – 2013 Summer Off Peak Greater Bay Area Transition Cluster							
Contra Costa - Delta Pumps 230 kV Line (Contra Costa - Windmaster)	826	86	10%	1187	144%	134%	Reconductor with 1113 ACSS or equivalent (17 miles)
Contra Costa - Delta Pumps 230 kV Line (Windmaster - Delta Pumps)	826	169	21%	1279	155%	134%	Reconductor with 1113 ACSS or equivalent (1.4 miles)
Kelso - Tesla 230 kV Line (Kelso - USWP RLF)	997	81	8%	1178	118%	110%	Reconductor with 1113 ACSS or equivalent (3.3 miles)
Kelso - Tesla 230 kV Line (USWP RLF - Tesla)	997	74	7%	1200	120%	113%	Reconductor with 1113 ACSS or equivalent (4.7 miles)

6.2.2 Emergency Overloads (Category “B”)

Under projected 2013 summer peak conditions, the Group 1 projects caused thirty five (35) new Category “B” emergency overloads. Under projected 2013 summer off-peak conditions, the Group 1 projects caused nine (9) new Category “B” emergency overloads which also showed up in the summer peak conditions. The Category “B” emergency overloads are summarized in Table 6-2-2.

Table 6-2-2: Summer Peak and Off Peak Study, Category "B" Emergency Overloads

Over Loaded Component	Contingency	Rating (Amps)	Pre- Project Loading (Amps %Rating)	Post-Project Loading (Amps %Rating)	% Change from Pre-Project Loading	Mitigations
Worst Category B Emergency Overloads - 2013 Summer Peak Greater Bay Area Transition Cluster						
Birds Landing-Contra Costa 230 kV Line	Contra Costa - Contra Costa Sub 230 kV Line and Gateway PP	1893	1713 90%	2597 137%	47%	Loop Contra Costa-Moraga No. 1 230 kV Line into Contra Costa Sub.
Brentwood - Kelso 230 kV Line	Contra Costa - Delta Pumps 230 kV Line	1129	584 52%	1136 101%	49%	Congestion Management
Castro Valley - Newark 230 kV Line	T171 - Tesla 500 kV Line	851	636 75%	1022 120%	45%	Reconductor with 795 ACSS or equivalent (23 miles)
Castro Valley - Newark 230 kV Line	Contra Costa - Las Positas 230 kV Line and RCEC STG1	851	652 77%	977 115%	38%	Reconductor with 795 ACSS or equivalent (23 miles)

Over Loaded Component	Contingency	Rating (Amps)	Pre- Project Loading (Amps %Rating)		Post-Project Loading (Amps %Rating)		% Change from Pre-Project Loading	Mitigations
Cayetano - North Dublin 230 kV Line	Contra Costa - Las Positas 230 kV Line and RCEC STG1	1004	875	87%	1249	124%	37%	Install 230 kV Switching Station. Loop Lonetree-Cayetano, Contra Costa-Las Positas, and North Dublin Vineyard 230 kV Lines. No reconductor.
Contra Costa - Brentwood 230 kV Line	Delta Pumps - Tesla 230 kV Line	1130	876	78%	1434	127%	49%	Reconductor with 954 ACSS or equivalent (10 miles)
Contra Costa - Contra Costa Sub 230 kV Line	Birds Landing - Contra Costa 230 kV Line and Gateway PP	1893	1599	84%	2786	147%	63%	Loop Contra Costa-Moraga No. 1 230 kV Line into Contra Costa Sub.
Contra Costa - Delta Pumps 230 kV Line (Contra Costa - Windmaster)	Kelso - Tesla 230 kV Line	1130	754	67%	1667	148%	81%	Reconductor with 1113 ACSS or equivalent (17 miles)
Contra Costa - Delta Pumps 230 kV Line (Windmaster - Delta Pumps)	Kelso - Tesla 230 kV Line	1130	752	67%	1665	147%	80%	Reconductor with 1113 ACSS or equivalent (1.4 miles)
Contra Costa - Las Positas 230 kV Line	Contra Costa - Lonetree 230 kV Line and DEC	1714	1186	69%	1650	96%	27%	None (Corrected rating)
Cooley Landing-Stanford 60 kV Line (Cooley Landing-SRI)	Cardinal Units #1 and #2	600	553	92%	622	104%	12%	PG&E project will replace limiting 600A switches to utilize conductor emergency rating of 703A.
Delta Pumps - Tesla 230 kV Line (Altamont - Tesla)	Kelso - Tesla 230 kV Line	1130	748	66%	1662	147%	81%	Reconductor with 1113 ACSS or equivalent (3 miles)
Delta Pumps - Tesla 230 kV Line (Delta Pumps - Altamont)	Kelso - Tesla 230 kV Line	1130	748	66%	1663	147%	81%	Reconductor with 1113 ACSS or equivalent (4.7 miles)
Kelso- Tesla 230 kV Line (Kelso - USWP RLF)	Contra Costa - Delta Pumps 230 kV Line	1129	557	49%	1599	140%	91%	Reconductor with 1113 ACSS or equivalent (3.3 miles)
Kelso - Tesla 230 kV Line (USWP RLF - Tesla)	Contra Costa - Delta Pumps 230 kV Line	1129	571	51%	1599	140%	89%	Reconductor with 1113 ACSS or equivalent (4.7 miles)
Las Positas - Newark 230 kV Line	Contra Costa - Lonetree 230 kV Line	851	788	93%	1228	144%	51%	Reconductor with 954 ACSS or equivalent (21 miles)
Lonetree - Cayetano 230 kV Line (Lonetree - USWP JRW)	Contra Costa - Las Positas 230 kV Line and RCEC STG1	1005	934	93%	1310	130%	37%	Reconductor with 954 ACSS (12 miles)

Over Loaded Component	Contingency	Rating (Amps)	Pre- Project Loading (Amps %Rating)		Post-Project Loading (Amps %Rating)		% Change from Pre-Project Loading	Mitigations
Lonetree - Cayetano 230 kV Line (USWP JRW - Cayetano)	Contra Costa - Las Positas 230 kV Line and RCEC STG1	1005	932	93%	1307	130%	37%	Install 230 kV Switching Station. Loop Lonetree-Cayetano, Contra Costa-Las Positas, and North Dublin Vineyard 230 kV Lines. Reconductor with 954 ACSS (3 miles)
Moraga - Castro Valley 230 kV Line	T171 - Tesla 500 kV Line	1021	823	81%	1210	119%	38%	Reconductor with 795 ACSS or equivalent (15 miles)
Moraga - Castro Valley 230 kV Line	Contra Costa - Las Positas 230 kV Line and RCEC STG1	1021	837	82%	1163	114%	32%	Reconductor with 795 ACSS or equivalent (15 miles)
Newark 230/115 kV Bank 11	Newark 230/115 kV Bank 7	462 MVA	443 MVA	96%	502 MVA	109%	13%	Congestion Management
North Dublin - Vineyard 230 kV Line	Contra Costa - Las Positas 230 kV Line and RCEC STG1	1005	822	82%	1196	119%	37%	Install 230 kV Switching Station. Loop Lonetree-Cayetano, Contra Costa-Las Positas, and North Dublin Vineyard 230 kV Lines. Reconductor with 954 ACSS (10 miles)
Oakland C - Oakland L 115 kV Line	Moraga - San Ramon 230 kV Line and DEC	790	772	98%	828	105%	7%	Congestion Management
Pittsburg 230/181 kV TBC Bank	Pittsburg - San Mateo 230 kV Line and DEC	450 MVA	427 MVA	95%	462 MVA	103%	8%	Congestion Management
Potrero 115/181 kV TBC Bank	Moraga - San Ramon 230 kV Line	450 MVA	408 MVA	94%	456 MVA	101%	7%	Congestion Management
Sobrante - El Cerrito #1 115 kV Line	Sobrante - El Cerrito #2 115 kV Line	600	570	95%	619	103%	8%	Replace 600A disconnect switches to use full line capability of 802A emergency rating.
Sobrante - El Cerrito #2 115 kV Line	Sobrante - El Cerrito #1 115 kV Line	600	571	95%	620	103%	8%	Replace 600A disconnect switches to use full line capability of 802A emergency rating.
Table Mountain - Tesla 500 kV Line	T171- Tesla 500 kV Line	2964	2501	84%	3071	104%	20%	Congestion Management
Tesla - T171 500 kV Line	Olinda - Tracy 500 kV Line	2816	2663	95%	3559	126%	31%	Congestion Management
Trimble - San Jose B 115 kV Line	Tesla - Metcalf 500 kV Line	924	614	67%	1071	116%	49%	Reconductor with 477 ACSS or equivalent (1.1 miles) Rerate underground section to match rating of overhead conductors.
Vaca-Dixon - T171 500 kV Line	Olinda - Tracy 500 kV Line	2816	2663	95%	3007	107%	12%	Congestion Management
Vaca-Dixon - T275 #1 230 kV Line	Vaca-Dixon - T275 #2 230 kV Line	1893	657	35%	2269	120%	85%	Reconductor with 2-795 ACSS (5 Miles)

Over Loaded Component	Contingency	Rating (Amps)	Pre- Project Loading (Amps %Rating)		Post-Project Loading (Amps %Rating)		% Change from Pre-Project Loading	Mitigations
Vaca-Dixon - T275 #2 230 kV Line	Vaca-Dixon - T275 #1 230 kV Line	1893	349	19%	2269	120%	101%	Reconductor with 2-795 ACSS (5 Miles)
Vineyard - Newark 230 kV Line	Contra Costa - Las Positas 230 kV Line and RCEC STG1	851	607	71%	975	115%	44%	Reconductor with 954 ACSS (14 miles)
Category B Emergency Overloads - 2013 Summer Off Peak Greater Bay Area Transition Cluster								
Contra Costa - Delta Pumps 230 kV Line (Contra Costa - Windmaster)	Kelso - Tesla 230 kV Line	1130	81	7%	1542	136%	129%	Reconductor with 1113 ACSS or equivalent (17 miles)
Contra Costa - Delta Pumps 230 kV Line (Windmaster - Delta Pumps)	Kelso - Tesla 230 kV Line	1130	155	14%	1633	145%	131%	Reconductor with 1113 ACSS or equivalent (1.4 miles)
Contra Costa Sub - Contra Costa 230 kV Line	Birds Landing - Contra Costa 230 kV Line	1893	1360	72%	2025	107%	35%	Loop Contra Costa-Moraga No. 1 230 kV Line into Contra Costa Sub.
Delta Pumps - Tesla 230 kV Line (Altamont - Tesla)	Kelso - Tesla 230 kV Line	1130	261	23%	1266	112%	89%	Reconductor with 1113 ACSS or equivalent (3 miles)
Delta Pumps - Tesla 230 kV Line (Delta Pumps - Altamont)	Kelso - Tesla 230 kV Line	1130	260	23%	1267	112%	89%	Reconductor with 1113 ACSS or equivalent (4.7 miles)
Kelso - Tesla 230 kV Line (Kelso - USWP RLF)	Contra Costa - Delta Pumps 230 kV Line	1129	74	7%	1480	131%	124%	Reconductor with 1113 ACSS or equivalent (3.3 miles)
Kelso - Tesla 230 kV Line (USWP RLF - Tesla)	Contra Costa - Delta Pumps 230 kV Line	1129	73	7%	1503	133%	126%	Reconductor with 1113 ACSS or equivalent (4.7 miles)
Vaca-Dixon - T275 #1 230 kV Line	Vaca-Dixon - T275 #2 230 kV Line	1893	484	26%	2747	145%	119%	Reconductor with 2-795 ACSS (5 Miles)
Vaca-Dixon - T275 #2 230 kV Line	Vaca-Dixon - T275 #1 230 kV Line	1893	338	18%	2747	145%	127%	Reconductor with 2-795 ACSS (5 Miles)

6.2.3 Emergency Overloads (Category “C”)

Under the projected 2013 summer peak conditions, the Group 1 projects caused thirty nine (39) new Category “C” emergency overloads. Under projected 2013 summer off peak conditions, the Group 1 projects caused fourteen (14) new Category “C” emergency overloads which also showed up in the summer peak conditions. The Category “C” emergency overloads are summarized in Table 6-2-3.

Table 6-2-3: Summer Peak and Off-Peak Study, Category "C" Overloads

Over Loaded Component	Contingency	Rating	Pre- Project	Post-Project	% Change from Pre-Project Loading	Mitigations
		(Amps)	Loading (Amps %Rating)	Loading (Amps %Rating)		
Worst Category C Emergency Overloads - 2013 Summer Peak Greater Bay Area Transition Cluster						

Over Loaded Component	Contingency	Rating (Amps)	Pre- Project Loading (Amps %Rating)		Post-Project Loading (Amps %Rating)		% Change from Pre-Project Loading	Mitigations
Birds Landing - Contra Costa 230 kV Line	Contra Costa Sub 230 kV Bus Section 2	1893	1465	77%	2370	125%	48%	Install SPS to drop generation.
Birds Landing - Contra Costa Sub 230 kV Line	Vaca-Dixon - T275 #1 and #2 230 kV Lines	1893	1340	71%	1992	105%	34%	Install SPS to drop generation.
Brentwood - Kelso 230 kV Line	Contra Costa 230 kV Bus Section 2F	1129	515	46%	1289	114%	68%	Congestion Management
Castro Valley - Newark 230 kV Line	Contra Costa - Las Positas and Contra Costa - Lonetree 230 kV Lines	851	812	95%	1198	141%	46%	Reconductor with 795 ACSS or equivalent (23 miles)
Cayetano - North Dublin 230 kV Line	Contra Costa - Brentwood and Contra Costa - Delta Pumps 230 kV Lines	1004	873	87%	1323	132%	45%	Install 230 kV Switching Station. Loop Lonetree-Cayetano, Contra Costa-Las Positas, and North Dublin Vineyard 230 kV Lines. No reconductor.
Contra Costa - Brentwood 230 kV Line	Contra Costa 230 kV Bus Section 2F	1130	803	71%	1590	141%	70%	Reconductor with 954 ACSS or equivalent (10 miles)
Contra Costa - Contra Costa Sub 230 kV Line	Vaca-Dixon - T275 #1 and #2 230 kV Lines	1893	1265	67%	2973	157%	90%	Loop Contra Costa-Moraga No. 1 230 kV Line into Contra Costa Sub.
Contra Costa - Delta Pumps 230 kV Line (Contra Costa - Windmaster)	Vaca-Dixon - T275 #1 and #2 230 kV Lines	1130	802	71%	1858	164%	93%	Reconductor with 1113 ACSS or equivalent (17 miles)
Contra Costa - Delta Pumps 230 kV Line (Windmaster - Delta Pumps)	Table Mountain-Tesla & T171-Tesla 500 kV DLO	1130	987	87%	1870	166%	79%	Reconductor with 1113 ACSS or equivalent (1.4 miles)
Contra Costa - Delta Pumps 230 kV Line (Windmaster - Delta Pumps)	Vaca-Dixon - T275 #1 and #2 230 kV Lines	1130	799	71%	1856	164%	93%	Reconductor with 1113 ACSS or equivalent (1.4 miles)
Contra Costa - Las Positas 230 kV Line	Contra Costa - Brentwood and Contra Costa - Delta Pumps 230 kV Lines	1714	1207	70%	1786	104%	34%	Install SPS to drop generation.
Contra Costa - Lonetree 230 kV Line	Contra Costa - Brentwood and Contra Costa - Delta Pumps 230 kV Lines	1714	1106	65%	1563	91%	26%	None. Corrected rating.
Delta Pumps - Tesla 230 kV Line (Altamont - Tesla)	Table Mountain-Tesla & T171-Tesla 500 kV DLO	1130	986	87%	1869	165%	78%	Reconductor with 1113 ACSS or equivalent (3 miles)
Delta Pumps - Tesla 230 kV Line (Altamont - Tesla)	Vaca-Dixon - T275 #1 and #2 230 kV Lines	1130	795	70%	1852	164%	94%	Reconductor with 1113 ACSS or equivalent (3 miles)
Delta Pumps - Tesla 230 kV Line (Delta Pumps - Altamont)	Table Mountain-Tesla & T171-Tesla 500 kV DLO	1130	986	87%	1869	166%	79%	Reconductor with 1113 ACSS or equivalent (4.7 miles)
Delta Pumps - Tesla 230 kV Line (Delta Pumps - Altamont)	Vaca-Dixon - T275 #1 and #2 230 kV Lines	1130	796	70%	1853	164%	94%	Reconductor with 1113 ACSS or equivalent (4.7 miles)
East Shore - San Mateo 230 kV Line	Newark - Ravenswood and Tesla - Ravenswood 230 kV Lines	1742	1715	98%	1776	102%	4%	Install SPS to drop generation.

Over Loaded Component	Contingency	Rating (Amps)	Pre- Project Loading (Amps %Rating)		Post-Project Loading (Amps %Rating)		% Change from Pre-Project Loading	Mitigations
Kelso - Tesla 230 kV Line (Kelso - USWP RLF)	Contra Costa 230 kV Bus Section 2F	1129	489	43%	1735	154%	111%	Reconductor with 1113 ACSS or equivalent (3.3 miles)
Kelso - Tesla 230 kV Line (USWP RLF - Tesla)	Contra Costa 230 kV Bus Section 2F	1129	501	44%	1751	155%	111%	Reconductor with 1113 ACSS or equivalent (4.7 miles)
Lambie - Birds Landing 230 kV Line	Contra Costa Sub - Contra Costa and Birds Landing - Contra Costa 230 kV Lines	1893	1182	63%	2077	110%	47%	Install SPS to drop generation.
Las Positas - Newark 230 kV Line	Contra Costa - Brentwood and Contra Costa - Delta Pumps 230 kV Lines	851	818	96%	1359	160%	64%	Reconductor with 954 ACSS or equivalent (21 miles)
Lonetree - Cayetano 230 kV Line (Lonetree - USWP JRW)	Contra Costa - Brentwood and Contra Costa - Delta Pumps 230 kV Lines	1005	933	93%	1382	137%	44%	Reconductor with 954 ACSS (12 miles)
Lonetree - Cayetano 230 kV Line (USWP JRW - Cayetano)	Contra Costa - Brentwood and Contra Costa - Delta Pumps 230 kV Lines	1005	930	93%	1380	137%	44%	Install 230 kV Switching Station. Loop Lonetree- Cayetano, Contra Costa-Las Positas, and North Dublin Vineyard 230 kV Lines. Reconductor with 954 ACSS (3 miles)
Moraga - Castro Valley 230 kV Line	Contra Costa - Las Positas and Contra Costa - Lonetree 230 kV Lines	1021	997	98%	1383	135%	37%	Reconductor with 795 ACSS or equivalent (15 miles)
Moraga - Claremont #1 115 kV Line	Oakland C 115 kV Bus Section E	472	456	97%	490	104%	7%	Rerate with 4 fps wind speed.
Moraga - Claremont #2 115 kV Line	Oakland C 115 kV Bus Section E	472	456	97%	490	104%	7%	Rerate with 4 fps wind speed.
Newark 230/115 kV Bank 11	Newark 230 kV Bus Section 1D	462 MVA	450 MVA	97%	507 MVA	110%	13%	Congestion Management.
North Dublin - Vineyard 230 kV Line	Contra Costa - Brentwood and Contra Costa - Delta Pumps 230 kV Lines	1005	820	82%	1268	126%	44%	Install 230 kV Switching Station. Loop Lonetree- Cayetano, Contra Costa-Las Positas, and North Dublin Vineyard 230 kV Lines. Reconductor with 954 ACSS (10 miles)
Oakland C-Oakland L 115 kV Line	Sobrante 115 kV Bus Section 2	790	847	107%	883	112%	5%	Congestion Management
Oleum - North Tower - Christie 115 kV Line (Christie - Martinez Jct)	Sobrante - El Cerrito #1 and #2 115 kV Lines	522	460	88%	536	103%	15%	Rerate with 4 fps wind speed.
Sobrante - Christie 115 kV Line	Sobrante - El Cerrito #1 and #2 115 kV Lines	523	532	102%	596	114%	12%	Rerate with 4 fps wind speed.
Sobrante - El Cerrito #1 115 kV Line (El Cerrito Jct - Sobrante)	El Cerrito 115 kV Bus Section E	600	581	97%	619	103%	6%	Replace 600A disconnect switches to use full line capability of 802A emergency rating.

Over Loaded Component	Contingency	Rating (Amps)	Pre- Project Loading (Amps %Rating)		Post-Project Loading (Amps %Rating)		% Change from Pre-Project Loading	Mitigations
Sobrante - El Cerrito #2 115 kV Line	Sobrante 115 kV Bus Section 1	600	694	116%	794	132%	16%	Replace 600A disconnect switches to use full line capability of 802A emergency rating.
T171 - Tesla 500 kV Line	Contra Costa Sub - Contra Costa and Birds Landing - Contra Costa 230 kV Lines	2816	2151	76%	3205	114%	38%	Congestion Management
Table Mountain - Tesla 500 kV Line	T171 - Tesla 500 kV and Peabody - Birds Landing 230 kV Lines	2763	2411	81%	3041	103%	22%	Congestion Management
Trimble - San Jose B 115 kV Line	Metcalf - El Patio #1 and #2 115 kV Lines	924	957	104%	1160	126%	22%	Rerate new 477 ACSS with 4 fps wind speed. Rerate underground section to match rating of the overhead conductors.
Vaca-Dixon - T275 #1 230 kV Line	Contra Costa Sub - Contra Costa and Birds Landing - Contra Costa 230 kV Lines	1893	1529	81%	2616	138%	57%	Reconductor with 2-795 ACSS (5 Miles)
Vaca-Dixon - T275 #2 230 kV Line	Contra Costa Sub - Contra Costa and Birds Landing - Contra Costa 230 kV Lines	1893	778	41%	2616	138%	97%	Reconductor with 2-795 ACSS (5 Miles)
Vineyard - Newark 230 kV Line	Contra Costa - Brentwood and Contra Costa - Delta Pumps 230 kV Lines	851	604	71%	1047	123%	52%	Install 230 kV Switching Station. Loop North Dublin-Vineyard, Cayetano, Las Positas-Newark, and Vineyard-Newark 230 kV Lines. Reconductor with 954 ACSS (14 miles)
Westley - Los Banos 230 kV Line	Tesla-Los Banos & Tracy-Los Banos 500 kV DLO	1700	888	52%	2220	131%	79%	Install SPS to drop generation.
Category C Emergency Overloads - 2013 Summer Off Peak Greater Bay Area Transition Cluster								
Birds Landing - Contra Costa 230 KV Line	Vaca-Dixon - T275 #1 and #2 230 kV Lines	1893	1214	64%	2218	117%	53%	Install SPS to drop generation.
Brentwood - Kelso 230 kV Line	Vaca-Dixon - T275 #1 and #2 230 kV Lines	1129	94	8%	1252	111%	103%	Congestion Management
Contra Costa - Brentwood 230 kV Line	Vaca-Dixon - T275 #1 and #2 230 kV Lines	1130	172	15%	1349	119%	104%	Reconductor with 954 ACSS or equivalent (10 miles)
Contra Costa - Delta Pumps 230 kV Line (Contra Costa - Windmaster)	Vaca-Dixon - T275 #1 and #2 230 kV Lines	1130	217	19%	1870	166%	147%	Reconductor with 1113 ACSS or equivalent (17 miles)
Contra Costa - Delta Pumps 230 kV Line (Windmaster - Delta Pumps)	Vaca-Dixon - T275 #1 and #2 230 kV Lines	1130	305	27%	1963	174%	147%	Reconductor with 1113 ACSS or equivalent (1.4 miles)
Contra Costa Sub - Contra Costa 230 kV Line	Vaca-Dixon - T275 #1 and #2 230 kV Lines	1893	1040	55%	3037	160%	105%	Loop Contra Costa-Moraga No. 1 230 kV Line into Contra Costa Sub.

Over Loaded Component	Contingency	Rating (Amps)	Pre- Project Loading (Amps %Rating)		Post-Project Loading (Amps %Rating)		% Change from Pre-Project Loading	Mitigations
Delta Pumps - Tesla 230 kV Line (Altamont - Tesla)	Vaca-Dixon - T275 #1 and #2 230 kV Lines	1130	144	13%	1591	141%	128%	Reconductor with 1113 ACSS or equivalent (3 miles)
Delta Pumps - Tesla 230 kV Line (Delta Pumps - Altamont)	Vaca-Dixon - T275 #1 and #2 230 kV Lines	1130	142	13%	1592	141%	128%	Reconductor with 1113 ACSS or equivalent (4.7 miles)
Kelso - Tesla 230 kV Line (Kelso - USWP RLF)	Vaca-Dixon - T275 #1 and #2 230 kV Lines	1129	82	7%	1705	151%	144%	Reconductor with 1113 ACSS or equivalent (3.3 miles)
Kelso - Tesla 230 kV Line (USWP RLF - Tesla)	Vaca-Dixon - T275 #1 and #2 230 kV Lines	1129	100	9%	1726	153%	144%	Reconductor with 1113 ACSS or equivalent (4.7 miles)
Lambie - Birds Landing 230 kV Line	Contra Costa Sub - Contra Costa and Birds Landing - Contra Costa 230 kV Lines	1893	1368	72%	2244	119%	47%	Install SPS to drop generation.
Las Positas - Newark 230 kV Line	Vaca-Dixon - T275 #1 and #2 230 kV Lines	851	277	33%	1026	121%	88%	Reconductor with 954 ACSS or equivalent (21 miles)
Vaca-Dixon - T275 #1 230 kV Line	Contra Costa Sub - Contra Costa and Birds Landing - Contra Costa 230 kV Lines	1893	1367	72%	2588	137%	65%	Reconductor with 2-795 ACSS (5 Miles)
Vaca-Dixon - T275 #2 230 kV Line	Contra Costa Sub - Contra Costa and Birds Landing - Contra Costa 230 kV Lines	1893	882	47%	2588	137%	90%	Reconductor with 2-795 ACSS (5 Miles)

7. Short Circuit Current Calculation

Short circuit studies were performed to determine the impact of adding the Group 1 projects to the transmission system and to ensure system coordination. The fault duties were calculated before and after the projects to identify any equipment overstress conditions.

7.1 System Protection Study Input Data

The following input data provided by the Applicant of this Project was used in this study:

CTG Short Circuit Data @ 234 MVA Base:

- Positive Sequence subtransient reactance ($X''1$) = 0.195p.u.
- Negative Sequence subtransient reactance ($X''2$) = 0.151p.u.
- Zero Sequence subtransient reactance ($X''0$) = 0.124p.u.

STG Short Circuit Data @ 250 MVA Base:

- Positive Sequence subtransient reactance ($X''1$) = 0.210p.u.
- Negative Sequence subtransient reactance ($X''2$) = 0.161p.u.
- Zero Sequence subtransient reactance ($X''0$) = 0.133p.u.

Station Step-up Transformers (total of three)

- Each is three-phase 18/230 kV transformer rated for 135/180/225 MVA OA/FA/FOA @ 55 degree C temperature rise with an impedance of 10% at 135 MVA base.

7.2 Results

The available short circuit duty at the buses electrically adjacent to the Group 1 projects is listed in [Appendix H](#). This data was used to determine if any equipment is overstressed by the interconnection of the Group 1 projects.

8. Reactive Power Deficiency Analysis

The power flow studies of Category “B” and “C” contingencies indicate that the Group 1 projects did not cause voltage drops of 5% or more from the pre-project levels, or cause the PG&E system to fail to meet applicable voltage criteria

9. Dynamic Stability Evaluation

Dynamic stability studies were conducted using the 2013 summer peak full loop base cases to ensure that the transmission system remains in operating equilibrium, as well as operating in a coordinated fashion through abnormal operating conditions after the Group 1 projects begin operation. The generator dynamic data used for the study can be found shown in [Appendix E](#).

9.1 Dynamic Stability Study Scenarios

Disturbance simulations were performed for a study period of up to 20 seconds to determine whether the Group 1 projects will create any system instability during a variety of line and generator outages. For this Project, the following line and generator outages were evaluated:

Category “B” Contingencies:

- Full load rejection of the 537 MW Project.
- A three-phase close-in fault on the Contra Costa PP – Contra Costa Substation 230 kV Line at the Contra Costa Substation 230 kV bus

with normal clearing time followed by the loss of the Contra Costa PP – Contra Costa Substation 230 kV Line.

- A three-phase close-in fault on the Birds Landing Switching Station – Contra Costa Substation 230 kV Line at the Contra Costa Substation 230 kV bus with normal clearing time followed by the loss of the Birds Landing Switching Station – Contra Costa Substation 230 kV Line.

Category “C” Contingencies:

- A three-phase fault on the Contra Costa Substation 230 kV bus #1 with normal clearing time.
- A three-phase fault on the Contra Costa Substation 230 kV bus #2 with normal clearing time.
- A three-phase fault on the Contra Costa Substation 230 kV bus #1 with normal clearing time followed by the loss of the Contra Costa PP – Contra Costa Substation 230 kV Line and the Birds Landing Switching Station – Contra Costa Substation 230 kV Line.

9.2 Parameters Monitored to Evaluate System Stability Performance

9.2.1 Rotor Angle

The rotor angle plots shown in [Appendix F](#) provide a measure for determining how the proposed generation units would swing with respect to one another. The plots also provide a measure of how the units would swing with respect to other generation units in the area.

9.2.2 Bus Voltage

The bus voltage plots, in conjunction with the relative rotor angle plots, also shown in [Appendix F](#), provide a means of detecting out-of-step conditions. The bus voltage plots are useful in assessing the magnitude and the duration of post disturbance voltage dips and peak-to-peak voltage oscillations. The bus voltage plots also give an indication of system damping and the level to which voltages are expected to recover in steady state conditions.

9.2.3 Bus Frequency

The bus frequency plots, also shown in [Appendix F](#), provide information on the magnitude and the duration of post fault frequency swings with the Project in service. These plots indicate the extent of possible over-frequency or under-frequency, which can occur because of the imbalance between the generation and load within an area.

9.2.4 Other Parameters

- Generator Terminal Power
- Generator Terminal Voltage
- Generator Rotor Speed
- Generator Field Voltage
- Bus Angle
- Line Flow
- Voltage Spread
- Frequency Spread

9.3 Results

Dynamic stability studies were conducted using the 2013 summer peak base cases described in [Section 4](#) and the generator models shown in [Appendix E](#) to determine whether the transmission system would maintain operating equilibrium following selected outages.

The study concluded that the Project would not cause the transmission system to go unstable under Category “B” and Category “C” outages.

- The results of the study are provided in the form of plots in [Appendix F](#).

10. Deliverability Evaluations

10.1 On Peak Deliverability Assessment

CAISO performed an On-Peak Deliverability Assessment. The power flow study results for Category “A”, “B”, and “C” are detailed in Appendix I.

A modified version of the power flow 2013 Summer Peak base case prepared by PG&E for the reliability analysis was used to evaluate the deliverability of the proposed interconnection and the transmission system impacts of the Project. A description of the modifications follows.

- **Load Modeling**: For the On-Peak Deliverability Study, a coincident 1-in-5-year heat wave was modeled in the base case.
- **Generation Capacity (Pmax)**: The Net Qualified Capacity (NQC) was used for generation capacity values. Capacity values for intermittent generation were modeled as described in the On-Peak Deliverability Assessment Methodology: <http://www.caiso.com/1c44/1c44b5c31cce0.html>

- **Generation Dispatch in the base cases:** Please refer to the On-Peak Deliverability Assessment methodology document on the CAISO web-site: <http://www.caiso.com/1c44/1c44b5c31cce0.html>
- **Import Levels:** The On-Peak Deliverability Study base case modeled the 2009 Maximum Import Capability for each branch group based on the methodology for Import Capability Assignment Process for resource adequacy (CAISO Tariff Section 40.4.6.2.1). These import capabilities were modeled as fully utilized in the base case and are listed in Table 10-1.

10-1: On-Peak Deliverability Assessment Import Target

BG Name	BG Import Dir	Net Import MW	Import Unused ETC MW
Lugo_victrville_BG	N-S	1047	523
COI_BG	N-S	3770	548
BLYTHE_BG	E-W	106	0
CASCADE_BG	N-S	23	0
CFE_BG	S-N	-154	0
ELDORADO_BG	E-W	935	0
IID-SCE_BG	E-W	268	0
IID-SDGE_BG	E-W	-174	163
INYO_BG	E-W	0	0
LAUGHLIN_BG	E-W	0	0
MCCULLGH_BG	E-W	-15	316
MEAD_BG	E-W	539	516
MERCHANT_BG	E-W	425	0
N.GILABK4_BG	E-W	-170	168
NOB_BG	N-S	1449	0
PALOVRDE_BG	E-W	2984	233
PARKER_BG	E-W	66	52
SILVERPK_BG	E-W	9	0
SUMMIT_BG	E-W	-32	15
SYLMAR-AC_BG	E-W	-351	471
Total		10726	3005

11. Transition Cluster Group 1 Overload Mitigations

The preferred method to mitigate these normal as well as Category “B” emergency overloads is to re-conductor these overloaded lines with higher capacity conductors.

For CAISO Category “C” contingencies (according to WECC reliability criteria), the overloads may be mitigated by load shedding or generation dropping. PG&E or CAISO or both may require new generators to take part in and be responsible for the costs of operating procedures and/or Special Protection Systems (SPS) for the Category “C” emergency overloads caused by this Project. Only new Category “C” overload mitigation will be provided in the Phase 1 Study.

11.1 Mitigation for Category “A” Normal Overloads

11.1.1 Castro Valley – Newark 230 kV Line

Limiting Factor		795 ACSR at 2 fps wind speed summer interior rating 743/851 Amps Normal/Emergency. (0.34 miles)	
Pre-project Normal Loading	503 Amps (67%)	Post-project Normal Loading	781 Amps (105%)
Pre-project Emergency Loading	631 Amps (75%)	Post-project Emergency Loading	1022 Amps (120%)
Worst Contingency		T171-Tesla 500 kV Line	
Worst Overload Condition		2013 Summer Peak	

Solution: Re-conductor a total of 22.8 miles of the Castro Valley – Newark 230 kV Line with 795 ACSS or equivalent conductors. The 795 ACSS conductors are rated for 1517 Amps normal/emergency at 2 feet per second (fps) wind speed summer interior. Substation terminal equipment will also be upgraded to match or exceed the ampacity ratings of the new conductors.

11.1.2 Cayetano – North Dublin 230 kV Line

Limiting Factor		1004 Amps Underground at 2 fps wind speed summer interior rating Normal/Emergency (2.8 miles)	
Pre-project Normal Loading	707 Amps (67%)	Post-project Normal Loading	1023 Amps (102%)
Pre-project Emergency Loading	875 Amps (87%)	Post-project Emergency Loading	1249 Amps (124%)
Worst Contingency		Contra Costa-Las Positas 230 kV Line and RCEC STG1	
Worst Overload Condition		2013 Summer Peak	

Solution: Install a 230 kV switching station with a 3-bay BAAH configuration and loop the Lonetree – Cayetano, Contra Costa – Las Positas, and North Dublin – Vineyard 230 kV lines.

11.1.3 Contra Costa – Brentwood 230 kV Line

Limiting Factor		1113 AI at 2 fps wind speed summer interior rating 825 Normal (3.2 miles). 954 ACSR at 4 fps wind speed summer interior rating 1130 Amps Emergency (6.8 miles).	
Pre-project Normal Loading	718 Amps (87%)	Post-project Normal Loading	1108 Amps (134%)
Pre-project Emergency Loading	876 Amps (78%)	Post-project Emergency Loading	1434 Amps (127%)
Worst Contingency		Delta Pumps-Tesla 230 kV Line	
Worst Overload Condition		2013 Summer Peak	

Solution: Re-conductor a total of 10 miles of the Contra Costa – Brentwood 230 kV Line with 954 ACSS or equivalent conductors. The 954 ACSS conductors are rated for 1714 Amps normal/emergency at 2 fps wind speed summer interior. Substation terminal equipment will also be upgraded to match or exceed the ampacity ratings of the new conductors.

11.1.4 Contra Costa – Delta Pumps 230 kV Line (Contra Costa – Windmaster)

Limiting Factor		1113 AI at 2 fps wind speed summer interior rating 825 Amps Normal(0.3 miles) 954 ACSR at 4 fps wind speed summer interior rating 1130 Amps Emergency (16.7miles)	
Pre-project Normal Loading	637 Amps (77%)	Post-project Normal Loading	1287 Amps (156%)
Pre-project Emergency Loading	754 Amps (67%)	Post-project Emergency Loading	1667 Amps (148%)
Worst Contingency		Kelso-Tesla 230 kV Line	
Worst Overload Condition		2013 Summer Peak	

Solution: Re-conductor a total of 17 miles of the Contra Costa – Windmaster 230 kV Line section with 1113 ACSS or equivalent conductors. The 1113 ACSS conductors are rated for 1893 Amps normal/emergency at 2 fps wind speed summer interior. Substation terminal equipment will also be upgraded to match or exceed the ampacity ratings of the new conductors.

11.1.5 Contra Costa – Delta Pumps 230 kV Line (Windmaster – Delta Pumps)

Limiting Factor		1113 AI at 2 fps wind speed summer interior rating 825 Amps Normal (1.1 miles) 954 ACSR at 4 fps wind speed summer interior rating 1130 Amps Emergency (0.3 miles)	
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Pre-project Normal Loading	634 Amps (77%)	Post-project Normal Loading	1285 Amps (156%)
Pre-project Emergency Loading	752 Amps (67%)	Post-project Emergency Loading	1665 Amps (147%)
Worst Contingency		Kelso-Tesla 230 kV Line	
Worst Overload Condition		2013 Summer Peak	

Solution: Re-conductor a total of 1.4 miles of the Windmaster – Delta Pumps 230 kV Line section with 1113 ACSS or equivalent conductors. The 1113 ACSS conductors are rated for 1893 Amps normal/emergency at 2 fps wind speed summer interior. Substation terminal equipment will also be upgraded to match or exceed the ampacity ratings of the new conductors.

11.1.6 Delta Pumps – Tesla 230 kV Line (Altamont – Delta Pumps)

Limiting Factor		954 ACSR at 4 fps wind speed summer interior rating 996/1130 Amps Normal/Emergency (4.7 miles)	
Pre-project Normal Loading	631 Amps (63%)	Post-project Normal Loading	1282 Amps (129%)
Pre-project Emergency Loading	748 Amps (66%)	Post-project Emergency Loading	1663 Amps (147%)
Worst Contingency		Kelso-Tesla 230 kV Line	
Worst Overload Condition		2013 Summer Peak	

Solution: Re-conductor a total of 4.7 miles of the Altamont – Delta Pumps 230 kV Line section with 1113 ACSS or equivalent conductors. The 1113 ACSS conductors are rated for 1893 Amps normal/emergency at 2 fps wind speed summer interior. Substation terminal equipment will also be upgraded to match or exceed the ampacity ratings of the new conductors.

11.1.7 Delta Pumps – Tesla 230 kV Line (Altamont – Tesla)

Limiting Factor		954 ACSR at 4 fps wind speed summer interior rating 996/1130 Amps Normal/Emergency (3 miles)	
Pre-project Normal Loading	631 Amps (63%)	Post-project Normal Loading	1281 Amps (129%)
Pre-project Emergency Loading	748 Amps (66%)	Post-project Emergency Loading	1662 Amps (147%)
Worst Contingency		Kelso-Tesla 230 kV Line	
Worst Overload Condition		2013 Summer Peak	

Solution: Re-conductor a total of 3 miles of the Altamont – Tesla 230 kV Line section with 1113 ACSS or equivalent conductors. The 1113 ACSS conductors are rated for 1893 Amps normal/emergency at 2 fps wind speed summer interior. Substation terminal equipment will

also be upgraded to match or exceed the ampacity ratings of the new conductors.

11.1.8 Kelso – Tesla 230 kV Line (Kelso – USWP RLF)

Limiting Factor		954 ACSR at 4 fps wind speed summer interior rating 997/1129 Amps Normal/Emergency (0.73 miles)	
Pre-project Normal Loading	399 Amps (40%)	Post-project Normal Loading	1261 Amps (127%)
Pre-project Emergency Loading	557 Amps (49%)	Post-project Emergency Loading	1599 Amps (140%)
Worst Contingency		Contra Costa-Delta Pumps 230 kV Line	
Worst Overload Condition		2013 Summer Peak	

Solution: Re-conductor a total of 3 miles of the Kelso – USWP RLF 230 kV Line section with 1113 ACSS or equivalent conductors. The 1113 ACSS conductors are rated for 1893 Amps normal/emergency at 2 fps wind speed summer interior. Substation terminal equipment will also be upgraded to match or exceed the ampacity ratings of the new conductors.

11.1.9 Kelso – Tesla 230 kV Line (USWP RLF – Tesla)

Limiting Factor		954 ACSR at 4 fps wind speed summer interior rating 997/1129 Amps Normal/Emergency (0.73 miles)	
Pre-project Normal Loading	412 Amps (41%)	Post-project Normal Loading	1277 Amps (128%)
Pre-project Emergency Loading	571 Amps (51%)	Post-project Emergency Loading	1599 Amps (140%)
Worst Contingency		Contra Costa-Delta Pumps 230 kV Line	
Worst Overload Condition		2013 Summer Peak	

Solution: Re-conductor a total of 5 miles of the USWP RLF – Tesla 230 kV Line section with 1113 ACSS or equivalent conductors. The 1113 ACSS conductors are rated for 1893 Amps normal/emergency at 2 fps wind speed summer interior. Substation terminal equipment will also be upgraded to match or exceed the ampacity ratings of the new conductors.

11.1.10 Las Positas – Newark 230 kV Line

Limiting Factor		795 ACSR at 2 fps wind speed summer interior rating 743/851 Amps Normal/Emergency (21.3 miles)	
Pre-project Normal Loading	743 Amps (83%)	Post-project Normal Loading	999 Amps (134%)
Pre-project Emergency Loading	788 Amps (93%)	Post-project Emergency Loading	1228 Amps (144%)
Worst Contingency		Contra Costa-Lonetree 230 kV Line	

Worst Overload Condition	2013 Summer Peak
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Solution: Re-conductor a total of 21 miles of the Las Positas – Newark 230 kV Line with 954 ACSS or equivalent conductors. The 954 ACSS conductors are rated for 1714 Amps normal/emergency at 2 fps wind speed summer interior. Substation terminal equipment will also be upgraded to match or exceed the ampacity ratings of the new conductors.

11.1.11 Lonetree – Cayetano 230 kV Line (Lonetree – USWP JRW)

Limiting Factor		795 ACSR at 4 fps wind speed summer interior rating 886/1005 Amps Normal/Emergency (total 12 miles)	
Pre-project Normal Loading	767 Amps (87%)	Post-project Normal Loading	1083 Amps (122%)
Pre-project Emergency Loading	932 Amps (93%)	Post-project Emergency Loading	1307 Amps (130%)
Worst Contingency		Contra Costa-Las Positas 230 kV Line and RCEC STG1	
Worst Overload Condition		2013 Summer Peak	

Solution: Re-conductor a total of 12 miles of the Lonetree – USWP JRW 230 kV Line section with 954 ACSS or equivalent conductors. The 954 ACSS conductors are rated for 1714 Amps normal/emergency @ 2 fps wind speed summer interior. Substation terminal equipment will also be upgraded to match or exceed the ampacity ratings of the new conductors.

11.1.12 Lonetree – Cayetano 230 kV Line (USWP JRW – Cayetano)

Limiting Factor		795 ACSR at 4 fps wind speed summer interior rating 886/1005 Amps Normal/Emergency (3 miles). 1004 Amps Underground at 2 fps wind speed summer interior rating Normal/Emergency (2.4 miles)	
Pre-project Normal Loading	764 Amps (88%)	Post-project Normal Loading	1081 Amps (122%)
Pre-project Emergency Loading	932 Amps (93%)	Post-project Emergency Loading	1307 Amps (130%)
Worst Contingency		Contra Costa-Lonetree 230 kV Line	
Worst Overload Condition		2013 Summer Peak	

Solution: Install a 230 kV switching station with a 3-bay BAAH configuration and loop the Lonetree – Cayetano, Contra Costa – Las Positas, and North Dublin – Vineyard 230 kV lines. Re-conductor a total of 3 miles of the USWP JRW – Cayetano 230 kV Line section with

954 ACSS or equivalent conductors. The 954 ACSS conductors are rated for 1714 Amps normal/emergency at 2 fps wind speed summer interior. Substation terminal equipment will also be upgraded to match or exceed the ampacity ratings of the new conductors.

11.1.13 Moraga – Castro Valley 230 kV Line

Limiting Factor		954 ACSR at 2 fps wind speed summer coastal rating 911/1021 Amps Normal/Emergency (15 miles).	
Pre-project Normal Loading	688 Amps (76%)	Post-project Normal Loading	965 Amps (106%)
Pre-project Emergency Loading	823 Amps (93%)	Post-project Emergency Loading	1210 Amps (119%)
Worst Contingency		T171-Tesla 500 kV Line	
Worst Overload Condition		2013 Summer Peak	

Solution: Re-conductor a total of 15 miles of the Moraga – Castro Valley 230 kV Line with 795 ACSS or equivalent conductors. The 795 ACSS conductors are rated for 1542 Amps normal/emergency at 2 fps wind speed summer coastal. Substation terminal equipment will also be upgraded to match or exceed the ampacity ratings of the new conductors.

11.1.14 North Dublin – Vineyard 230 kV Line

Limiting Factor		2000 kcmil CU underground cable at summer rating 1004/1004 Amps Normal/Emergency (5.4 miles) 795 ACSR at 4 fps wind speed summer interior rating 886/1005 Amps Normal/Emergency (10 miles).	
Pre-project Normal Loading	654 Amps (74%)	Post-project Normal Loading	969 Amps (109%)
Pre-project Emergency Loading	875 Amps (87%)	Post-project Emergency Loading	1249 Amps (124%)
Worst Contingency		Contra Costa-Las Positas 230 kV Line and RCEC STG1	
Worst Overload Condition		2013 Summer Peak	

Solution: Install a 230 kV switching station with a 3-bay BAAH configuration and loop the North Dublin – Vineyard, Las Positas – Newark, and Vineyard – Newark 230 kV lines. Re-conductor a total of 10 miles of the North Dublin – Vineyard 230 kV Line section with 954 ACSS or equivalent conductors. The 954 ACSS conductors are rated for 1714 Amps normal/emergency at 2 fps wind speed summer interior. Substation terminal equipment will also be upgraded to match or exceed the ampacity ratings of the new conductors.

11.1.15 T171 – Tesla 500 kV Line

Limiting Factor		2-2300 Al at 2 fps wind speed summer interior rating 2430/2816 Amps Normal/Emergency (limited by series capacitors)	
Pre-project Normal Loading	1821 Amps (75%)	Post-project Normal Loading	2636 Amps (108%)
Pre-project Emergency Loading	2663 Amps (95%)	Post-project Emergency Loading	3559 Amps (126%)
Worst Contingency		Olinda-Tracy 500 kV Line	
Worst Overload Condition		2013 Summer Peak	

Solution: Congestion management.

11.1.16 Trimble – San Jose B 115 kV Line

Limiting Factor		715 Al at 2 fps wind speed summer coastal rating 703 Amps Normal and 100 deg conductor temperature 924 Amps Emergency (1.1 miles). 3000 MCM AL Underground with 965 Amps normal and emergency ratings (1.1 miles)	
Pre-project Normal Loading	427 Amps (61%)	Post-project Normal Loading	728 Amps (104%)
Pre-project Emergency Loading	614 Amps (67%)	Post-project Emergency Loading	1071 Amps (116%)
Worst Contingency		Tesla-Metcalf 500 kV Line	
Worst Overload Condition		2013 Summer Peak	

Solution: Re-conductor a total of 1.1 miles of the Trimble – San Jose B 115 kV Line with 477 ACSS or equivalent conductors. The 477 ACSS conductors are rated for 1144 Amps normal/emergency at 2 fps wind speed summer coastal. Re-rate the underground cable section for 1160 Amps emergency rating (needed also for Category C emergency overload mitigation). Substation terminal equipment will also be upgraded to match or exceed the ampacity ratings of the new conductors.

11.1.17 Vineyard – Newark 230 kV Line

Limiting Factor		2000 kcmil CU underground cable at summer rating 1004/1004 Amps Normal/Emergency (5.7 miles) 795 ACSR at 4 fps wind speed summer interior rating 886/1005 Amps Normal/Emergency (14 miles).	
Pre-project Normal Loading	427 Amps (61%)	Post-project Normal Loading	728 Amps (104%)
Pre-project Emergency Loading	614 Amps (67%)	Post-project Emergency Loading	1071 Amps (116%)
Worst Contingency		Contra Costa-Las Positas 230 kV Line and RCEC STG1	

Worst Overload Condition	2013 Summer Peak
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Solution: Install a 230 kV switching station with a 3-bay BAAH configuration and loop the North Dublin – Vineyard, Las Positas – Newark, and Vineyard – Newark 230 kV lines. Re-conductor a total of 14 miles of the Vineyard – Newark 230 kV Line section with 954 ACSS or equivalent conductors. The 954 ACSS conductors are rated for 1714 Amps normal/emergency at 2 fps wind speed summer interior. Substation terminal equipment will also be upgraded to match or exceed the ampacity ratings of the new conductors.

11.2 Mitigation for New Category “B” Emergency Overload

The mitigations for new Category “B” emergency overload listed below are in addition to the mitigations for the new Category “A” normal overloads described in Section 11.1 which also mitigate the Category “B” emergency overloads.

11.2.1 Birds Landing – Contra Costa 230 kV Line

Limiting Factor		1113 ACSS at 2 fps wind speed summer interior rating 1893 Amps Emergency	
Pre-project Emergency Loading	1713 Amps (90%)	Post-project Emergency Loading	2597 Amps (137%)
Worst Contingency		Contra Costa-Contra Costa Sub 230 kV Line and Gateway PP	
Overload Condition		2013 Summer Peak	

Solution: Loop the Contra Costa – Moraga 230 kV Line No. 1 into the Contra Costa Substation. Install one 230 kV bay with a three-breaker BAAH configuration at Contra Costa Substation.

11.2.2 Brentwood – Kelso 230 kV Line

Limiting Factor		954 ACSR at 4 fps wind speed summer interior rating 1130 Amps Emergency.	
Pre-project Emergency Loading	584 Amps (52%)	Post-project Emergency Loading	1136 Amps (101%)
Worst Contingency		Contra Costa-Delta Pumps 230 kV Line	
Overload Condition		2013 Summer Peak	

Solution: Congestion management.

11.2.3 Contra Costa – Contra Costa Sub 230 kV Line

Limiting Factor		1113 ACSS at 2 fps wind speed summer interior rating 1893 Amps Emergency	
Pre-project Emergency Loading	1599 Amps (84%)	Post-project Emergency Loading	2786 Amps (147%)

Worst Contingency	Birds Landing-Contra Costa 230 kV Line and Gateway PP
Overload Condition	2013 Summer Peak

Solution: Loop the Contra Costa – Moraga 230 kV Line No. 1 into the Contra Costa Substation. Convert Contra Costa Substation 230 kV bus into a six-bay, eighteen-breaker BAAH configuration.

11.2.4 Cooley Landing – Stanford 60 kV Line (Cooley Landing-SRI)

Limiting Factor		600 Amps switches	
Pre-project Emergency Loading	553 Amps (92%)	Post-project Emergency Loading	622 Amps (104%)
Worst Contingency		Cardinal Units #1 and #2	
Overload Condition		2013 Summer Peak	

Solution: A PG&E-sponsored project will replace the limiting 600 Amps switches to utilize the emergency conductor ratings of 703 Amps.

11.2.5 Newark 230/115 kV Bank No. 11

Limiting Factor		462 MVA emergency rating	
Pre-project Emergency Loading	443 MVA (96%)	Post-project Emergency Loading	502 MVA (109%)
Worst Contingency		Newark 230/115 kV Bank No. 7	
Overload Condition		2013 Summer Peak	

Solution: Congestion management.

11.2.6 Oakland C – Oakland L 115 kV Line

Limiting Factor		790 Amps underground cable emergency rating	
Pre-project Emergency Loading	772 Amps (98%)	Post-project Emergency Loading	828 Amps (105%)
Worst Contingency		Moraga-San Ramon 230 kV Line and DEC	
Overload Condition		2013 Summer Peak	

Solution: Congestion management.

11.2.7 Pittsburg 230/181 kV TBC Bank

Limiting Factor		450 MVA emergency rating	
Pre-project Emergency	427 MVA (95%)	Post-project	462 MVA (103%)

Loading		Emergency Loading	
Worst Contingency		Pittsburg-San Mateo 230 kV Line and DEC	
Overload Condition		2013 Summer Peak	

Solution: Congestion management.

11.2.8 Potrero 115/181 kV TBC Bank

Limiting Factor		450 MVA emergency rating	
Pre-project Emergency Loading	408 MVA (94%)	Post-project Emergency Loading	456 MVA (101%)
Worst Contingency		Moraga-San Ramon 230 kV Line	
Overload Condition		2013 Summer Peak	

Solution: Congestion management.

11.2.9 Sobrante – El Cerrito No. 1 115 kV Line

Limiting Factor		600 Amps switches	
Pre-project Emergency Loading	570 Amps (95%)	Post-project Emergency Loading	619 Amps (103%)
Worst Contingency		Sobrante-El Cerrito No. 2 115 kV Line	
Overload Condition		2013 Summer Peak	

Solution: Replace the 600 Amps switches to utilize the emergency conductor ratings of 802 Amps.

11.2.10 Sobrante – El Cerrito No. 2 115 kV Line

Limiting Factor		600 Amps switches	
Pre-project Emergency Loading	571 Amps (95%)	Post-project Emergency Loading	620 Amps (103%)
Worst Contingency		Sobrante-El Cerrito No. 1 115 kV Line	
Overload Condition		2013 Summer Peak	

Solution: Replace the 600 Amps switches to utilize the emergency conductor ratings of 802 Amps.

11.2.11 Table Mountain – Tesla 500 kV Line

Limiting Factor		2-2300 Al at 2 fps wind speed summer interior rating 2964 Amps Emergency.	
Pre-project Emergency Loading	2501Amps (84%)	Post-project Emergency Loading	3071 Amps (104%)
Worst Contingency		T171-Tesla 500 kV Line	
Overload Condition		2013 Summer Peak	

Solution: Congestion management.

11.2.12 Vaca Dixon – T171 500 kV Line

Limiting Factor		2-2300 Al at 2 fps wind speed summer interior rating 2816 (series capacitor) Amps Emergency.	
Pre-project Emergency Loading	2663Amps (95%)	Post-project Emergency Loading	3007 Amps (107%)
Worst Contingency		Olinda-Tracy 500 kV Line	
Overload Condition		2013 Summer Peak	

Solution: Congestion management.

11.2.13 Vaca Dixon – T275 230 kV Line No. 1

Limiting Factor		1113 ACSS at 2 fps wind speed summer interior rating 1893 Amps Emergency (5 miles)	
Pre-project Emergency Loading	484 Amps (26%)	Post-project Emergency Loading	2747 Amps (120%)
Worst Contingency		Vaca Dixon-T275 No. 2 230 kV Line	
Overload Condition		2013 Summer Off-Peak	

Solution: Re-conductor a total of 5 miles of the Vaca Dixon – T275 230 kV Line No. 1 with bundled 795 ACSS or equivalent conductors. The bundled 795 ACSS conductors are rated for 3984 Amps normal/emergency at 2 fps wind speed summer interior. New double circuit towers will be installed and the existing towers will be removed. Substation terminal equipment will also be upgraded to match or exceed the ampacity ratings of the new conductors.

11.2.14 Vaca Dixon – T275 230 kV Line No. 2

Limiting Factor		1113 ACSS at 2 fps wind speed summer interior rating 1893 Amps Emergency (5 miles)	
Pre-project Emergency Loading	338 Amps (18%)	Post-project Emergency Loading	2747 Amps (120%)
Worst Contingency		Vaca Dixon-T275 No. 1 230 kV Line	
Overload Condition		2013 Summer Off-Peak	

Solution: Re-conductor a total of 5 miles of the Vaca Dixon – T275 230 kV Line No. 2 with bundled 795 ACSS or equivalent conductors. The bundled 795 ACSS conductors are rated for 3984 Amps normal/emergency at 2 fps wind speed summer interior. New double circuit towers will be installed and the existing towers will be removed. Substation terminal equipment will also be upgraded to match or exceed the ampacity ratings of the new conductors.

11.3 Mitigation for New Category “C” Emergency Overload

The mitigations for the new Category “C” emergency overload listed below are in addition to the mitigations for the new Category “A” normal overloads and Category “B” emergency overloads described in Sections 11.1 and 11.2, respectively, which also mitigate the Category “C” emergency overloads.

11.3.1 Birds Landing – Contra Costa 230 kV Line

Limiting Factor		1113 ACSS at 2 fps wind speed summer interior rating 1893 Amps Emergency	
Pre-project Emergency Loading	1465 Amps (77%)	Post-project Emergency Loading	2370 Amps (125%)
Worst Contingency		Contra Costa Sub 230 kV Bus Section 2	
Overload Condition		2013 Summer Peak	

Solution: Install SPS to drop generation.

11.3.2 Birds Landing – Contra Costa Sub 230 kV Line

Limiting Factor		1113 ACSS at 2 fps wind speed summer interior rating 1893 Amps Emergency	
Pre-project Emergency Loading	1340 Amps (71%)	Post-project Emergency Loading	1992 Amps (105%)
Worst Contingency		Vaca Dixon-T275 Nos. 1 and 2 230 kV Lines	
Overload Condition		2013 Summer Peak	

Solution: Install SPS to drop generation.

11.3.3 Brentwood - Kelso 230 kV Line

Limiting Factor		954 ACSR at 4 fps wind speed summer interior rating 1130 Amps Emergency.	
Pre-project Emergency Loading	515 Amps (46%)	Post-project Emergency Loading	1289 Amps (114%)
Worst Contingency		Contra Costa Sub 230 kV Bus Section 2F	
Overload Condition		2013 Summer Peak	

Solution: Congestion management.

11.3.4 Contra Costa – Las Positas 230 kV Line

Limiting Factor		954 ACSS at 2 fps wind speed summer interior rating 1714 Amps Emergency.	
Pre-project Emergency Loading	1207 Amps (46%)	Post-project Emergency Loading	1786 Amps (104%)
Worst Contingency		Contra Costa Sub 230 kV Bus Section 2F	
Overload Condition		2013 Summer Peak	

Solution: Install SPS to drop generation.

11.3.5 East Shore – San Mateo 230 kV Line

Limiting Factor		954 ACSS at 2 fps wind speed summer coastal rating 1742 Amps Emergency.	
Pre-project Emergency Loading	1715 Amps (98%)	Post-project Emergency Loading	1776 Amps (102%)
Worst Contingency		Newark-Ravenswood and Tesla-Ravenswood 230 kV Lines	
Overload Condition		2013 Summer Peak	

Solution: Install SPS to drop generation.

11.3.6 Lambie – Birds Landing 230 kV Line

Limiting Factor		1113 ACSS at 2 fps wind speed summer interior rating 1893 Amps Emergency	
Pre-project Emergency Loading	1182 Amps (63%)	Post-project Emergency Loading	2077 Amps (110%)
Worst Contingency		Contra Costa Sub-Contra Costa and Birds Landing-Contra Costa 230 kV Lines	
Overload Condition		2013 Summer Peak	

Solution: Install SPS to drop generation.

11.3.7 Oleum – North Tower – Christie 115 kV Line

Limiting Factor		250 CU at 2 fps wind speed summer coastal rating 522 Amps Emergency	
Pre-project Emergency Loading	1182 Amps (63%)	Post-project Emergency Loading	2077 Amps (110%)
Worst Contingency		Sobrante-El Cerrito Nos. 1 and 2 115 kV Lines	
Overload Condition		2013 Summer Peak	

Solution: Rerate the Oleum – North Tower – Christie 115 kV Line with 4 fps wind speed ratings.

11.3.8 Sobrante – Christie 115 kV Line

Limiting Factor		250 CU at 2 fps wind speed summer coastal rating 522 Amps Emergency	
Pre-project Emergency Loading	532 Amps (102%)	Post-project Emergency Loading	596 Amps (114%)
Worst Contingency		Sobrante-El Cerrito Nos. 1 and 2 115 kV Lines	
Overload Condition		2013 Summer Peak	

Solution: This line overload is a pre-project overload, and is not the responsibility of this project. PG&E will rerate the Sobrante – Christie 115 kV Line with 4 fps wind speed ratings.

11.3.9 Trimble – San Jose B 115 kV Line

Limiting Factor		715 AL at 2 fps wind speed summer coastal rating 703 Amps Normal and 100 deg conductor temperature 924 Amps Emergency (1.1 miles). 3000 MCM AL Underground with 965 Amps normal and emergency ratings (1.1 miles)	
Pre-project Emergency Loading	957 Amps (104%)	Post-project Emergency Loading	1160 Amps (126%)
Worst Contingency		Metcalf-El Patio Nos. 1 and 2 115 kV Lines	
Overload Condition		2013 Summer Peak	

Solution: This line overload is a pre-project overload, and is not the responsibility of this project. The Trimble – San Jose B 115 kV Line will be reconducted with 477 ACSS (1144 Amps normal and emergency ratings) to mitigate the Category “A” normal and “B” emergency overloads for the Group 1 projects. PG&E will rerate the new 477 ACSS conductors with 4 fps wind speed and the underground cable to match the ratings of the overhead conductors.

11.3.10 Westley – Los Banos 230 kV Line

Limiting Factor		1700 Amps emergency rating.	
Pre-project Emergency Loading	888 Amps (52%)	Post-project Emergency Loading	2220 Amps (131%)
Worst Contingency		Tesla-Los Banos and Tracy-Los Banos 500 kV Lines	
Overload Condition		2013 Summer Peak	

Solution: Install SPS to drop generation.

11.4 Summary of Network Upgrade Cost Estimates

Table 11-1 Summary of Transition Cluster Group 1 Network Upgrade Cost Estimates

Over Loaded Component	Overloads		Existing Conductor			Post-Project Loading N/E (Amps)	Re-conductor To			Cost Estimates
	Nor mal	Cat "B"	Size	Ratings (Amps)			Size	Ratings (Amps)		
				N	E			N	E	
Birds Landing-Contra Costa 230 kV Line	N/A	Yes	1113 ACSS	1893	1893	N/A/2597	Loop Line	N/A	N/A	\$28 million (Note 1)
Brentwood-Kelso 230 kV Line	N/A	Yes	954 ACSR	826	1130 (4fps)	N/A/1136	N/A	N/A	N/A	Note 2
Castro Valley-Newark 230	Yes	Yes	795	743	851	781/1022	795	1517	1517	\$17.25

Over Loaded Component	Overloads		Existing Conductor			Post-Project Loading N/E (Amps)	Re-conductor To			Cost Estimates
	Normal	Cat "B"	Size	Ratings (Amps) N E			Size	Ratings (Amps) N E		
kV Line (23 miles)			ACSR				ACSS			million
Cayetano-North Dublin 230 kV Line	Yes	Yes	1004A (UG)	1004	1004	1023/1249	N/A	N/A	N/A	\$50 million (Note 3)
Contra Costa-Brentwood 230 kV Line (10 miles)	Yes	Yes	954 ACSR	826	1130 (4fps)	1108/1434	954 ACSS	1714	1714	\$8.0 million
Contra Costa-Contra Costa Sub 230 kV Line	N/A	Yes	1113 ACSS	1893	1893	N/A/2786	Loop Line	N/A	N/A	\$28 million (Note 1)
Contra Costa - Delta Pumps 230 kV Line (Contra Costa - Windmaster) – 17 miles	Yes	Yes	954 ACSR	826	1130 (4fps)	1287/1667	1113 ACSS	1893	1893	\$15.3 million
Contra Costa - Delta Pumps 230 kV Line (Windmaster - Delta Pumps) – 1.4 miles	Yes	Yes	954 ACSR	826	1130 (4fps)	1285/1665	1113 ACSS	1893	1893	\$1.26 million
Contra Costa – Rossmoor Tap1	N/A	Yes	954 ACSS	1714	1714	N/A/1748	Loop Line	N/A	N/A	\$3.0 million (Note 1)
Cooley Landing-Stanford 60 kV Line (Cooley Landing-SRI)	N/A	Yes	715 AL	600 (switch)	600 (switch)	N/A/622	Replace Switch	703	802	\$0.3 million
Delta Pumps - Tesla 230 kV Line (Altamont - Tesla) – 4.7 miles	Yes	Yes	954 ACSR	996 (4fps)	1130 (4fps)	1282/1662	1113 ACSS	1893	1893	\$2.7 million
Delta Pumps - Tesla 230 kV Line (Delta Pumps - Altamont) – 3 miles	Yes	Yes	954 ACSR	996 (4fps)	1130 (4fps)	1281/1663	1113 ACSS	1893	1893	\$4.23 million
Kelso- Tesla 230 kV Line (Kelso - USWP RLF) – 3.3 miles	Yes	Yes	954 ACSR	997 (4fps)	1129 (4fps)	1261/1599	1113 ACSS	1893	1893	\$2.97 million
Kelso - Tesla 230 kV Line (USWP RLF - Tesla) – 4.7 miles	Yes	Yes	954 ACSR	997 (4fps)	1129 (4fps)	1277/1599	1113 ACSS	1893	1893	\$4.23 million
Las Positas - Newark 230 kV Line (21 miles)	Yes	Yes	795 ACSR	743	851	999/1228	954 ACSS	1714	1714	\$16.8 million
Lonetree - Cayetano 230 kV Line (Lonetree - USWP JRW) – 12 miles	Yes	Yes	795 ACSR	886 (4fps)	1005 (4fps)	1083/1310	954 ACSS	1714	1714	\$12 million (Recond. Portion only)
Lonetree - Cayetano 230 kV Line (USWP JRW - Cayetano) – 3 miles	Yes	Yes	795 ACSR	886 (4fps)	1005 (4fps)	1081/1307	954 ACSS	1714	1714	
Moraga - Castro Valley 230 kV Line (15 miles)	Yes	Yes	954 ACSR	911	1021	965/1210	795 ACSS	1542	1542	\$11.25 million
Newark 230/115 kV Bank 11	N/A	Yes	462 MVA	420 (MVA)	462 (MVA)	N/A/502 (MVA)	N/A	N/A	N/A	Note 2
North Dublin - Vineyard 230 kV Line (10 miles)	Yes	Yes	795 ACSR	886 (4fps)	1005 (4fps)	969/1196	954 ACSS	1714	1714	\$58 million (Note 4)
Oakland C - Oakland L 115 kV Line	N/A	Yes	790A (UG)	790	790	N/A/828	N/A	N/A	N/A	Note 2
Pittsburg 230/181 kV TBC Bank	N/A	Yes	450 MVA	N/A	450	N/A/462 (MVA)	N/A	N/A	N/A	Note 2
Potrero 115/181 kV TBC Bank	N/A	Yes	450 MVA	N/A	450	N/A/456 (MVA)	N/A	N/A	N/A	Note 2
Sobrante 230/115 kV #1	N/A	Yes	403	403	463	N/A/495	Add 420	420	420	\$10.0

Over Loaded Component	Overloads		Existing Conductor			Post-Project Loading N/E (Amps)	Re-conductor To			Cost Estimates
	Nor mal	Cat "B"	Size	Ratings (Amps)			Size	Ratings (Amps)		
				N	E			N	E	
Sobrante 230/115 kV #2	N/A	Yes	403	403	463	N/A/482	MVA Bank			million
Sobrante - El Cerrito #1 115 kV Line	N/A	Yes	715 AL	600 (switch)	600 (switch)	N/A/619	Replace switch	703	802	\$0.3 million
Sobrante - El Cerrito #2 115 kV Line	N/A	Yes	715 AL	600 (switch)	600 (switch)	N/A/619	Replace switch	703	802	\$0.3 million
Table Mountain - Tesla 500 kV Line	N/A	Yes	2-2300 AL	N/A	2964	N/A/3071	N/A	N/A	N/A	Note 2
Tesla - T171 500 kV Line	Yes	Yes	2-2300 AL	2430	2816 (series cap)	2636/3559	N/A	N/A	N/A	Note 2
Trimble - San Jose B 115 kV Line (2.5 miles)	Yes	Yes	715 AL	703	924 (col. B)	728/1071	477 ACSS	1144	1144	\$0.77 million (Note 5)
Vaca-Dixon - T171 500 kV Line	N/A	Yes	2-2300 AL	N/A	2816 (series cap)	N/A/3007	N/A	N/A	N/A	Note 2
Vaca-Dixon - T275 #1 230 kV Line (5 miles)	N/A	Yes	1113 ACSS	1893	1893	N/A/2269	2-795 ACSS	3034	3034	\$36 million (Note 6)
Vaca-Dixon - T275 #2 230 kV Line	N/A	Yes	1113 ACSS	1893	1893	N/A/2269	2-795 ACSS	3034	3034	
Vineyard - Newark 230 kV Line (14 miles)	Yes	Yes	795 ACSR	743	851	749/975	954 ACSS	1714	1714	\$11.2 million (Recond. Portion only)

NOTES:

1. Convert Contra Costa Substation 230 kV bus into a six-bay, eighteen-breaker BAAH configuration. Loop Contra Costa – Moraga 230 kV Line No. 1 into Contra Costa Substation.
2. Congestion management.
3. Install a 230 kV switching station and loop the Lonetree – Cayetano, Contra Costa – Las Positas, and North Dublin – Vineyard 230 kV lines. The cost to build a switching station and looped the 230 kV lines is estimated at \$50 million because the switching station will be located in highly developed area which may require undergrounding the looped lines.
4. Install a 230 kV switching station and loop the North Dublin – Vineyard, Las Positas – Newark, and Vineyard – Newark 230 kV lines. The cost to build a switching station and looped the 230 kV lines is estimated at \$50 million because the switching station will be located in highly developed area which may require undergrounding the looped lines.
5. Re-rate the underground section (1.1 miles) to match the ratings of the overhead line section.

6. Build new double circuit tower line on the existing right-of-ways (5 miles) and remove existing towers.

11.5 Mitigation for Dynamic Stability Study Category “C” Emergency

11.5.1 Category “C” Voltage Violation

Solution: None.

11.5.2 Category “C” Frequency violation

Solution: None.

11.6 Mitigation for Fault Duty

Solution: Replace overstressed circuit breakers at Contra Costa and Vaca Dixon substations.

12. Network Upgrades and Overload Mitigation Responsibility By the Project

The cost of the Network Upgrades associated with Group 1 will be divided among the projects in Group 1. To determine the cost responsibility of each generation project assigned to the Groups, the CAISO developed cost allocation factors based on the individual contribution of each project ([Appendix J](#)). The cost allocation of this Project for the Network Upgrades for Group 1 is as follows:

- **Contra Costa – Delta Pumps 230 kV Line (Windmaster – Delta Pumps): Reconductor 1.4 miles with 1113 ACSS conductors.**

The total cost of the project to reconductor the Windmaster – Delta Pumps 230 kV Line section is \$1,260,000. The Project’s responsibility based on 22.9% of the total cost per Appendix J is approximately \$288,540.

- **Contra Costa – Delta Pumps 230 kV Line (Contra Costa – Windmaster): Reconductor 17 miles with 1113 ACSS conductors.**

The total cost of the project to reconductor the Contra Costa – Windmaster 230 kV Line section is \$15,300,000. The Project’s responsibility based on 22.9% of the total cost per Appendix J is approximately \$3,503,700.

- **Contra Costa – Contra Costa Sub and Contra Costa – Rossmoor Tap No. 1 230 kV Lines: Loop Contra Costa – Moraga No. 1 230 kV Line into Contra Costa Substation**

The total cost of the project to loop the Contra Costa – Moraga No. 1 230 kV Line into Contra Costa Substation is \$28,000,000. Contra Costa Substation 230 kV bus will be converted to six-bay, eighteen-breaker BAAH configuration. The Project's responsibility based on 33.2% of the total cost per Appendix J is approximately \$9,296,000.

- **Contra Costa – Brentwood 230 kV Line: Reconductor 10 miles with 954 ACSS conductors.**

The total cost of the project to reconductor the Contra Costa – Brentwood 230 kV Line is \$8,000,000. The Project's responsibility based on 23.3% of the total cost per Appendix J is approximately \$1,864,000.

- **Delta Pumps – Tesla 230 kV Line (Altamont – Tesla): Reconductor 4.7 miles with 1113 ACSS conductors.**

The total cost of the project to reconductor the Altamont – Tesla 230 kV Line section is \$2,700,000. The Project's responsibility based on 23% of the total cost per Appendix J is approximately \$621,000.

- **Delta Pumps – Tesla 230 kV Line (Delta – Altamont): Reconductor 3 miles with 1113 ACSS conductors.**

The total cost of the project to reconductor the Delta - Altamont 230 kV Line section is \$4,230,000. The Project's responsibility based on 22.9% of the total cost per Appendix J is approximately \$968,670.

- **Kelso – Tesla 230 kV Line (Kelso – USWP RLF): Reconductor 3.3 miles with 1113 ACSS conductors.**

The total cost of the project to reconductor the Kelso – USWP RLF 230 kV Line section is \$2,970,000. The Project's responsibility based on 15.7% of the total cost per Appendix J is approximately \$466,290.

- **Kelso – Tesla 230 kV Line (USWP RLF - Tesla): Reconductor 4.7 miles with 1113 ACSS conductors.**

The total cost of the project to reconductor the USWP RLF – Tesla 230 kV Line section is \$4,230,000. The Project's responsibility based on 15.7% of the total cost per Appendix J is approximately \$664,110.

- **Moraga – Castro Valley 230 kV Line: Reconductor 15 miles with 795 ACSS conductors.**

The total cost of the project to reconductor the Moraga – Castro Valley 230 kV Line is \$11,250,000. The Project's responsibility based on 16.3% of the total cost per Appendix J is approximately \$1,833,750.

- **Castro Valley – Newark 230 kV Line: Reconductor 22.8 miles with 795 ACSS conductors.**

The total cost of the project to reconductor Castro Valley – Newark 230 kV Line is \$17,250,000. The Project's responsibility based on 16.3% of the total cost per Appendix J is approximately \$2,811,750.

- **Construct two 230 kV Switching Stations and Reconductor the Las Positas – Newark, Lonetree – Cayetano, North Dublin – Vineyard, and Vineyard – Newark 230 kV lines: Reconductor 60 miles with 954 ACSS conductors.**

The total cost of the project to construct two 230 kV switching stations and reconductor 60 miles of 230 kV transmission lines is \$148,000,000. The Project's responsibility based on 27.4% of the total cost per Appendix J is approximately \$40,552,000.

- **Vaca Dixon – T275 230 kV Line No. 1: Reconductor 5 miles with bundled 795 ACSS bundled conductors.**

The total cost of the project to reconductor the Vaca Dixon – T275 230 kV Line No. 1 is \$18,000,000. The Project's responsibility based on 14.2% of the total cost per Appendix J is approximately \$2,556,000.

- **Vaca Dixon – T275 230 kV Line No. 2: Reconductor 5 miles with bundled 795 ACSS bundled conductors.**

The total cost of the project to reconductor the Vaca Dixon – T275 230 kV Line No. 2 is \$18,000,000. The Project's responsibility based on 14.2% of the total cost per Appendix J is approximately \$2,556,000.

The Project is responsible for approximately \$67,981,810 of the total cost of the Network Upgrades associated with Group 1.

13. Preliminary Protection Requirements

Per Section G2.1 of the PG&E Interconnection Handbook, PG&E protection requirements are designed and intended to protect PG&E's system only. The applicant is responsible for the protection of its own system and equipment and must meet the requirements in the PG&E Interconnection Handbook.

The Preliminary Protection Requirements are detailed in [Appendix G](#).

14. Transmission Line Evaluation

The transmission line evaluation included the following work:

- Reconductor the Castro Valley – Newark 230 kV Line
- Reconductor the Contra Costa – Brentwood 230 kV Line
- Reconductor the Contra Costa – Delta Pumps 230 kV Line (Contra Costa – Windmaster)

- Reconductor the Contra Costa – Delta Pumps 230 kV Line (Windmaster – Delta Pumps)
- Reconductor the Delta Pumps – Tesla 230 kV Line (Altamont – Delta Pumps)
- Reconductor the Delta Pumps – Tesla 230 kV Line (Altamont – Tesla)
- Reconductor the Kelso – Tesla 230 kV Line (Kelso – USWP RLF)
- Reconductor the Kelso – Tesla 230 kV Line (USWP RLF – Tesla)
- Reconductor the Las Positas – Newark 230 kV Line
- Reconductor the Lonetree – Cayetano 230 kV Line (Lonetree – USWP JRW)
- Reconductor the Lonetree – Cayetano 230 kV Line (USWP JRW – Cayetano)
- Reconductor the Moraga – Castro Valley 230 kV Line
- Reconductor the North Dublin – Vineyard 230 kV Line
- Reconductor the Vineyard – Newark 230 kV Line
- Reconductor the Vaca Dixon – T275 230 kV Line No. 1
- Reconductor the Vaca Dixon – T275 230 kV Line No. 2
- Loop the Contra Costa – Moraga 230 kV Line No. 1 into Contra Costa – Substation
- Loop the Contra Costa – Las Positas, Lonetree – Cayetano, North Dublin – Vineyard, Cayetano – Las Positas, Las Positas – Newark, and Vineyard – Newark 230 kV lines into two new 230 kV switching stations.

15. Substation Evaluation

15.1 Overstressed Breakers

PG&E uses the following policy to allocate breaker replacement responsibility for projects that overstress or increase overstress⁵ on existing circuit breakers:

- If a breaker is not overstressed before the project, and the project results in an overstressed condition of the breaker, then the project is responsible for the cost of replacement.
- If a breaker is already overstressed, and a project increases the overstress by 5% or more, or the post-project overstress level exceeds 25%, then the project is responsible for the cost of replacement.
- If the overstress level exceeds 25% before the project, and for all other circumstances, PG&E or other generation projects will be responsible for any replacement costs.

⁵ Overstressed Circuit Breaker – The percent of overstress, or level of overstress, is the percent of maximum fault current above the breaker's nameplate rating. For example, a breaker rated at 40,000 amps symmetrical current interrupting a 44,000 amp symmetrical fault is overstressed by 10%.

Using the short-circuit study results in [Appendix H](#), an initial breaker evaluation found that the Project contributes more than the threshold value of 100 Amps to the following breakers to be overstressed.

- Contra Costa PP 230 kV CB630, CB640, CB650, CB660, CB670, CB680 and CB690
- Vaca Dixon Substation 230 kV CB442, CB452, CB462 and CB492

15.2 Substation Evaluation

The non binding cost estimate for these Network Upgrades is included in the Substation work scope as detailed in [Appendix E](#).

16. Environmental Evaluation/Permitting

16.1 CPUC General Order 131-D

PG&E is subject to the jurisdiction of the California Public Utilities Commission (CPUC) and must comply with CPUC General Order 131-D (Order) on the construction, modification, alteration, or addition of all electric transmission facilities (i.e., lines, substations, switchyards, etc.). This includes facilities to be constructed by others and deeded to PG&E. In most cases where PG&E's electric facilities are under 200 kV and are part of a larger project (i.e., electric generation plant), the Order exempts PG&E from obtaining an approval from the CPUC provided its planned facilities have been included in the larger project's California Environmental Quality Act (CEQA) review, the review has included circulation with the State Clearinghouse, and the project's lead agency (i.e., California Energy Commission) finds no significant unavoidable environmental impacts. PG&E or the project developer may proceed with construction once PG&E has filed notice with the CPUC and the public on the project's exempt status, and the public has had a chance to protest PG&E's claim of exemption. If PG&E facilities are not included in the larger project's CEQA review, or if the project does not qualify for the exemption, PG&E may need to seek approval from the CPUC (i.e., Permit to Construct) taking as much as 18 months or more since the CPUC would need to conduct its own environmental evaluation (i.e., Negative Declaration or Environmental Impact Report).

When PG&E's transmission lines are designed for immediate or eventual operation at 200 kV or more, the Order requires PG&E to obtain a Certificate of Public Convenience and Necessity (CPCN) from the CPUC unless one of the following exemptions applies: the replacement of existing power line facilities or supporting structures with equivalent facilities or structures, the minor relocation of existing facilities, the conversion of existing overhead lines (greater than 200 kV) to underground, or the placing of new or additional conductors, insulators, or their accessories on or replacement of supporting structures already built. Obtaining a CPCN can take as much as 18 months or more if the CPUC needs to conduct its own CEQA review, while a CPCN with the environmental review already done takes only 4-6

months or less.

Regardless of the voltage of PG&E's interconnection facilities, PG&E recommends that the project proponent include those facilities in its project description and application to the lead agency performing CEQA review on the project. The lead agency must consider the environmental impacts of the interconnection electric facility, whether built by the developer with the intent to transfer ownership to PG&E or to be built and owned by PG&E directly. If the lead agency makes a finding of no significant unavoidable environmental impacts from construction of substation or under-200 kV power line facilities, PG&E may be able to file an Advice Letter with the CPUC and publish public notice of the proposed construction of the facilities. The noticing process takes about 90 days if no protests are filed, but should be done as early as possible so that a protest does not delay construction. PG&E has no control over the time it takes the CPUC to respond when issues arise. If the protest is granted, PG&E may then need to apply for a formal permit to construct the project (i.e., Permit to Construct). Facilities built under this procedure must also be designed to include consideration of electric and magnetic field (EMF) mitigation measures pursuant to PG&E "EMF Design Guidelines for New Electrical Facilities: Transmission, Substation and Distribution". For projects that are not eligible for the Advice Letter/notice process but have already undergone CEQA review, PG&E would likely be able to file a "short-form" CPCN or PTC application, which takes about 4-6 months to process.

Please see Section III, in General Order 131-D. This document can be found in the CPUC's web page at:

http://www.cpuc.ca.gov/PUBLISHED/GENERAL_ORDER/589.htm

16.2 CPUC Section 851

Because PG&E is subject to the jurisdiction of the CPUC, it must also comply with Public Utilities Code Section 851. Among other things, this code provision requires PG&E to obtain CPUC approval of leases and licenses to use PG&E property, including rights-of-way granted to third parties for Interconnection Facilities. Obtaining CPUC approval for a Section 851 application can take several months, and requires compliance with the California Environmental Quality Act (CEQA). PG&E recommends that Section 851 issues be identified as early as possible so that the necessary application can be prepared and processed. As with GO 131-D compliance, PG&E recommends that the project proponent include any facilities that may be affected by Section 851 in the lead agency CEQA review so that the CPUC does not need to undertake additional CEQA review in connection with its Section 851 approval.

17. Cost and Construction Schedule Estimates

17.1 Interconnection Facilities Cost

Table 17-1 details the Interconnection Facilities cost to interconnect the Project.

Table 17-1 Interconnection Facilities Cost

Substation Work at Customer 's Substation	
Pre-parallel inspection, testing, SCADA/EMS setup, meters, etc.	\$500,000
Subtotal Substation Work	\$500,000
Transmission Work	
Construct gen-tie line	Note 1
Building & Land Work	
Land engineering support and permitting activities	\$100,000
Subtotal Building & Land Work	\$100,000
Total Interconnection Facilities Cost before ITCC	\$600,000

Note 1: This study assumes that the IC will engineer, procure, construct, own, and maintain its project facility including the generator tap line and their switchyard. Therefore the cost will be the IC's responsibility.

17.2 Network Upgrades Costs

Table 17-2 details the Network Upgrades cost to interconnect the Project.

Table 17-2 Network Upgrades Cost

Substation Work	
Share to replace 11 overstressed breakers	\$2,855,920
Share to convert Contra Costa Sub to BAAH (included in section 12)	\$9,296,000
Subtotal Substation Work	\$12,151,920
Transmission Work	
Share of Network Upgrades costs shown in Section 12.	\$58,685,810
Subtotal Transmission Work	\$58,685,810
Communications Work	
SCADA/EMS, programming, testing, screening at TOC and Switching Center	\$250,000
Subtotal Communications Work	\$250,000
Total Network Upgrades Cost	\$71,087,730

17.3 Construction Schedule Estimate

The non-binding construction schedule to engineer and construct the

facilities based on the assumptions outlined in the Transition Cluster Phase 1 Study is approximately 24-36 months from the signing of the Large Generator Interconnection Agreement (LGIA). This is based upon the assumption that the environmental permitting obtained by the IC is adequate for permitting all PG&E activities.

Note that if CPUC may require PG&E to obtain a Permit to Construct (PTC) or a Certificate of Public Convenience and Necessity (CPCN) for the generator tie line and Network Upgrades work associated with the project. Hence, the facilities needed for the project interconnection could require an additional two years to three years to complete. The cost for obtaining any of this type of permitting is not included in the above estimates

18. Standby Power

The Phase 1 Study does not address any requirements for standby power that the Project may require. The IC should contact their PG&E Generation Interconnection Services representative regarding this service.

Note: The IC is urged to contact their PG&E Generation Interconnection Services representative promptly regarding standby service in order to ensure its availability for the Project's start up date.

Appendix A

Study Plan

Transition Cluster

Phase I Interconnection

Study Plan

DRAFT

November 11, 2008

1. Study Scope Summary

In accordance with the FERC-approved Generation Interconnection Process Reform (GIPR) Large Generator Interconnection Procedures (LGIP), the Interconnection Customer, CAISO, and PG&E, SCE and SDG&E will perform a Transition Cluster Phase I Interconnection Study (Phase I Study) to determine the impact of the Projects in the Transition Cluster on the CAISO controlled transmission grid. This study plan defines the scope, content, and assumptions for this Phase I Study. This Phase I Study will:

1. Identify transmission system impacts caused by the addition of a proposed project or grouping of projects.
2. Identify the system reinforcements, if any, necessary to mitigate the adverse impact of a proposed project or grouping of projects under various system conditions.
3. Preliminarily evaluate the feasibility of the proposed interconnection on the CAISO transmission grid.
4. Provide a list of required facilities and assign cost responsibility to each generation project and a non-binding, good faith estimated time to construct.

2. Schedule

Table 4-1 shows the tentative milestones/schedule associated with the study.

Table 4-1: Study Schedule

[See attached MS excel spreadsheet and MS Project files.](#)

3. Project and Interconnection Information

Transition Cluster Projects General Information listed below is attached.

- Project Location
- PG&E Planning Area
- Number and Type of Generators
- Maximum Generator Output
- Maximum Net Output to Grid
- Power Factor

- Step-up Transformer
- Description Of Interconnection Configuration
- Connection Voltage
- map for the Project and the transmission facilities in the vicinity
- single line diagram of the Project

4. Study Assumptions

5. Power Flow Study Base Cases

Power flow base cases representing the 2013 Summer Peak load conditions and 2013 Off-Peak load conditions will be used to evaluate the feasibility of the proposed interconnection and the transmission system impacts of the Project. While it is impractical to study all combinations of system load and generation levels during all seasons and at all times of the day, several base cases will be developed to represent extreme loading and generation conditions for the study group area.

The CAISO cannot guarantee that the Project can operate at maximum rated output 24 hours a day, year round, without system impacts, nor can the CAISO guarantee that the Project will not have system impacts during the times and seasons not studied in this Phase I Study.

2013 Summer Peak Full Loop Base Case:

Power flow analysis will be performed using the PTO's 2013 Summer Peak Full Loop Base Case (in General Electric Power Flow format). This base case is developed from the PTO's 2008 base case series. For the Deliverability Study, the base case will have a 1-in-5 year heat wave load forecast for the entire CAISO Control Area. For the Reliability Studies, the base case will have a 1-in-10 year heat wave load forecast for each of the PTO areas or sub-areas. A preliminary base case modeling all Serial Group projects will be built first. Then the peak Deliverability Study base cases will be built, modeling 96% of the 1-in-5 PTO area peak load level. After the CAISO merges the cases together to create the master peak Deliverability base case, then the Reliability cases will be built from the master Deliverability Study base case. A more detailed description of these cases is described below.

New Transmission Projects to be modeled in the base case

All CAISO-approved transmission projects expected to be operational by 2013 should be modeled in the base case. Transmission mitigation plans to mitigate deliverability problems identified in the previous Deliverability Studies should also be modeled in the base case. In addition, all Reliability and Delivery Network Upgrades identified in generation Interconnection Studies for generation projects modeled should be included in the base case if they are needed to mitigate impacts identified under summer peak load conditions. If several alternative projects were identified in the Interconnection System Impact Study (ISIS) that solve the same summer peak problem, and the generation developer has not yet selected a preferred option, then the project with the lowest expected cost that resolves the overload should be modeled, and noted in the case documentation. All transmission projects to mitigate non-summer peak congestion problems, already committed to by generation developers should also be modeled. Each of the PTOs will ensure that these projects are accurately modeled in the base case that they return to the CAISO. A list of new transmission projects included in the base case, along with their approval history, should be provided to the CAISO.

Transmission Facility Ratings

The PTOs will ensure that transmission facility ratings are identical to the ratings in the CAISO Transmission Register. CAISO-approved planned transmission facility upgrades that will increase the existing facility rating should be modeled in the base case. A list of new transmission projects, including reconductorings and re-ratings, that are included in the base case should be provided to the CAISO.

Load Modeling

For the Peak Deliverability Study, a coincident 1-in-5-year heat wave CAISO Control Area load will be modeled in the base case. Each of the PTOs will modify the load in their area of the starting base case to be 96% of their areas coincident 1-in-5 year heat wave load level. The 96% represents a diversity factor to convert the three area peak load levels to a coincident CAISO peak load level.

The PTOs will build the Reliability Study base case by scaling the load in the study area to a 1-in-10 load level. The load in the rest of the CAISO system will be the same as in the Deliverability Study base cases.

Generation Capacity (Pmax) and behind the meter load in the base case

The generation capacity values used in the Phase II Deliverability baseline study will also be used for this Phase I Study unless more accurate data is available. Wind generation Pmax data will be updated using available data for the maximum production during summer peak load hours used to calculate the average production for Qualified Capacity valuation. The generation capacity values used in the 2007Q3 Deliverability Study should be modeled in the base case.

Reliability Study base case Pmax values for wind generation will be based on nameplate.

Generation Dispatch in the base cases

Existing generation previously determined to be deliverable should be dispatched similar to the 2007Q3 Deliverability Study base case. New generation in the interconnection queue should be dispatched to balance load and resources. During the Phase I Study, new generation will be grouped geographically and dispatched together in geographic groups, at a level similar to the existing generation, to balance loads and resources in the base case. Several base cases may be needed to assess the deliverability of each of the generation groups. In all cases, all new generation modeled should be available to be dispatched to full output, based on the study methodology, during the Phase I Study.

Reliability Study base case generation dispatch levels will typically be based on dispatching generation in the study area at Pmax.

Import Levels

The Peak Deliverability Study base case will model the 2008 Maximum Import Capability for each branch group, based on the methodology for Import Capability Assignment Process for resource adequacy (CAISO Tariff Section 40.5.2.2.1), and has been modeled as fully utilized in the base case. Appendix D describes the amount and modeling of imports included in this study.

Import levels for the Reliability Study base cases can be modified to create a more stressed local system condition.

2013 Off-Peak Full Loop Base Case:

Power flow analysis will be performed using the PTO's 2013 Summer Off-Peak Full Loop Base Cases. A more detailed description of these cases for the Reliability Study and Deliverability Study is shown below.

New Transmission Projects to be modeled in the base case

Same network model as the peak case.

Transmission Facility Ratings

Same network model as the peak case.

Load Modeling

For the Off-Peak Deliverability Study, CAISO Control Area load of approximately 50% of the load in the Peak Deliverability Study case will be modeled in the base case. For study

areas with solar generation, the study area load may be increased to represent weekend day-time off-peak load levels.

The Off-Peak Reliability Study base cases load levels may vary slightly to create a more stressed local system condition.

Generation Capacity (Pmax) and behind the meter load in the base case

The generation capacity values used in the original WECC base case will also be used for this study unless more accurate data is available.

Generation Dispatch in the base cases

For the off-peak Deliverability Study base cases:

- Wind generation at its maximum nameplate output
- Solar generation at its maximum nameplate output
- Hydro generation at its high hydro dispatch level for the spring off-peak load period
- Gas fired combustion turbines off-line
- Gas fired combined cycle units at minimum load or off-line
- QF's at historical output for off-peak period
- Imports at average historical schedules for off-peak period

Generation dispatch levels for the Reliability Studies will typically maximize all generation in the study area.

Import Levels

For the off-peak Deliverability Study base case, imports should be at average historical schedules for the off-peak period.

Import levels for the Reliability Study base cases can be modified to create localized stress conditions.

These three base cases will model all CAISO-approved transmission projects that will be operational by 2013. CAISO-approved projects that are expected to be operational after that time or PTO-approved projects can be included if the CAISO and PTOs agree to the reasons for including the projects. These three base cases will also model all generation projects in the Serial Group and Transition Cluster. However, some generation projects that are electrically far from the proposed project or grouping of projects, may be either turned off or modeled with reduced generation to balance the loads and resources in the power flow model. The new generation projects included are shown in [Attachment 1](#).

6. Study Scope

This Phase I Study will determine the impact of the Project on the CAISO transmission system. The specific studies conducted are outlined below:

6.1 Peak and Off Peak Deliverability Analysis

Contingencies to be analyzed

The PTOs will provide contingency files with all NERC Category B, C.5 contingencies, and WECC-S2 contingencies on the 500 kV system (common corridor 500 kV lines) in a computer readable format along with a description of the format. The contingency files should include accurate modeling of all existing and CAISO approved RAS/SPS assuming generation is at full output. The contingency files should be tested by the PTOs on the base case that they provide to the CAISO for this study, to ensure that they are consistent.

Updated detailed descriptions of the RAS/SPS included in the contingency files should also be provided by the PTOs.

Deliverability Study Methodology

The Deliverability Study methodology is described in Generation and Import Deliverability to the Aggregate of Load (Baseline) Study Methodology on the CAISO Website:
<http://www.caiso.com/docs/2005/05/03/200505031708566410.pdf>.

6.2 System Protection Analysis

A short circuit study will be performed to determine the maximum fault currents on various buses in the vicinity of the Project. This study will assess the impact of increased fault duty resulting from the added generation. Equipment that may become overstressed as a result of the added generation will be identified.

Preliminary system protection requirements will be provided.

6.3 Post Transient Reactive Power Deficiency Analysis

With the proposed projects included in the system model, CAISO Category "B" and "C" contingencies will be analyzed to identify any reactive power deficiency:

- If they result in voltage drops of 5% or more from the pre-project levels, or
- If they fail to meet applicable voltage criteria.

A post-transient power flow analysis will be performed, if deemed necessary, after considering the network topology or power transfer paths involved when a significant amount of power transfer occurs.

6.4 Dynamic Stability Analysis

Dynamic stability studies will be conducted using the 2013 Summer Peak Full Loop Base Case to ensure that the transmission system remains in operating equilibrium through abnormal operating conditions after the new facility begins operation.

Disturbance simulations will be performed for a study period of up to 20 seconds to determine whether the new facility will create any system instability during the following line and generator outages.

6.4.1 Contingencies to be Analyzed

- Full load rejection of the Project.
- Selected transmission system contingencies near the new generation added to the model will be analyzed as agreed to by the CAISO and PTOs.

6.5 Substation Evaluation

The substation evaluation will identify any existing equipment requiring upgrades to mitigate problems caused by overstress or overload by the interconnection of the Project, if any.

6.6 Transmission Line Evaluation

PTO's transmission line evaluation will identify any existing equipment requiring upgrades to mitigate overload or overstress by the interconnection of the Project, if any.

6.7 Land Evaluation

For the Phase I Study, PTO's Corporate Real Estate Department will not perform an evaluation to determine if any new land rights are necessary to upgrade PTO facilities that may be impacted by the interconnection of the Project, such as constructing the new generator tie line and reconductoring of existing PTO transmission lines, if required.

A land right evaluation will be provided when the Project progresses to the Phase II Study.

7. Costs and Construction Schedule Estimates

The Phase I Study will provide a list of required facilities and cost responsibility and a non-binding good faith estimated time to construct.

8. Other Study Principles and Assumptions

Q: How should a generator who selects “Energy Only” be modeled in the power flow cases?

A: Energy Only units should be initially dispatched in the ISO Deliverability analysis and then turned down, if necessary, to mitigate constraints. The ISO would then assess the capability of MRTU to turn these units down and maintain reliable operation of the grid.

Only generation needs to be modeled on line at full MW capacity in the Reliability Network Upgrade analyses.

Q: How should a generator who selects “Energy Only” be modeled in SCD data bases?

A: Since violations related to SCD are reliability in nature, the generator should be modeled in the SCD data base.

Appendix B

Base Case Assumptions

Table B-1: Generation Projects Modeled in the Phase I Study Base Cases

Queue Position	Output Capacity (MW)	Interconnection Point	Current On-line Date (as last notified to CAISO by IR)
2	590	Contra Costa Power Plant 230 kV bus	2/1/2009
6	1156	Tesla Substation 230 kV Bus E	11/30/2011
16	120	Cabrillo	10/1/2008
22	38	New Birds Landing Sw Sta near Contra Costa PP Sub	12/31/2009
24	150	High Winds/Contra Costa PP	11/28/2008
28	145.	Potrero 115 kV Sub	6/1/2008
30	48.7	SF Airport Substation	6/1/2008
37	74.9	Tesla Substation	1/1/2010
38	146.	Humboldt Power Plant Substation	6/30/2009
39	200	New Birds Landing Sw Sta near Contra Costa PP Sub	12/22/2009
40	118	Eastshore Substation	10/1/2009
42	300	McCall Substation	3/31/2013
45	361	Eastshore substation	6/1/2010
52	401	Panoche Sub Station	8/1/2009
54	119.	Panoche Substation	1/1/2009
57	715	Between Cottonwood and Vaca-Dixon	5/1/2010
60	94	Kern Oil Substation 115 kV	3/31/2013
67	245	Eastshore Substation	7/31/2008
70	10.7	Hillsdale Junction-Half Moon Bay 60 kV line	9/4/2008
74	102	230kV line btn Pit#3 & Round Mtn	9/30/2009
76	10.5	PG&E Merced #1 70 kV circuit	2/29/2008
108	128	Lambie-Contra Costa 230 kV	3/1/2011
111	20	Tap of Chevron 70kv tran line	4/30/2011
113	30	Birds Landing	4/1/2009
128	565	McCall Substation	12/1/2010
155	300	Oakland C 115kV substation	5/31/2012
166	210	Midway-Morrow Bay 230kV line	12/31/2010
172	508	Tesla-Bellota 230kV lines	5/15/2011
177	100	Bahia – Moraga 230 kV Line	12/31/2011
184	35	Geysers #3 – Cloverdale 115 kV Line	1/1/2010
194	190	230kV lines near Carrizo Plain Substation	12/31/2011
212	50	Bridgeville Substation	10/30/2010
248	67	Tesla-Bellota 230kV line	5/15/2011
261A	5	Mendota-San Joaquin-Helm 70kV line	4/15/2009
267	280	Gold Hill-Eight Mile 230kV lines	4/16/2012
268	145	Tesla-Manteca 115kV line via Schulte Switchyard	4/1/2013

Table B-2: Network Upgrades Modeled in the Phase I Study Base Cases

OVERLOAD FACILITY	MITIGATION METHOD	NEW SIZE	LENGTH
Borden-Gregg 230 kV Line	Re-conductor	795 ACSS	6 miles
McCall-Sanger #3 115 kV Line	Re-conductor	477 ACSS	6.5 miles
Oro Loma-Canal 70 kV Line (Oro Loma-Dos Palos)	Re-conductor	397.5 al	2.5 miles
Barton-Sanger 115 kV Line (Airway J2-Sanger)	Re-conductor	795 ACSS	6 miles
Manchester-Sanger 115 kV Line (Sanger-Airway J1-Las Palmas)	Re-conductor	795 ACSS	6 miles
Warnerville - Wilson 230 kV Line	Re-conductor	954 ACSR	38 miles
Weber – Bellota 230 kV Line	Replace switch	1800 amp or more	
Humboldt Bay-Rio Dell Jct 60 kV Line (Newburg-Rio Dell Jct)	Re-conductor	954 al	4.75 miles
Rio Dell 60 kV Tap Line	Re-conductor	715 al	5.4 miles
Humboldt Bay-Eureka 60 kV Line	Re-conductor	715 al	2 miles
Bridgeville-Cottonwood 115 kV Line	Re-conductor	954 ACSR	87 miles
Humboldt Bay-Rio Dell Jct 60 kV Line (Humboldt-Eel River-Newburg)	Re-conductor	954 al	13 miles
Humboldt-Humboldt Bay #1 60 kV Line (Humboldt Jct-Humboldt Bay)	Re-conductor	715 al	4.1 miles
Humboldt-Eureka 60 kV Line	Re-conductor	715 al	3.6 miles
Humboldt-Humboldt Bay #2 60 kV Line	Re-conductor	954 al	6.5 miles
Humboldt-Maple Creek 60 kV Line	Re-conductor	715 al	14.3 miles
Trinity-Cottonwood 115 kV Line (Trinity-Jessup Tap)	Re-conductor	795 ACSR	35 miles
Humboldt 115/60 kV Bank 1 & 2	Replace	60 MVA	
Vierra-Tracy-Kasson 115 kV Line (Cross Road-Kasson Jct 2)	Re-conductor	477 ACSS	2.5 miles
Schulte-Manteca 115 kV Line (Kasson Jct 1-Schulte)	Re-conductor	795 ACSS	8.9 miles
Eight Mile Road – Tesla 230 kV Line	Re-conductor	795 ACSS	27 miles
Stagg – Tesla 23 kV Line	Re-conductor	795 ACSS	23 miles
Drum – Higgins 115 kV Line	SPS	N/A	N/A
Atascadero – Templeton 70 kV Line	SPS	N/A	N/A
Morro Bay – Templeton 230 kV Line	SPS	N/A	N/A
Birds Landing – Contra Costa PP 230 kV Line	Re-conductor	1113 ACSS	10 miles
Birds Landing – Contra Costa Sub 230 kV Line	Re-conductor	1113 ACSS	9.5 miles
Contra Costa Sub – Contra Costa PP 230 kV Line	Re-conductor	954 ACSR	2 miles
Simpson Paper – Ripon Tap 115 kV Line	Re-conductor	954 AAC	12 miles
Eastshore – San Mateo 230 kV Line	Re-conductor	954 ACSS	12.5 miles
Eastshore – Dumbarton 115 kV Line	Re-conductor	Parallel 477 ACSS	7 miles
Storey – Greg 230 kV Line	Re-conductor	795 ACSR	1 mile
Calpeak Panoche Peaker 115 kV Gen-Tie Line	Re-conductor	477 ACSS	0.5 miles

Table B-3: PG&E Transmission Projects Modeled in the Phase I Study Base Cases

T#	Project Name	Project Scope	EDRO
T571	Lakeville 230/60 kV Transformer Capacity Increase	Install Second 230/60 kVTransformer	Dec-08
T980	Martin 115/60 kV Transformer Replacement	TransformerReplacement	Dec-08
T867	Metcalf-Moss Landing 230 kV Reconductoring	Reconductor 230 kV Lines	Dec-08
T1018	Plainfield Substation Capacity Increase	Change Distribution Substation Interconnection	Dec-08
T997	Weber #1 60 kV Line	Reconductor and reconfigure the Weber #1 60 kV Line	Dec-08
T1096	Camanche Pumping Plant Interconnection	Interconnect Customer Substation	Mar-09
T998	Potrero Bus Parallel Circuit Breaker Project	Add a second parallel breaker	Mar-09
T897	Martin-Hunters Point 115 kV Cable	Construct New Underground Cable	Apr-09
T1020	7th Standard Substation Capacity Increase	Interconnect Distribution Substation	May-09
T964	Borden - Madera 70 kV Reinforcement	Install 70 kV Breaker and Construct Additional Line	May-09
T772	Contra Costa - Las Positas 230 kV Line (Scope Change)	Reconductor Contra Costa - Las Positas and Contra Costa - Lone Tree 230 kV Lines	May-09
T444B	Gold Hill - Clarksville 115 kV Line Reconductoring	Reconductor 115 kV Lines	May-09
T458C	Hollister 115 kV Reconductoring	Reconductor 115 kV Lines	May-09
T945	Humboldt Reactive Support (Scope Change)	Install SVC at Humboldt Substation	May-09
T994	Lakeville - Ignacio #2 230 kV Line Project	Re-establish Lakeville - Ignacio #2 230 kV Line	May-09
T1037	Menlo 60 kV Switch Upgrade	Replace 60 kV switches at Menlo 60 kV Substation	May-09
T965	Mesa 115 kV Shunt Capacitor	Instant Shunt Capacitors	May-09
T995	North Coast Breaker and Switch Upgrades (Canceled)	Breaker Replacement & Line Rerate	May-09
T444	Placer - Gold Hill 115 kV Line Reinforcement	Reconductor Placer - Gold Hill 115 kV Lines	May-09
T1055	Stone Substation Capacity Increase	Change Distribution Substation Interconnection	May-09
T680B	Tesla 115 kV Capacity Increase	Increase Transmission Capacity	May-09
T880B	West Point - Valley Springs 60 kV Line	Reconductor 60 kV Line	May-09
T177B	West Sacramento - Brighton 115 kV Reconductoring	Reconductor 115 kV Lines	May-09
T258A	Gregg 230 kV Reactor	Install Shunt Reactors	Oct-09
T758A	Brighton 230/115 kV Transformer Replacement	Transformer Replacement	Nov-09
T759	Atlantic-Lincoln Transmission Projects	Convert 60 kV facilities to 115 kV and Construct New 115 kV Line	Dec-09
T686A	Palermo-Rio Oso 115 kV Line Reconductoring	Reconductor 115 kV Lines	Dec-09

T#	Project Name	Project Scope	EDRO
T815	Pease - Marysville 60 kV Line	Construct New 60 kV Line	Dec-09
T982	Newark - Ravenswood 230 kV Line (Scope Change)	Reconductor Newark - Ravenswood and Tesla - Ravenswood 230 kV Line	Feb-10
T1031	San Francisco 115 kV Recabling Project	Reconductor 115 kV Cables	Mar-10
T249	Bay Meadows 115 kV Reconductoring	Reconductor 115 kV Lines	May-10
T993	Mendocino Coast Reactive Support	Install 10 to 15 MVars of reactive support at Big River 60 kV Substations	May-10
T983	Oakland Underground Cable	Construct New Underground Cable	May-10
T984	Pittsburg - Tesla 230 kV Reconductoring	Increase 230 kV Capacity	May-10
T1030	Table Mountain - Rio Oso 230 kV Line Reconductor and Tower	Increase substation equipment capacity	May-10
T1042	West Fresno Reactive Support	Install Caps At West Fresno	May-10
T996A	Soledad 115/60 kV Transformer Capacity	Replace transformers at Soledad Substation with 200 MVA Transformers	Jan-11
T1033	Cooley Landing 115/60 kV Transformer Capacity Upgrade	Replace Cooley Landing 115/60 kV Transformer No. 1 by 2010 and No. 2 by 2011	May-11
T346A	Cortina 60 kV Reliability	Install Additional Transformer	May-11
T970	Crazy Horse Switching Station	Construct New Switching Station	May-11
T962	East Nicolaus 115 kV Area Reinforcement	Increase 115 kV Transmission Capacity	May-11
T979	Half Moon Bay Reactive Support	Increase 60 kV Transmission Capacity	May-11
T981	Monta Vista - Los Altos 60 kV Reconductoring	Reconductor 60 kV Line	May-11
T999	Pittsburg 230/115 kV Transformer Capacity Increase	Install a third 230/115 kV transformer at Pittsburg.	May-11
T444D	Placer-Horseshoe 115 kV Reinforcement Project	Reconductor Placer to Horseshoe of Placer-Gold Hill Nos. 1 & 115 kV Lines	May-11
T985B	Rio Oso 230/115 kV Transformer Upgrades	Transformer Replacements	May-11
T920A	South of San Mateo Capacity Increase	Increase 115 kV Transmission Capacity	May-11
T670B	Tesla - Newark 230 kV Path Upgrade	Increase 230 kV Capacity	May-11
T972	Vaca Dixon- Birds Landing 230 kV Reconductoring	Reconductor 230 kV Lines	May-11
T1000	Wheeler Ridge 230/70 kV Transformer	Add a Second 230/70 kV	May-11
T692	Metcalf - Piercy & Swift and Newark - Dixon Landing 115 kV Upgrade	Reconductor 115 kV Lines	May-12
T854	Metcalf-Evergreen 115 kV	Reconductor 115 kV Lines	May-12
T990	Moraga Transformer Capacity Increase	Replace Moraga 230/115 kV Banks	Dec-12
T991	Contra Costa - Moraga 230 kV	Reconductor 230 kV Lines	May-13

T#	Project Name	Project Scope	EDRO
	Line Reconductoring		

Appendix C

Contingency Lists for Outages

Autocon Input Files

Group 1 - Greater Bay Area

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

```
# PG&E TCP1 Group 5 Greater Bay Area 2013 category b contingency list
# North Bay, East Bay, Diablo, San Francisco, Peninsula, Mission, DeAnza and San Jose Divisions
# Zones 306, 307, 308, 309, 310, 316, 317, 318 and selected outages from Sacramento/Sierra 304/311
#
# 2013 category b contingency list
# selected Sacramento/Sierra outages
#
#
# (1) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
# pre-project outage
1 30460 30472 "1 " 0 # line from VACA-DIX 230.00 BRKR to BRKR PEABODY 230.00
0
#
#
# (2) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
# pre-project outage
1 30460 30478 "1 " 0 # line from VACA-DIX 230.00 BRKR to BRKR LAMBIE 230.00
0
#
#
# (3) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
# post-project outage
1 30452 30472 "1 " 0 # line from T275SWST 230.00 BRKR to BRKR PEABODY 230.00
0
#
#
# (4) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
# post-project outage
1 30452 30478 "1 " 0 # line from T275SWST 230.00 BRKR to BRKR LAMBIE 230.00
0
#
#
# (5) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
# post-project outage
1 30460 30452 "1 " 0 # line from VACA-DIX 230.00 BRKR to BRKR T275SWST 230.00
0
#
#
# (6) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
# post-project outage
1 30460 30452 "2 " 0 # line from VACA-DIX 230.00 BRKR to BRKR T275SWST 230.00
0
#
#
# (7) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
1 30472 30479 "1 " 0 # line from PEABODY 230.00 BRKR to BRKR BDLSWSTA 230.00
0
#
#
# (8) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
1 30478 30479 "1 " 0 # line from LAMBIE 230.00 BRKR to BRKR BDLSWSTA 230.00
0
#
#
# (9) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
1 30330 30482 "1 " 0 # line from RIO OSO 230.00 BRKR to BRKR LOCKFORD 230.00
0
#
#
# (10) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
1 30337 30622 "1 " 0 # line from GOLDHILL 230.00 BRKR to BRKR EIGHT MI 230.00
0
#
#
# (11) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
1 30348 30500 "1 " 0 # line from BRIGHTON 230.00 BRKR to BRKR BELLOTA 230.00
0
#
#
# (12) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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1 30482 30500 "1 " 0 # line from LOCKFORD 230.00 BRKR to BRKR BELLOTA 230.00
0
#
#
# (13) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30485 30487 "1 " 0 # line from TIGR CRK 230.00 BRKR to BRKR ELECTRA 230.00
0
#
#
# (14) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30485 30490 "1 " 0 # line from TIGR CRK 230.00 BRKR to BRKR VLLY SPS 230.00
0
#
#
# (15) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30487 30500 "1 " 0 # line from ELECTRA 230.00 BRKR to BRKR BELLOTA 230.00
0
#
#
# (16) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30489 30624 "1 " 0 # line from STAGG-J2 230.00 (2) to BRKR TESLA E 230.00
1 30489 30499 "1 " 0 # line from STAGG-J2 230.00 (2) to BRKR STAGG-E 230.00
0
#
#
# (17) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30490 30500 "1 " 0 # line from VLLY SPS 230.00 BRKR to BRKR BELLOTA 230.00
0
#
#
# (18) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30500 30503 "1 " 0 # line from BELLOTA 230.00 BRKR to BRKR COLLERVL 230.00
0
#
#
# (19) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30500 30503 "2 " 0 # line from BELLOTA 230.00 BRKR to BRKR COLLERVL 230.00
0
#
#
# (20) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30500 30505 "1 " 0 # line from BELLOTA 230.00 BRKR to BRKR WEBER 230.00
0
#
#
# (21) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30500 30888 "1 " 0 # line from BELLOTA 230.00 BRKR to BRKR Q172 230.00
0
#
#
# (22) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30500 38206 "1 " 0 # line from BELLOTA 230.00 BRKR to (2) COTTLE A 230.00
1 38206 37563 "1 " 0 # line from COTTLE A 230.00 (2) to BRKR MELONES 230.00
4 38206 0 "1 " 0 # LOAD-DROP COTTLE A 230.00 LOAD==20.21(0.91)
0
#
#
# (23) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30500 38208 "1 " 0 # line from BELLOTA 230.00 BRKR to (2) COTTLE B 230.00
1 38208 30515 "1 " 0 # line from COTTLE B 230.00 (2) to BRKR WARNERVL 230.00
4 38208 0 "2 " 0 # LOAD-DROP COTTLE B 230.00 LOAD==23.24(1.04)
0
#
#
# (24) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30505 30888 "1 " 0 # line from WEBER 230.00 BRKR to BRKR Q172 230.00

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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0
#
#
# (25) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30527 30595 "1 " 0 # line from PITSBG E 230.00 BRKR to (3) FLOWIND2 230.00
1 30595 30640 "1 " 0 # line from FLOWIND2 230.00 (3) to BRKR TESLA C 230.00
2 30595 33840 "1 " 0 # TRAN from FLOWIND2 230.00 (3) to (1) FLOWD3-6 9.11
4 33840 0 "SG" 0 # LOAD-DROP FLOWD3-6 9.11 LOAD==0.70(0.34)
3 33840 0 "1 " 0 # GEN-DROP FLOWD3-6 9.11 GEN==1.30(0.00)
3 33840 0 "4 " 0 # GEN-DROP FLOWD3-6 9.11 GEN==1.10(0.00)
0
#
#
# (26) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30565 30569 "1 " 0 # line from BRENTWOD 230.00 BRKR to BRKR KELSO 230.00
0
#
#
# (27) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30569 30570 "1 " 0 # line from KELSO 230.00 BRKR to (4) USWP-RLF 230.00
1 30570 30571 "1 " 0 # line from USWP-RLF 230.00 (4) to (2) ALTALAND 230.00
1 30570 30625 "1 " 0 # line from USWP-RLF 230.00 (4) to BRKR TESLA D 230.00
2 30570 33836 "1 " 0 # TRAN from USWP-RLF 230.00 (4) to (1) USWP #4 9.11
2 30571 33832 "1 " 0 # TRAN from ALTALAND 230.00 (2) to (1) COG.CAPT 9.11
4 33836 0 "SG" 0 # LOAD-DROP USWP #4 9.11 LOAD==0.34(0.21)
3 33836 0 "3 " 0 # GEN-DROP USWP #4 9.11 GEN==4.50(0.00)
3 33832 0 "1 " 0 # GEN-DROP COG.CAPT 9.11 GEN==4.30(6.60)
0
#
#
# (28) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30580 30625 "1 " 0 # line from ALTM MDW 230.00 (3) to BRKR TESLA D 230.00
1 30580 38610 "1 " 0 # line from ALTM MDW 230.00 (3) to BRKR DELTAPMP 230.00
2 30580 33175 "1 " 0 # TRAN from ALTM MDW 230.00 (3) to (1) ALTAMONT 9.11
0
#
#
# (29) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
# pre and post-project outage
1 30527 30600 "2 " 0 # line from PITSBG E 230.00 BRKR to (4) TRES VAQ 230.00
1 30600 30640 "2 " 0 # line from TRES VAQ 230.00 (4) to BRKR TESLA C 230.00
2 30600 33171 "1 " 0 # TRAN from TRES VAQ 230.00 (4) to (1) TRSVQ+NW 9.11
2 30600 33195 "1 " 0 # TRAN from TRES VAQ 230.00 (4) to (1) T417 34.50
4 33195 0 "ss" 0 # LOAD-DROP T417 34.50 LOAD==0.10(0.06)
3 33195 0 "1 " 0 # GEN-DROP T417 34.50 GEN==36.10(0.00)
0
#
#
# (30) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30622 30495 "1 " 0 # line from EIGHT MI 230.00 BRKR to BRKR STAGG 230.00
0
#
#
# (31) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30622 30624 "1 " 0 # line from EIGHT MI 230.00 BRKR to BRKR TESLA E 230.00
0
#
#
# (32) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30624 30630 "1 " 0 # line from TESLA E 230.00 BRKR to BRKR NEWARK D 230.00
0
#
#
# (33) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
# pre-project outage
1 30624 30670 "1 " 0 # line from TESLA E 230.00 BRKR to BRKR WESTLEY 230.00
0
#
#
# (34) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
# post-project outage

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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1 30624 30638 "1 " 0 # line from TESLA E 230.00 BRKR to BRKR T269 230.00
0
#
#
# (35) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
# post-project outage
1 30638 30670 "1 " 0 # line from T269 230.00 BRKR to BRKR WESTLEY 230.00
0
#
#
# (36) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30624 30888 "1 " 0 # line from TESLA E 230.00 BRKR to BRKR Q172 230.00
0
#
#
# (37) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30624 30888 "2 " 0 # line from TESLA E 230.00 BRKR to BRKR Q172 230.00
0
#
#
# (38) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30632 30624 "1 " 0 # line from TESL_GEN 230.00 BRKR to BRKR TESLA E 230.00
0
#
#
# (39) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30632 30624 "2 " 0 # line from TESL_GEN 230.00 BRKR to BRKR TESLA E 230.00
0
#
#
# (40) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30640 30655 "2 " 0 # line from TESLA C 230.00 BRKR to (3) ADCC 230.00
1 30655 30631 "2 " 0 # line from ADCC 230.00 (3) to BRKR NEWARK E 230.00
2 30655 35310 "1 " 0 # TRAN from ADCC 230.00 (3) to (1) LFC FIN+ 9.11
0
#
#
# (41) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30640 30703 "1 " 0 # line from TESLA C 230.00 BRKR to BRKR RAVENSWD 230.00
0
#
#
# (42) B1 GENERATOR OUTAGE
#
3 32191 0 "1" 0 # T275GT1 13.80 PGEN=109.00 QGEN=13.69
0
#
#
# (43) B1 GENERATOR OUTAGE
#
3 33813 0 "1" 0 # T334CT1 13.80 PGEN=49.40 QGEN=4.90
0
#
#
# (44) B1 GENERATOR OUTAGE
#
3 33879 0 "1" 0 # T269BS1 13.80 PGEN=8.43 QGEN=1.08
0
#
#
# 2013 category b contingency list
# North Bay Division Zone 306
#
#
# (45) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30430 30445 "1 " 0 # line from FULTON 230.00 BRKR to BRKR IGNACIO 230.00
0
#
#
# (46) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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1 30433 30445 "2 " 0 # line from T22_93B 230.00 (2) to BRKR IGNACIO 230.00
1 30433 30435 "2 " 0 # line from T22_93B 230.00 (2) to BRKR LAKEVILLE 230.00
0
#
#
# (47) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30435 30445 "1 " 0 # line from LAKEVILLE 230.00 BRKR to BRKR IGNACIO 230.00
0
#
#
# (48) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
# pre-project outage
1 30437 30445 "1 " 0 # line from CROCKETT 230.00 (3) to BRKR IGNACIO 230.00
1 30437 30438 "1 " 0 # line from CROCKETT 230.00 (3) to (2) C&H 230.00
1 30437 30540 "1 " 0 # line from CROCKETT 230.00 (3) to BRKR SOBRANTE 230.00
2 30438 32900 "1 " 0 # TRAN from C&H 230.00 BRKR to (1) CRCKTCOG 18.00
4 30438 0 "1 " 0 # LOAD-DROP C&H 230.00 LOAD==3.32 (0.76)
3 32900 0 "1 " 0 # GEN-DROP CRCKTCOG 18.00 GEN==240.00 (40.82)
0
#
#
# (49) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
# post-project outage
1 30435 30446 "1 " 0 # line from LAKEVILLE 230.00 BRKR to BRKR T257SWST 230.00
0
#
#
# (50) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
# post-project outage
1 30445 30446 "1 " 0 # line from IGNACIO 230.00 BRKR to BRKR T257SWST 230.00
0
#
#
# (51) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
# post-project outage
1 30446 30437 "1 " 0 # line from T257SWST 230.00 BRKR to (3) CROCKETT 230.00
1 30437 30438 "1 " 0 # line from CROCKETT 230.00 (3) to (2) C&H 230.00
1 30437 30540 "1 " 0 # line from CROCKETT 230.00 (3) to BRKR SOBRANTE 230.00
2 30438 32900 "1 " 0 # TRAN from C&H 230.00 BRKR to (1) CRCKTCOG 18.00
4 30438 0 "1 " 0 # LOAD-DROP C&H 230.00 LOAD==3.32 (0.76)
3 32900 0 "1 " 0 # GEN-DROP CRCKTCOG 18.00 GEN==240.00 (54.42)
0
#
#
# (52) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
# post-project outage
1 30446 30447 "1 " 0 # line from T257SWST 230.00 BRKR to (5) T257 230.00
2 30447 32711 "1 " 0 # TRAN from T257 230.00 (5) to (1) T257GT1 16.50
2 30447 32712 "1 " 0 # TRAN from T257 230.00 (5) to (1) T257GT2 16.50
2 30447 32713 "1 " 0 # TRAN from T257 230.00 (5) to (1) T257ST1 13.80
2 30447 32714 "1 " 0 # TRAN from T257 230.00 (5) to (1) T257ST2 13.80
4 32711 0 "ss" 0 # LOAD-DROP T257GT1 16.50 LOAD==3.75 (2.07)
4 32712 0 "ss" 0 # LOAD-DROP T257GT2 16.50 LOAD==3.75 (2.07)
4 32713 0 "ss" 0 # LOAD-DROP T257ST1 13.80 LOAD==3.75 (2.07)
4 32714 0 "ss" 0 # LOAD-DROP T257ST2 13.80 LOAD==3.75 (2.07)
3 32711 0 "1 " 0 # GEN-DROP T257GT1 16.50 GEN==218.00 (50.25)
3 32712 0 "2 " 0 # GEN-DROP T257GT2 16.50 GEN==218.00 (50.25)
3 32713 0 "3 " 0 # GEN-DROP T257ST1 13.80 GEN==77.00 (17.46)
3 32714 0 "4 " 0 # GEN-DROP T257ST2 13.80 GEN==77.00 (17.46)
0
#
#
# (53) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
# post-project outage
1 30446 30540 "2 " 0 # line from T257SWST 230.00 BRKR to BRKR SOBRANTE 230.00
0
#
#
# (54) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30460 30465 "1 " 0 # line from VACA-DIX 230.00 BRKR to BRKR BAHIA 230.00
0
#
#
# (55) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30460 30467 "1 " 0 # line from VACA-DIX 230.00 BRKR to BRKR PARKWAY 230.00

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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0
#
#
# (56) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30465 30466 "1 " 0 # line from BAHIA 230.00 BRKR to BRKR Q177 230.00
0
#
#
# (57) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30466 30550 "1 " 0 # line from Q177 230.00 BRKR to BRKR MORAGA 230.00
0
#
#
# (58) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30467 30550 "1 " 0 # line from PARKWAY 230.00 BRKR to BRKR MORAGA 230.00
0
#
#
# (59) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 31258 32564 "1 " 0 # line from SONOMA 115.00 BRKR to BRKR PUEBLO 115.00
0
#
#
# (60) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 31264 32553 "1 " 0 # line from STHELNJ2 115.00 (2) to (3) MNTCLOJ2 115.00
1 31264 32549 "1 " 0 # line from STHELNJ2 115.00 BRKR to BRKR SILVRDJ2 115.00
1 32553 32554 "1 " 0 # line from MNTCLOJ2 115.00 (3) to (1) MONTCLLO 115.00
1 32553 32559 "1 " 0 # line from MNTCLOJ2 115.00 (3) to (2) MTCLPHJ2 115.00
1 32559 32560 "1 " 0 # line from MTCLPHJ2 115.00 (2) to (2) MNTCLOPH 115.00
2 32560 32700 "1 " 0 # TRAN from MNTCLOPH 115.00 (2) to (1) MONTICLO 9.11
4 32554 0 "1 " 0 # LOAD-DROP MONTCLLO 115.00 LOAD==6.93(0.99)
3 32700 0 "1 " 0 # GEN-DROP MONTICLO 9.11 GEN==4.70(0.00)
3 32700 0 "2 " 0 # GEN-DROP MONTICLO 9.11 GEN==4.70(0.00)
0
#
#
# (61) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 31265 32555 "1 " 0 # line from STHELNJ1 115.00 (3) to (2) MNTCLOJ1 115.00
1 31265 32562 "1 " 0 # line from STHELNJ1 115.00 (3) to (2) PUEBLOJT 115.00
1 31265 32551 "1 " 0 # line from STHELNJ1 115.00 (3) to (2) SILVRDJ1 115.00
1 32555 32561 "1 " 0 # line from MNTCLOJ1 115.00 (2) to (1) MTCLPHJ1 115.00
1 32562 32564 "1 " 0 # line from PUEBLOJT 115.00 (2) to BRKR PUEBLO 115.00
1 32551 31251 "1 " 0 # line from SILVRDJ1 115.00 (2) to (2) RINCONJ1 115.00
1 31251 31236 "1 " 0 # line from RINCONJ1 115.00 (2) to BRKR FULTON 115.00
0
#
#
# (62) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32549 32550 "1 " 0 # line from SILVRDJ2 115.00 (3) to (1) SILVERDO 115.00
1 32549 31218 "1 " 0 # line from SILVRDJ2 115.00 (3) to (3) ER_FTNJT 115.00
1 32549 31264 "1 " 0 # line from SILVRDJ2 115.00 BRKR to BRKR STHELNJ2 115.00
1 31218 31219 "1 " 0 # line from ER_FTNJT 115.00 (3) to (2) ERFT5_25 115.00
1 31218 31249 "1 " 0 # line from ER_FTNJT 115.00 (3) to (3) RINCONJ2 115.00
1 31219 31220 "1 " 0 # line from ERFT5_25 115.00 (2) to BRKR EGLE RCK 115.00
1 31249 31236 "1 " 0 # line from RINCONJ2 115.00 (3) to BRKR FULTON 115.00
1 31249 31250 "1 " 0 # line from RINCONJ2 115.00 (3) to (1) RINCON 115.00
4 32550 0 "1 " 0 # LOAD-DROP SILVERDO 115.00 LOAD==21.67(3.09)
4 32550 0 "2 " 0 # LOAD-DROP SILVERDO 115.00 LOAD==27.99(3.99)
4 31250 0 "1 " 0 # LOAD-DROP RINCON 115.00 LOAD==19.57(2.79)
4 31250 0 "2 " 0 # LOAD-DROP RINCON 115.00 LOAD==17.92(2.55)
1 31251 31250 "1 " 1 # close Line from RINCONJ1 115.00 to RINCON 115.00
4 31250 0 "***" 1 # restore all loads to RINCON 115.00 (Eagle Rock-Fulton-Silverado 115 kV
1 32551 32550 "1 " 1 # close Line from SILVRDJ1 115.00 to SILVERDO 115.00
4 32550 0 "***" 1 # restore all loads to SILVERDO 115.00 (Eagle Rock-Fulton-Silverado 115 k
0
#
#
# (63) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32568 32569 "1 " 0 # line from IGNACIO 115.00 BRKR to (2) HMLT_WET 115.00
1 32569 32578 "1 " 0 # line from HMLT_WET 115.00 (2) to (2) SKGGS J2 115.00

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1 32578 32586 "1 " 0 # line from SKGGS J2 115.00 (2) to (3) HGHWY J2 115.00
1 32586 31956 "1 " 0 # line from HGHWY J2 115.00 (3) to (2) CORDELLT 115.00
1 32586 32590 "1 " 0 # line from HGHWY J2 115.00 (3) to BRKR HIGHWAY 115.00
1 31956 32598 "1 " 0 # line from CORDELLT 115.00 (2) to (2) NTWR ALT 115.00
1 32598 32608 "1 " 0 # line from NTWR ALT 115.00 (2) to (2) CRQNZTP2 115.00
1 32608 32616 "1 " 0 # line from CRQNZTP2 115.00 (2) to (1) MEYERTP2 115.00
4 32569 0 "1 " 0 # LOAD-DROP HMLT_WET 115.00 LOAD==15.00(9.30)
4 32590 0 "1 " 0 # LOAD-DROP HIGHWAY 115.00 LOAD==20.67(2.94)
4 32590 0 "2 " 0 # LOAD-DROP HIGHWAY 115.00 LOAD==25.37(3.61)
1 32588 32590 "1 " 1 # LINE-TRANSFER HGHWY J2 115.00 to HGHWY J1 115.00
4 32590 0 "3*" 1 # RESTORE HIGHWAY load
0
#
#
# (64) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32568 32570 "3 " 0 # line from IGNACIO 115.00 BRKR to BRKR LS GLLNS 115.00
0
#
#
# (65) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32568 32574 "1 " 0 # line from IGNACIO 115.00 BRKR to BRKR SAN RAFL 115.00
0
#
#
# (66) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32568 32576 "1 " 0 # line from IGNACIO 115.00 BRKR to (3) SKGGS J1 115.00
1 32576 32580 "1 " 0 # line from SKGGS J1 115.00 (3) to (1) SKAGGS 115.00
1 32576 32588 "1 " 0 # line from SKGGS J1 115.00 (3) to (2) HGHWY J1 115.00
1 32588 32593 "1 " 0 # line from HGHWY J1 115.00 (2) to (3) JCPMPJCT 115.00
1 32593 32595 "1 " 0 # line from JCPMPJCT 115.00 (3) to (1) JMSCNPMP 115.00
1 32593 32604 "1 " 0 # line from JCPMPJCT 115.00 (3) to (2) MREIS JC 115.00
1 32604 32612 "1 " 0 # line from MREIS JC 115.00 (2) to (3) CRQNZTP1 115.00
1 32612 32610 "1 " 0 # line from CRQNZTP1 115.00 (3) to BRKR MRE IS-Q 115.00
1 32612 32614 "1 " 0 # line from CRQNZTP1 115.00 (3) to (3) MEYERTP1 115.00
1 32614 32600 "1 " 0 # line from MEYERTP1 115.00 (3) to BRKR MEYERS 115.00
1 32614 32606 "1 " 0 # line from MEYERTP1 115.00 (3) to BRKR CARQUINZ 115.00
4 32610 0 "1 " 0 # LOAD-DROP MRE IS-Q 115.00 LOAD==4.25(0.86)
4 32600 0 "1 " 0 # LOAD-DROP MEYERS 115.00 LOAD==0.24(0.05)
4 32606 0 "1 " 0 # LOAD-DROP CARQUINZ 115.00 LOAD==13.23(1.89)
4 32606 0 "2 " 0 # LOAD-DROP CARQUINZ 115.00 LOAD==11.26(1.60)
1 32616 32606 "1 " 1 # LINE-TRANSFER MEYERTP1 115.00 to MEYERTP2 115.00
4 32606 0 "3*" 1 # RESTORE CARQUINEZ load
0
#
#
# (67) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32570 32574 "3 " 0 # line from LS GLLNS 115.00 BRKR to BRKR SAN RAFL 115.00
0
#
#
# (68) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32602 32620 "1 " 0 # line from NRTH TWR 115.00 BRKR to (2) NTWRJCT2 115.00
1 32620 32778 "1 " 0 # line from NTWRJCT2 115.00 (2) to (3) MRTNZJCT 115.00
1 32778 32754 "1 " 0 # line from MRTNZJCT 115.00 (3) to BRKR OLEUM 115.00
1 32778 32756 "1 " 0 # line from MRTNZJCT 115.00 (3) to BRKR CHRISTIE 115.00
4 32602 0 "1 " 0 # LOAD-DROP NRTH TWR 115.00 LOAD==14.43(2.06)
4 32602 0 "2 " 0 # LOAD-DROP NRTH TWR 115.00 LOAD==9.58(1.37)
4 32602 0 "3 " 0 # LOAD-DROP NRTH TWR 115.00 LOAD==6.08(0.87)
4 32602 0 "4 " 0 # LOAD-DROP NRTH TWR 115.00 LOAD==2.85(0.41)
1 32602 32618 "1 " 1 # LINE-TRANSFER NTWRJCT2 115.00 to NTWRJCT1 115.00
4 32602 0 "3*" 1 # RESTORE NORTH TOWER load
0
#
#
# (69) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32618 32020 "1 " 0 # line from NTWRJCT1 115.00 (1) to (3) JMSN JCT 115.00
1 32020 31996 "1 " 0 # line from JMSN JCT 115.00 (3) to (3) HALE J1 115.00
1 32020 32010 "1 " 0 # line from JMSN JCT 115.00 (3) to BRKR JAMESON 115.00
1 31996 31995 "1 " 0 # line from HALE J1 115.00 (3) to (2) HALE 115.00
1 31996 32006 "1 " 0 # line from HALE J1 115.00 (3) to (3) VCVLLE1J 115.00
1 31995 32013 "1 " 0 # line from HALE 115.00 (2) to (1) HALE2 115.00
1 32006 31998 "1 " 0 # line from VCVLLE1J 115.00 (3) to BRKR VACA-DIX 115.00

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1 32006 32000 "1 " 0 # line from VCVLLE1J 115.00 (3) to BRKR VACAVLL1 115.00
4 32010 0 "1 " 0 # LOAD-DROP JAMESON 115.00 LOAD==35.07(1.57)
4 31995 0 "1 " 0 # LOAD-DROP HALE 115.00 LOAD==2.36(1.40)
4 32000 0 "1 " 0 # LOAD-DROP VACAVLL1 115.00 LOAD==27.49(1.23)
1 32002 32000 "1 " 1 #Line transfer VACAVLL1 115kV TO VACAVLL2 115kV
4 32000 0 "***" 1 #Restore VACAVLL1 load
1 32012 32013 "1 " 1 #Transfer load to HALE alternate
4 31995 0 "***" 1 #Restore load at HALE
1 32010 32009 "1 " 1 # LINE-TRANSFER JMSN JCT 115.00 to JAMESN-A 115.00
4 32010 0 "***" 1 # RESTORE JAMESON load
0
#
#
# (70) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32650 32652 "1 " 0 # line from ST.HELNA 60.00 (2) to BRKR CALISTGA 60.00
1 32650 31378 "1 " 0 # line from ST.HELNA 60.00 (2) to BRKR FULTON 60.00
4 32652 0 "1 " 0 # LOAD-DROP CALISTGA 60.00 LOAD==18.46(2.63)
0
#
#
# (71) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32654 32655 "1 " 0 # line from TULUCAY 60.00 BRKR to (2) TULCAY1 60.00
1 32655 32662 "1 " 0 # line from TULCAY1 60.00 (2) to (4) TULCY JT 60.00
1 32662 32077 "1 " 0 # line from TULCY JT 60.00 (4) to (1) CORD PMP 60.00
1 32662 32656 "1 " 0 # line from TULCY JT 60.00 (4) to BRKR NAPA 60.00
1 32662 32093 "1 " 0 # line from TULCY JT 60.00 (4) to (3) CRD-JCT 60.00
1 32093 32091 "1 " 0 # line from CRD-JCT 60.00 (3) to (1) CRD_INTR 60.00
1 32093 32074 "1 " 0 # line from CRD-JCT 60.00 (3) to (1) CORDELIA 60.00
4 32077 0 "1 " 0 # LOAD-DROP CORD PMP 60.00 LOAD==4.74(1.56)
4 32091 0 "1 " 0 # LOAD-DROP CRD_INTR 60.00 LOAD==2.80(0.90)
4 32074 0 "4 " 0 # LOAD-DROP CORDELIA 60.00 LOAD==11.94(0.53)
1 32662 32656 "1 " 1 # close Line from TULCY JT 60.00 to NAPA 60.00
1 32662 32077 "1 " 1 # close Line from TULCY JT 60.00 to CORD PMP 60.00
1 32077 32074 "1 " 1 # close Line from CORD PMP 60.00 to CORDELIA 60.00
4 32077 0 "***" 1 # restore all loads to CORD PMP 60.00
4 32074 0 "***" 1 # restore all loads to CORDELIA 60.00 (Tulucay - Napa #1 60 kV)
0
#
#
# (72) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32654 32660 "1 " 0 # line from TULUCAY 60.00 BRKR to (3) BSLT TAP 60.00
1 32660 32656 "1 " 0 # line from BSLT TAP 60.00 (3) to BRKR NAPA 60.00
1 32660 32658 "1 " 0 # line from BSLT TAP 60.00 (3) to (1) BASALT 60.00
4 32658 0 "1 " 0 # LOAD-DROP BASALT 60.00 LOAD==3.68(0.53)
4 32658 0 "2 " 0 # LOAD-DROP BASALT 60.00 LOAD==20.76(2.96)
1 32655 32658 "1 " 1 # close Line from TULUCAY 60.00 to BASALT 60.00
4 32658 0 "***" 1 # restore all loads to BASALT 60.00 (Tulucay - Napa #2 60 kV)
0
#
#
# (73) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32664 32667 "1 " 0 # line from IGNACO A 60.00 BRKR to (3) IG JCT 60.00
1 32667 32678 "1 " 0 # line from IG JCT 60.00 (3) to (2) SAN RFLJ 60.00
1 32667 32668 "1 " 0 # line from IG JCT 60.00 (3) to BRKR NOVATO 60.00
1 32678 32680 "1 " 0 # line from SAN RFLJ 60.00 (2) to BRKR GREENBRE 60.00
0
#
#
# (74) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32664 32676 "1 " 0 # line from IGNACO A 60.00 BRKR to (2) HMLTN FD 60.00
1 32676 32686 "1 " 0 # line from HMLTN FD 60.00 (2) to (2) ALTOJT2 60.00
1 32686 32682 "1 " 0 # line from ALTOJT2 60.00 (2) to BRKR ALTO 60.00
1 32676 32677 "1 " 1 # LINE-TRANSFER HMLTN FD 60.00 to HMLTNBFD 60.00
4 32676 0 "***" 1 # RESTORE HMLTN FD load
0
#
#
# (75) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32664 32677 "1 " 0 # line from IGNACO A 60.00 BRKR to (2) HMLTNBFD 60.00
1 32677 32684 "1 " 0 # line from HMLTNBFD 60.00 (2) to (3) ALTOJT1 60.00
1 32684 32682 "1 " 0 # line from ALTOJT1 60.00 (3) to BRKR ALTO 60.00
1 32684 32688 "1 " 0 # line from ALTOJT1 60.00 (3) to BRKR SAUSALTO 60.00

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4 32688      0 "2 " 0 # LOAD-DROP SAUSALTO 60.00 LOAD==10.92(1.56)
1 32688 32686 "1 " 1 # LINE-TRANSFER SAUSALTO 60.00 to ALTOJT2 60.00
4 32688      0 "***" 1 # RESTORE SAUSALTO load
0
#
#
# (76) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32666 32669 "1 " 0 # line from IGNACO B 60.00 BRKR to (3) STAF_JCT 60.00
1 32669 32673 "1 " 0 # line from STAF_JCT 60.00 (3) to (3) TOCA_JCT 60.00
1 32669 32670 "1 " 0 # line from STAF_JCT 60.00 (3) to BRKR STAFFORD 60.00
1 32673 32672 "1 " 0 # line from TOCA_JCT 60.00 (3) to BRKR OLEMA 60.00
1 32673 32675 "1 " 0 # line from TOCA_JCT 60.00 (3) to (1) TOCALOMA 60.00
4 32670      0 "1 " 0 # LOAD-DROP STAFFORD 60.00 LOAD==10.16(1.45)
4 32670      0 "2 " 0 # LOAD-DROP STAFFORD 60.00 LOAD==10.61(1.51)
1 32670 32665 "1 " 1 # LINE-TRANSFER STAF_JCT 60.00 to NVTO JCT 60.00
4 32670      0 "***" 1 # RESTORE STAFFORD load
0
#
#
# (77) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32666 32674 "1 " 0 # line from IGNACO B 60.00 BRKR to (2) WOODACRE 60.00
1 32674 32671 "1 " 0 # line from WOODACRE 60.00 (2) to BRKR BOLINAS 60.00
4 32674      0 "1 " 0 # LOAD-DROP WOODACRE 60.00 LOAD==7.94(1.13)
0
#
#
# (78) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32672 32671 "1 " 0 # line from OLEMA 60.00 BRKR to BRKR BOLINAS 60.00
0
#
#
# (79) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32680 32682 "1 " 0 # line from GREENBRE 60.00 BRKR to BRKR ALTO 60.00
0
#
#
# (80) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 30464 30465 "1 " 0 # TRAN from EXXON_BH 12.47 (3) to BRKR BAHIA 230.00
2 30464 30465 "2 " 0 # TRAN from EXXON_BH 12.47 (3) to BRKR BAHIA 230.00
2 30464 30465 "3 " 0 # TRAN from EXXON_BH 12.47 (3) to BRKR BAHIA 230.00
4 30464      0 "SG" 0 # LOAD-DROP EXXON_BH 12.47 LOAD==47.30(30.55)
3 30464      0 "1 " 0 # GEN-DROP EXXON_BH 12.47 GEN==52.00(19.25)
0
#
#
# (81) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 32568 30445 "4 " 0 # TRAN from IGNACIO 115.00 BRKR to BRKR IGNACIO 230.00
0
#
#
# (82) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 32568 30445 "6 " 0 # TRAN from IGNACIO 115.00 BRKR to BRKR IGNACIO 230.00
0
#
#
# (83) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 32654 30440 "1 " 0 # TRAN from TULUCAY 60.00 BRKR to BRKR TULUCAY 230.00
0
#
#
# (84) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 32654 30440 "3 " 0 # TRAN from TULUCAY 60.00 BRKR to BRKR TULUCAY 230.00
0
#
#
# (85) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 32666 32568 "1 " 0 # TRAN from IGNACO B 60.00 BRKR to BRKR IGNACIO 115.00
0

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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#
#
# (86) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 32666 32568 "3 " 0 # TRAN from IGNACO B 60.00 BRKR to BRKR IGNACIO 115.00
0
#
#
# (87) B1 GENERATOR OUTAGE
#
3 30464 0 "1 " 0 # EXXON_BH 12.47 PGEN=52.00 QGEN=19.25
0
#
#
# (88) B1 GENERATOR OUTAGE
#
3 32900 0 "1 " 0 # CRCKTCOG 18.00 PGEN=240.00 QGEN=40.82
0
#
#
# (89) B1 GENERATOR OUTAGE
#
3 32703 0 "1" 0 # Q177WG1 0.58 PGEN=100.00 QGEN=20.16
0
#
#
# (90) L-1/G-1 OVERLAPPING OUTAGE
# Fulton - Ignacio 230 kV Line and Crockett Cogen
1 30430 30445 "1 " 0 # line from FULTON 230.00 BRKR to BRKR IGNACIO 230.00
#
3 32900 0 "1 " 0 # CRCKTCOG 18.00 PGEN=240.00 QGEN=40.82
0
#
#
# (91) L-1/G-1 OVERLAPPING OUTAGE
# Lakeville - Ignacio #2 230 kV Line and Crockett Cogen
1 30433 30445 "2 " 0 # line from T22_93B 230.00 (2) to BRKR IGNACIO 230.00
1 30433 30435 "2 " 0 # line from T22_93B 230.00 (2) to BRKR LAKEVILLE 230.00
#
3 32900 0 "1 " 0 # CRCKTCOG 18.00 PGEN=240.00 QGEN=40.82
0
#
#
# (92) L-1/G-1 OVERLAPPING OUTAGE
# Lakeville - Ignacio #1 230 kV Line and Crockett Cogen
1 30435 30445 "1 " 0 # line from LAKEVILLE 230.00 BRKR to BRKR IGNACIO 230.00
#
3 32900 0 "1 " 0 # CRCKTCOG 18.00 PGEN=240.00 QGEN=40.82
0
#
#
# (93) L-1/G-1 OVERLAPPING OUTAGE
# Lakeville - T257 230 kV Line and Crockett Cogen post-project outage
1 30435 30446 "1 " 0 # line from LAKEVILLE 230.00 BRKR to BRKR T257SWST 230.00
#
3 32900 0 "1 " 0 # CRCKTCOG 18.00 PGEN=240.00 QGEN=40.82
0
#
#
# (94) L-1/G-1 OVERLAPPING OUTAGE
# Ignacio - T257 230 kV Line and Crockett Cogen post-project outage
1 30445 30446 "1 " 0 # line from IGNACIO 230.00 BRKR to BRKR T257SWST 230.00
#
3 32900 0 "1 " 0 # CRCKTCOG 18.00 PGEN=240.00 QGEN=40.82
0
#
#
# (95) L-1/G-1 OVERLAPPING OUTAGE
# T257 - Sobrante #2 230 kV Line and Crockett Cogen post-project outage
1 30446 30540 "2 " 0 # line from T257SWST 230.00 BRKR to BRKR SOBRANTE 230.00
#
3 32900 0 "1 " 0 # CRCKTCOG 18.00 PGEN=240.00 QGEN=40.82
0
#
#
# (96) L-1/G-1 OVERLAPPING OUTAGE
# Vaca-Dixon - Bahia 230 kV Line and Crockett Cogen
1 30460 30465 "1 " 0 # line from VACA-DIX 230.00 BRKR to BRKR BAHIA 230.00

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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#
3 32900      0 "1 "    0      # CRCKTCOG  18.00      PGEN=240.00  QGEN=40.82
0
#
#
# (97) L-1/G-1 OVERLAPPING OUTAGE
# Vaca-Dixon - Parkway 230 kV Line and Crockett Cogen
1 30460 30467 "1 "    0      # line from  VACA-DIX 230.00  BRKR to BRKR  PARKWAY  230.00
#
3 32900      0 "1 "    0      # CRCKTCOG  18.00      PGEN=240.00  QGEN=40.82
0
#
#
# (98) L-1/G-1 OVERLAPPING OUTAGE
# Bahia - Q177 230 kV Line and Crockett Cogen
1 30465 30466 "1 "    0      # line from  BAHIA    230.00  BRKR to BRKR  Q177    230.00
#
3 32900      0 "1 "    0      # CRCKTCOG  18.00      PGEN=240.00  QGEN=40.82
0
#
#
# (99) L-1/G-1 OVERLAPPING OUTAGE
# Q177 - Moraga 230 kV Line and Crockett Cogen
1 30466 30550 "1 "    0      # line from  Q177    230.00  BRKR to BRKR  MORAGA   230.00
#
3 32900      0 "1 "    0      # CRCKTCOG  18.00      PGEN=240.00  QGEN=40.82
0
#
#
# (100) L-1/G-1 OVERLAPPING OUTAGE
# Parkway - Moraga 230 kV Line and Crockett Cogen
1 30467 30550 "1 "    0      # line from  PARKWAY 230.00  BRKR to BRKR  MORAGA   230.00
#
3 32900      0 "1 "    0      # CRCKTCOG  18.00      PGEN=240.00  QGEN=40.82
0
#
#
# 2013 category b contingency list
# East Bay Division Zone 307
#
#
# (101) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32740 33006 "1 "    0      # line from  HILLSIDE 115.00  BRKR to (3)  GRIZLYJ1 115.00
1 33006 33010 "1 "    0      # line from  GRIZLYJ1 115.00  (3) to BRKR  SOBRANTE 115.00
1 33006 33012 "1 "    0      # line from  GRIZLYJ1 115.00  (3) to BRKR  EST PRTL 115.00
1 32770 32740 "1 "    0      # include GRIZZLY2 115.00  BRKR to HILLSIDE 115.00 ckt 1
0
#
#
# (102) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32740 33008 "2 "    0      # line from  HILLSIDE 115.00  BRKR to (3)  GRIZLYJ2 115.00
1 33008 32780 "2 "    0      # line from  GRIZLYJ2 115.00  (3) to BRKR  CLARMNT 115.00
1 33008 33010 "2 "    0      # line from  GRIZLYJ2 115.00  (3) to BRKR  SOBRANTE 115.00
1 32770 32740 "2 "    0      # include GRIZZLY2 115.00  BRKR to HILLSIDE 115.00 ckt 2
0
#
#
# (103) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32748 32750 "1 "    0      # line from  PP STEEL 115.00  BRKR to (3)  PPSTLTAP 115.00
1 32750 32774 "1 "    0      # line from  PPSTLTAP 115.00  (3) to (3)  PTPNLTAP 115.00
1 32750 32760 "1 "    0      # line from  PPSTLTAP 115.00  (3) to (1)  PT PINLE 115.00
1 32774 32762 "1 "    0      # line from  PTPNLTAP 115.00  (3) to BRKR  STD. OIL 115.00
1 32774 32808 "1 "    0      # line from  PTPNLTAP 115.00  (3) to (2)  SNPBLTP2 115.00
1 32808 33010 "1 "    0      # line from  SNPBLTP2 115.00  (2) to BRKR  SOBRANTE 115.00
4 32748      0 "1 "    0      # LOAD-DROP   PP STEEL 115.00  LOAD==0.19(0.25)
4 32760      0 "1 "    0      # LOAD-DROP   PT PINLE 115.00  LOAD==14.78(3.36)
0
#
#
# (104) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32754 32802 "1 "    0      # line from  OLEUM    115.00  BRKR to (3)  VLYVWTP1 115.00
1 32802 32764 "1 "    0      # line from  VLYVWTP1 115.00  (3) to BRKR  VALLY VW 115.00
1 32802 32766 "1 "    0      # line from  VLYVWTP1 115.00  (3) to BRKR  EL CRRTO 115.00
4 32764      0 "1 "    0      # LOAD-DROP   VALLY VW 115.00  LOAD==7.65(1.74)

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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4 32764      0 "2 "    0      # LOAD-DROP    VALLY VW 115.00  LOAD==15.69(3.58)
1 32764 32804 "2 "    1      # LINE-TRANSFER VLYVWTP1 to VLYVWTP2
4 32764      0 "***"   1      # RESTORE VALLEY VIEW load
0
#
#
# (105)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32754 32804 "2 "    0      # line from  OLEUM      115.00  BRKR to (2)    VLYVWTP2 115.00
1 32804 32766 "2 "    0      # line from  VLYVWTP2 115.00  (2) to BRKR  EL CRRTO 115.00
0
#
#
# (106)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32754 32849 "1 "    0      # line from  OLEUM      115.00  BRKR to (2)    CON25    115.00
1 32849 32754 "2 "    0      # line from  CON25     115.00  (2) to BRKR  OLEUM    115.00
4 32849      0 "1 "    0      # LOAD-DROP    CON25     115.00  LOAD==25.00(15.56)
0
#
#
# (107)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32756 33010 "1 "    0      # line from  CHRISTIE 115.00  BRKR to BRKR  SOBRANTE 115.00
0
#
#
# (108)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32765 33010 "1 "    0      # line from  ELCRTJ1  115.00  (2) to BRKR  SOBRANTE 115.00
1 32765 32766 "1 "    0      # line from  ELCRTJ1  115.00  (2) to BRKR  EL CRRTO 115.00
0
#
#
# (109)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32766 33010 "2 "    0      # line from  EL CRRTO 115.00  BRKR to BRKR  SOBRANTE 115.00
0
#
#
# (110)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32767 33010 "1 "    0      # line from  ELCRTJ2  115.00  (2) to BRKR  SOBRANTE 115.00
1 32767 32768 "1 "    0      # line from  ELCRTJ2  115.00  (2) to BRKR  RICHMOND 115.00
0
#
#
# (111)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32768 33010 "2 "    0      # line from  RICHMOND 115.00  BRKR to BRKR  SOBRANTE 115.00
0
#
#
# (112)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32770 32740 "1 "    0      # line from  GRIZZLY2 115.00  BRKR to BRKR  HILLSIDE 115.00
0
#
#
# (113)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32770 32740 "2 "    0      # line from  GRIZZLY2 115.00  BRKR to BRKR  HILLSIDE 115.00
0
#
#
# (114)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32780 32782 "1 "    0      # line from  CLARMNT  115.00  BRKR to BRKR  STATIN D 115.00
0
#
#
# (115)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32780 32782 "2 "    0      # line from  CLARMNT  115.00  BRKR to BRKR  STATIN D 115.00
0
#
#
# (116)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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#
1 32782 32788 "1 " 0 # line from STATIN D 115.00 BRKR to BRKR STATIN L 115.00
0
#
#
# (117) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32786 32788 "1 " 0 # line from OAK C115 115.00 BRKR to BRKR STATIN L 115.00
0
#
#
# (118) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32786 32790 "2 " 0 # line from OAK C115 115.00 BRKR to BRKR STATIN X 115.00
0
#
#
# (119) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32786 32790 "3 " 0 # line from OAK C115 115.00 BRKR to BRKR STATIN X 115.00
0
#
#
# (120) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32786 32793 "1 " 0 # line from OAK C115 115.00 BRKR to (2) SCHNITZ 115.00
1 32793 32794 "1 " 0 # line from SCHNITZ 115.00 (2) to BRKR MARITIME 115.00
4 32793 0 "1 " 0 # LOAD-DROP SCHNITZ 115.00 LOAD==9.29(4.50)
4 32794 0 "1 " 0 # LOAD-DROP MARITIME 115.00 LOAD==0.95(1.11)
0
#
#
# (121) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32786 38026 "1 " 0 # line from OAK C115 115.00 BRKR to (4) ALAMEDCT 115.00
1 38026 38022 "1 " 0 # line from ALAMEDCT 115.00 (4) to BRKR CARTWRT 115.00
2 38026 38118 "1 " 0 # TRAN from ALAMEDCT 115.00 (4) to (1) ALMDACT1 13.80
2 38026 38119 "1 " 0 # TRAN from ALAMEDCT 115.00 (4) to (1) ALMDACT2 13.80
4 38022 0 "1 " 0 # LOAD-DROP CARTWRT 115.00 LOAD==23.04(4.31)
4 38022 0 "2 " 0 # LOAD-DROP CARTWRT 115.00 LOAD==23.04(4.31)
3 38118 0 "1 " 0 # GEN-DROP ALMDACT1 13.80 GEN==22.60(12.40)
3 38119 0 "1 " 0 # GEN-DROP ALMDACT2 13.80 GEN==22.60(12.40)
0
#
#
# (122) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32787 32786 "1 " 0 # line from Q155 115.00 (4) to BRKR OAK C115 115.00
2 32787 32905 "1 " 0 # TRAN from Q155 115.00 (4) to (1) Q155BUS1 13.80
2 32787 32906 "2 " 0 # TRAN from Q155 115.00 (4) to (1) Q155BUS2 13.80
2 32787 32907 "3 " 0 # TRAN from Q155 115.00 (4) to (1) Q155BUS3 13.80
4 32905 0 "ss" 0 # LOAD-DROP Q155BUS1 13.80 LOAD==1.20(0.66)
4 32906 0 "ss" 0 # LOAD-DROP Q155BUS2 13.80 LOAD==1.20(0.66)
4 32907 0 "ss" 0 # LOAD-DROP Q155BUS3 13.80 LOAD==0.60(0.33)
3 32905 0 "1 " 0 # GEN-DROP Q155BUS1 13.80 GEN==60.60(15.56)
3 32905 0 "2 " 0 # GEN-DROP Q155BUS1 13.80 GEN==60.60(15.56)
3 32906 0 "3 " 0 # GEN-DROP Q155BUS2 13.80 GEN==60.60(15.56)
3 32906 0 "4 " 0 # GEN-DROP Q155BUS2 13.80 GEN==60.60(15.56)
3 32907 0 "5 " 0 # GEN-DROP Q155BUS3 13.80 GEN==60.60(24.01)
0
#
#
# (123) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32792 32798 "1 " 0 # line from STATIN J 115.00 BRKR to (2) OWENSTAP 115.00
1 32798 32800 "1 " 0 # line from OWENSTAP 115.00 (2) to BRKR OWNBRKWY 115.00
4 32800 0 "1 " 0 # LOAD-DROP OWNBRKWY 115.00 LOAD==9.29(5.51)
0
#
#
# (124) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32792 32814 "1 " 0 # line from STATIN J 115.00 BRKR to (3) EDESTAP1 115.00
1 32814 32810 "1 " 0 # line from EDESTAP1 115.00 (3) to BRKR EDES 115.00
1 32814 35113 "1 " 0 # line from EDESTAP1 115.00 (3) to (2) DMTAR SL 115.00
1 35113 35101 "1 " 0 # line from DMTAR SL 115.00 (2) to BRKR SN LNDRO 115.00
4 32810 0 "2 " 0 # LOAD-DROP EDES 115.00 LOAD==18.85(4.29)
4 32810 0 "3 " 0 # LOAD-DROP EDES 115.00 LOAD==29.45(6.71)

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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4 35113      0 "1 " 0 # LOAD-DROP DMTAR SL 115.00 LOAD==3.61(2.24)
1 32810 32812 "1 " 1 # LINE-TRANSFER EDESTAP1 to EDS GRNT
4 32810      0 "***" 1 # RESTORE EDES load
0
#
#
# (125) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32792 38024 "1 " 0 # line from STATIN J 115.00 BRKR to BRKR JENNY 115.00
4 38024      0 "1 " 0 # LOAD-DROP JENNY 115.00 LOAD==33.37(6.27)
1 38024 38022 "1 " 1 # LINE-TRANSFER ALAMDA J to ALAMDA C
4 38024      0 "***" 1 # RESTORE ALAMDA J load
0
#
#
# (126) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32806 32758 "1 " 0 # line from SNPBLTP1 115.00 (3) to BRKR SAN PBLO 115.00
1 32806 32762 "2 " 0 # line from SNPBLTP1 115.00 (3) to BRKR STD. OIL 115.00
1 32806 33010 "2 " 0 # line from SNPBLTP1 115.00 (3) to BRKR SOBRANTE 115.00
4 32758      0 "1 " 0 # LOAD-DROP SAN PBLO 115.00 LOAD==19.98(4.55)
1 32758 32808 "2 " 1 # LINE-TRANSFER SNPBLTP1 to SNPBLTP2
4 32758      0 "***" 1 # RESTORE SAN PABLO load
0
#
#
# (127) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32812 35104 "1 " 0 # line from EDS GRNT 115.00 (1) to BRKR GRANT 115.00
0
#
#
# (128) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32850 32852 "1 " 0 # line from UNIN CHM 60.00 (3) to BRKR CHRISTIE 60.00
1 32850 32860 "1 " 0 # line from UNIN CHM 60.00 (3) to BRKR FRKLNALT 60.00
2 32850 32920 "1 " 0 # TRAN from UNIN CHM 60.00 (3) to (1) UNION CH 9.11
4 32920      0 "SG" 0 # LOAD-DROP UNION CH 9.11 LOAD==2.35(0.54)
3 32920      0 "1 " 0 # GEN-DROP UNION CH 9.11 GEN==20.40(-9.00)
0
#
#
# (129) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32852 32856 "2 " 0 # line from CHRISTIE 60.00 BRKR to (2) FRANKLIN 60.00
1 32856 32858 "1 " 0 # line from FRANKLIN 60.00 (2) to (1) SEQUOIA 60.00
4 32856      0 "1 " 0 # LOAD-DROP FRANKLIN 60.00 LOAD==16.51(3.76)
4 32856      0 "2 " 0 # LOAD-DROP FRANKLIN 60.00 LOAD==16.30(3.72)
1 32856 32860 "1 " 1 # LINE-TRANSFER FRANKLIN to FRKLNALT
4 32856      0 "***" 1 # RESTORE FRANKLIN load
0
#
#
# (130) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32852 33067 "1 " 0 # line from CHRISTIE 60.00 BRKR to (3) PCBRICK 60.00
1 33067 32854 "1 " 0 # line from PCBRICK 60.00 (3) to (1) PRT CSTA 60.00
1 33067 33066 "1 " 0 # line from PCBRICK 60.00 (3) to (3) STAUFFER 60.00
1 33066 33065 "1 " 0 # line from STAUFFER 60.00 (3) to (2) URICH 60.00
2 33066 33139 "1 " 0 # TRAN from STAUFFER 60.00 (3) to (1) STAUFER 9.11
1 33065 33064 "1 " 0 # line from URICH 60.00 (2) to (2) SFPP CNC 60.00
1 33064 33091 "1 " 0 # line from SFPP CNC 60.00 (2) to (2) TAP GWF5 60.00
2 33091 33135 "1 " 0 # TRAN from TAP GWF5 60.00 (2) to (1) GWF #5 13.80
4 32854      0 "1 " 0 # LOAD-DROP PRT CSTA 60.00 LOAD==0.28(0.25)
4 33065      0 "1 " 0 # LOAD-DROP URICH 60.00 LOAD==1.99(1.23)
4 33139      0 "SG" 0 # LOAD-DROP STAUFER 9.11 LOAD==2.23(0.32)
4 33064      0 "1 " 0 # LOAD-DROP SFPP CNC 60.00 LOAD==8.05(4.78)
4 33135      0 "SG" 0 # LOAD-DROP GWF #5 13.80 LOAD==2.77(0.63)
3 33139      0 "1 " 0 # GEN-DROP STAUFER 9.11 GEN==2.00(-1.00)
3 33135      0 "1 " 0 # GEN-DROP GWF #5 13.80 GEN==18.90(3.52)
0
#
#
# (131) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32911 32754 "1 " 0 # line from UNOCAL2 115.00 (3) to BRKR OLEUM 115.00
1 32911 32754 "2 " 0 # line from UNOCAL2 115.00 (3) to BRKR OLEUM 115.00
2 32911 32910 "1 " 0 # TRAN from UNOCAL2 115.00 (3) to BRKR UNOCAL 12.00

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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4 32910      0 "SG"      0      # LOAD-DROP      UNOCAL      12.00      LOAD==20.81 (12.90)
3 32910      0 "1 "      0      # GEN-DROP      UNOCAL      12.00      GEN==15.70 (6.59)
3 32910      0 "2 "      0      # GEN-DROP      UNOCAL      12.00      GEN==15.70 (6.59)
3 32910      0 "3 "      0      # GEN-DROP      UNOCAL      12.00      GEN==15.70 (6.59)
0
#
#
# (132)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33012 32780 "1 "      0      # line from EST PRTL 115.00 BRKR to BRKR CLARMNT 115.00
0
#
#
# (133)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33016 32754 "1 "      0      # line from ALHAMTP2 115.00 (2) to BRKR OLEUM 115.00
1 33016 32990 "1 "      0      # line from ALHAMTP2 115.00 (2) to BRKR MARTNZ D 115.00
0
#
#
# (134)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33020 32780 "1 "      0      # line from MORAGA 115.00 BRKR to BRKR CLARMNT 115.00
0
#
#
# (135)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33020 32780 "2 "      0      # line from MORAGA 115.00 BRKR to BRKR CLARMNT 115.00
0
#
#
# (136)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33020 32790 "1 "      0      # line from MORAGA 115.00 BRKR to BRKR STATIN X 115.00
0
#
#
# (137)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33020 32790 "2 "      0      # line from MORAGA 115.00 BRKR to BRKR STATIN X 115.00
0
#
#
# (138)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33020 32790 "3 "      0      # line from MORAGA 115.00 BRKR to BRKR STATIN X 115.00
0
#
#
# (139)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33020 32790 "4 "      0      # line from MORAGA 115.00 BRKR to BRKR STATIN X 115.00
0
#
#
# (140)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33020 32792 "1 "      0      # line from MORAGA 115.00 BRKR to BRKR STATIN J 115.00
0
#
#
# (141)  B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 32786 32908 "1 "      0      # TRAN from OAK C115 115.00 BRKR to BRKR OAK C12 12.00
0
#
#
# (142)  B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 32786 32908 "2 "      0      # TRAN from OAK C115 115.00 BRKR to BRKR OAK C12 12.00
0
#
#
# (143)  B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 32786 32908 "3 "      0      # TRAN from OAK C115 115.00 BRKR to BRKR OAK C12 12.00
0

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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#
#
# (144) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 32852 32756 "1 " 0 # TRAN from CHRISTIE 60.00 BRKR to BRKR CHRISTIE 115.00
0
#
#
# (145) B1 GENERATOR OUTAGE
#
3 32740 0 "1" 0 # HILLSIDE 115.00 PGEN=26.00 QGEN=-8.70
0
#
#
# (146) B1 GENERATOR OUTAGE
#
3 32905 0 "1" 0 # Q155BUS1 13.80 PGEN=60.60 QGEN=15.56
0
#
#
# (147) B1 GENERATOR OUTAGE
#
3 32910 0 "1" 0 # UNOCAL 12.00 PGEN=15.70 QGEN=8.37
0
#
#
# (148) B1 GENERATOR OUTAGE
#
3 32920 0 "1" 0 # UNION CH 9.11 PGEN=20.40 QGEN=-9.00
0
#
#
# (149) B1 GENERATOR OUTAGE
#
3 32921 0 "1" 0 # ChevGen1 13.80 PGEN=54.00 QGEN=34.20
0
#
#
# (150) L-1/G-1 OVERLAPPING OUTAGE
# Ignacio - Sobrante 230 kV Line and Q155 Unit 1 pre-project outage
1 30437 30445 "1 " 0 # line from CROCKETT 230.00 (3) to BRKR IGNACIO 230.00
1 30437 30438 "1 " 0 # line from CROCKETT 230.00 (3) to (2) C&H 230.00
1 30437 30540 "1 " 0 # line from CROCKETT 230.00 (3) to BRKR SOBRANTE 230.00
2 30438 32900 "1 " 0 # TRAN from C&H 230.00 BRKR to (1) CRCKTCOG 18.00
4 30438 0 "1 " 0 # LOAD-DROP C&H 230.00 LOAD==3.32(0.76)
3 32900 0 "1 " 0 # GEN-DROP CRCKTCOG 18.00 GEN==240.00(40.82)
#
3 32905 0 "1" 0 # Q155BUS1 13.80 PGEN=60.60 QGEN=15.56
0
#
#
# (151) L-1/G-1 OVERLAPPING OUTAGE
# Ignacio - T257 230 kV Line and Q155 Unit 1 post-project outage
1 30445 30446 "1 " 0 # line from IGNACIO 230.00 BRKR to BRKR T257SWST 230.00
#
3 32905 0 "1" 0 # Q155BUS1 13.80 PGEN=60.60 QGEN=15.56
0
#
#
# (152) L-1/G-1 OVERLAPPING OUTAGE
# T257 - Sobrante #1 230 kV Line and Q155 Unit 1 post-project outage
1 30446 30437 "1 " 0 # line from T257SWST 230.00 BRKR to (3) CROCKETT 230.00
1 30437 30438 "1 " 0 # line from CROCKETT 230.00 (3) to (2) C&H 230.00
1 30437 30540 "1 " 0 # line from CROCKETT 230.00 (3) to BRKR SOBRANTE 230.00
2 30438 32900 "1 " 0 # TRAN from C&H 230.00 BRKR to (1) CRCKTCOG 18.00
4 30438 0 "1 " 0 # LOAD-DROP C&H 230.00 LOAD==3.32(0.76)
3 32900 0 "1 " 0 # GEN-DROP CRCKTCOG 18.00 GEN==240.00(54.42)
#
3 32905 0 "1" 0 # Q155BUS1 13.80 PGEN=60.60 QGEN=15.56
0
#
#
# (153) L-1/G-1 OVERLAPPING OUTAGE
# Sobrante - Grizzly - East Portal #1 115 kV Line and Q155 Unit 1
1 32740 33006 "1 " 0 # line from HILLSIDE 115.00 BRKR to (3) GRIZLYJ1 115.00
1 33006 33010 "1 " 0 # line from GRIZLYJ1 115.00 (3) to BRKR SOBRANTE 115.00
1 33006 33012 "1 " 0 # line from GRIZLYJ1 115.00 (3) to BRKR EST PRTL 115.00
1 32770 32740 "1 " 0 # include GRIZZLY2 115.00 BRKR to HILLSIDE 115.00 ckt 1

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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#
3 32905      0 "1"      0      # Q155BUS1  13.80      PGEN=60.60  QGEN=15.56
0
#
#
# (154) L-1/G-1 OVERLAPPING OUTAGE
# Sobrante - Grizzly - Claremont #2 115 kV Line and Q155 Unit 1
1 32740 33008 "2 "      0      # line from  HILLSIDE 115.00  BRKR to (3)  GRIZLYJ2 115.00
1 33008 32780 "2 "      0      # line from  GRIZLYJ2 115.00  (3) to BRKR  CLARMNT 115.00
1 33008 33010 "2 "      0      # line from  GRIZLYJ2 115.00  (3) to BRKR  SOBRANTE 115.00
1 32770 32740 "2 "      0      # include GRIZZLY2 115.00  BRKR to HILLSIDE 115.00 ckt 2
#
3 32905      0 "1"      0      # Q155BUS1  13.80      PGEN=60.60  QGEN=15.56
0
#
#
# (155) L-1/G-1 OVERLAPPING OUTAGE
# Claremont - Oakland D #1 115 kV Line and Q155 Unit 1
1 32780 32782 "1 "      0      # line from  CLARMNT 115.00  BRKR to BRKR  STATIN D 115.00
#
3 32905      0 "1"      0      # Q155BUS1  13.80      PGEN=60.60  QGEN=15.56
0
#
#
# (156) L-1/G-1 OVERLAPPING OUTAGE
# Claremont - Oakland D #2 115 kV Line and Q155 Unit 1
1 32780 32782 "2 "      0      # line from  CLARMNT 115.00  BRKR to BRKR  STATIN D 115.00
#
3 32905      0 "1"      0      # Q155BUS1  13.80      PGEN=60.60  QGEN=15.56
0
#
#
# (157) L-1/G-1 OVERLAPPING OUTAGE
# Oakland D - Oakland L 115 kV Line and Q155 Unit 1
1 32782 32788 "1 "      0      # line from  STATIN D 115.00  BRKR to BRKR  STATIN L 115.00
#
3 32905      0 "1"      0      # Q155BUS1  13.80      PGEN=60.60  QGEN=15.56
0
#
#
# (158) L-1/G-1 OVERLAPPING OUTAGE
# Oakland C - Oakland L 115 kV Line and Q155 Unit 1
1 32786 32788 "1 "      0      # line from  OAK C115 115.00  BRKR to BRKR  STATIN L 115.00
#
3 32905      0 "1"      0      # Q155BUS1  13.80      PGEN=60.60  QGEN=15.56
0
#
#
# (159) L-1/G-1 OVERLAPPING OUTAGE
# Oakland C - Oakland X #2 115 kV Line and Q155 Unit 1
1 32786 32790 "2 "      0      # line from  OAK C115 115.00  BRKR to BRKR  STATIN X 115.00
#
3 32905      0 "1"      0      # Q155BUS1  13.80      PGEN=60.60  QGEN=15.56
0
#
#
# (160) L-1/G-1 OVERLAPPING OUTAGE
# Oakland C - Oakland X #3 115 kV Line and Q155 Unit 1
1 32786 32790 "3 "      0      # line from  OAK C115 115.00  BRKR to BRKR  STATIN X 115.00
#
3 32905      0 "1"      0      # Q155BUS1  13.80      PGEN=60.60  QGEN=15.56
0
#
#
# (161) L-1/G-1 OVERLAPPING OUTAGE
# Oakland C - Maritime 115 kV Line and Q155 Unit 1
1 32786 32793 "1 "      0      # line from  OAK C115 115.00  BRKR to (2)  SCHNITZ 115.00
1 32793 32794 "1 "      0      # line from  SCHNITZ 115.00  (2) to BRKR  MARITIME 115.00
4 32793      0 "1 "      0      # LOAD-DROP  SCHNITZ 115.00  LOAD==9.29(4.50)
4 32794      0 "1 "      0      # LOAD-DROP  MARITIME 115.00  LOAD==0.95(1.11)
#
3 32905      0 "1"      0      # Q155BUS1  13.80      PGEN=60.60  QGEN=15.56
0
#
#
# (162) L-1/G-1 OVERLAPPING OUTAGE
# Oakland C - Alameda 115 kV Line and Q155 Unit 1
1 32786 38026 "1 "      0      # line from  OAK C115 115.00  BRKR to (4)  ALAMEDCT 115.00

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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1 38026 38022 "1 " 0 # line from ALAMEDCT 115.00 (4) to BRKR CARTWRT 115.00
2 38026 38118 "1 " 0 # TRAN from ALAMEDCT 115.00 (4) to (1) ALMDACT1 13.80
2 38026 38119 "1 " 0 # TRAN from ALAMEDCT 115.00 (4) to (1) ALMDACT2 13.80
4 38022 0 "1 " 0 # LOAD-DROP CARTWRT 115.00 LOAD==23.04(4.31)
4 38022 0 "2 " 0 # LOAD-DROP CARTWRT 115.00 LOAD==23.04(4.31)
3 38118 0 "1 " 0 # GEN-DROP ALMDACT1 13.80 GEN==22.60(12.40)
3 38119 0 "1 " 0 # GEN-DROP ALMDACT2 13.80 GEN==22.60(12.40)
#
3 32905 0 "1" 0 # Q155BUS1 13.80 PGEN=60.60 QGEN=15.56
0
#
#
# (163) L-1/G-1 OVERLAPPING OUTAGE
# Oakland J - Owens Brockway 115 kV Line and Q155 Unit 1
1 32792 32798 "1 " 0 # line from STATIN J 115.00 BRKR to (2) OWENSTAP 115.00
1 32798 32800 "1 " 0 # line from OWENSTAP 115.00 (2) to BRKR OWNBKWKY 115.00
4 32800 0 "1 " 0 # LOAD-DROP OWNBKWKY 115.00 LOAD==9.29(5.51)
#
3 32905 0 "1" 0 # Q155BUS1 13.80 PGEN=60.60 QGEN=15.56
0
#
#
# (164) L-1/G-1 OVERLAPPING OUTAGE
# San Leandro - Oakland J 115 kV Line and Q155 Unit 1
1 32792 32814 "1 " 0 # line from STATIN J 115.00 BRKR to (3) EDESTAP1 115.00
1 32814 32810 "1 " 0 # line from EDESTAP1 115.00 (3) to BRKR EDES 115.00
1 32814 35113 "1 " 0 # line from EDESTAP1 115.00 (3) to (2) DMTAR_SL 115.00
1 35113 35101 "1 " 0 # line from DMTAR_SL 115.00 (2) to BRKR SN LNDRO 115.00
4 32810 0 "2 " 0 # LOAD-DROP EDES 115.00 LOAD==18.85(4.29)
4 32810 0 "3 " 0 # LOAD-DROP EDES 115.00 LOAD==29.45(6.71)
4 35113 0 "1 " 0 # LOAD-DROP DMTAR_SL 115.00 LOAD==3.61(2.24)
1 32810 32812 "1 " 1 # LINE-TRANSFER EDESTAP1 to EDS GRNT
4 32810 0 "***" 1 # RESTORE EDES load
#
3 32905 0 "1" 0 # Q155BUS1 13.80 PGEN=60.60 QGEN=15.56
0
#
#
# (165) L-1/G-1 OVERLAPPING OUTAGE
# Oakland J - Alameda 115 kV Line and Q155 Unit 1
1 32792 38024 "1 " 0 # line from STATIN J 115.00 BRKR to BRKR JENNY 115.00
4 38024 0 "1 " 0 # LOAD-DROP JENNY 115.00 LOAD==33.37(6.27)
1 38024 38022 "1 " 1 # LINE-TRANSFER ALAMDA J to ALAMDA C
4 38024 0 "***" 1 # RESTORE ALAMDA J load
#
3 32905 0 "1" 0 # Q155BUS1 13.80 PGEN=60.60 QGEN=15.56
0
#
#
# (166) L-1/G-1 OVERLAPPING OUTAGE
# Sobrante - Standard Oil #1 115 kV Line and Standard Oil Unit 1
1 32748 32750 "1 " 0 # line from PP STEEL 115.00 BRKR to (3) PPSTLTAP 115.00
1 32750 32774 "1 " 0 # line from PPSTLTAP 115.00 (3) to (3) PTPNLTAP 115.00
1 32750 32760 "1 " 0 # line from PPSTLTAP 115.00 (3) to (1) PT PINLE 115.00
1 32774 32762 "1 " 0 # line from PTPNLTAP 115.00 (3) to BRKR STD. OIL 115.00
1 32774 32808 "1 " 0 # line from PTPNLTAP 115.00 (3) to (2) SNPBLTP2 115.00
1 32808 33010 "1 " 0 # line from SNPBLTP2 115.00 (2) to BRKR SOBRANTE 115.00
4 32748 0 "1 " 0 # LOAD-DROP PP STEEL 115.00 LOAD==0.19(0.25)
4 32760 0 "1 " 0 # LOAD-DROP PT PINLE 115.00 LOAD==14.78(3.36)
#
3 32921 0 "1" 0 # ChevGen1 13.80 PGEN=54.00 QGEN=34.20
0
#
#
# (167) L-1/G-1 OVERLAPPING OUTAGE
# Sobrante - Standard Oil #2 115 kV Line and Standard Oil Unit 1
1 32806 32758 "1 " 0 # line from SNPBLTP1 115.00 (3) to BRKR SAN PBLO 115.00
1 32806 32762 "2 " 0 # line from SNPBLTP1 115.00 (3) to BRKR STD. OIL 115.00
1 32806 33010 "2 " 0 # line from SNPBLTP1 115.00 (3) to BRKR SOBRANTE 115.00
4 32758 0 "1 " 0 # LOAD-DROP SAN PBLO 115.00 LOAD==19.98(4.55)
1 32758 32808 "2 " 1 # LINE-TRANSFER SNPBLTP1 to SNPBLTP2
4 32758 0 "***" 1 # RESTORE SAN PABLO load
#
3 32921 0 "1" 0 # ChevGen1 13.80 PGEN=54.00 QGEN=34.20
0
#
#
# (168) L-1/G-1 OVERLAPPING OUTAGE

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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# Oleum - El Cerrito #1 115 kV Line and Oleum Unit 1
1 32754 32802 "1 " 0 # line from OLEUM 115.00 BRKR to (3) VLYVWTP1 115.00
1 32802 32764 "1 " 0 # line from VLYVWTP1 115.00 (3) to BRKR VALLY VW 115.00
1 32802 32766 "1 " 0 # line from VLYVWTP1 115.00 (3) to BRKR EL CRRTO 115.00
4 32764 0 "1 " 0 # LOAD-DROP VALLY VW 115.00 LOAD==7.65(1.74)
4 32764 0 "2 " 0 # LOAD-DROP VALLY VW 115.00 LOAD==15.69(3.58)
1 32764 32804 "2 " 1 # LINE-TRANSFER VLYVWTP1 to VLYVWTP2
4 32764 0 "3 " 1 # RESTORE VALLEY VIEW load
#
3 32910 0 "1" 0 # UNOCAL 12.00 PGEN=15.70 QGEN=8.37
0
#
#
# (169) L-1/G-1 OVERLAPPING OUTAGE
# Oleum - El Cerrito #2 115 kV Line and Oleum Unit 1
1 32754 32804 "2 " 0 # line from OLEUM 115.00 BRKR to (2) VLYVWTP2 115.00
1 32804 32766 "2 " 0 # line from VLYVWTP2 115.00 (2) to BRKR EL CRRTO 115.00
#
3 32910 0 "1" 0 # UNOCAL 12.00 PGEN=15.70 QGEN=8.37
0
#
#
# (170) L-1/G-1 OVERLAPPING OUTAGE
# Oleum - Martinez 115 kV Line and Oleum Unit 1
1 33016 32754 "1 " 0 # line from ALHAMTP2 115.00 (2) to BRKR OLEUM 115.00
1 33016 32990 "1 " 0 # line from ALHAMTP2 115.00 (2) to BRKR MARTNZ D 115.00
#
3 32910 0 "1" 0 # UNOCAL 12.00 PGEN=15.70 QGEN=8.37
0
#
#
# (171) L-1/G-1 OVERLAPPING OUTAGE
# Oleum - North Tower - Christie 115 kV Line and Oleum Unit 1
1 32620 32778 "1 " 0 # line from NTRWJCT2 115.00 (2) to (3) MRTNZJCT 115.00
1 32620 32602 "1 " 0 # line from NTRWJCT2 115.00 (2) to BRKR NRTH TWR 115.00
1 32778 32754 "1 " 0 # line from MRTNZJCT 115.00 (3) to BRKR OLEUM 115.00
1 32778 32756 "1 " 0 # line from MRTNZJCT 115.00 (3) to BRKR CHRISTIE 115.00
4 32602 0 "1 " 0 # LOAD-DROP NRTH TWR 115.00 LOAD==14.43(2.06)
4 32602 0 "2 " 0 # LOAD-DROP NRTH TWR 115.00 LOAD==9.58(1.37)
4 32602 0 "3 " 0 # LOAD-DROP NRTH TWR 115.00 LOAD==6.08(0.87)
4 32602 0 "4 " 0 # LOAD-DROP NRTH TWR 115.00 LOAD==2.85(0.41)
1 32602 32618 "1 " 1 # LINE-TRANSFER NTRWJCT2 115.00 to NTRWJCT1 115.00
4 32602 0 "3 " 1 # RESTORE NORTH TOWER load
#
3 32910 0 "1" 0 # UNOCAL 12.00 PGEN=15.70 QGEN=8.37
0
#
#
# 2013 category b contingency list
# Diablo Division Zone 308
#
#
# (172) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30479 30523 "1 " 0 # line from BDLSWSTA 230.00 BRKR to BRKR CC SUB 230.00
0
#
#
# (173) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30520 30525 "1 " 0 # line from GATEWAY 230.00 BRKR to BRKR C.COSTA 230.00
0
#
#
# (174) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30523 30525 "1 " 0 # line from CC SUB 230.00 BRKR to BRKR C.COSTA 230.00
0
#
#
# (175) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30525 30479 "1 " 0 # line from C.COSTA 230.00 BRKR to BRKR BDLSWSTA 230.00
0
#
#
# (176) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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1 30525 30543 "1 " 0 # line from C.COSTA 230.00 BRKR to (3) ROSSTAP1 230.00
1 30543 30545 "1 " 0 # line from ROSSTAP1 230.00 (3) to BRKR ROSSMOOR 230.00
1 30543 30550 "1 " 0 # line from ROSSTAP1 230.00 (3) to BRKR MORAGA 230.00
4 30545 0 "1 " 0 # LOAD-DROP ROSSMOOR 230.00 LOAD==36.95(8.42)
4 30545 0 "2 " 0 # LOAD-DROP ROSSMOOR 230.00 LOAD==32.85(7.49)
1 30544 30545 "2 " 1 # LINE-TRANSFER ROSSTAP1 230.00 TO ROSSTAP2 230.00
4 30545 0 "***" 1 # RESTORE ROSSMOOR load
0
#
#
# (177) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30525 30544 "2 " 0 # line from C.COSTA 230.00 BRKR to (2) ROSSTAP2 230.00
1 30544 30550 "2 " 0 # line from ROSSTAP2 230.00 (2) to BRKR MORAGA 230.00
0
#
#
# (178) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30525 30565 "1 " 0 # line from C.COSTA 230.00 BRKR to BRKR BRENTWOD 230.00
0
#
#
# (179) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30525 30567 "1 " 0 # line from C.COSTA 230.00 BRKR to BRKR LONETREE 230.00
0
#
#
# (180) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30525 30575 "1 " 0 # line from C.COSTA 230.00 BRKR to (3) WND MSTR 230.00
1 30575 38610 "1 " 0 # line from WND MSTR 230.00 (3) to BRKR DELTAPMP 230.00
2 30575 33170 "1 " 0 # TRAN from WND MSTR 230.00 (3) to (1) WINDMSTR 9.11
0
#
#
# (181) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30525 30585 "1 " 0 # line from C.COSTA 230.00 BRKR to BRKR LS PSTAS 230.00
0
#
#
# (182) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30526 30555 "1 " 0 # line from PITSBG D 230.00 BRKR to BRKR SANRAMON 230.00
0
#
#
# (183) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30526 30561 "1 " 0 # line from PITSBG D 230.00 BRKR to BRKR TASSAJAR 230.00
0
#
#
# (184) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30527 30535 "1 " 0 # line from PITSBG E 230.00 BRKR to BRKR TIDEWATR 230.00
0
#
#
# (185) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30527 30536 "1 " 0 # line from PITSBG E 230.00 BRKR to BRKR TESORO 230.00
0
#
#
# (186) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30535 30540 "1 " 0 # line from TIDEWATR 230.00 BRKR to BRKR SOBRANTE 230.00
0
#
#
# (187) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30536 30540 "1 " 0 # line from TESORO 230.00 BRKR to BRKR SOBRANTE 230.00
0
#

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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#
# (188)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30550 30554 "1 " 0 # line from MORAGA 230.00 BRKR to BRKR CASTROVL 230.00
0
#
#
# (189)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30550 30555 "1 " 0 # line from MORAGA 230.00 BRKR to BRKR SANRAMON 230.00
0
#
#
# (190)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30560 30527 "1 " 0 # line from E. SHORE 230.00 BRKR to BRKR PITSBG E 230.00
0
#
#
# (191)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30561 30562 "1 " 0 # line from TASSAJAR 230.00 BRKR to (3) TES JCT 230.00
1 30562 30563 "1 " 0 # line from TES JCT 230.00 (3) to BRKR RESEARCH 230.00
1 30562 30631 "1 " 0 # line from TES JCT 230.00 (3) to BRKR NEWARK E 230.00
4 30563 0 "1 " 0 # LOAD-DROP RESEARCH 230.00 LOAD==37.05(8.44)
0
#
#
# (192)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30567 30590 "1 " 0 # line from LONETREE 230.00 BRKR to (3) USWP-JRW 230.00
1 30590 30530 "1 " 0 # line from USWP-JRW 230.00 (3) to BRKR CAYETANO 230.00
2 30590 33838 "1 " 0 # TRAN from USWP-JRW 230.00 (3) to (1) USWP_#3 9.11
4 33838 0 "SG" 0 # LOAD-DROP USWP_#3 9.11 LOAD==0.50(0.20)
0
#
#
# (193)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30700 30527 "1 " 0 # line from SANMATEO 230.00 BRKR to BRKR PITSBG E 230.00
0
#
#
# (194)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30526 30528 "1 " 0 # line from PITSBG D 230.00 BRKR to BRKR DEC PTSG 230.00
3 33108 0 "***" 0 # GEN-DROP DEC CTG1 18.00
0
#
#
# (195)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30526 30528 "2 " 0 # line from PITSBG D 230.00 BRKR to BRKR DEC PTSG 230.00
3 33108 0 "***" 0 # GEN-DROP DEC CTG1 18.00
0
#
#
# (196)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30521 30523 "1 " 0 # line from T258 230.00 (4) to BRKR CC SUB 230.00
2 30521 33181 "1 " 0 # TRAN from T258 230.00 (4) to (1) T258CT1 18.00
2 30521 33182 "1 " 0 # TRAN from T258 230.00 (4) to (1) T258CT2 18.00
2 30521 33183 "1 " 0 # TRAN from T258 230.00 (4) to (1) T258ST1 18.00
4 33181 0 "ss" 0 # LOAD-DROP T258CT1 18.00 LOAD==5.67(3.14)
4 33182 0 "ss" 0 # LOAD-DROP T258CT2 18.00 LOAD==5.67(3.14)
4 33183 0 "ss" 0 # LOAD-DROP T258ST1 18.00 LOAD==5.67(3.14)
3 33181 0 "1 " 0 # GEN-DROP T258CT1 18.00 GEN==174.00(43.00)
3 33182 0 "2 " 0 # GEN-DROP T258CT2 18.00 GEN==174.00(43.00)
3 33183 0 "3 " 0 # GEN-DROP T258ST1 18.00 GEN==189.00(44.92)
0
#
#
# (197)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30522 30525 "1 " 0 # line from T305BUS1 230.00 (3) to BRKR C.COSTA 230.00
2 30522 33184 "1 " 0 # TRAN from T305BUS1 230.00 (3) to (1) T305GT1 16.50
2 30522 33185 "1 " 0 # TRAN from T305BUS1 230.00 (3) to (1) T305ST1 13.80
4 33184 0 "ss" 0 # LOAD-DROP T305GT1 16.50 LOAD==7.50(4.15)

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3 33184      0 "1 "    0      # GEN-DROP      T305GT1    16.50  GEN==242.00 (32.00)
3 33185      0 "1 "    0      # GEN-DROP      T305ST1    13.80  GEN==71.00 (8.41)
0
#
#
# (198)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30524 30525 "1 "    0      # line from T305BUS2 230.00 (3) to BRKR C.COSTA 230.00
2 30524 33186 "1 "    0      # TRAN from T305BUS2 230.00 (3) to (1) T305GT2 16.50
2 30524 33187 "1 "    0      # TRAN from T305BUS2 230.00 (3) to (1) T305ST2 13.80
4 33186      0 "ss"    0      # LOAD-DROP      T305GT2    16.50  LOAD==7.50 (4.15)
3 33186      0 "2 "    0      # GEN-DROP      T305GT2    16.50  GEN==242.00 (32.00)
3 33187      0 "2 "    0      # GEN-DROP      T305ST2    13.80  GEN==71.00 (8.41)
0
#
#
# (199)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30531 30526 "1 "    0      # line from T322BUS1 230.00 (3) to BRKR PITSBG D 230.00
2 30531 33191 "1 "    0      # TRAN from T322BUS1 230.00 (3) to (1) T322GT1 16.50
2 30531 33192 "1 "    0      # TRAN from T322BUS1 230.00 (3) to (1) T322ST1 13.80
4 33191      0 "ss"    0      # LOAD-DROP      T322GT1    16.50  LOAD==7.50 (4.15)
3 33191      0 "1 "    0      # GEN-DROP      T322GT1    16.50  GEN==242.00 (46.44)
3 33192      0 "1 "    0      # GEN-DROP      T322ST1    13.80  GEN==71.00 (13.06)
0
#
#
# (200)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30532 30526 "1 "    0      # line from T322BUS2 230.00 (3) to BRKR PITSBG D 230.00
2 30532 33193 "1 "    0      # TRAN from T322BUS2 230.00 (3) to (1) T322GT2 16.50
2 30532 33194 "1 "    0      # TRAN from T322BUS2 230.00 (3) to (1) T322ST2 13.80
4 33193      0 "ss"    0      # LOAD-DROP      T322GT2    16.50  LOAD==7.50 (4.15)
3 33193      0 "2 "    0      # GEN-DROP      T322GT2    16.50  GEN==242.00 (46.44)
3 33194      0 "2 "    0      # GEN-DROP      T322ST2    13.80  GEN==71.00 (13.06)
0
#
#
# (201)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32950 32970 "1 "    0      # line from PITSBURG 115.00 BRKR to BRKR CLAYTN 115.00
0
#
#
# (202)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32950 32970 "4 "    0      # line from PITSBURG 115.00 BRKR to BRKR CLAYTN 115.00
0
#
#
# (203)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32950 32978 "1 "    0      # line from PITSBURG 115.00 BRKR to BRKR LMEC 115.00
0
#
#
# (204)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32950 32978 "2 "    0      # line from PITSBURG 115.00 BRKR to BRKR LMEC 115.00
0
#
#
# (205)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32950 32992 "2 "    0      # line from PITSBURG 115.00 BRKR to (2) BOLLMAN2 115.00
1 32992 33043 "2 "    0      # line from BOLLMAN2 115.00 (2) to (3) IMHOFF_2 115.00
1 33043 32991 "2 "    0      # line from IMHOFF_2 115.00 (3) to BRKR MARTNZ E 115.00
1 33043 33041 "2 "    0      # line from IMHOFF_2 115.00 (3) to (2) IMHOFF 115.00
2 33041 33136 "1 "    0      # TRAN from IMHOFF 115.00 (2) to (1) CCCSD 12.47
4 33136      0 "SG"    0      # LOAD-DROP      CCCSD 12.47  LOAD==3.37 (0.77)
3 33136      0 "1 "    0      # GEN-DROP      CCCSD 12.47  GEN==4.40 (0.53)
0
#
#
# (206)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32950 32993 "1 "    0      # line from PITSBURG 115.00 BRKR to (2) W.P.BART 115.00
1 32993 33040 "1 "    0      # line from W.P.BART 115.00 (2) to (3) BOLLMAN1 115.00

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1 33040 32994 "1 " 0 # line from BOLLMAN1 115.00 (3) to (1) BOLLMAN 115.00
1 33040 33042 "1 " 0 # line from BOLLMAN1 115.00 (3) to (2) IMHOFF_1 115.00
1 33042 32991 "1 " 0 # line from IMHOFF_1 115.00 (2) to BRKR MARTNZ_E 115.00
4 32993 0 "1 " 0 # LOAD-DROP W.P.BART 115.00 LOAD==7.29(1.48)
4 32993 0 "3 " 0 # LOAD-DROP W.P.BART 115.00 LOAD==13.49(3.07)
4 32994 0 "1 " 0 # LOAD-DROP BOLLMAN 115.00 LOAD==2.59(1.36)
4 32994 0 "2 " 0 # LOAD-DROP BOLLMAN 115.00 LOAD==2.59(1.36)
0
#
#
# (207) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32950 33030 "1 " 0 # line from PITTSBURG 115.00 BRKR to (2) COLSTJTT1 115.00
1 33030 33036 "1 " 0 # line from COLSTJTT1 115.00 (2) to (3) LINDETP1 115.00
1 33036 32954 "1 " 0 # line from LINDETP1 115.00 (3) to (2) DOW TAP1 115.00
1 33036 32961 "1 " 0 # line from LINDETP1 115.00 (3) to (3) GWF2 TAP 115.00
1 32954 32956 "1 " 0 # line from DOW TAP1 115.00 (2) to (2) DOW MTR 115.00
2 32956 33160 "1 " 0 # TRAN from DOW MTR 115.00 (2) to (4) DOW CHEM 13.80
1 33160 33161 "1 " 0 # line from DOW CHEM 13.80 (4) to (1) DOWCHEM1 13.80
1 33160 33162 "1 " 0 # line from DOW CHEM 13.80 (4) to (1) DOWCHEM2 13.80
1 33160 33163 "1 " 0 # line from DOW CHEM 13.80 (4) to (1) DOWCHEM3 13.80
1 32961 32960 "1 " 0 # line from GWF2 TAP 115.00 (3) to (2) GWF#2 HS 115.00
1 32961 33038 "1 " 0 # line from GWF2 TAP 115.00 (3) to (2) LINDEJCT 115.00
2 32960 33132 "1 " 0 # TRAN from GWF#2 HS 115.00 (2) to (1) GWF #2 13.80
1 33038 32957 "1 " 0 # line from LINDEJCT 115.00 (2) to BRKR PRAXAIR 115.00
4 33160 0 "SG" 0 # LOAD-DROP DOW CHEM 13.80 LOAD==15.00(9.30)
4 33132 0 "SG" 0 # LOAD-DROP GWF #2 13.80 LOAD==2.81(0.64)
4 32957 0 "1 " 0 # LOAD-DROP PRAXAIR 115.00 LOAD==20.67(4.61)
3 33161 0 "1 " 0 # GEN-DROP DOWCHEM1 13.80 GEN==15.30(6.00)
3 33162 0 "1 " 0 # GEN-DROP DOWCHEM2 13.80 GEN==22.00(5.29)
3 33163 0 "1 " 0 # GEN-DROP DOWCHEM3 13.80 GEN==22.00(5.29)
3 33132 0 "1 " 0 # GEN-DROP GWF #2 13.80 GEN==12.30(3.13)
0
#
#
# (208) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32950 33032 "3 " 0 # line from PITTSBURG 115.00 BRKR to (2) KIRKTAP1 115.00
1 33032 32970 "3 " 0 # line from KIRKTAP1 115.00 (2) to BRKR CLAYTN 115.00
0
#
#
# (209) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32950 33033 "1 " 0 # line from PITTSBURG 115.00 BRKR to (3) KIRKTAP2 115.00
1 33033 32951 "1 " 0 # line from KIRKTAP2 115.00 (3) to BRKR KIRKER 115.00
1 33033 33031 "1 " 0 # line from KIRKTAP2 115.00 (3) to (2) COLSTJTT2 115.00
1 33031 33037 "1 " 0 # line from COLSTJTT2 115.00 (2) to (2) LINDETP2 115.00
1 33037 32955 "1 " 0 # line from LINDETP2 115.00 (2) to (1) DOW TAP2 115.00
4 32951 0 "1 " 0 # LOAD-DROP KIRKER 115.00 LOAD==38.02(7.72)
4 32951 0 "2 " 0 # LOAD-DROP KIRKER 115.00 LOAD==44.19(8.97)
4 32951 0 "3 " 0 # LOAD-DROP KIRKER 115.00 LOAD==53.77(10.92)
1 33032 32951 "1 " 1 # LINE-TRANSFER KIRKTAP2 115.00 TO KIRKTAP1
4 32951 0 "***" 1 # RESTORE KIRKER load
0
#
#
# (210) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32970 32971 "1 " 0 # line from CLAYTN 115.00 BRKR to BRKR MEDW LNE 115.00
0
#
#
# (211) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32970 32974 "2 " 0 # line from CLAYTN 115.00 BRKR to BRKR LAKEWD-M 115.00
0
#
#
# (212) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32970 33035 "1 " 0 # line from CLAYTN 115.00 BRKR to (3) LKWD_JCT 115.00
1 33035 32972 "1 " 0 # line from LKWD_JCT 115.00 (3) to (2) EBMUDGRY 115.00
1 33035 32973 "1 " 0 # line from LKWD_JCT 115.00 (3) to BRKR LAKEWD-C 115.00
1 32972 32971 "1 " 0 # line from EBMUDGRY 115.00 (2) to BRKR MEDW LNE 115.00
4 32972 0 "1 " 0 # LOAD-DROP EBMUDGRY 115.00 LOAD==5.67(1.86)
0
#

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#
# (213)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32974 32976 "9 " 0 # line from LAKEWD-M 115.00 BRKR to (2) LK_REACT 115.00
1 32976 33020 "1 " 0 # line from LK_REACT 115.00 (2) to BRKR MORAGA 115.00
0
#
# (214)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32990 33014 "1 " 0 # line from MARTNZ D 115.00 BRKR to (3) ALHAMTP1 115.00
1 33014 33010 "1 " 0 # line from ALHAMTP1 115.00 (3) to BRKR SOBRANTE 115.00
1 33014 33011 "1 " 0 # line from ALHAMTP1 115.00 (3) to BRKR ALHAMBRA 115.00
4 33011 0 "1 " 0 # LOAD-DROP ALHAMBRA 115.00 LOAD==10.29(2.34)
4 33011 0 "2 " 0 # LOAD-DROP ALHAMBRA 115.00 LOAD==9.17(2.09)
1 33016 33011 "1 " 1 # LINE-TRANSFER ALHAMTP1 115.00 TO ALHAMTP2 115.00
4 33011 0 "***" 1 # RESTORE ALHAMBRA load
0
#
# (215)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32996 32990 "1 " 0 # line from SHELLJ1 115.00 (3) to BRKR MARTNZ D 115.00
2 32996 33141 "7 " 0 # TRAN from SHELLJ1 115.00 (3) to BRKR SHELL 1 12.47
2 32996 33143 "6 " 0 # TRAN from SHELLJ1 115.00 (3) to BRKR SHELL 3 12.47
0
#
# (216)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32997 32991 "2 " 0 # line from SHELLJ2 115.00 (3) to BRKR MARTNZ E 115.00
2 32997 33141 "6 " 0 # TRAN from SHELLJ2 115.00 (3) to BRKR SHELL 1 12.47
2 32997 33143 "7 " 0 # TRAN from SHELLJ2 115.00 (3) to BRKR SHELL 3 12.47
0
#
# (217)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33000 33046 "1 " 0 # line from CC SUB 115.00 BRKR to (3) FIBRJCT2 115.00
1 33046 33001 "1 " 0 # line from FIBRJCT2 115.00 (3) to BRKR DOMTAR 115.00
1 33046 33044 "1 " 0 # line from FIBRJCT2 115.00 (3) to (2) FIBRBJCT 115.00
1 33044 33002 "1 " 0 # line from FIBRBJCT 115.00 (2) to (2) CROWN Z 115.00
2 33002 33133 "1 " 0 # TRAN from CROWN Z 115.00 (2) to (1) GWF #3 13.80
4 33001 0 "1 " 0 # LOAD-DROP DOMTAR 115.00 LOAD==2.40(2.12)
4 33133 0 "SG" 0 # LOAD-DROP GWF #3 13.80 LOAD==2.84(0.65)
3 33133 0 "1 " 0 # GEN-DROP GWF #3 13.80 GEN==19.00(4.33)
0
#
# (218)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33000 33047 "1 " 0 # line from CC SUB 115.00 BRKR to (2) CC JCT 115.00
1 33047 33045 "1 " 0 # line from CC JCT 115.00 (2) to (2) FIBRJCT1 115.00
1 33045 33048 "1 " 0 # line from FIBRJCT1 115.00 (2) to (2) RVECTP 115.00
1 33048 33049 "1 " 0 # line from RVECTP 115.00 (2) to BRKR RVEC 115.00
0
#
# (219)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33020 33010 "1 " 0 # line from MORAGA 115.00 BRKR to BRKR SOBRANTE 115.00
0
#
# (220)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33020 35101 "1 " 0 # line from MORAGA 115.00 BRKR to BRKR SN LNDRO 115.00
0
#
# (221)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33020 35101 "2 " 0 # line from MORAGA 115.00 BRKR to BRKR SN LNDRO 115.00
0
#
# (222)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#

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1 33020 35101 "3 " 0 # line from MORAGA 115.00 BRKR to BRKR SN LNDRO 115.00
0
#
#
# (223) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33050 33080 "1 " 0 # line from CC SUB 60.00 BRKR to (3) WILBRTAP 60.00
1 33080 33051 "1 " 0 # line from WILBRTAP 60.00 (3) to BRKR DU PONT 60.00
2 33080 33134 "1 " 0 # TRAN from WILBRTAP 60.00 (3) to (1) GWF #4 13.80
4 33051 0 "1 " 0 # LOAD-DROP DU PONT 60.00 LOAD==2.00(2.16)
4 33134 0 "SG" 0 # LOAD-DROP GWF #4 13.80 LOAD==2.88(0.66)
3 33134 0 "1 " 0 # GEN-DROP GWF #4 13.80 GEN==18.60(3.34)
1 33051 33081 "1 " 1 # LINE-TRANSFER WILBRTAP 60.00 TO DUPNTJCT 60.00
4 33051 0 "***" 1 # RESTORE DU PONT load
0
#
#
# (224) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33050 33081 "1 " 0 # line from CC SUB 60.00 BRKR to (2) DUPNTJCT 60.00
1 33081 33082 "1 " 0 # line from DUPNTJCT 60.00 (2) to (3) BALFRJCT 60.00
1 33082 33052 "1 " 0 # line from BALFRJCT 60.00 (3) to (2) MARSH 60.00
1 33082 33054 "1 " 0 # line from BALFRJCT 60.00 (3) to BRKR BALFOUR 60.00
1 33052 33053 "1 " 0 # line from MARSH 60.00 (2) to (1) BRIONES 60.00
4 33054 0 "1 " 0 # LOAD-DROP BALFOUR 60.00 LOAD==4.00(0.81)
4 33053 0 "1 " 0 # LOAD-DROP BRIONES 60.00 LOAD==3.90(1.84)
1 33083 33054 "1 " 1 # LINE-TRANSFER BALFRJCT 60.00 TO MDLVRJCT 60.00
4 33054 0 "***" 1 # RESTORE BALFOUR load
0
#
#
# (225) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33055 33084 "1 " 0 # line from BIXLER 60.00 (1) to (3) BXLRTAP 60.00
1 33084 33083 "1 " 0 # line from BXLRTAP 60.00 (3) to (2) MDLVRJCT 60.00
1 33084 33778 "1 " 0 # line from BXLRTAP 60.00 (3) to (2) MDL_RIVR 60.00
1 33083 33774 "1 " 0 # line from MDLVRJCT 60.00 (2) to (3) HRDLNJCT 60.00
1 33774 33770 "1 " 0 # line from HRDLNJCT 60.00 (3) to BRKR HERDLYN 60.00
1 33774 33782 "1 " 0 # line from HRDLNJCT 60.00 (3) to (1) WEST SDE 60.00
1 33778 33780 "1 " 0 # line from MDL_RIVR 60.00 (2) to (1) MCD_ISLE 60.00
4 33055 0 "1 " 0 # LOAD-DROP BIXLER 60.00 LOAD==2.00(0.97)
4 33778 0 "1 " 0 # LOAD-DROP MDL_RIVR 60.00 LOAD==4.84(0.22)
4 33782 0 "1 " 0 # LOAD-DROP WEST SDE 60.00 LOAD==1.90(0.40)
4 33780 0 "1 " 0 # LOAD-DROP MCD_ISLE 60.00 LOAD==5.76(0.82)
0
#
#
# (226) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33060 33050 "1 " 0 # line from ANTIOCH 60.00 (1) to BRKR CC SUB 60.00
4 33060 0 "1 " 0 # LOAD-DROP ANTIOCH 60.00 LOAD==1.93(0.39)
0
#
#
# (227) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33062 33090 "1 " 0 # line from SHLL CHM 60.00 (2) to (3) SHLLCHMT 60.00
1 33062 33063 "1 " 0 # line from SHLL CHM 60.00 (2) to BRKR WLLW PSS 60.00
1 33090 33050 "1 " 0 # line from SHLLCHMT 60.00 (3) to BRKR CC SUB 60.00
1 33090 33061 "1 " 0 # line from SHLLCHMT 60.00 (3) to (2) PITTSBRG 60.00
2 33061 33131 "1 " 0 # TRAN from PITTSBRG 60.00 (2) to (1) GWF #1 9.11
4 33062 0 "1 " 0 # LOAD-DROP SHLL CHM 60.00 LOAD==2.27(1.41)
4 33063 0 "1 " 0 # LOAD-DROP WLLW PSS 60.00 LOAD==9.78(2.23)
4 33061 0 "1 " 0 # LOAD-DROP PITTSBRG 60.00 LOAD==0.64(0.13)
4 33131 0 "SG" 0 # LOAD-DROP GWF #1 9.11 LOAD==2.56(0.58)
3 33131 0 "1 " 0 # GEN-DROP GWF #1 9.11 GEN==12.70(-2.78)
1 33091 33063 "1 " 1 # LINE-TRANSFER SHLL CHM 60.00 TO TAP GWF5 60.00
4 33063 0 "***" 1 # RESTORE WILLOW PASS load
0
#
#
# (228) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 32950 30526 "12" 0 # TRAN from PITTSBURG 115.00 BRKR to BRKR PITSBG D 230.00
0
#
#
# (229) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)

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#
2 32950 30526 "13" 0 # TRAN from PITSBURG 115.00 BRKR to BRKR PITSBG D 230.00
0
#
#
# (230) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 32950 30526 "14" 0 # TRAN from PITSBURG 115.00 BRKR to BRKR PITSBG D 230.00
0
#
#
# (231) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 32990 33142 "2 " 0 # TRAN from MARTNZ D 115.00 BRKR to BRKR SHELL 2 12.47
0
#
#
# (232) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 32991 33142 "1 " 0 # TRAN from MARTNZ E 115.00 BRKR to BRKR SHELL 2 12.47
0
#
#
# (233) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 33000 30523 "3 " 0 # TRAN from CC SUB 115.00 BRKR to BRKR CC SUB 230.00
0
#
#
# (234) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 33010 30540 "1 " 0 # TRAN from SOBRANTE 115.00 BRKR to BRKR SOBRANTE 230.00
0
#
#
# (235) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 33010 30540 "2 " 0 # TRAN from SOBRANTE 115.00 BRKR to BRKR SOBRANTE 230.00
0
#
#
# (236) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
# ***** 3-WINDING TRANSFORMER 33020 (30551) 30550 33121 :
2 33020 30550 "1 " 0 # TRAN from MORAGA 115.00 BRKR to (1) MORAGA 230.00
0
#
#
# (237) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
# ***** 3-WINDING TRANSFORMER 33020 (30552) 30550 33122 :
2 33020 30550 "2 " 0 # TRAN from MORAGA 115.00 BRKR to (1) MORAGA 230.00
0
#
#
# (238) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
# ***** 3-WINDING TRANSFORMER 33020 (30553) 30550 33123 :
2 33020 30550 "3 " 0 # TRAN from MORAGA 115.00 BRKR to (1) MORAGA 230.00
0
#
#
# (239) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 33050 33000 "1 " 0 # TRAN from CC SUB 60.00 BRKR to BRKR CC SUB 115.00
0
#
#
# (240) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 33151 30535 "1 " 0 # TRAN from FOSTER W 12.47 BRKR to BRKR TIDEWATR 230.00
0
#
#
# (241) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 33151 30535 "2 " 0 # TRAN from FOSTER W 12.47 BRKR to BRKR TIDEWATR 230.00
0

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#
#
# (242) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 38950 30526 "1 " 0 # TRAN from VSC_PTSB 180.50 (1) to BRKR PITSBG D 230.00
3 38950 0 "1 " 0 # GEN-DROP VSC_PTSB 180.50 GEN==413.00 (-91.10)
3 38951 0 "1 " 0 # GEN-DROP VSC_POTR 180.50 GEN==401.40 (155.40)
0
#
#
# (243) B1 GENERATOR OUTAGE
#
3 33118 0 "1" 0 # GATEWAY1 18.00 PGEN=200.00 QGEN=-7.87
0
#
#
# (244) B1 GENERATOR OUTAGE
#
3 33118 0 "1" 0 # GATEWAY1 18.00 PGEN=200.00 QGEN=-7.87
3 33119 0 "1" 0 # GATEWAY2 18.00 PGEN=195.00 QGEN=-6.21
3 33120 0 "1" 0 # GATEWAY3 18.00 PGEN=195.00 QGEN=-6.21
0
#
#
# (245) B1 GENERATOR OUTAGE
#
3 33178 0 "1" 0 # RVEC_GEN 13.80 PGEN=50.00 QGEN=4.37
0
#
#
# (246) B1 GENERATOR OUTAGE
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (247) B1 GENERATOR OUTAGE
#
3 33111 0 "1" 0 # LMECCT2 18.00 PGEN=150.00 QGEN=6.48
3 33112 0 "1" 0 # LMECCT1 18.00 PGEN=150.00 QGEN=6.48
3 33113 0 "1" 0 # LMECST1 18.00 PGEN=200.00 QGEN=10.61
0
#
#
# (248) B1 GENERATOR OUTAGE
#
3 33134 0 "1" 0 # GWF #4 13.80 PGEN=18.60 QGEN=3.72
0
#
#
# (249) B1 GENERATOR OUTAGE
#
3 33141 0 "1" 0 # SHELL 1 12.47 PGEN=20.00 QGEN=2.12
0
#
#
# (250) B1 GENERATOR OUTAGE
#
3 33122 0 "1" 0 # MRAGA 2T 13.20 PGEN=0.00 QGEN=48.00
0
#
#
# (251) B1 GENERATOR OUTAGE
#
3 33123 0 "1" 0 # MRAGA 3T 13.20 PGEN=0.00 QGEN=41.53
0
#
#
# (252) B1 GENERATOR OUTAGE
#
3 33143 0 "1" 0 # SHELL 3 12.47 PGEN=40.00 QGEN=2.19
0
#
#
# (253) B1 GENERATOR OUTAGE

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

```

#
3 33121      0  "1"      0      # MRAGA 1T  13.20      PGEN=0.00  QGEN=48.00
0
#
#
# (254)  B1  GENERATOR  OUTAGE
#
3 33142      0  "1"      0      # SHELL 2   12.47      PGEN=40.00  QGEN=2.20
0
#
#
# (255)  B1  GENERATOR  OUTAGE
#
3 33132      0  "1"      0      # GWF #2   13.80      PGEN=12.30  QGEN=5.65
0
#
#
# (256)  B1  GENERATOR  OUTAGE
#
3 33116      0  "1"      0      # C.COS 6   18.00      PGEN=330.00  QGEN=145.77
0
#
#
# (257)  B1  GENERATOR  OUTAGE
#
3 33117      0  "1"      0      # C.COS 7   18.00      PGEN=330.00  QGEN=145.77
0
#
#
# (258)  B1  GENERATOR  OUTAGE
#
3 33105      0  "1"      0      # PTSB 5    18.00      PGEN=310.00  QGEN=122.68
0
#
#
# (259)  B1  GENERATOR  OUTAGE
#
3 33106      0  "1"      0      # PTSB 6    18.00      PGEN=310.00  QGEN=113.24
0
#
#
# (260)  B1  GENERATOR  OUTAGE
#
3 30000      0  "1"      0      # PTSB 7    20.00      PGEN=700.00  QGEN=219.50
0
#
#
# (261)  B1  GENERATOR  OUTAGE
#
3 33151      0  "1"      0      # FOSTER W  12.47      PGEN=45.40  QGEN=24.97
0
#
#
# (262)  B1  GENERATOR  OUTAGE
#
3 33151      0  "2"      0      # FOSTER W  12.47      PGEN=45.40  QGEN=24.97
0
#
#
# (263)  B1  GENERATOR  OUTAGE
#
3 33151      0  "3"      0      # FOSTER W  12.47      PGEN=35.00  QGEN=21.00
0
#
#
# (264)  B1  GENERATOR  OUTAGE
#
3 33161      0  "1"      0      # DOWCHEM1  13.80      PGEN=15.30  QGEN=3.06
0
#
#
# (265)  B1  GENERATOR  OUTAGE
#
3 33133      0  "1"      0      # GWF #3    13.80      PGEN=19.00  QGEN=4.93
0
#
#
# (266)  B1  GENERATOR  OUTAGE

```


APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

```

#
3 33139      0  "1"      0      # STAUFER      9.11      PGEN=2.00  QGEN=-1.00
0
#
#
# (267) B1 GENERATOR OUTAGE
#
3 33131      0  "1"      0      # GWF #1      9.11      PGEN=12.70  QGEN=-2.20
0
#
#
# (268) B1 GENERATOR OUTAGE
#
3 33135      0  "1"      0      # GWF #5     13.80      PGEN=18.90  QGEN=4.22
0
#
#
# (269) B1 GENERATOR OUTAGE
#
3 33162      0  "1"      0      # DOWCHEM2   13.80      PGEN=22.00  QGEN=8.00
0
#
#
# (270) B1 GENERATOR OUTAGE
#
3 33163      0  "1"      0      # DOWCHEM3   13.80      PGEN=22.00  QGEN=8.00
0
#
#
# (271) B1 GENERATOR OUTAGE
#
3 33136      0  "1"      0      # CCCSD      12.47      PGEN=4.40   QGEN=0.94
0
#
#
# (272) B1 GENERATOR OUTAGE
#
3 33181      0  "1"      0      # T258CT1    18.00      PGEN=174.00 QGEN=43.00
0
#
#
# (273) B1 GENERATOR OUTAGE
#
3 33182      0  "2"      0      # T258CT2    18.00      PGEN=174.00 QGEN=43.00
0
#
#
# (274) B1 GENERATOR OUTAGE
#
3 33183      0  "3"      0      # T258ST1    18.00      PGEN=189.00 QGEN=44.92
0
#
#
# (275) B1 GENERATOR OUTAGE
#
3 33184      0  "1"      0      # T305GT1    16.50      PGEN=242.00 QGEN=32.00
0
#
#
# (276) B1 GENERATOR OUTAGE
#
3 33185      0  "1"      0      # T305ST1    13.80      PGEN=71.00  QGEN=8.41
0
#
#
# (277) B1 GENERATOR OUTAGE
#
3 33186      0  "2"      0      # T305GT2    16.50      PGEN=242.00 QGEN=32.00
0
#
#
# (278) B1 GENERATOR OUTAGE
#
3 33187      0  "2"      0      # T305ST2    13.80      PGEN=71.00  QGEN=8.41
0
#
#
# (279) B1 GENERATOR OUTAGE

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

```

#
3 33188      0  "1"      0      # T320GT1  16.50      PGEN=242.00  QGEN=30.38
0
#
#
# (280)  B1 GENERATOR OUTAGE
#
3 33189      0  "2"      0      # T320GT2  16.50      PGEN=242.00  QGEN=30.38
0
#
#
# (281)  B1 GENERATOR OUTAGE
#
3 33191      0  "1"      0      # T322GT1  16.50      PGEN=242.00  QGEN=46.44
0
#
#
# (282)  B1 GENERATOR OUTAGE
#
3 33192      0  "1"      0      # T322ST1  13.80      PGEN=71.00   QGEN=13.06
0
#
#
# (283)  B1 GENERATOR OUTAGE
#
3 33193      0  "2"      0      # T322GT2  16.50      PGEN=242.00  QGEN=46.44
0
#
#
# (284)  B1 GENERATOR OUTAGE
#
3 33194      0  "2"      0      # T322ST2  13.80      PGEN=71.00   QGEN=13.06
0
#
#
# (285)  B1 GENERATOR OUTAGE
#
3 33195      0  "1"      0      # T417     34.50      PGEN=36.10   QGEN=0.00
0
#
#
# (286)  L-1/G-1 OVERLAPPING OUTAGE
# Lakeville - Sobrante #2 230 kV Line and DEC pre-project outage
1 30435 30540  "2 "      0      # line from LAKEVILE 230.00  BRKR to BRKR  SOBRANTE 230.00
#
3 33107      0  "1"      0      # DEC STG1  24.00      PGEN=280.00  QGEN=81.62
3 33108      0  "1"      0      # DEC CTG1  18.00      PGEN=200.00  QGEN=58.29
3 33109      0  "1"      0      # DEC CTG2  18.00      PGEN=200.00  QGEN=58.29
3 33110      0  "1"      0      # DEC CTG3  18.00      PGEN=200.00  QGEN=58.29
0
#
#
# (287)  L-1/G-1 OVERLAPPING OUTAGE
# Ignacio - Sobrante 230 kV Line and DEC pre-project outage
1 30437 30445  "1 "      0      # line from CROCKETT 230.00  (3) to BRKR  IGNACIO 230.00
1 30437 30438  "1 "      0      # line from CROCKETT 230.00  (3) to (2)   C&H      230.00
1 30437 30540  "1 "      0      # line from CROCKETT 230.00  (3) to BRKR  SOBRANTE 230.00
2 30438 32900  "1 "      0      # TRAN from C&H      230.00  BRKR to (1)  CRCKTCOG 18.00
4 30438      0  "1 "      0      # LOAD-DROP C&H      230.00  LOAD==3.32 (0.76)
3 32900      0  "1 "      0      # GEN-DROP  CRCKTCOG 18.00  GEN==240.00 (40.82)
#
3 33107      0  "1"      0      # DEC STG1  24.00      PGEN=280.00  QGEN=81.62
3 33108      0  "1"      0      # DEC CTG1  18.00      PGEN=200.00  QGEN=58.29
3 33109      0  "1"      0      # DEC CTG2  18.00      PGEN=200.00  QGEN=58.29
3 33110      0  "1"      0      # DEC CTG3  18.00      PGEN=200.00  QGEN=58.29
0
#
#
# (288)  L-1/G-1 OVERLAPPING OUTAGE
# Lakeville - T257 230 kV Line and DEC post-project outage
1 30435 30446  "1 "      0      # line from LAKEVILE 230.00  BRKR to BRKR  T257SWST 230.00
#
3 33107      0  "1"      0      # DEC STG1  24.00      PGEN=280.00  QGEN=81.62
3 33108      0  "1"      0      # DEC CTG1  18.00      PGEN=200.00  QGEN=58.29
3 33109      0  "1"      0      # DEC CTG2  18.00      PGEN=200.00  QGEN=58.29
3 33110      0  "1"      0      # DEC CTG3  18.00      PGEN=200.00  QGEN=58.29
0
#

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

```

#
# (289) L-1/G-1 OVERLAPPING OUTAGE
# Ignacio - T257 230 kV Line and DEC post-project outage
1 30445 30446 "1 " 0 # line from IGNACIO 230.00 BRKR to BRKR T257SWST 230.00
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (290) L-1/G-1 OVERLAPPING OUTAGE
# T257 - Sobrante #1 230 kV Line and DEC post-project outage
1 30446 30437 "1 " 0 # line from T257SWST 230.00 BRKR to (3) CROCKETT 230.00
1 30437 30438 "1 " 0 # line from CROCKETT 230.00 (3) to (2) C&H 230.00
1 30437 30540 "1 " 0 # line from CROCKETT 230.00 (3) to BRKR SOBRANTE 230.00
2 30438 32900 "1 " 0 # TRAN from C&H 230.00 BRKR to (1) CRCKTCOG 18.00
4 30438 0 "1 " 0 # LOAD-DROP C&H 230.00 LOAD==3.32 (0.76)
3 32900 0 "1 " 0 # GEN-DROP CRCKTCOG 18.00 GEN==240.00 (54.42)
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (291) L-1/G-1 OVERLAPPING OUTAGE
# T257 - Sobrante #2 230 kV Line and DEC post-project outage
1 30446 30540 "2 " 0 # line from T257SWST 230.00 BRKR to BRKR SOBRANTE 230.00
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (292) L-1/G-1 OVERLAPPING OUTAGE
# Q177 - Moraga 230 kV Line and DEC
1 30466 30550 "1 " 0 # line from Q177 230.00 BRKR to BRKR MORAGA 230.00
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (293) L-1/G-1 OVERLAPPING OUTAGE
# Parkway - Moraga 230 kV Line and DEC
1 30467 30550 "1 " 0 # line from PARKWAY 230.00 BRKR to BRKR MORAGA 230.00
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (294) L-1/G-1 OVERLAPPING OUTAGE
# Birds Landing - Contra Costa Sub 230 kV Line and DEC
1 30479 30523 "1 " 0 # line from BDLSWSTA 230.00 BRKR to BRKR CC SUB 230.00
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (295) L-1/G-1 OVERLAPPING OUTAGE
# Contra Costa - Contra Costa Sub 230 kV Line and DEC
1 30523 30525 "1 " 0 # line from CC SUB 230.00 BRKR to BRKR C.COSTA 230.00
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

```

3 33109      0 "1"      0      # DEC CTG2  18.00      PGEN=200.00  QGEN=58.29
3 33110      0 "1"      0      # DEC CTG3  18.00      PGEN=200.00  QGEN=58.29
0
#
#
# (296) L-1/G-1 OVERLAPPING OUTAGE
# Birds Landing - Contra Costa 230 kV Line and DEC
1 30525 30479 "1 "      0      # line from C.COSTA 230.00 BRKR to BRKR BDLWSTA 230.00
#
3 33107      0 "1"      0      # DEC STG1  24.00      PGEN=280.00  QGEN=81.62
3 33108      0 "1"      0      # DEC CTG1  18.00      PGEN=200.00  QGEN=58.29
3 33109      0 "1"      0      # DEC CTG2  18.00      PGEN=200.00  QGEN=58.29
3 33110      0 "1"      0      # DEC CTG3  18.00      PGEN=200.00  QGEN=58.29
0
#
#
# (297) L-1/G-1 OVERLAPPING OUTAGE
# Contra Costa - Moraga #1 230 kV Line and DEC
1 30525 30543 "1 "      0      # line from C.COSTA 230.00 BRKR to (3) ROSSTAP1 230.00
1 30543 30545 "1 "      0      # line from ROSSTAP1 230.00 (3) to BRKR ROSSMOOR 230.00
1 30543 30550 "1 "      0      # line from ROSSTAP1 230.00 (3) to BRKR MORAGA 230.00
4 30545      0 "1 "      0      # LOAD-DROP ROSSMOOR 230.00 LOAD==36.95(8.42)
4 30545      0 "2 "      0      # LOAD-DROP ROSSMOOR 230.00 LOAD==32.85(7.49)
1 30544 30545 "2 "      1      # LINE-TRANSFER ROSSTAP1 230.00 TO ROSSTAP2 230.00
4 30545      0 "***"    1      # RESTORE ROSSMOOR load
#
3 33107      0 "1"      0      # DEC STG1  24.00      PGEN=280.00  QGEN=81.62
3 33108      0 "1"      0      # DEC CTG1  18.00      PGEN=200.00  QGEN=58.29
3 33109      0 "1"      0      # DEC CTG2  18.00      PGEN=200.00  QGEN=58.29
3 33110      0 "1"      0      # DEC CTG3  18.00      PGEN=200.00  QGEN=58.29
0
#
#
# (298) L-1/G-1 OVERLAPPING OUTAGE
# Contra Costa - Moraga #2 230 kV Line and DEC
1 30525 30544 "2 "      0      # line from C.COSTA 230.00 BRKR to (2) ROSSTAP2 230.00
1 30544 30550 "2 "      0      # line from ROSSTAP2 230.00 (2) to BRKR MORAGA 230.00
#
3 33107      0 "1"      0      # DEC STG1  24.00      PGEN=280.00  QGEN=81.62
3 33108      0 "1"      0      # DEC CTG1  18.00      PGEN=200.00  QGEN=58.29
3 33109      0 "1"      0      # DEC CTG2  18.00      PGEN=200.00  QGEN=58.29
3 33110      0 "1"      0      # DEC CTG3  18.00      PGEN=200.00  QGEN=58.29
0
#
#
# (299) L-1/G-1 OVERLAPPING OUTAGE
# Contra Costa - Brentwood 230 kV Line and DEC
1 30525 30565 "1 "      0      # line from C.COSTA 230.00 BRKR to BRKR BRENTWOD 230.00
#
3 33107      0 "1"      0      # DEC STG1  24.00      PGEN=280.00  QGEN=81.62
3 33108      0 "1"      0      # DEC CTG1  18.00      PGEN=200.00  QGEN=58.29
3 33109      0 "1"      0      # DEC CTG2  18.00      PGEN=200.00  QGEN=58.29
3 33110      0 "1"      0      # DEC CTG3  18.00      PGEN=200.00  QGEN=58.29
0
#
#
# (300) L-1/G-1 OVERLAPPING OUTAGE
# Contra Costa - Lonetree 230 kV Line and DEC
1 30525 30567 "1 "      0      # line from C.COSTA 230.00 BRKR to BRKR LONETREE 230.00
#
3 33107      0 "1"      0      # DEC STG1  24.00      PGEN=280.00  QGEN=81.62
3 33108      0 "1"      0      # DEC CTG1  18.00      PGEN=200.00  QGEN=58.29
3 33109      0 "1"      0      # DEC CTG2  18.00      PGEN=200.00  QGEN=58.29
3 33110      0 "1"      0      # DEC CTG3  18.00      PGEN=200.00  QGEN=58.29
0
#
#
# (301) L-1/G-1 OVERLAPPING OUTAGE
# Contra Costa - Delta Pumps 230 kV Line and DEC
1 30525 30575 "1 "      0      # line from C.COSTA 230.00 BRKR to (3) WND MSTR 230.00
1 30575 38610 "1 "      0      # line from WND MSTR 230.00 (3) to BRKR DELTAPMP 230.00
2 30575 33170 "1 "      0      # TRAN from WND MSTR 230.00 (3) to (1) WINDMSTR 9.11
#
3 33107      0 "1"      0      # DEC STG1  24.00      PGEN=280.00  QGEN=81.62
3 33108      0 "1"      0      # DEC CTG1  18.00      PGEN=200.00  QGEN=58.29
3 33109      0 "1"      0      # DEC CTG2  18.00      PGEN=200.00  QGEN=58.29
3 33110      0 "1"      0      # DEC CTG3  18.00      PGEN=200.00  QGEN=58.29
0

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

```

#
#
# (302) L-1/G-1 OVERLAPPING OUTAGE
# Contra Costa - Las Positas 230 kV Line and DEC
1 30525 30585 "1 " 0 # line from C.COSTA 230.00 BRKR to BRKR LS PSTAS 230.00
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (303) L-1/G-1 OVERLAPPING OUTAGE
# Pittsburg - San Ramon 230 kV Line and DEC
1 30526 30555 "1 " 0 # line from PITSBG D 230.00 BRKR to BRKR SANRAMON 230.00
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (304) L-1/G-1 OVERLAPPING OUTAGE
# Pittsburg - Tassajara 230 kV Line and DEC
1 30526 30561 "1 " 0 # line from PITSBG D 230.00 BRKR to BRKR TASSAJAR 230.00
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (305) L-1/G-1 OVERLAPPING OUTAGE
# Pittsburg - Tidewater 230 kV Line and DEC
1 30527 30535 "1 " 0 # line from PITSBG E 230.00 BRKR to BRKR TIDEWATR 230.00
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (306) L-1/G-1 OVERLAPPING OUTAGE
# Pittsburg - Tesoro 230 kV Line and DEC
1 30527 30536 "1 " 0 # line from PITSBG E 230.00 BRKR to BRKR TESORO 230.00
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (307) L-1/G-1 OVERLAPPING OUTAGE
# Pittsburg - Tesla #1 230 kV Line and DEC
1 30527 30595 "1 " 0 # line from PITSBG E 230.00 BRKR to (3) FLOWIND2 230.00
1 30595 30640 "1 " 0 # line from FLOWIND2 230.00 (3) to BRKR TESLA C 230.00
2 30595 33840 "1 " 0 # TRAN from FLOWIND2 230.00 (3) to (1) FLOWD3-6 9.11
4 33840 0 "SG" 0 # LOAD-DROP FLOWD3-6 9.11 LOAD==0.70(0.34)
3 33840 0 "1 " 0 # GEN-DROP FLOWD3-6 9.11 GEN==1.30(0.00)
3 33840 0 "4 " 0 # GEN-DROP FLOWD3-6 9.11 GEN==1.10(0.00)
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (308) L-1/G-1 OVERLAPPING OUTAGE
# Pittsburg - Tesla #2 230 kV Line and DEC pre and post-project outage
1 30527 30600 "2 " 0 # line from PITSBG E 230.00 BRKR to (4) TRES VAQ 230.00
1 30600 30640 "2 " 0 # line from TRES VAQ 230.00 (4) to BRKR TESLA C 230.00
2 30600 33171 "1 " 0 # TRAN from TRES VAQ 230.00 (4) to (1) TRSVQ+NW 9.11

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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2 30600 33195 "1 " 0 # TRAN from TRES VAQ 230.00 (4) to (1) T417 34.50
4 33195 0 "ss" 0 # LOAD-DROP T417 34.50 LOAD==0.10(0.06)
3 33195 0 "1 " 0 # GEN-DROP T417 34.50 GEN==36.10(0.00)
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (309) L-1/G-1 OVERLAPPING OUTAGE
# Tidewater - Sobrante 230 kV Line and DEC
1 30535 30540 "1 " 0 # line from TIDEWATR 230.00 BRKR to BRKR SOBRANTE 230.00
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (310) L-1/G-1 OVERLAPPING OUTAGE
# Tesoro - Sobrante 230 kV Line and DEC
1 30536 30540 "1 " 0 # line from TESORO 230.00 BRKR to BRKR SOBRANTE 230.00
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (311) L-1/G-1 OVERLAPPING OUTAGE
# Moraga - Castro Valley 230 kV Line and DEC
1 30550 30554 "1 " 0 # line from MORAGA 230.00 BRKR to BRKR CASTROVL 230.00
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (312) L-1/G-1 OVERLAPPING OUTAGE
# Moraga - San Ramon 230 kV Line and DEC
1 30550 30555 "1 " 0 # line from MORAGA 230.00 BRKR to BRKR SANRAMON 230.00
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (313) L-1/G-1 OVERLAPPING OUTAGE
# Pittsburg - East Shore 230 kV Line and DEC
1 30560 30527 "1 " 0 # line from E. SHORE 230.00 BRKR to BRKR PITSBG E 230.00
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (314) L-1/G-1 OVERLAPPING OUTAGE
# Tassajara - Newark 230 kV Line and DEC
1 30561 30562 "1 " 0 # line from TASSAJAR 230.00 BRKR to (3) TES JCT 230.00
1 30562 30563 "1 " 0 # line from TES JCT 230.00 (3) to BRKR RESEARCH 230.00
1 30562 30631 "1 " 0 # line from TES JCT 230.00 (3) to BRKR NEWARK E 230.00
4 30563 0 "1 " 0 # LOAD-DROP RESEARCH 230.00 LOAD==37.05(8.44)
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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#
#
# (315) L-1/G-1 OVERLAPPING OUTAGE
# Brentwood - Kelso 230 kV Line and DEC
1 30565 30569 "1 " 0 # line from BRENTWOD 230.00 BRKR to BRKR KELSO 230.00
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (316) L-1/G-1 OVERLAPPING OUTAGE
# Lonetree - Cayetano 230 kV Line and DEC
1 30567 30590 "1 " 0 # line from LONETREE 230.00 BRKR to (3) USWP-JRW 230.00
1 30590 30530 "1 " 0 # line from USWP-JRW 230.00 (3) to BRKR CAYETANO 230.00
2 30590 33838 "1 " 0 # TRAN from USWP-JRW 230.00 (3) to (1) USWP #3 9.11
4 33838 0 "SG" 0 # LOAD-DROP USWP_#3 9.11 LOAD==0.50(0.20)
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (317) L-1/G-1 OVERLAPPING OUTAGE
# Pittsburg - San Mateo 230 kV Line and DEC
1 30700 30527 "1 " 0 # line from SANMATEO 230.00 BRKR to BRKR PITSBG E 230.00
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (318) L-1/G-1 OVERLAPPING OUTAGE
# Lakeville - Sobrante #2 230 kV Line and Gateway PP pre-project outage
1 30435 30540 "2 " 0 # line from LAKEVILLE 230.00 BRKR to BRKR SOBRANTE 230.00
#
3 33118 0 "1" 0 # GATEWAY1 18.00 PGEN=200.00 QGEN=-7.87
3 33119 0 "1" 0 # GATEWAY2 18.00 PGEN=195.00 QGEN=-6.21
3 33120 0 "1" 0 # GATEWAY3 18.00 PGEN=195.00 QGEN=-6.21
0
#
#
# (319) L-1/G-1 OVERLAPPING OUTAGE
# Ignacio - Sobrante 230 kV Line and Gateway PP pre-project outage
1 30437 30445 "1 " 0 # line from CROCKETT 230.00 (3) to BRKR IGNACIO 230.00
1 30437 30438 "1 " 0 # line from CROCKETT 230.00 (3) to (2) C&H 230.00
1 30437 30540 "1 " 0 # line from CROCKETT 230.00 (3) to BRKR SOBRANTE 230.00
2 30438 32900 "1 " 0 # TRAN from C&H 230.00 BRKR to (1) CRCKTCOG 18.00
4 30438 0 "1 " 0 # LOAD-DROP C&H 230.00 LOAD==3.32(0.76)
3 32900 0 "1 " 0 # GEN-DROP CRCKTCOG 18.00 GEN==240.00(40.82)
#
3 33118 0 "1" 0 # GATEWAY1 18.00 PGEN=200.00 QGEN=-7.87
3 33119 0 "1" 0 # GATEWAY2 18.00 PGEN=195.00 QGEN=-6.21
3 33120 0 "1" 0 # GATEWAY3 18.00 PGEN=195.00 QGEN=-6.21
0
#
#
# (320) L-1/G-1 OVERLAPPING OUTAGE
# Lakeville - T257 230 kV Line and Gateway PP post-project outage
1 30435 30446 "1 " 0 # line from LAKEVILLE 230.00 BRKR to BRKR T257SWST 230.00
#
3 33118 0 "1" 0 # GATEWAY1 18.00 PGEN=200.00 QGEN=-7.87
3 33119 0 "1" 0 # GATEWAY2 18.00 PGEN=195.00 QGEN=-6.21
3 33120 0 "1" 0 # GATEWAY3 18.00 PGEN=195.00 QGEN=-6.21
0
#
#
# (321) L-1/G-1 OVERLAPPING OUTAGE
# Ignacio - T257 230 kV Line and Gateway PP post-project outage
1 30445 30446 "1 " 0 # line from IGNACIO 230.00 BRKR to BRKR T257SWST 230.00
#
3 33118 0 "1" 0 # GATEWAY1 18.00 PGEN=200.00 QGEN=-7.87

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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3 33119      0 "1"      0      # GATEWAY2 18.00      PGEN=195.00 QGEN=-6.21
3 33120      0 "1"      0      # GATEWAY3 18.00      PGEN=195.00 QGEN=-6.21
0
#
#
# (322) L-1/G-1 OVERLAPPING OUTAGE
# T257 - Sobrante #1 230 kV Line and Gateway PP post-project outage
1 30446 30437 "1 "      0      # line from T257SWST 230.00 BRKR to (3) CROCKETT 230.00
1 30437 30438 "1 "      0      # line from CROCKETT 230.00 (3) to (2) C&H 230.00
1 30437 30540 "1 "      0      # line from CROCKETT 230.00 (3) to BRKR SOBRANTE 230.00
2 30438 32900 "1 "      0      # TRAN from C&H 230.00 BRKR to (1) CRCKTCOG 18.00
4 30438      0 "1 "      0      # LOAD-DROP C&H 230.00 LOAD==3.32(0.76)
3 32900      0 "1 "      0      # GEN-DROP CRCKTCOG 18.00 GEN==240.00(54.42)
#
3 33118      0 "1"      0      # GATEWAY1 18.00      PGEN=200.00 QGEN=-7.87
3 33119      0 "1"      0      # GATEWAY2 18.00      PGEN=195.00 QGEN=-6.21
3 33120      0 "1"      0      # GATEWAY3 18.00      PGEN=195.00 QGEN=-6.21
0
#
#
# (323) L-1/G-1 OVERLAPPING OUTAGE
# T257 - Sobrante #2 230 kV Line and Gateway PP post-project outage
1 30446 30540 "2 "      0      # line from T257SWST 230.00 BRKR to BRKR SOBRANTE 230.00
#
3 33118      0 "1"      0      # GATEWAY1 18.00      PGEN=200.00 QGEN=-7.87
3 33119      0 "1"      0      # GATEWAY2 18.00      PGEN=195.00 QGEN=-6.21
3 33120      0 "1"      0      # GATEWAY3 18.00      PGEN=195.00 QGEN=-6.21
0
#
#
# (324) L-1/G-1 OVERLAPPING OUTAGE
# Q177 - Moraga 230 kV Line and Gateway PP
1 30466 30550 "1 "      0      # line from Q177 230.00 BRKR to BRKR MORAGA 230.00
#
3 33118      0 "1"      0      # GATEWAY1 18.00      PGEN=200.00 QGEN=-7.87
3 33119      0 "1"      0      # GATEWAY2 18.00      PGEN=195.00 QGEN=-6.21
3 33120      0 "1"      0      # GATEWAY3 18.00      PGEN=195.00 QGEN=-6.21
0
#
#
# (325) L-1/G-1 OVERLAPPING OUTAGE
# Parkway - Moraga 230 kV Line and Gateway PP
1 30467 30550 "1 "      0      # line from PARKWAY 230.00 BRKR to BRKR MORAGA 230.00
#
3 33118      0 "1"      0      # GATEWAY1 18.00      PGEN=200.00 QGEN=-7.87
3 33119      0 "1"      0      # GATEWAY2 18.00      PGEN=195.00 QGEN=-6.21
3 33120      0 "1"      0      # GATEWAY3 18.00      PGEN=195.00 QGEN=-6.21
0
#
#
# (326) L-1/G-1 OVERLAPPING OUTAGE
# Birds Landing - Contra Costa Sub 230 kV Line and Gateway PP
1 30479 30523 "1 "      0      # line from BDLWSTA 230.00 BRKR to BRKR CC SUB 230.00
#
3 33118      0 "1"      0      # GATEWAY1 18.00      PGEN=200.00 QGEN=-7.87
3 33119      0 "1"      0      # GATEWAY2 18.00      PGEN=195.00 QGEN=-6.21
3 33120      0 "1"      0      # GATEWAY3 18.00      PGEN=195.00 QGEN=-6.21
0
#
#
# (327) L-1/G-1 OVERLAPPING OUTAGE
# Contra Costa - Contra Costa Sub 230 kV Line and Gateway PP
1 30523 30525 "1 "      0      # line from CC SUB 230.00 BRKR to BRKR C.COSTA 230.00
#
3 33118      0 "1"      0      # GATEWAY1 18.00      PGEN=200.00 QGEN=-7.87
3 33119      0 "1"      0      # GATEWAY2 18.00      PGEN=195.00 QGEN=-6.21
3 33120      0 "1"      0      # GATEWAY3 18.00      PGEN=195.00 QGEN=-6.21
0
#
#
# (328) L-1/G-1 OVERLAPPING OUTAGE
# Birds Landing - Contra Costa 230 kV Line and Gateway PP
1 30525 30479 "1 "      0      # line from C.COSTA 230.00 BRKR to BRKR BDLWSTA 230.00
#
3 33118      0 "1"      0      # GATEWAY1 18.00      PGEN=200.00 QGEN=-7.87
3 33119      0 "1"      0      # GATEWAY2 18.00      PGEN=195.00 QGEN=-6.21
3 33120      0 "1"      0      # GATEWAY3 18.00      PGEN=195.00 QGEN=-6.21
0

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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#
#
# (329) L-1/G-1 OVERLAPPING OUTAGE
# Contra Costa - Moraga #1 230 kV Line and Gateway PP
1 30525 30543 "1 " 0 # line from C.COSTA 230.00 BRKR to (3) ROSSTAP1 230.00
1 30543 30545 "1 " 0 # line from ROSSTAP1 230.00 (3) to BRKR ROSSMOOR 230.00
1 30543 30550 "1 " 0 # line from ROSSTAP1 230.00 (3) to BRKR MORAGA 230.00
4 30545 0 "1 " 0 # LOAD-DROP ROSSMOOR 230.00 LOAD==36.95(8.42)
4 30545 0 "2 " 0 # LOAD-DROP ROSSMOOR 230.00 LOAD==32.85(7.49)
1 30544 30545 "2 " 1 # LINE-TRANSFER ROSSTAP1 230.00 TO ROSSTAP2 230.00
4 30545 0 "3" 1 # RESTORE ROSSMOOR load
#
3 33118 0 "1" 0 # GATEWAY1 18.00 PGEN=200.00 QGEN=-7.87
3 33119 0 "1" 0 # GATEWAY2 18.00 PGEN=195.00 QGEN=-6.21
3 33120 0 "1" 0 # GATEWAY3 18.00 PGEN=195.00 QGEN=-6.21
0
#
#
# (330) L-1/G-1 OVERLAPPING OUTAGE
# Contra Costa - Moraga #2 230 kV Line and Gateway PP
1 30525 30544 "2 " 0 # line from C.COSTA 230.00 BRKR to (2) ROSSTAP2 230.00
1 30544 30550 "2 " 0 # line from ROSSTAP2 230.00 (2) to BRKR MORAGA 230.00
#
3 33118 0 "1" 0 # GATEWAY1 18.00 PGEN=200.00 QGEN=-7.87
3 33119 0 "1" 0 # GATEWAY2 18.00 PGEN=195.00 QGEN=-6.21
3 33120 0 "1" 0 # GATEWAY3 18.00 PGEN=195.00 QGEN=-6.21
0
#
#
# (331) L-1/G-1 OVERLAPPING OUTAGE
# Contra Costa - Brentwood 230 kV Line and Gateway PP
1 30525 30565 "1 " 0 # line from C.COSTA 230.00 BRKR to BRKR BRENTWOD 230.00
#
3 33118 0 "1" 0 # GATEWAY1 18.00 PGEN=200.00 QGEN=-7.87
3 33119 0 "1" 0 # GATEWAY2 18.00 PGEN=195.00 QGEN=-6.21
3 33120 0 "1" 0 # GATEWAY3 18.00 PGEN=195.00 QGEN=-6.21
0
#
#
# (332) L-1/G-1 OVERLAPPING OUTAGE
# Contra Costa - Lonetree 230 kV Line and Gateway PP
1 30525 30567 "1 " 0 # line from C.COSTA 230.00 BRKR to BRKR LONETREE 230.00
#
3 33118 0 "1" 0 # GATEWAY1 18.00 PGEN=200.00 QGEN=-7.87
3 33119 0 "1" 0 # GATEWAY2 18.00 PGEN=195.00 QGEN=-6.21
3 33120 0 "1" 0 # GATEWAY3 18.00 PGEN=195.00 QGEN=-6.21
0
#
#
# (333) L-1/G-1 OVERLAPPING OUTAGE
# Contra Costa - Delta Pumps 230 kV Line and Gateway PP
1 30525 30575 "1 " 0 # line from C.COSTA 230.00 BRKR to (3) WND MSTR 230.00
1 30575 38610 "1 " 0 # line from WND MSTR 230.00 (3) to BRKR DELTAPMP 230.00
2 30575 33170 "1 " 0 # TRAN from WND MSTR 230.00 (3) to (1) WINDMSTR 9.11
#
3 33118 0 "1" 0 # GATEWAY1 18.00 PGEN=200.00 QGEN=-7.87
3 33119 0 "1" 0 # GATEWAY2 18.00 PGEN=195.00 QGEN=-6.21
3 33120 0 "1" 0 # GATEWAY3 18.00 PGEN=195.00 QGEN=-6.21
0
#
#
# (334) L-1/G-1 OVERLAPPING OUTAGE
# Contra Costa - Las Positas 230 kV Line and Gateway PP
1 30525 30585 "1 " 0 # line from C.COSTA 230.00 BRKR to BRKR LS PSTAS 230.00
#
3 33118 0 "1" 0 # GATEWAY1 18.00 PGEN=200.00 QGEN=-7.87
3 33119 0 "1" 0 # GATEWAY2 18.00 PGEN=195.00 QGEN=-6.21
3 33120 0 "1" 0 # GATEWAY3 18.00 PGEN=195.00 QGEN=-6.21
0
#
#
# (335) L-1/G-1 OVERLAPPING OUTAGE
# Pittsburg - San Ramon 230 kV Line and Gateway PP
1 30526 30555 "1 " 0 # line from PITSBG D 230.00 BRKR to BRKR SANRAMON 230.00
#
3 33118 0 "1" 0 # GATEWAY1 18.00 PGEN=200.00 QGEN=-7.87
3 33119 0 "1" 0 # GATEWAY2 18.00 PGEN=195.00 QGEN=-6.21
3 33120 0 "1" 0 # GATEWAY3 18.00 PGEN=195.00 QGEN=-6.21

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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0
#
#
# (336) L-1/G-1 OVERLAPPING OUTAGE
# Pittsburg - Tassajara 230 kV Line and Gateway PP
1 30526 30561 "1 " 0 # line from PITSBG D 230.00 BRKR to BRKR TASSAJAR 230.00
#
3 33118 0 "1" 0 # GATEWAY1 18.00 PGEN=200.00 QGEN=-7.87
3 33119 0 "1" 0 # GATEWAY2 18.00 PGEN=195.00 QGEN=-6.21
3 33120 0 "1" 0 # GATEWAY3 18.00 PGEN=195.00 QGEN=-6.21
0
#
#
# (337) L-1/G-1 OVERLAPPING OUTAGE
# Pittsburg - Tidewater 230 kV Line and Gateway PP
1 30527 30535 "1 " 0 # line from PITSBG E 230.00 BRKR to BRKR TIDEWATR 230.00
#
3 33118 0 "1" 0 # GATEWAY1 18.00 PGEN=200.00 QGEN=-7.87
3 33119 0 "1" 0 # GATEWAY2 18.00 PGEN=195.00 QGEN=-6.21
3 33120 0 "1" 0 # GATEWAY3 18.00 PGEN=195.00 QGEN=-6.21
0
#
#
# (338) L-1/G-1 OVERLAPPING OUTAGE
# Pittsburg - Tesoro 230 kV Line and Gateway PP
1 30527 30536 "1 " 0 # line from PITSBG E 230.00 BRKR to BRKR TESORO 230.00
#
3 33118 0 "1" 0 # GATEWAY1 18.00 PGEN=200.00 QGEN=-7.87
3 33119 0 "1" 0 # GATEWAY2 18.00 PGEN=195.00 QGEN=-6.21
3 33120 0 "1" 0 # GATEWAY3 18.00 PGEN=195.00 QGEN=-6.21
0
#
#
# (339) L-1/G-1 OVERLAPPING OUTAGE
# Pittsburg - Tesla #1 230 kV Line and Gateway PP
1 30527 30595 "1 " 0 # line from PITSBG E 230.00 BRKR to (3) FLOWIND2 230.00
1 30595 30640 "1 " 0 # line from FLOWIND2 230.00 (3) to BRKR TESLA C 230.00
2 30595 33840 "1 " 0 # TRAN from FLOWIND2 230.00 (3) to (1) FLOWD3-6 9.11
4 33840 0 "SG" 0 # LOAD-DROP FLOWD3-6 9.11 LOAD==0.70(0.34)
3 33840 0 "1 " 0 # GEN-DROP FLOWD3-6 9.11 GEN==1.30(0.00)
3 33840 0 "4 " 0 # GEN-DROP FLOWD3-6 9.11 GEN==1.10(0.00)
#
3 33118 0 "1" 0 # GATEWAY1 18.00 PGEN=200.00 QGEN=-7.87
3 33119 0 "1" 0 # GATEWAY2 18.00 PGEN=195.00 QGEN=-6.21
3 33120 0 "1" 0 # GATEWAY3 18.00 PGEN=195.00 QGEN=-6.21
0
#
#
# (340) L-1/G-1 OVERLAPPING OUTAGE
# Pittsburg - Tesla #2 230 kV Line and Gateway PP pre and post-project outage
1 30527 30600 "2 " 0 # line from PITSBG E 230.00 BRKR to (4) TRES VAQ 230.00
1 30600 30640 "2 " 0 # line from TRES VAQ 230.00 (4) to BRKR TESLA C 230.00
2 30600 33171 "1 " 0 # TRAN from TRES VAQ 230.00 (4) to (1) TRSVQ+NW 9.11
2 30600 33195 "1 " 0 # TRAN from TRES VAQ 230.00 (4) to (1) T417 34.50
4 33195 0 "ss" 0 # LOAD-DROP T417 34.50 LOAD==0.10(0.06)
3 33195 0 "1 " 0 # GEN-DROP T417 34.50 GEN==36.10(0.00)
#
3 33118 0 "1" 0 # GATEWAY1 18.00 PGEN=200.00 QGEN=-7.87
3 33119 0 "1" 0 # GATEWAY2 18.00 PGEN=195.00 QGEN=-6.21
3 33120 0 "1" 0 # GATEWAY3 18.00 PGEN=195.00 QGEN=-6.21
0
#
#
# (341) L-1/G-1 OVERLAPPING OUTAGE
# Tidewater - Sobrante 230 kV Line and Gateway PP
1 30535 30540 "1 " 0 # line from TIDEWATR 230.00 BRKR to BRKR SOBRANTE 230.00
#
3 33118 0 "1" 0 # GATEWAY1 18.00 PGEN=200.00 QGEN=-7.87
3 33119 0 "1" 0 # GATEWAY2 18.00 PGEN=195.00 QGEN=-6.21
3 33120 0 "1" 0 # GATEWAY3 18.00 PGEN=195.00 QGEN=-6.21
0
#
#
# (342) L-1/G-1 OVERLAPPING OUTAGE
# Tesoro - Sobrante 230 kV Line and Gateway PP
1 30536 30540 "1 " 0 # line from TESORO 230.00 BRKR to BRKR SOBRANTE 230.00
#
3 33118 0 "1" 0 # GATEWAY1 18.00 PGEN=200.00 QGEN=-7.87

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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3 33119      0 "1"      0      # GATEWAY2 18.00      PGEN=195.00 QGEN=-6.21
3 33120      0 "1"      0      # GATEWAY3 18.00      PGEN=195.00 QGEN=-6.21
0
#
#
# (343) L-1/G-1 OVERLAPPING OUTAGE
# Moraga - Castro Valley 230 kV Line and Gateway PP
1 30550 30554 "1 "      0      # line from MORAGA 230.00 BRKR to BRKR CASTROVL 230.00
#
3 33118      0 "1"      0      # GATEWAY1 18.00      PGEN=200.00 QGEN=-7.87
3 33119      0 "1"      0      # GATEWAY2 18.00      PGEN=195.00 QGEN=-6.21
3 33120      0 "1"      0      # GATEWAY3 18.00      PGEN=195.00 QGEN=-6.21
0
#
#
# (344) L-1/G-1 OVERLAPPING OUTAGE
# Moraga - San Ramon 230 kV Line and Gateway PP
1 30550 30555 "1 "      0      # line from MORAGA 230.00 BRKR to BRKR SANRAMON 230.00
#
3 33118      0 "1"      0      # GATEWAY1 18.00      PGEN=200.00 QGEN=-7.87
3 33119      0 "1"      0      # GATEWAY2 18.00      PGEN=195.00 QGEN=-6.21
3 33120      0 "1"      0      # GATEWAY3 18.00      PGEN=195.00 QGEN=-6.21
0
#
#
# (345) L-1/G-1 OVERLAPPING OUTAGE
# Pittsburg - East Shore 230 kV Line and Gateway PP
1 30560 30527 "1 "      0      # line from E. SHORE 230.00 BRKR to BRKR PITSBG E 230.00
#
3 33118      0 "1"      0      # GATEWAY1 18.00      PGEN=200.00 QGEN=-7.87
3 33119      0 "1"      0      # GATEWAY2 18.00      PGEN=195.00 QGEN=-6.21
3 33120      0 "1"      0      # GATEWAY3 18.00      PGEN=195.00 QGEN=-6.21
0
#
#
# (346) L-1/G-1 OVERLAPPING OUTAGE
# Tassajara - Newark 230 kV Line and Gateway PP
1 30561 30562 "1 "      0      # line from TASSAJAR 230.00 BRKR to (3) TES JCT 230.00
1 30562 30563 "1 "      0      # line from TES JCT 230.00 (3) to BRKR RESEARCH 230.00
1 30562 30631 "1 "      0      # line from TES JCT 230.00 (3) to BRKR NEWARK E 230.00
4 30563      0 "1 "      0      # LOAD-DROP RESEARCH 230.00 LOAD==37.05(8.44)
#
3 33118      0 "1"      0      # GATEWAY1 18.00      PGEN=200.00 QGEN=-7.87
3 33119      0 "1"      0      # GATEWAY2 18.00      PGEN=195.00 QGEN=-6.21
3 33120      0 "1"      0      # GATEWAY3 18.00      PGEN=195.00 QGEN=-6.21
0
#
#
# (347) L-1/G-1 OVERLAPPING OUTAGE
# Brentwood - Kelso 230 kV Line and Gateway PP
1 30565 30569 "1 "      0      # line from BRENTWOD 230.00 BRKR to BRKR KELSO 230.00
#
3 33118      0 "1"      0      # GATEWAY1 18.00      PGEN=200.00 QGEN=-7.87
3 33119      0 "1"      0      # GATEWAY2 18.00      PGEN=195.00 QGEN=-6.21
3 33120      0 "1"      0      # GATEWAY3 18.00      PGEN=195.00 QGEN=-6.21
0
#
#
# (348) L-1/G-1 OVERLAPPING OUTAGE
# Lonetree - Cayetano 230 kV Line and Gateway PP
1 30567 30590 "1 "      0      # line from LONETREE 230.00 BRKR to (3) USWP-JRW 230.00
1 30590 30530 "1 "      0      # line from USWP-JRW 230.00 (3) to BRKR CAYETANO 230.00
2 30590 33838 "1 "      0      # TRAN from USWP-JRW 230.00 (3) to (1) USWP_#3 9.11
4 33838      0 "SG"      0      # LOAD-DROP USWP_#3 9.11 LOAD==0.50(0.20)
#
3 33118      0 "1"      0      # GATEWAY1 18.00      PGEN=200.00 QGEN=-7.87
3 33119      0 "1"      0      # GATEWAY2 18.00      PGEN=195.00 QGEN=-6.21
3 33120      0 "1"      0      # GATEWAY3 18.00      PGEN=195.00 QGEN=-6.21
0
#
#
# (349) L-1/G-1 OVERLAPPING OUTAGE
# Pittsburg - San Mateo 230 kV Line and Gateway PP
1 30700 30527 "1 "      0      # line from SANMATEO 230.00 BRKR to BRKR PITSBG E 230.00
#
3 33118      0 "1"      0      # GATEWAY1 18.00      PGEN=200.00 QGEN=-7.87
3 33119      0 "1"      0      # GATEWAY2 18.00      PGEN=195.00 QGEN=-6.21
3 33120      0 "1"      0      # GATEWAY3 18.00      PGEN=195.00 QGEN=-6.21

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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0
#
#
# 2013 category b contingency list
# San Francisco Division Zone 309
#
#
# (350) L-1/G-1 OVERLAPPING OUTAGE
#
1 30695 30685 "2 " 0 # line from MARTIN C 230.00 BRKR to BRKR EMBRCDRD 230.00
4 30685 0 "1 " 0 # LOAD-DROP EMBRCDRD 230.00 LOAD==64.01(11.21)
4 30685 0 "2 " 0 # LOAD-DROP EMBRCDRD 230.00 LOAD==71.45(12.52)
1 30685 30690 "1 " 1 # LINE-TRANSFER MARTIN C to EMBRCDRE
4 30685 0 "***" 1 # RESTORE EMBRCDRD load
0
#
#
# (351) L-1/G-1 OVERLAPPING OUTAGE
#
1 30695 30690 "1 " 0 # line from MARTIN C 230.00 BRKR to BRKR EMBRCDRE 230.00
4 30690 0 "3 " 0 # LOAD-DROP EMBRCDRE 230.00 LOAD==71.45(12.52)
4 30690 0 "5 " 0 # LOAD-DROP EMBRCDRE 230.00 LOAD==64.01(11.21)
1 30690 30685 "1 " 1 # LINE-TRANSFER MARTIN C to EMBRCDRD
4 30690 0 "***" 1 # RESTORE EMBRCDRE load
0
#
#
# (352) L-1/G-1 OVERLAPPING OUTAGE
#
1 30696 30695 "1 " 0 # line from MRT RCTR 230.00 (2) to BRKR MARTIN C 230.00
1 30696 30717 "1 " 0 # line from MRT RCTR 230.00 (2) to (2) TRAN230B 230.00
1 30717 30716 "1 " 0 # line from TRAN230B 230.00 (2) to (2) TRAN230A 230.00
1 30716 30714 "1 " 0 # line from TRAN230A 230.00 (2) to (2) JMDAMCX2 230.00
1 30714 30713 "1 " 0 # line from JMDAMCX2 230.00 (2) to (2) JMDAMCX1 230.00
1 30713 30715 "1 " 0 # line from JMDAMCX1 230.00 (2) to BRKR JEFFERSN 230.00
0
#
#
# (353) L-1/G-1 OVERLAPPING OUTAGE
#
1 30700 30695 "1 " 0 # line from SANMATEO 230.00 BRKR to BRKR MARTIN C 230.00
0
#
#
# (354) L-1/G-1 OVERLAPPING OUTAGE
#
1 33200 33204 "1 " 0 # line from LARKIN D 115.00 (3) to BRKR POTRERO 115.00
2 33200 33218 "1 " 0 # TRAN from LARKIN D 115.00 (3) to BRKR LARKIN 1 12.00
2 33200 33219 "2 " 0 # TRAN from LARKIN D 115.00 (3) to BRKR LARKIN 2 12.00
0
#
#
# (355) L-1/G-1 OVERLAPPING OUTAGE
#
1 33201 33203 "1 " 0 # line from LARKIN E 115.00 (4) to BRKR MISSON 115.00
0
#
#
# (356) L-1/G-1 OVERLAPPING OUTAGE
#
1 33201 33204 "2 " 0 # line from LARKIN E 115.00 BRKR to BRKR POTRERO 115.00
0
#
#
# (357) L-1/G-1 OVERLAPPING OUTAGE
#
1 33203 33204 "1 " 0 # line from MISSON 115.00 BRKR to BRKR POTRERO 115.00
0
#
#
# (358) L-1/G-1 OVERLAPPING OUTAGE
#
1 33203 33205 "1 " 0 # line from MISSON 115.00 BRKR to BRKR HNTRS PT 115.00
0
#
#
# (359) L-1/G-1 OVERLAPPING OUTAGE
#

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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1 33203 33205 "2 " 0 # line from MISSION 115.00 BRKR to BRKR HNTRS PT 115.00
0
#
#
# (360) L-1/G-1 OVERLAPPING OUTAGE
#
1 33204 33205 "1 " 0 # line from POTRERO 115.00 BRKR to BRKR HNTRS PT 115.00
0
#
#
# (361) L-1/G-1 OVERLAPPING OUTAGE
#
1 33204 33213 "1 " 0 # line from POTRERO 115.00 BRKR to BRKR CCSF1 115.00
0
#
#
# (362) L-1/G-1 OVERLAPPING OUTAGE
#
1 33204 33213 "2 " 0 # line from POTRERO 115.00 BRKR to BRKR CCSF1 115.00
0
#
#
# (363) L-1/G-1 OVERLAPPING OUTAGE
#
1 33206 33204 "1 " 0 # line from BAYSHOR1 115.00 (2) to BRKR POTRERO 115.00
1 33206 33208 "1 " 0 # line from BAYSHOR1 115.00 (2) to BRKR MARTIN C 115.00
4 33206 0 "1 " 0 # LOAD-DROP BAYSHOR1 115.00 LOAD==4.75(0.68)
0
#
#
# (364) L-1/G-1 OVERLAPPING OUTAGE
#
1 33207 33204 "2 " 0 # line from BAYSHOR2 115.00 (2) to BRKR POTRERO 115.00
1 33207 33208 "2 " 0 # line from BAYSHOR2 115.00 (2) to BRKR MARTIN C 115.00
4 33207 0 "2 " 0 # LOAD-DROP BAYSHOR2 115.00 LOAD==6.65(0.95)
0
#
#
# (365) L-1/G-1 OVERLAPPING OUTAGE
#
1 33208 33202 "1 " 0 # line from MARTIN C 115.00 BRKR to (3) LARKIN F 115.00
2 33202 33218 "5 " 0 # TRAN from LARKIN F 115.00 (3) to BRKR LARKIN 1 12.00
2 33202 33219 "6 " 0 # TRAN from LARKIN F 115.00 (3) to BRKR LARKIN 2 12.00
0
#
#
# (366) L-1/G-1 OVERLAPPING OUTAGE
#
1 33208 33205 "1 " 0 # line from MARTIN C 115.00 BRKR to BRKR HNTRS PT 115.00
0
#
#
# (367) L-1/G-1 OVERLAPPING OUTAGE
#
1 33208 33205 "3 " 0 # line from MARTIN C 115.00 BRKR to BRKR HNTRS PT 115.00
0
#
#
# (368) L-1/G-1 OVERLAPPING OUTAGE
#
1 33208 33205 "4 " 0 # line from MARTIN C 115.00 BRKR to BRKR HNTRS PT 115.00
0
#
#
# (369) L-1/G-1 OVERLAPPING OUTAGE
#
1 33208 33300 "1 " 0 # line from MARTIN C 115.00 BRKR to BRKR DALY CTY 115.00
0
#
#
# (370) L-1/G-1 OVERLAPPING OUTAGE
#
1 33208 33301 "2 " 0 # line from MARTIN C 115.00 BRKR to (3) DLY CTYP 115.00
1 33301 33300 "2 " 0 # line from DLY CTYP 115.00 (3) to BRKR DALY CTY 115.00
1 33301 33302 "1 " 0 # line from DLY CTYP 115.00 (3) to BRKR SERRMNTE 115.00
4 33302 0 "1 " 0 # LOAD-DROP SERRMNTE 115.00 LOAD==11.42(2.60)
0
#

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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#
# (371) L-1/G-1 OVERLAPPING OUTAGE
#
1 33208 33303 "2 " 0 # line from MARTIN C 115.00 BRKR to BRKR EST GRND 115.00
0
#
#
# (372) L-1/G-1 OVERLAPPING OUTAGE
#
1 33208 33307 "1 " 0 # line from MARTIN C 115.00 BRKR to BRKR MILLBRAE 115.00
0
#
#
# (373) L-1/G-1 OVERLAPPING OUTAGE
#
1 33208 33310 "3 " 0 # line from MARTIN C 115.00 BRKR to BRKR SANMATEO 115.00
0
#
#
# (374) L-1/G-1 OVERLAPPING OUTAGE
#
1 33208 33322 "5 " 0 # line from MARTIN C 115.00 BRKR to (3) UAL TAP 115.00
1 33322 33306 "5 " 0 # line from UAL TAP 115.00 (3) to BRKR SFIA 115.00
1 33322 33323 "1 " 0 # line from UAL TAP 115.00 (3) to (3) SFASWSTA 115.00
1 33323 33304 "1 " 0 # line from SFASWSTA 115.00 (3) to (2) UAL COGN 115.00
1 33323 33324 "1 " 0 # line from SFASWSTA 115.00 (3) to (2) SFAERP11 115.00
2 33304 33466 "1 " 0 # TRAN from UAL COGN 115.00 BRKR to (1) UNTED CO 9.11
2 33324 33467 "1 " 0 # TRAN from SFAERP11 115.00 (2) to (1) SFAERP 13.80
4 33467 0 "ss" 0 # LOAD-DROP SFAERP 13.80 LOAD==1.80(1.12)
3 33466 0 "1 " 0 # GEN-DROP UNTED CO 9.11 GEN==28.20(11.16)
3 33467 0 "1 " 0 # GEN-DROP SFAERP 13.80 GEN==48.00(10.34)
0
#
#
# (375) L-1/G-1 OVERLAPPING OUTAGE
#
1 33209 33347 "1 " 0 # line from MARTIN 60.00 BRKR to (2) SNTH JCT 60.00
1 33347 33346 "1 " 0 # line from SNTH JCT 60.00 (2) to (3) SNTH TP2 60.00
1 33346 33389 "1 " 0 # line from SNTH TP2 60.00 (3) to (1) PACIFJCT 60.00
1 33346 33350 "1 " 0 # line from SNTH TP2 60.00 (3) to BRKR SNTH LNE 60.00
4 33350 0 "1 " 0 # LOAD-DROP SNTH LNE 60.00 LOAD==7.61(1.73)
4 33350 0 "2 " 0 # LOAD-DROP SNTH LNE 60.00 LOAD==9.62(2.19)
1 33350 33345 "1 " 1 # LINE-TRANSFER SNTH LNE 60.00 TO SNTH TP 60.00
4 33350 0 "***" 1 # RESTORE SNEATH LANE LOAD
0
#
#
# (376) L-1/G-1 OVERLAPPING OUTAGE
#
1 33210 33204 "1 " 0 # line from POT_SVC 115.00 (1) to BRKR POTRERO 115.00
0
#
#
# (377) L-1/G-1 OVERLAPPING OUTAGE
#
1 33305 33208 "6 " 0 # line from SHAWROAD 115.00 (2) to BRKR MARTIN C 115.00
1 33305 33310 "6 " 0 # line from SHAWROAD 115.00 (2) to BRKR SANMATEO 115.00
4 33305 33309 "1 " 1 # LOAD-TRANSFER SHAWROAD 115.00 TO SANPAULA 115.00 LOAD==9.00(1.83)
0
#
#
# (378) L-1/G-1 OVERLAPPING OUTAGE
#
1 33356 33208 "4 " 0 # line from BURLNGME 115.00 BRKR to BRKR MARTIN C 115.00
0
#
#
# (379) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 33208 30695 "7 " 0 # TRAN from MARTIN C 115.00 BRKR to BRKR MARTIN C 230.00
0
#
#
# (380) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 33208 30695 "8 " 0 # TRAN from MARTIN C 115.00 BRKR to BRKR MARTIN C 230.00
0
#

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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#
# (381) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 33209 33208 "6 " 0 # TRAN from MARTIN 60.00 BRKR to BRKR MARTIN C 115.00
0
#
#
# (382) B1 GENERATOR OUTAGE
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (383) B1 GENERATOR OUTAGE
#
3 33282 0 "1" 0 # CCSFCT2 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (384) B1 GENERATOR OUTAGE
#
3 33283 0 "1" 0 # CCSFCT3 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (385) L-1/G-1 OVERLAPPING OUTAGE
# Jefferson - Martin 230 kV Line and CCSF CT1
1 30696 30695 "1 " 0 # line from MRT RCTR 230.00 (2) to BRKR MARTIN C 230.00
1 30696 30717 "1 " 0 # line from MRT RCTR 230.00 (2) to (2) TRAN230B 230.00
1 30717 30716 "1 " 0 # line from TRAN230B 230.00 (2) to (2) TRAN230A 230.00
1 30716 30714 "1 " 0 # line from TRAN230A 230.00 (2) to (2) JMDAMCX2 230.00
1 30714 30713 "1 " 0 # line from JMDAMCX2 230.00 (2) to (2) JMDAMCX1 230.00
1 30713 30715 "1 " 0 # line from JMDAMCX1 230.00 (2) to BRKR JEFFERSN 230.00
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (386) L-1/G-1 OVERLAPPING OUTAGE
# San Mateo - Martin 230 kV Line and CCSF CT1
1 30700 30695 "1 " 0 # line from SANMATEO 230.00 BRKR to BRKR MARTIN C 230.00
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (387) L-1/G-1 OVERLAPPING OUTAGE
# Larkin - Potrero #1 115 kV Line and CCSF CT1
1 33200 33204 "1 " 0 # line from LARKIN D 115.00 (3) to BRKR POTRERO 115.00
2 33200 33218 "1 " 0 # TRAN from LARKIN D 115.00 (3) to BRKR LARKIN 1 12.00
2 33200 33219 "2 " 0 # TRAN from LARKIN D 115.00 (3) to BRKR LARKIN 2 12.00
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (388) L-1/G-1 OVERLAPPING OUTAGE
# Larkin - Mission 115 kV Line and CCSF CT1
1 33201 33203 "1 " 0 # line from LARKIN E 115.00 (4) to BRKR MISSON 115.00
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (389) L-1/G-1 OVERLAPPING OUTAGE
# Larkin - Potrero #2 115 kV Line and CCSF CT1
1 33201 33204 "2 " 0 # line from LARKIN E 115.00 BRKR to BRKR POTRERO 115.00
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (390) L-1/G-1 OVERLAPPING OUTAGE
# Mission - Potrero 115 kV Line and CCSF CT1
1 33203 33204 "1 " 0 # line from MISSON 115.00 BRKR to BRKR POTRERO 115.00
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

```

#
#
# (391) L-1/G-1 OVERLAPPING OUTAGE
# Mission - Hunters Point #1 115 kV Line and CCSF CT1
1 33203 33205 "1 " 0 # line from MISSON 115.00 BRKR to BRKR HNTRS PT 115.00
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (392) L-1/G-1 OVERLAPPING OUTAGE
# Mission - Hunters Point #2 115 kV Line and CCSF CT1
1 33203 33205 "2 " 0 # line from MISSON 115.00 BRKR to BRKR HNTRS PT 115.00
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (393) L-1/G-1 OVERLAPPING OUTAGE
# Potrero - Hunters Point #1 115 kV Line and CCSF CT1
1 33204 33205 "1 " 0 # line from POTRERO 115.00 BRKR to BRKR HNTRS PT 115.00
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (394) L-1/G-1 OVERLAPPING OUTAGE
# Potrero - Martin #1 115 kV Line and CCSF CT1
1 33206 33204 "1 " 0 # line from BAYSHOR1 115.00 (2) to BRKR POTRERO 115.00
1 33206 33208 "1 " 0 # line from BAYSHOR1 115.00 (2) to BRKR MARTIN C 115.00
4 33206 0 "1 " 0 # LOAD-DROP BAYSHOR1 115.00 LOAD==4.75(0.68)
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (395) L-1/G-1 OVERLAPPING OUTAGE
# Potrero - Martin #2 115 kV Line and CCSF CT1
1 33207 33204 "2 " 0 # line from BAYSHOR2 115.00 (2) to BRKR POTRERO 115.00
1 33207 33208 "2 " 0 # line from BAYSHOR2 115.00 (2) to BRKR MARTIN C 115.00
4 33207 0 "2 " 0 # LOAD-DROP BAYSHOR2 115.00 LOAD==6.65(0.95)
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (396) L-1/G-1 OVERLAPPING OUTAGE
# Larkin - Martin 115 kV Line and CCSF CT1
1 33208 33202 "1 " 0 # line from MARTIN C 115.00 BRKR to (3) LARKIN F 115.00
2 33202 33218 "5 " 0 # TRAN from LARKIN F 115.00 (3) to BRKR LARKIN 1 12.00
2 33202 33219 "6 " 0 # TRAN from LARKIN F 115.00 (3) to BRKR LARKIN 2 12.00
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (397) L-1/G-1 OVERLAPPING OUTAGE
# Hunters Point - Martin #1 115 kV Line and CCSF CT1
1 33208 33205 "1 " 0 # line from MARTIN C 115.00 BRKR to BRKR HNTRS PT 115.00
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (398) L-1/G-1 OVERLAPPING OUTAGE
# Hunters Point - Martin #3 115 kV Line and CCSF CT1
1 33208 33205 "3 " 0 # line from MARTIN C 115.00 BRKR to BRKR HNTRS PT 115.00
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (399) L-1/G-1 OVERLAPPING OUTAGE
# Hunters Point - Martin #4 115 kV Line and CCSF CT1
1 33208 33205 "4 " 0 # line from MARTIN C 115.00 BRKR to BRKR HNTRS PT 115.00
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0

```


APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

```

#
#
# (400) L-1/G-1 OVERLAPPING OUTAGE
# Martin - East Grand 115 kV Line and CCSF CT1
1 33208 33303 "2 " 0 # line from MARTIN C 115.00 BRKR to BRKR EST GRND 115.00
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (401) L-1/G-1 OVERLAPPING OUTAGE
# Martin - Millbrae 115 kV Line and CCSF CT1
1 33208 33307 "1 " 0 # line from MARTIN C 115.00 BRKR to BRKR MILLBRAE 115.00
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (402) L-1/G-1 OVERLAPPING OUTAGE
# Martin - San Mateo #3 115 kV Line and CCSF CT1
1 33208 33310 "3 " 0 # line from MARTIN C 115.00 BRKR to BRKR SANMATEO 115.00
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (403) L-1/G-1 OVERLAPPING OUTAGE
# Martin - SF Airport 115 kV Line and CCSF CT1
1 33208 33322 "5 " 0 # line from MARTIN C 115.00 BRKR to (3) UAL TAP 115.00
1 33322 33306 "5 " 0 # line from UAL TAP 115.00 (3) to BRKR SFIA 115.00
1 33322 33323 "1 " 0 # line from UAL TAP 115.00 (3) to (3) SFASWSTA 115.00
1 33323 33304 "1 " 0 # line from SFASWSTA 115.00 (3) to (2) UAL COGN 115.00
1 33323 33324 "1 " 0 # line from SFASWSTA 115.00 (3) to (2) SFAERP11 115.00
2 33304 33466 "1 " 0 # TRAN from UAL COGN 115.00 BRKR to (1) UNTED CO 9.11
2 33324 33467 "1 " 0 # TRAN from SFAERP11 115.00 (2) to (1) SFAERP 13.80
4 33467 0 "ss" 0 # LOAD-DROP SFAERP 13.80 LOAD==1.80(1.12)
3 33466 0 "1 " 0 # GEN-DROP UNTED CO 9.11 GEN==28.20(11.16)
3 33467 0 "1 " 0 # GEN-DROP SFAERP 13.80 GEN==48.00(10.34)
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (404) L-1/G-1 OVERLAPPING OUTAGE
# Martin - San Mateo #6 115 kV Line and CCSF CT1
1 33305 33208 "6 " 0 # line from SHAWROAD 115.00 (2) to BRKR MARTIN C 115.00
1 33305 33310 "6 " 0 # line from SHAWROAD 115.00 (2) to BRKR SANMATEO 115.00
4 33305 33309 "1 " 1 # LOAD-TRANSFER SHAWROAD 115.00 TO SANPAULA 115.00 LOAD==9.00(1.83)
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (405) L-1/G-1 OVERLAPPING OUTAGE
# Martin - Burlingame 115 kV Line and CCSF CT1
1 33356 33208 "4 " 0 # line from BURLNGME 115.00 BRKR to BRKR MARTIN C 115.00
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (406) L-1/G-1 OVERLAPPING OUTAGE
# Trans Bay HVDC Cable and CCSF CT1
2 38950 30526 "1 " 0 # TRAN from VSC PTSB 180.50 (1) to BRKR PITSBG D 230.00
3 38950 0 "1 " 0 # GEN-DROP VSC_PTSB 180.50 GEN==413.00(-91.10)
3 38951 0 "1 " 0 # GEN-DROP VSC_POTR 180.50 GEN==401.40(155.40)
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# 2013 category b contingency list
# Peninsula Division Zone 310
#
#
# (407) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30560 30700 "1 " 0 # line from E. SHORE 230.00 BRKR to BRKR SANMATEO 230.00

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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0
#
#
# (408) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30630 30703 "1 " 0 # line from NEWARK D 230.00 BRKR to BRKR RAVENSWD 230.00
0
#
#
# (409) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30703 30700 "1 " 0 # line from RAVENSWD 230.00 BRKR to BRKR SANMATEO 230.00
0
#
#
# (410) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30703 30700 "2 " 0 # line from RAVENSWD 230.00 BRKR to BRKR SANMATEO 230.00
0
#
#
# (411) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30705 30710 "1 " 0 # line from MONTAVIS 230.00 BRKR to (3) SLACTAP1 230.00
1 30710 30711 "1 " 0 # line from SLACTAP1 230.00 (3) to BRKR S.L.A.C. 230.00
1 30710 30715 "1 " 0 # line from SLACTAP1 230.00 (3) to BRKR JEFFERSN 230.00
4 30711 0 "1 " 0 # LOAD-DROP S.L.A.C. 230.00 LOAD==58.00(11.78)
1 30711 30712 "1 " 1 # LINE-TRANSFER SLACTAP1 to SLACTAP2
4 30711 0 "***" 1 # RESTORE S.L.A.C. load
0
#
#
# (412) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30705 30712 "2 " 0 # line from MONTAVIS 230.00 BRKR to (2) SLACTAP2 230.00
1 30712 30715 "2 " 0 # line from SLACTAP2 230.00 (2) to BRKR JEFFERSN 230.00
0
#
#
# (413) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33306 33310 "5 " 0 # line from SFIA 115.00 BRKR to BRKR SANMATEO 115.00
0
#
#
# (414) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33307 33310 "1 " 0 # line from MILLBRAE 115.00 BRKR to BRKR SANMATEO 115.00
0
#
#
# (415) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33308 33303 "2 " 0 # line from SFIA-MA 115.00 (2) to BRKR EST GRND 115.00
1 33308 33310 "2 " 0 # line from SFIA-MA 115.00 (2) to BRKR SANMATEO 115.00
4 33308 33306 "1 " 1 # LOAD-TRANSFER SFIA-MA 115.00 TO SFIA 115.00 LOAD==20.20(4.10)
0
#
#
# (416) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33309 33307 "1 " 0 # line from SANPAULA 115.00 (1) to BRKR MILLBRAE 115.00
4 33309 33305 "1 " 1 # LOAD-TRANSFER SANPAULA 115.00 TO SHAWROAD 115.00 LOAD==8.00(1.62)
0
#
#
# (417) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33310 33311 "1 " 0 # line from SANMATEO 115.00 BRKR to BRKR BAY MDWS 115.00
0
#
#
# (418) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33310 33311 "2 " 0 # line from SANMATEO 115.00 BRKR to BRKR BAY MDWS 115.00
0
#
#

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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# (419) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33310 33312 "1 " 0 # line from SANMATEO 115.00 BRKR to BRKR BELMONT 115.00
0
#
#
# (420) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33310 33321 "1 " 0 # line from SANMATEO 115.00 BRKR to BRKR RVNSWD D 115.00
0
#
#
# (421) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33310 33356 "4 " 0 # line from SANMATEO 115.00 BRKR to BRKR BURLNGME 115.00
0
#
#
# (422) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33312 33313 "1 " 0 # line from BELMONT 115.00 BRKR to BRKR BAIR 115.00
0
#
#
# (423) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33313 33319 "2 " 0 # line from BAIR 115.00 BRKR to (3) SHREDJCT 115.00
1 33319 33314 "1 " 0 # line from SHREDJCT 115.00 (3) to (2) SHREDDER 115.00
1 33319 33321 "2 " 0 # line from SHREDJCT 115.00 (3) to BRKR RVNSWD D 115.00
1 33314 33320 "1 " 0 # line from SHREDDER 115.00 (2) to (1) LONESTAR 115.00
4 33314 0 "1 " 0 # LOAD-DROP SHREDDER 115.00 LOAD==4.77 (5.43)
4 33320 0 "1 " 0 # LOAD-DROP LONESTAR 115.00 LOAD==2.57 (3.43)
0
#
#
# (424) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33315 33316 "2 " 0 # line from RVNSWD E 115.00 BRKR to BRKR CLY LND2 115.00
0
#
#
# (425) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33315 35350 "1 " 0 # line from RVNSWD E 115.00 BRKR to BRKR AMES BS1 115.00
0
#
#
# (426) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33315 35351 "2 " 0 # line from RVNSWD E 115.00 BRKR to BRKR AMES BS2 115.00
0
#
#
# (427) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33315 38028 "1 " 0 # line from RVNSWD E 115.00 BRKR to BRKR PLO ALTO 115.00
0
#
#
# (428) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33315 38028 "2 " 0 # line from RVNSWD E 115.00 BRKR to BRKR PLO ALTO 115.00
0
#
#
# (429) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33316 38028 "1 " 0 # line from CLY LND2 115.00 BRKR to BRKR PLO ALTO 115.00
0
#
#
# (430) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33321 33313 "1 " 0 # line from RVNSWD D 115.00 BRKR to BRKR BAIR 115.00
0
#
#
# (431) B2 LINE OUTAGE (BREAKER-TO-BREAKER)

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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#
1 33321 33317 "1 " 0 # line from RVNSWD D 115.00 BRKR to BRKR CLY LND 115.00
0
#
#
# (432) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33348 33359 "1 " 0 # line from CAROLD1 60.00 (3) to BRKR CAROLNDS 60.00
1 33348 33391 "1 " 0 # line from CAROLD1 60.00 (3) to (2) TRAN-60 60.00
1 33348 33396 "1 " 0 # line from CAROLD1 60.00 (3) to (3) HILDAL49 60.00
1 33391 33392 "1 " 0 # line from TRAN-60 60.00 (2) to (1) MLLBTP97 60.00
1 33396 33361 "1 " 0 # line from HILDAL49 60.00 (3) to (3) HLLSDLJT 60.00
1 33396 33397 "1 " 0 # line from HILDAL49 60.00 (3) to (2) RLSTN35 60.00
1 33361 33360 "1 " 0 # line from HLLSDLJT 60.00 BRKR to BRKR HILLSdle 60.00
1 33361 33394 "1 " 0 # line from HLLSDLJT 60.00 (3) to BRKR OXMTN TP 60.00
1 33397 33378 "1 " 0 # line from RLSTN35 60.00 (2) to (3) WTRSHDTP 60.00
1 33378 33379 "1 " 0 # line from WTRSHDTP 60.00 (3) to (1) WATRSHEd 60.00
1 33378 33400 "1 " 0 # line from WTRSHDTP 60.00 (3) to BRKR JEFrsN_E 60.00
4 33359 0 "1 " 0 # LOAD-DROP CAROLNDS 60.00 LOAD==2.65(0.60)
4 33359 0 "2 " 0 # LOAD-DROP CAROLNDS 60.00 LOAD==4.88(1.11)
4 33379 33363 "1 " 1 # LOAD-TRANSFER WATRSHEd 60.00 TO RALSTON 60.00 LOAD==0.70(0.32)
1 33349 33359 "1 " 1 # LINE-TRANSFER CAROLNDS 60.00 TO CAROLD2 60.00
4 33359 0 "3" 1 # RESTORE CAROLNDS load
0
#
#
# (433) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33349 33362 "1 " 0 # line from CAROLD2 60.00 (1) to (2) CRYSTLSG 60.00
1 33362 33399 "1 " 0 # line from CRYSTLSG 60.00 (2) to (2) HILDAL47 60.00
1 33399 33398 "1 " 0 # line from HILDAL47 60.00 (2) to (3) RLSTN45 60.00
1 33398 33363 "1 " 0 # line from RLSTN45 60.00 (3) to BRKR RALSTON 60.00
1 33398 33400 "1 " 0 # line from RLSTN45 60.00 (3) to BRKR JEFrsN_E 60.00
4 33362 0 "1 " 0 # LOAD-DROP CRYSTLSG 60.00 LOAD==3.00(0.61)
1 33397 33363 "1 " 1 # LINE-TRANSFER RLSTN35 60.00 TO RALSTON 60.00
4 33363 0 "3" 1 # RESTORE RALSTON LOAD
0
#
#
# (434) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33351 33345 "1 " 0 # line from SN BRNOT 60.00 (2) to (2) SNTH TP1 60.00
1 33351 33352 "1 " 0 # line from SN BRNOT 60.00 (2) to (2) SNANDRES 60.00
1 33345 33355 "1 " 0 # line from SNTH TP1 60.00 (2) to BRKR PACIFICA 60.00
1 33352 33354 "1 " 0 # line from SNANDRES 60.00 (2) to (2) MLLBRETP 60.00
1 33354 33353 "1 " 0 # line from MLLBRETP 60.00 (2) to BRKR MILLBRAE 60.00
4 33351 0 "1 " 0 # LOAD-DROP SN BRNOT 60.00 LOAD==3.36(0.77)
4 33352 0 "1 " 0 # LOAD-DROP SNANDRES 60.00 LOAD==1.80(0.37)
4 33355 0 "1 " 0 # LOAD-DROP PACIFICA 60.00 LOAD==9.92(2.26)
4 33355 0 "2 " 0 # LOAD-DROP PACIFICA 60.00 LOAD==5.61(1.28)
1 33355 33389 "1 " 1 # LINE-TRANSFER PACIFICA 60.00 TO PACIFJCT 60.00
4 33355 0 "3" 1 # RESTORE PACIFICA LOAD
0
#
#
# (435) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33357 33358 "1 " 0 # line from SAN MATO 60.00 BRKR to BRKR BERESFRD 60.00
0
#
#
# (436) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33357 33364 "1 " 0 # line from SAN MATO 60.00 BRKR to (2) ORACLE60 60.00
1 33364 33365 "1 " 0 # line from ORACLE60 60.00 (2) to BRKR SAN CRLS 60.00
4 33364 0 "1 " 0 # LOAD-DROP ORACLE60 60.00 LOAD==11.86(5.40)
0
#
#
# (437) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33358 33360 "1 " 0 # line from BERESFRD 60.00 BRKR to BRKR HILLSdle 60.00
0
#
#
# (438) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33360 33361 "1 " 0 # line from HILLSdle 60.00 BRKR to BRKR HLLSDLJT 60.00

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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0
#
#
# (439)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33365 33367 "1 " 0 # line from SAN CRLS 60.00 BRKR to BRKR BAIR 60.00
0
#
#
# (440)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33367 33368 "1 " 0 # line from BAIR 60.00 BRKR to (2) REDWDTP1 60.00
1 33368 33373 "1 " 0 # line from REDWDTP1 60.00 (2) to (3) BLHVNT1 60.00
1 33373 33372 "1 " 0 # line from BLHVNT1 60.00 (3) to (1) BLLE HVN 60.00
1 33373 33375 "1 " 0 # line from BLHVNT1 60.00 (3) to BRKR CLY LNDG 60.00
4 33372 0 "1 " 0 # LOAD-DROP BLLE HVN 60.00 LOAD==7.52(1.71)
4 33372 0 "2 " 0 # LOAD-DROP BLLE HVN 60.00 LOAD==8.46(1.93)
4 33372 0 "3 " 0 # LOAD-DROP BLLE HVN 60.00 LOAD==15.39(3.51)
4 33372 0 "4 " 0 # LOAD-DROP BLLE HVN 60.00 LOAD==14.12(3.21)
4 33372 0 "5 " 0 # LOAD-DROP BLLE HVN 60.00 LOAD==29.05(6.62)
1 33372 33374 "2 " 1 # LINE-TRANSFER BLHVNT1 60.00 TO BLHVNT2 60.00
4 33372 0 "***" 1 # RESTORE BELLE HAVEN load
0
#
#
# (441)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33367 33369 "2 " 0 # line from BAIR 60.00 BRKR to (3) REDWDTP2 60.00
1 33369 33370 "2 " 0 # line from REDWDTP2 60.00 (3) to BRKR REDWOOD 60.00
1 33369 33374 "2 " 0 # line from REDWDTP2 60.00 (3) to (2) BLHVNT2 60.00
1 33374 33371 "2 " 0 # line from BLHVNT2 60.00 (2) to (2) RAYCHEM 60.00
1 33371 33375 "2 " 0 # line from RAYCHEM 60.00 (2) to BRKR CLY LNDG 60.00
4 33370 0 "1 " 0 # LOAD-DROP REDWOOD 60.00 LOAD==11.80(2.69)
4 33370 0 "2 " 0 # LOAD-DROP REDWOOD 60.00 LOAD==5.12(1.17)
4 33370 0 "3 " 0 # LOAD-DROP REDWOOD 60.00 LOAD==8.98(2.05)
4 33370 0 "4 " 0 # LOAD-DROP REDWOOD 60.00 LOAD==8.44(1.93)
4 33370 0 "5 " 0 # LOAD-DROP REDWOOD 60.00 LOAD==30.43(6.94)
4 33371 0 "1 " 0 # LOAD-DROP RAYCHEM 60.00 LOAD==7.48(5.22)
1 33368 33370 "1 " 1 # LINE-TRANSFER REDWDTP2 60.00 TO REDWDTP1 60.00
4 33370 0 "***" 1 # RESTORE REDWOOD CITY load
0
#
#
# (442)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33375 33382 "1 " 0 # line from CLY LNDG 60.00 BRKR to (3) S.R.I. 60.00
1 33382 33381 "1 " 0 # line from S.R.I. 60.00 (3) to BRKR GLENWOOD 60.00
2 33382 33468 "1 " 0 # TRAN from S.R.I. 60.00 (3) to (1) SRI INTL 9.11
4 33468 0 "1 " 0 # LOAD-DROP SRI INTL 9.11 LOAD==4.12(0.84)
3 33468 0 "1 " 0 # GEN-DROP SRI INTL 9.11 GEN==4.30(3.00)
3 33463 0 "1 " 0 # GEN-DROP CARDINAL 12.97
3 33463 0 "2 " 0 # GEN-DROP CARDINAL 12.97
4 33386 0 "***" 0 # LOAD-DROP STANFORD 60.00
0
#
#
# (443)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33375 35454 "1 " 0 # line from CLY LNDG 60.00 BRKR to (3) WSTNG JT 60.00
1 35454 35451 "1 " 0 # line from WSTNG JT 60.00 (3) to (1) L.ALTS J 60.00
1 35454 35453 "1 " 0 # line from WSTNG JT 60.00 (3) to (1) NRTHGRUM 60.00
4 35453 0 "1 " 0 # LOAD-DROP NRTHGRUM 60.00 LOAD==5.99(4.18)
0
#
#
# (444)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33376 33387 "1 " 0 # line from LAS PLGS 60.00 BRKR to BRKR WOODSIDE 60.00
4 33376 0 "1 " 0 # LOAD-DROP LAS PLGS 60.00 LOAD==3.30(0.75)
4 33376 0 "2 " 0 # LOAD-DROP LAS PLGS 60.00 LOAD==3.30(0.75)
1 33376 33393 "1 " 1 # LOAD-TRANSFER LAS PLGS 60.00 TO LSPLGSJT 60.00
4 33376 0 "***" 1 # RESTORE LAS PULGAS load
0
#
#
# (445)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33377 33380 "1 " 0 # line from EMRLD LE 60.00 (2) to BRKR JEFNSN_D 60.00

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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1 33377 33393 "1 " 0 # line from EMRLD LE 60.00 (2) to (2) LSPLGSJT 60.00
1 33393 33385 "1 " 0 # line from LSPLGSJT 60.00 (2) to (3) MNLOJCT2 60.00
1 33385 33383 "1 " 0 # line from MNLOJCT2 60.00 (3) to BRKR MENLO 60.00
1 33385 33388 "1 " 0 # line from MNLOJCT2 60.00 (3) to (1) S.L.A.C. 60.00
4 33377 0 "1 " 0 # LOAD-DROP EMRLD LE 60.00 LOAD==5.54 (1.26)
0
#
#
# (446) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33380 33387 "1 " 0 # line from JEFRSN_D 60.00 BRKR to BRKR WOODSIDE 60.00
1 33376 33393 "1 " 1 # LINE-TRANSFER LAS PLGS 60.00 TO LSPLGSJT 60.00
1 33376 33387 "1 " 1 # LINE-TRANSFER LAS PLGS 60.00 TO WOODSIDE 60.00
4 33387 0 "****" 1 # RESTORE WOODSIDE load
4 33376 0 "****" 1 # RESTORE LAS PLGS load
0
#
#
# (447) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33380 33400 "1 " 0 # line from JEFRSN_D 60.00 BRKR to BRKR JEFRSN_E 60.00
0
#
#
# (448) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33381 33384 "1 " 0 # line from GLENWOOD 60.00 BRKR to (3) MNLO JCT 60.00
1 33384 33386 "1 " 0 # line from MNLO JCT 60.00 (3) to BRKR STANFORD 60.00
1 33384 33390 "1 " 0 # line from MNLO JCT 60.00 (3) to BRKR MENLO G 60.00
3 33463 0 "****" 0 # GEN-DROP CARDINAL 12.97
1 33388 33386 "1 " 1 # LINE-TRANSFER MNLO JCT 60.00 TO S.L.A.C. 60.00
4 33386 0 "****" 1 # RESTORE STANFORD load
0
#
#
# (449) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33394 33366 "1 " 0 # line from OXMTN_TP 60.00 BRKR to BRKR HLF MNBY 60.00
4 33366 0 "1 " 0 # LOAD-DROP HLF MNBY 60.00 LOAD==8.02 (1.82)
4 33366 0 "2 " 0 # LOAD-DROP HLF MNBY 60.00 LOAD==8.73 (1.99)
4 33366 0 "3 " 0 # LOAD-DROP HLF MNBY 60.00 LOAD==9.64 (2.19)
1 33366 33389 "1 " 1 # LINE-TRANSFER HLLSDLJT 60.00 TO PACIFJCT 60.00
4 33366 0 "****" 1 # RESTORE HALF MOON BAY load
0
#
#
# (450) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33394 33395 "1 " 0 # line from OXMTN_TP 60.00 BRKR to (2) OX_MTN60 60.00
2 33395 33469 "1 " 0 # TRAN from OX_MTN60 60.00 (2) to (1) OX_MTN 4.16
3 33469 0 "1 " 0 # GEN-DROP OX_MTN 4.16 GEN==1.90 (0.85)
3 33469 0 "2 " 0 # GEN-DROP OX_MTN 4.16 GEN==1.90 (0.85)
3 33469 0 "3 " 0 # GEN-DROP OX_MTN 4.16 GEN==1.90 (0.85)
3 33469 0 "4 " 0 # GEN-DROP OX_MTN 4.16 GEN==1.90 (0.85)
3 33469 0 "5 " 0 # GEN-DROP OX_MTN 4.16 GEN==1.90 (0.85)
3 33469 0 "6 " 0 # GEN-DROP OX_MTN 4.16 GEN==1.90 (0.85)
3 33469 0 "7 " 0 # GEN-DROP OX_MTN 4.16 GEN==1.90 (0.85)
0
#
#
# (451) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 33307 33353 "5 " 0 # TRAN from MILLBRAE 115.00 BRKR to BRKR MILLBRAE 60.00
0
#
#
# (452) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
# ***** 3-WINDING TRANSFORMER 33310 (30701) 30700 33460 :
2 33310 30700 "5 " 0 # TRAN from SANMATEO 115.00 BRKR to (1) SANMATEO 230.00
0
#
#
# (453) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
# ***** 3-WINDING TRANSFORMER 33310 (30702) 30700 33461 :
2 33310 30700 "6 " 0 # TRAN from SANMATEO 115.00 BRKR to (1) SANMATEO 230.00
0

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#
#
# (454) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
# **** 3-WINDING TRANSFORMER 33310 (30704) 30700 33462 :
2 33310 30700 "7 " 0 # TRAN from SANMATEO 115.00 BRKR to (1) SANMATEO 230.00
0
#
#
# (455) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 33310 33318 "3 " 0 # TRAN from SANMATEO 115.00 BRKR to (2) SMATEO3M 115.00
2 33318 33357 "3 " 0 # TRAN from SMATEO3M 115.00 (2) to BRKR SAN MATO 60.00
0
#
#
# (456) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 33315 30703 "1 " 0 # TRAN from RVNSWD E 115.00 BRKR to BRKR RAVENSWD 230.00
0
#
#
# (457) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 33321 30703 "2 " 0 # TRAN from RVNSWD D 115.00 BRKR to BRKR RAVENSWD 230.00
0
#
#
# (458) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 33357 33310 "8 " 0 # TRAN from SAN MATO 60.00 BRKR to BRKR SANMATEO 115.00
0
#
#
# (459) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 33367 33313 "1 " 0 # TRAN from BAIR 60.00 BRKR to BRKR BAIR 115.00
0
#
#
# (460) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 33375 33316 "2 " 0 # TRAN from CLY LNDG 60.00 BRKR to BRKR CLY LND2 115.00
0
#
#
# (461) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 33375 33317 "1 " 0 # TRAN from CLY LNDG 60.00 BRKR to BRKR CLY LND 115.00
0
#
#
# (462) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 33400 30715 "2 " 0 # TRAN from JEFERSN_E 60.00 BRKR to BRKR JEFFERSN 230.00
0
#
#
# (463) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 33463 33386 "1 " 0 # TRAN from CARDINAL 12.47 (1) to BRKR STANFORD 60.00
3 33463 0 "1 " 0 # GEN-DROP CARDINAL 12.47 GEN==31.00(12.13)
3 33463 0 "2 " 0 # GEN-DROP CARDINAL 12.47 GEN==10.00(3.91)
0
#
#
# (464) B1 GENERATOR OUTAGE
#
3 33467 0 "1" 0 # SFAERP 13.80 PGEN=48.00 QGEN=10.35
0
#
#
# (465) B1 GENERATOR OUTAGE
#
3 33469 0 "1" 0 # OX_MTN 4.16 PGEN=1.90 QGEN=0.85
0
#
#

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

```

# (466) B1 GENERATOR OUTAGE
#
3 33460      0  "1"      0      # SMATO2SC  13.20      PGEN=0.00  QGEN=22.88
0
#
#
# (467) B1 GENERATOR OUTAGE
#
3 33461      0  "1"      0      # SMATO3SC  13.20      PGEN=0.00  QGEN=23.33
0
#
#
# (468) B1 GENERATOR OUTAGE
#
3 33462      0  "1"      0      # SMATO1SC  13.20      PGEN=0.00  QGEN=25.00
0
#
#
# (469) B1 GENERATOR OUTAGE
#
3 33466      0  "1"      0      # UNITED CO   9.11      PGEN=28.20  QGEN=11.18
0
#
#
# (470) B1 GENERATOR OUTAGE
#
3 33468      0  "1"      0      # SRI INTL   9.11      PGEN=4.30  QGEN=3.00
0
#
#
# (471) B1 GENERATOR OUTAGE
#
3 33463      0  "1"      0      # CARDINAL  12.47      PGEN=31.00  QGEN=12.01
0
#
#
# (472) B1 GENERATOR OUTAGE
#
3 33463      0  "2"      0      # CARDINAL  12.47      PGEN=10.00  QGEN=3.43
0
#
#
# (473) L-1/G-1 OVERLAPPING OUTAGE
# East Shore - San Mateo 230 kV Line and SFAERP
1 30560 30700 "1 "      0      # line from E. SHORE 230.00 BRKR to BRKR  SANMATEO 230.00
#
3 33467      0  "1"      0      # SFAERP     13.80      PGEN=48.00  QGEN=10.35
0
#
#
# (474) L-1/G-1 OVERLAPPING OUTAGE
# Newark - Ravenswood 230 kV Line and SFAERP
1 30630 30703 "1 "      0      # line from NEWARK D 230.00 BRKR to BRKR  RAVENSWD 230.00
#
3 33467      0  "1"      0      # SFAERP     13.80      PGEN=48.00  QGEN=10.35
0
#
#
# (475) L-1/G-1 OVERLAPPING OUTAGE
# Tesla - Ravenswood 230 kV Line and SFAERP
1 30640 30703 "1 "      0      # line from TESLA C  230.00 BRKR to BRKR  RAVENSWD 230.00
#
3 33467      0  "1"      0      # SFAERP     13.80      PGEN=48.00  QGEN=10.35
0
#
#
# (476) L-1/G-1 OVERLAPPING OUTAGE
# Pittsburg - San Mateo 230 kV Line and SFAERP
1 30700 30527 "1 "      0      # line from SANMATEO 230.00 BRKR to BRKR  PITSBG E 230.00
#
3 33467      0  "1"      0      # SFAERP     13.80      PGEN=48.00  QGEN=10.35
0
#
#
# (477) L-1/G-1 OVERLAPPING OUTAGE
# Martin - San Mateo 230 kV Line and SFAERP
1 30700 30695 "1 "      0      # line from SANMATEO 230.00 BRKR to BRKR  MARTIN C 230.00
#

```


APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

```

3 33467      0 "1"      0      # SFAERP      13.80      PGEN=48.00  QGEN=10.35
0
#
#
# (478) L-1/G-1 OVERLAPPING OUTAGE
# San Mateo - Ravenswood #1 230 kV Line and SFAERP
1 30703 30700 "1 "      0      # line from  RAVENSWD 230.00  BRKR to BRKR  SANMATEO 230.00
#
3 33467      0 "1"      0      # SFAERP      13.80      PGEN=48.00  QGEN=10.35
0
#
#
# (479) L-1/G-1 OVERLAPPING OUTAGE
# San Mateo - Ravenswood #2 230 kV Line and SFAERP
1 30703 30700 "2 "      0      # line from  RAVENSWD 230.00  BRKR to BRKR  SANMATEO 230.00
#
3 33467      0 "1"      0      # SFAERP      13.80      PGEN=48.00  QGEN=10.35
0
#
#
# (480) L-1/G-1 OVERLAPPING OUTAGE
# Monta Vista - Jefferson #1 230 kV Line and SFAERP
1 30705 30710 "1 "      0      # line from  MONTAVIS 230.00  BRKR to (3)  SLACTAP1 230.00
1 30710 30711 "1 "      0      # line from  SLACTAP1 230.00  (3) to BRKR  S.L.A.C. 230.00
1 30710 30715 "1 "      0      # line from  SLACTAP1 230.00  (3) to BRKR  JEFFERSN 230.00
4 30711      0 "1 "      0      # LOAD-DROP    S.L.A.C. 230.00  LOAD==58.00(11.78)
1 30711 30712 "1 "      1      # LINE-TRANSFER SLACTAP1 to SLACTAP2
4 30711      0 "***"    1      # RESTORE S.L.A.C. load
#
3 33467      0 "1"      0      # SFAERP      13.80      PGEN=48.00  QGEN=10.35
0
#
#
# (481) L-1/G-1 OVERLAPPING OUTAGE
# Monta Vista - Jefferson #2 230 kV Line and SFAERP
1 30705 30712 "2 "      0      # line from  MONTAVIS 230.00  BRKR to (2)  SLACTAP2 230.00
1 30712 30715 "2 "      0      # line from  SLACTAP2 230.00  (2) to BRKR  JEFFERSN 230.00
#
3 33467      0 "1"      0      # SFAERP      13.80      PGEN=48.00  QGEN=10.35
0
#
#
# (482) L-1/G-1 OVERLAPPING OUTAGE
# Martin - Jefferson 230 kV Line and SFAERP
1 30713 30714 "1 "      0      # line from  JMDAMCX1 230.00  (2) to (2)  JMDAMCX2 230.00
1 30713 30715 "1 "      0      # line from  JMDAMCX1 230.00  (2) to BRKR  JEFFERSN 230.00
1 30714 30716 "1 "      0      # line from  JMDAMCX2 230.00  (2) to (2)  TRAN230A 230.00
1 30716 30717 "1 "      0      # line from  TRAN230A 230.00  (2) to (2)  TRAN230B 230.00
1 30717 30696 "1 "      0      # line from  TRAN230B 230.00  (2) to (2)  MRT RCTR 230.00
1 30696 30695 "1 "      0      # line from  MRT RCTR 230.00  (2) to BRKR  MARTIN C 230.00
#
3 33467      0 "1"      0      # SFAERP      13.80      PGEN=48.00  QGEN=10.35
0
#
#
# (483) L-1/G-1 OVERLAPPING OUTAGE
# Martin - East Grand 115 kV Line and SFAERP
1 33208 33303 "2 "      0      # line from  MARTIN C 115.00  BRKR to BRKR  EST GRND 115.00
#
3 33467      0 "1"      0      # SFAERP      13.80      PGEN=48.00  QGEN=10.35
0
#
#
# (484) L-1/G-1 OVERLAPPING OUTAGE
# Martin - Millbrae 115 kV Line and SFAERP
1 33208 33307 "1 "      0      # line from  MARTIN C 115.00  BRKR to BRKR  MILLBRAE 115.00
#
3 33467      0 "1"      0      # SFAERP      13.80      PGEN=48.00  QGEN=10.35
0
#
#
# (485) L-1/G-1 OVERLAPPING OUTAGE
# Martin - San Mateo #3 115 kV Line and SFAERP
1 33208 33310 "3 "      0      # line from  MARTIN C 115.00  BRKR to BRKR  SANMATEO 115.00
#
3 33467      0 "1"      0      # SFAERP      13.80      PGEN=48.00  QGEN=10.35
0
#

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

```

#
# (486) L-1/G-1 OVERLAPPING OUTAGE
# Martin - San Mateo #6 115 kV Line and SFAERP
1 33305 33208 "6 " 0 # line from SHAWROAD 115.00 (2) to BRKR MARTIN C 115.00
1 33305 33310 "6 " 0 # line from SHAWROAD 115.00 (2) to BRKR SANMATEO 115.00
4 33305 33309 "1 " 1 # LOAD-TRANSFER SHAWROAD 115.00 TO SANPAULA 115.00 LOAD==9.00(1.83)
#
3 33467 0 "1" 0 # SFAERP 13.80 PGEN=48.00 QGEN=10.35
0
#
#
# (487) L-1/G-1 OVERLAPPING OUTAGE
# SF Airport - San Mateo 115 kV Line and SFAERP
1 33306 33310 "5 " 0 # line from SFIA 115.00 BRKR to BRKR SANMATEO 115.00
#
3 33467 0 "1" 0 # SFAERP 13.80 PGEN=48.00 QGEN=10.35
0
#
#
# (488) L-1/G-1 OVERLAPPING OUTAGE
# Millbrae - San Mateo 115 kV Line and SFAERP
1 33307 33310 "1 " 0 # line from MILLBRAE 115.00 BRKR to BRKR SANMATEO 115.00
#
3 33467 0 "1" 0 # SFAERP 13.80 PGEN=48.00 QGEN=10.35
0
#
#
# (489) L-1/G-1 OVERLAPPING OUTAGE
# East Grand - San Mateo 115 kV Line and SFAERP
1 33308 33303 "2 " 0 # line from SFIA-MA 115.00 (2) to BRKR EST GRND 115.00
1 33308 33310 "2 " 0 # line from SFIA-MA 115.00 (2) to BRKR SANMATEO 115.00
4 33308 33306 "1 " 1 # LOAD-TRANSFER SFIA-MA 115.00 TO SFIA 115.00 LOAD==20.20(4.10)
#
3 33467 0 "1" 0 # SFAERP 13.80 PGEN=48.00 QGEN=10.35
0
#
#
# (490) L-1/G-1 OVERLAPPING OUTAGE
# Millbrae - Santa Paula 115 kV Line and SFAERP
1 33309 33307 "1 " 0 # line from SANPAULA 115.00 (1) to BRKR MILLBRAE 115.00
4 33309 33305 "1 " 1 # LOAD-TRANSFER SANPAULA 115.00 TO SHAWROAD 115.00 LOAD==8.00(1.62)
#
3 33467 0 "1" 0 # SFAERP 13.80 PGEN=48.00 QGEN=10.35
0
#
#
# (491) L-1/G-1 OVERLAPPING OUTAGE
# Belmont - San Mateo 115 kV Line and SFAERP
1 33310 33312 "1 " 0 # line from SANMATEO 115.00 BRKR to BRKR BELMONT 115.00
#
3 33467 0 "1" 0 # SFAERP 13.80 PGEN=48.00 QGEN=10.35
0
#
#
# (492) L-1/G-1 OVERLAPPING OUTAGE
# Ravenswood - San Mateo 115 kV Line and SFAERP
1 33310 33321 "1 " 0 # line from SANMATEO 115.00 BRKR to BRKR RVNSWD D 115.00
#
3 33467 0 "1" 0 # SFAERP 13.80 PGEN=48.00 QGEN=10.35
0
#
#
# (493) L-1/G-1 OVERLAPPING OUTAGE
# Burlingame - San Mateo 115 kV Line and SFAERP
1 33310 33356 "4 " 0 # line from SANMATEO 115.00 BRKR to BRKR BURLNGME 115.00
#
3 33467 0 "1" 0 # SFAERP 13.80 PGEN=48.00 QGEN=10.35
0
#
#
# (494) L-1/G-1 OVERLAPPING OUTAGE
# Belmont - Bair 115 kV Line and SFAERP
1 33312 33313 "1 " 0 # line from BELMONT 115.00 BRKR to BRKR BAIR 115.00
#
3 33467 0 "1" 0 # SFAERP 13.80 PGEN=48.00 QGEN=10.35
0
#
#

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

```

# (495) L-1/G-1 OVERLAPPING OUTAGE
# Ravenswood - Bair 115 kV Line and SFAERP
1 33313 33319 "2 " 0 # line from BAIR 115.00 BRKR to (3) SHREDJCT 115.00
1 33319 33314 "1 " 0 # line from SHREDJCT 115.00 (3) to (2) SHREDDER 115.00
1 33319 33321 "2 " 0 # line from SHREDJCT 115.00 (3) to BRKR RVNSWD D 115.00
1 33314 33320 "1 " 0 # line from SHREDDER 115.00 (2) to (1) LONESTAR 115.00
4 33314 0 "1 " 0 # LOAD-DROP SHREDDER 115.00 LOAD==4.77 (5.43)
4 33320 0 "1 " 0 # LOAD-DROP LONESTAR 115.00 LOAD==2.57 (3.43)
#
3 33467 0 "1" 0 # SFAERP 13.80 PGEN=48.00 QGEN=10.35
0
#
#
# (496) L-1/G-1 OVERLAPPING OUTAGE
# Ravenswood - Cooley Landing #2 115 kV Line and SFAERP
1 33315 33316 "2 " 0 # line from RVNSWD E 115.00 BRKR to BRKR CLY LND2 115.00
#
3 33467 0 "1" 0 # SFAERP 13.80 PGEN=48.00 QGEN=10.35
0
#
#
# (497) L-1/G-1 OVERLAPPING OUTAGE
# Ravenswood - Ames #1 115 kV Line and SFAERP
1 33315 35350 "1 " 0 # line from RVNSWD E 115.00 BRKR to BRKR AMES BS1 115.00
#
3 33467 0 "1" 0 # SFAERP 13.80 PGEN=48.00 QGEN=10.35
0
#
#
# (498) L-1/G-1 OVERLAPPING OUTAGE
# Ravenswood - Ames #2 115 kV Line and SFAERP
1 33315 35351 "2 " 0 # line from RVNSWD E 115.00 BRKR to BRKR AMES BS2 115.00
#
3 33467 0 "1" 0 # SFAERP 13.80 PGEN=48.00 QGEN=10.35
0
#
#
# (499) L-1/G-1 OVERLAPPING OUTAGE
# Ravenswood - Palo Alto #1 115 kV Line and SFAERP
1 33315 38028 "1 " 0 # line from RVNSWD E 115.00 BRKR to BRKR PLO ALTO 115.00
#
3 33467 0 "1" 0 # SFAERP 13.80 PGEN=48.00 QGEN=10.35
0
#
#
# (500) L-1/G-1 OVERLAPPING OUTAGE
# Ravenswood - Palo Alto #2 115 kV Line and SFAERP
1 33315 38028 "2 " 0 # line from RVNSWD E 115.00 BRKR to BRKR PLO ALTO 115.00
#
3 33467 0 "1" 0 # SFAERP 13.80 PGEN=48.00 QGEN=10.35
0
#
#
# (501) L-1/G-1 OVERLAPPING OUTAGE
# Cooley Landing - Palo Alto 115 kV Line and SFAERP
1 33316 38028 "1 " 0 # line from CLY LND2 115.00 BRKR to BRKR PLO ALTO 115.00
#
3 33467 0 "1" 0 # SFAERP 13.80 PGEN=48.00 QGEN=10.35
0
#
#
# (502) L-1/G-1 OVERLAPPING OUTAGE
# Ravenswood - Bair 115 kV Line and SFAERP
1 33321 33313 "1 " 0 # line from RVNSWD D 115.00 BRKR to BRKR BAIR 115.00
#
3 33467 0 "1" 0 # SFAERP 13.80 PGEN=48.00 QGEN=10.35
0
#
#
# (503) L-1/G-1 OVERLAPPING OUTAGE
# Ravenswood - Cooley Landing #1 115 kV Line and SFAERP
1 33321 33317 "1 " 0 # line from RVNSWD D 115.00 BRKR to BRKR CLY LND 115.00
#
3 33467 0 "1" 0 # SFAERP 13.80 PGEN=48.00 QGEN=10.35
0
#
#
# 2013 category b contingency list

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

```

# Mission Division Zone 316
#
#
# (504) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30530 30537 "1 " 0 # line from CAYETANO 230.00 BRKR to BRKR NDUUBLIN 230.00
0
#
#
# (505) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30537 35224 "1 " 0 # line from NDUUBLIN 230.00 BRKR to BRKR VINEYD_D 230.00
0
#
#
# (506) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30554 30631 "1 " 0 # line from CASTROVL 230.00 BRKR to BRKR NEWARK E 230.00
0
#
#
# (507) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30560 30559 "1 " 0 # line from E. SHORE 230.00 BRKR to BRKR RCEC 230.00
0
#
#
# (508) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30560 30559 "2 " 0 # line from E. SHORE 230.00 BRKR to BRKR RCEC 230.00
0
#
#
# (509) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30585 30630 "1 " 0 # line from LS PSTAS 230.00 BRKR to BRKR NEWARK D 230.00
0
#
#
# (510) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30631 30635 "1 " 0 # line from NEWARK E 230.00 BRKR to BRKR NWK DIST 230.00
0
#
#
# (511) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30635 30731 "1 " 0 # line from NWK DIST 230.00 BRKR to BRKR LS ESTRS 230.00
0
#
#
# (512) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35104 35105 "1 " 0 # line from GRANT 115.00 BRKR to BRKR EASTSHRE 115.00
0
#
#
# (513) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35104 35105 "2 " 0 # line from GRANT 115.00 BRKR to BRKR EASTSHRE 115.00
0
#
#
# (514) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35105 35106 "1 " 0 # line from EASTSHRE 115.00 BRKR to BRKR MT EDEN 115.00
0
#
#
# (515) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35105 35106 "2 " 0 # line from EASTSHRE 115.00 BRKR to BRKR MT EDEN 115.00
0
#
#
# (516) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35105 35107 "1 " 0 # line from EASTSHRE 115.00 BRKR to BRKR DUMBARTN 115.00

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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0
#
#
# (517)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35105 35108 "1 " 0 # line from EASTSHRE 115.00 BRKR to (2) ESEC115 115.00
2 35108 35302 "1 " 0 # TRAN from ESEC115 115.00 (2) to (1) ESEC 13.80
4 35302 0 "SG" 0 # LOAD-DROP ESEC 13.80 LOAD==3.00(1.66)
3 35302 0 "1 " 0 # GEN-DROP ESEC 13.80 GEN==8.43(3.60)
3 35302 0 "10" 0 # GEN-DROP ESEC 13.80 GEN==8.43(3.60)
3 35302 0 "11" 0 # GEN-DROP ESEC 13.80 GEN==8.43(3.60)
3 35302 0 "12" 0 # GEN-DROP ESEC 13.80 GEN==8.43(3.60)
3 35302 0 "13" 0 # GEN-DROP ESEC 13.80 GEN==8.43(3.60)
3 35302 0 "14" 0 # GEN-DROP ESEC 13.80 GEN==8.43(3.60)
3 35302 0 "2 " 0 # GEN-DROP ESEC 13.80 GEN==8.43(3.60)
3 35302 0 "3 " 0 # GEN-DROP ESEC 13.80 GEN==8.43(3.60)
3 35302 0 "4 " 0 # GEN-DROP ESEC 13.80 GEN==8.43(3.60)
3 35302 0 "5 " 0 # GEN-DROP ESEC 13.80 GEN==8.43(3.60)
3 35302 0 "6 " 0 # GEN-DROP ESEC 13.80 GEN==8.43(3.60)
3 35302 0 "7 " 0 # GEN-DROP ESEC 13.80 GEN==8.43(3.60)
3 35302 0 "8 " 0 # GEN-DROP ESEC 13.80 GEN==8.43(3.60)
3 35302 0 "9 " 0 # GEN-DROP ESEC 13.80 GEN==8.43(3.60)
0
#
#
# (518)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35107 35120 "1 " 0 # line from DUMBARTN 115.00 BRKR to BRKR NEWARK D 115.00
0
#
#
# (519)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35120 35111 "1 " 0 # line from NEWARK D 115.00 BRKR to BRKR JARVIS 115.00
0
#
#
# (520)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35120 35124 "2 " 0 # line from NEWARK D 115.00 BRKR to (2) NUMI JCT 115.00
1 35124 35111 "2 " 0 # line from NUMI JCT 115.00 (2) to BRKR JARVIS 115.00
0
#
#
# (521)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35120 36851 "1 " 0 # line from NEWARK D 115.00 BRKR to BRKR NRS 400 115.00
0
#
#
# (522)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35120 38446 "3 " 0 # line from NEWARK D 115.00 BRKR to (3) OAK-TAP1 115.00
1 38446 38432 "1 " 0 # line from OAK-TAP1 115.00 (3) to (4) OAKDLTID 115.00
1 38446 36962 "3 " 0 # line from OAK-TAP1 115.00 (3) to BRKR MOCCASIN 115.00
1 38432 38420 "1 " 0 # line from OAKDLTID 115.00 (4) to BRKR TUOLUMN 115.00
1 38432 38420 "2 " 0 # line from OAKDLTID 115.00 (4) to BRKR TUOLUMN 115.00
1 38432 38448 "2 " 0 # line from OAKDLTID 115.00 (4) to (3) OAK-TAP2 115.00
1 38448 35120 "4 " 0 # line from OAK-TAP2 115.00 (3) to BRKR NEWARK D 115.00
1 38448 36962 "4 " 0 # line from OAK-TAP2 115.00 (3) to BRKR MOCCASIN 115.00
0
#
#
# (523)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35121 35110 "1 " 0 # line from NEWARK E 115.00 BRKR to BRKR FREMNT 115.00
0
#
#
# (524)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35121 35110 "2 " 0 # line from NEWARK E 115.00 BRKR to BRKR FREMNT 115.00
0
#
#
# (525)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35121 35350 "1 " 0 # line from NEWARK E 115.00 BRKR to BRKR AMES BS1 115.00

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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0
#
#
# (526) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35121 35350 "3 " 0 # line from NEWARK E 115.00 BRKR to BRKR AMES BS1 115.00
0
#
#
# (527) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35121 35351 "2 " 0 # line from NEWARK E 115.00 BRKR to BRKR AMES BS2 115.00
0
#
#
# (528) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35122 35126 "1 " 0 # line from NEWARK F 115.00 BRKR to (2) NUMI TAP 115.00
1 35126 35127 "1 " 0 # line from NUMI TAP 115.00 (2) to (2) WESTRN_D 115.00
1 35127 35112 "1 " 0 # line from WESTRN_D 115.00 (2) to BRKR NUMMI 115.00
4 35127 0 "1 " 0 # LOAD-DROP WESTRN_D 115.00 LOAD==6.80(4.25)
4 35112 0 "1 " 0 # LOAD-DROP NUMMI 115.00 LOAD==30.88(8.14)
0
#
#
# (529) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35122 35357 "1 " 0 # line from NEWARK F 115.00 BRKR to (3) LCKHD J1 115.00
1 35357 35358 "1 " 0 # line from LCKHD J1 115.00 (3) to (3) MFT.FD J 115.00
1 35357 35363 "1 " 0 # line from LCKHD J1 115.00 (3) to BRKR LAWRENCE 115.00
1 35358 35359 "1 " 0 # line from MFT.FD J 115.00 (3) to (1) MOFT.FLD 115.00
1 35358 35361 "1 " 0 # line from MFT.FD J 115.00 (3) to BRKR LOCKHD 1 115.00
4 35359 0 "1 " 0 # LOAD-DROP MOFT.FLD 115.00 LOAD==4.46(1.12)
4 35361 0 "3 " 0 # LOAD-DROP LOCKHD 1 115.00 LOAD==17.45(14.46)
1 35361 35362 "1 " 1 # close LOCKHD 1 115.00 LOCKHD 2 115.00
4 35361 0 "***" 1 # restore all loads to LOCKHD 1
0
#
#
# (530) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35122 35360 "1 " 0 # line from NEWARK F 115.00 BRKR to (3) LCKHD J2 115.00
1 35360 35362 "1 " 0 # line from LCKHD J2 115.00 (3) to BRKR LOCKHD 2 115.00
1 35360 35365 "1 " 0 # line from LCKHD J2 115.00 (3) to (3) AMD JCT 115.00
1 35365 35364 "1 " 0 # line from AMD JCT 115.00 (3) to BRKR A.M.D 115.00
1 35365 35369 "1 " 0 # line from AMD JCT 115.00 (3) to BRKR APP MAT 115.00
4 35362 0 "1 " 0 # LOAD-DROP LOCKHD 2 115.00 LOAD==7.56(1.72)
4 35362 0 "2 " 0 # LOAD-DROP LOCKHD 2 115.00 LOAD==3.42(0.78)
4 35362 0 "4 " 0 # LOAD-DROP LOCKHD 2 115.00 LOAD==16.21(12.58)
4 35364 0 "1 " 0 # LOAD-DROP A.M.D 115.00 LOAD==1.67(1.17)
1 35361 35362 "1 " 1 # close LOCKHD 1 115.00 LOCKHD 2 115.00
4 35362 0 "***" 1 # restore all loads to LOCKHD 2
0
#
#
# (531) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35122 35600 "1 " 0 # line from NEWARK F 115.00 BRKR to BRKR DIXON LD 115.00
0
#
#
# (532) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35122 35602 "1 " 0 # line from NEWARK F 115.00 BRKR to (3) ZNKER J2 115.00
1 35602 35604 "1 " 0 # line from ZNKER J2 115.00 (3) to (3) ZANKER 115.00
1 35602 36850 "1 " 0 # line from ZNKER J2 115.00 (3) to BRKR KRS 115.00
2 35604 35861 "1 " 0 # TRAN from ZANKER 115.00 (3) to (2) SJ-SCL W 9.11
2 35604 35861 "2 " 0 # TRAN from ZANKER 115.00 (3) to (2) SJ-SCL W 9.11
4 35861 0 "SG" 0 # LOAD-DROP SJ-SCL W 9.11 LOAD==6.17(2.09)
3 35861 0 "1 " 0 # GEN-DROP SJ-SCL W 9.11 GEN==5.00(0.00)
0
#
#
# (533) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35122 35603 "1 " 0 # line from NEWARK F 115.00 BRKR to (3) ZNKER J1 115.00
1 35603 35605 "1 " 0 # line from ZNKER J1 115.00 (3) to (1) AGNEW J 115.00
1 35603 35612 "1 " 0 # line from ZNKER J1 115.00 (3) to BRKR TRIMBLE 115.00

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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0
#
#
# (534) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35122 35624 "1 " 0 # line from NEWARK F 115.00 BRKR to BRKR MILPITAS 115.00
0
#
#
# (535) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35122 35624 "2 " 0 # line from NEWARK F 115.00 BRKR to BRKR MILPITAS 115.00
0
#
#
# (536) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35122 36853 "2 " 0 # line from NEWARK F 115.00 BRKR to BRKR NRS 300 115.00
0
#
#
# (537) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35200 35204 "1 " 0 # line from SEAWEST 60.00 (3) to (3) ZONDWD 60.00
1 35200 35218 "1 " 0 # line from SEAWEST 60.00 (3) to (2) FLOWIND1 60.00
2 35200 35312 "1 " 0 # TRAN from SEAWEST 60.00 (3) to (1) SEAWESTF 9.11
1 35204 35208 "1 " 0 # line from ZONDWD 60.00 (3) to (3) USWP-FRK 60.00
2 35204 35316 "1 " 0 # TRAN from ZONDWD 60.00 (3) to (1) ZOND SYS 9.11
2 35218 35318 "1 " 0 # TRAN from FLOWIND1 60.00 (2) to (1) FLOWDPTR 9.11
1 35208 35210 "1 " 0 # line from USWP-FRK 60.00 (3) to (3) VASCJCT. 60.00
2 35208 35320 "1 " 0 # TRAN from USWP-FRK 60.00 (3) to (1) USW FRIC 12.00
1 35210 35201 "1 " 0 # line from VASCJCT. 60.00 (3) to BRKR VASCO 60.00
1 35210 35220 "1 " 0 # line from VASCJCT. 60.00 (3) to BRKR LPOSTAS 60.00
4 35201 0 "1 " 0 # LOAD-DROP VASCO 60.00 LOAD==6.00(1.37)
4 35201 0 "2 " 0 # LOAD-DROP VASCO 60.00 LOAD==8.78(2.00)
3 35312 0 "1 " 0 # GEN-DROP SEAWESTF 9.11 GEN==0.10(0.00)
3 35320 0 "1 " 0 # GEN-DROP USW FRIC 12.00 GEN==2.60(0.00)
1 35211 35201 "1 " 1 # LINE-TRANSFER VASCJCT. 60.00 TO ALTAMONT 60.00
4 35201 0 "***" 1 # RESTORE VASCO load
0
#
#
# (538) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35202 33776 "1 " 0 # line from USWP-WKR 60.00 (3) to (2) SOUTH BY 60.00
1 35202 35211 "1 " 0 # line from USWP-WKR 60.00 (3) to (1) ALTAMONT 60.00
2 35202 35314 "1 " 0 # TRAN from USWP-WKR 60.00 (3) to (1) WALKER+ 9.11
1 33776 33775 "1 " 0 # line from SOUTH BY 60.00 (2) to (2) TOSCO-PP 60.00
1 33775 33773 "1 " 0 # line from TOSCO-PP 60.00 (2) to (2) ALTA-CGE 60.00
1 33773 33772 "1 " 0 # line from ALTA-CGE 60.00 (2) to (2) B.BTHNY- 60.00
1 33772 33770 "1 " 0 # line from B.BTHNY- 60.00 (2) to BRKR HERDLYN 60.00
4 33776 0 "1 " 0 # LOAD-DROP SOUTH BY 60.00 LOAD==23.00(0.00)
4 33775 0 "1 " 0 # LOAD-DROP TOSCO-PP 60.00 LOAD==0.98(0.89)
4 33772 0 "1 " 0 # LOAD-DROP B.BTHNY- 60.00 LOAD==1.94(0.44)
3 33773 0 "1 " 0 # GEN-DROP ALTA-CGE 60.00 GEN==4.00(-1.00)
0
#
#
# (539) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35203 35220 "1 " 0 # line from LIVERMRE 60.00 BRKR to BRKR LPOSTAS 60.00
0
#
#
# (540) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35203 35222 "1 " 0 # line from LIVERMRE 60.00 BRKR to (2) CALMAT60 60.00
1 35222 35206 "1 " 0 # line from CALMAT60 60.00 (2) to (2) KAISER 60.00
1 35206 35205 "1 " 0 # line from KAISER 60.00 (2) to BRKR RADUM 60.00
4 35222 0 "1 " 0 # LOAD-DROP CALMAT60 60.00 LOAD==6.62(4.10)
4 35206 0 "1 " 0 # LOAD-DROP KAISER 60.00 LOAD==1.09(2.16)
0
#
#
# (541) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35205 35227 "1 " 0 # line from RADUM 60.00 BRKR to (2) VINEYARD 60.00
1 35227 35212 "1 " 0 # line from VINEYARD 60.00 (2) to (2) IUKA 60.00

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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1 35212 35213 "1 " 0 # line from IUKA 60.00 (2) to BRKR VALLECTS 60.00
4 35212 0 "1 " 0 # LOAD-DROP IUKA 60.00 LOAD==3.34 (2.95)
0
#
#
# (542) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35209 35221 "1 " 0 # line from SAN RAMN 60.00 BRKR to (2) E DUBLIN 60.00
1 35221 35223 "1 " 0 # line from E DUBLIN 60.00 (2) to (3) PARKS TP 60.00
1 35223 35205 "1 " 0 # line from PARKS TP 60.00 (3) to BRKR RADUM 60.00
1 35223 35207 "1 " 0 # line from PARKS TP 60.00 (3) to (1) PARKS 60.00
4 35221 0 "1 " 0 # LOAD-DROP E DUBLIN 60.00 LOAD==2.20 (0.45)
0
#
#
# (543) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35213 35214 "1 " 0 # line from VALLECTS 60.00 BRKR to (2) SUNOL 60.00
1 35214 35216 "1 " 0 # line from SUNOL 60.00 (2) to (2) DCTO JCT 60.00
1 35216 35217 "1 " 0 # line from DCTO JCT 60.00 (2) to BRKR NEWARK 60.00
4 35214 0 "1 " 0 # LOAD-DROP SUNOL 60.00 LOAD==6.87 (1.57)
0
#
#
# (544) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35219 30630 "1 " 0 # line from VINEYARD 230.00 BRKR to BRKR NEWARK D 230.00
0
#
#
# (545) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35225 35217 "1 " 0 # line from LIVRMR_2 60.00 BRKR to BRKR NEWARK 60.00
0
#
#
# (546) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35349 35121 "1 " 0 # line from AMES DST 115.00 BRKR to BRKR NEWARK E 115.00
0
#
#
# (547) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 35105 30560 "1 " 0 # TRAN from EASTSHRE 115.00 BRKR to BRKR E. SHORE 230.00
0
#
#
# (548) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 35105 30560 "2 " 0 # TRAN from EASTSHRE 115.00 BRKR to BRKR E. SHORE 230.00
0
#
#
# (549) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
# **** 3-WINDING TRANSFORMER 35120 (30627) 30630 35301 :
2 35120 30630 "9 " 0 # TRAN from NEWARK D 115.00 BRKR to (1) NEWARK D 230.00
0
#
#
# (550) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 35120 35109 "1 " 0 # TRAN from NEWARK D 115.00 BRKR to (2) NWRK 2 M 115.00
2 35109 35217 "1 " 0 # TRAN from NWRK 2 M 115.00 (2) to BRKR NEWARK 60.00
0
#
#
# (551) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
# **** 3-WINDING TRANSFORMER 35121 (30626) 30630 35303 :
2 35121 30630 "7 " 0 # TRAN from NEWARK E 115.00 BRKR to (1) NEWARK D 230.00
0
#
#
# (552) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
# **** 3-WINDING TRANSFORMER 35122 (30628) 30631 35300 :

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2 35122 30631 "11" 0 # TRAN from NEWARK F 115.00 BRKR to (1) NEWARK E 230.00
0
#
#
# (553) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 35209 30555 "1 " 0 # TRAN from SAN RAMN 60.00 BRKR to BRKR SANRAMON 230.00
0
#
#
# (554) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 35220 30585 "4 " 0 # TRAN from LPOSTAS 60.00 BRKR to BRKR LS PSTAS 230.00
0
#
#
# (555) B1 GENERATOR OUTAGE
#
3 35312 0 "1" 0 # SEAWESTF 9.11 PGEN=0.10 QGEN=0.00
0
#
#
# (556) B1 GENERATOR OUTAGE
#
3 35320 0 "1" 0 # USW FRIC 12.00 PGEN=2.60 QGEN=0.00
0
#
#
# (557) B1 GENERATOR OUTAGE
#
3 35302 0 "1" 0 # ESEC 13.80 PGEN=8.43 QGEN=3.60
0
#
#
# (558) B1 GENERATOR OUTAGE
#
3 35304 0 "1" 0 # RCECCTG1 15.00 PGEN=180.00 QGEN=24.99
0
#
#
# (559) B1 GENERATOR OUTAGE
#
3 35305 0 "2" 0 # RCECCTG2 15.00 PGEN=180.00 QGEN=24.99
0
#
#
# (560) B1 GENERATOR OUTAGE
#
3 35306 0 "3" 0 # RCECSTG1 18.00 PGEN=254.00 QGEN=36.45
0
#
#
# (561) L-1/G-1 OVERLAPPING OUTAGE
# Contra Costa - Las Positas 230 kV Line and RCEC STG1
1 30525 30585 "1 " 0 # line from C.COSTA 230.00 BRKR to BRKR LS PSTAS 230.00
#
3 35306 0 "3" 0 # RCECSTG1 18.00 PGEN=254.00 QGEN=36.45
0
#
#
# (562) L-1/G-1 OVERLAPPING OUTAGE
# Pittsburg - San Ramon 230 kV Line and RCEC STG1
1 30526 30555 "1 " 0 # line from PITSBG D 230.00 BRKR to BRKR SANRAMON 230.00
#
3 35306 0 "3" 0 # RCECSTG1 18.00 PGEN=254.00 QGEN=36.45
0
#
#
# (563) L-1/G-1 OVERLAPPING OUTAGE
# Cayetano - North Dublin 230 kV Line and RCEC STG1
1 30530 30537 "1 " 0 # line from CAYETANO 230.00 BRKR to BRKR NDUBLIN 230.00
#
3 35306 0 "3" 0 # RCECSTG1 18.00 PGEN=254.00 QGEN=36.45
0
#
#
# (564) L-1/G-1 OVERLAPPING OUTAGE
# North Dublin - Vineyard 230 kV Line and RCEC STG1

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1 30537 35224 "1 " 0 # line from NDUBLIN 230.00 BRKR to BRKR VINEYD_D 230.00
#
3 35306 0 "3" 0 # RCECSTG1 18.00 PGEN=254.00 QGEN=36.45
0
#
#
# (565) L-1/G-1 OVERLAPPING OUTAGE
# Moraga - Castro Valley 230 kV Line and RCEC STG1
1 30550 30554 "1 " 0 # line from MORAGA 230.00 BRKR to BRKR CASTROVL 230.00
#
3 35306 0 "3" 0 # RCECSTG1 18.00 PGEN=254.00 QGEN=36.45
0
#
#
# (566) L-1/G-1 OVERLAPPING OUTAGE
# Moraga - San Ramon 230 kV Line and RCEC STG1
1 30550 30555 "1 " 0 # line from MORAGA 230.00 BRKR to BRKR SANRAMON 230.00
#
3 35306 0 "3" 0 # RCECSTG1 18.00 PGEN=254.00 QGEN=36.45
0
#
#
# (567) L-1/G-1 OVERLAPPING OUTAGE
# Castro Valley - Newark 230 kV Line and RCEC STG1
1 30554 30631 "1 " 0 # line from CASTROVL 230.00 BRKR to BRKR NEWARK E 230.00
#
3 35306 0 "3" 0 # RCECSTG1 18.00 PGEN=254.00 QGEN=36.45
0
#
#
# (568) L-1/G-1 OVERLAPPING OUTAGE
# Pittsburg - East Shore 230 kV Line and RCEC STG1
1 30560 30527 "1 " 0 # line from E. SHORE 230.00 BRKR to BRKR PITSBG E 230.00
#
3 35306 0 "3" 0 # RCECSTG1 18.00 PGEN=254.00 QGEN=36.45
0
#
#
# (569) L-1/G-1 OVERLAPPING OUTAGE
# East Shore - San Mateo 230 kV Line and RCEC STG1
1 30560 30700 "1 " 0 # line from E. SHORE 230.00 BRKR to BRKR SANMATEO 230.00
#
3 35306 0 "3" 0 # RCECSTG1 18.00 PGEN=254.00 QGEN=36.45
0
#
#
# (570) L-1/G-1 OVERLAPPING OUTAGE
# Tassajara - Newark 230 kV Line and RCEC STG1
1 30562 30631 "1 " 0 # line from TES JCT 230.00 (3) to BRKR NEWARK E 230.00
1 30562 30561 "1 " 0 # line from TES JCT 230.00 (3) to BRKR TASSAJAR 230.00
1 30562 30563 "1 " 0 # line from TES JCT 230.00 (3) to BRKR RESEARCH 230.00
4 30563 0 "1 " 0 # LOAD-DROP RESEARCH 230.00 LOAD==37.05(8.44)
#
3 35306 0 "3" 0 # RCECSTG1 18.00 PGEN=254.00 QGEN=36.45
0
#
#
# (571) L-1/G-1 OVERLAPPING OUTAGE
# Lonetree - Cayetano 230 kV Line and RCEC STG1
1 30567 30590 "1 " 0 # line from LONETREE 230.00 BRKR to (3) USWP-JRW 230.00
1 30590 30530 "1 " 0 # line from USWP-JRW 230.00 (3) to BRKR CAYETANO 230.00
2 30590 33838 "1 " 0 # TRAN from USWP-JRW 230.00 (3) to (1) USWP_#3 9.11
4 33838 0 "SG" 0 # LOAD-DROP USWP_#3 9.11 LOAD==0.50(0.20)
#
3 35306 0 "3" 0 # RCECSTG1 18.00 PGEN=254.00 QGEN=36.45
0
#
#
# (572) L-1/G-1 OVERLAPPING OUTAGE
# Las Positas - Newark 230 kV Line and RCEC STG1
1 30585 30630 "1 " 0 # line from LS PSTAS 230.00 BRKR to BRKR NEWARK D 230.00
#
3 35306 0 "3" 0 # RCECSTG1 18.00 PGEN=254.00 QGEN=36.45
0
#
#
# (573) L-1/G-1 OVERLAPPING OUTAGE
# Tesla - Newark #1 230 kV Line and RCEC STG1

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1 30624 30630 "1 " 0 # line from TESLA E 230.00 BRKR to BRKR NEWARK D 230.00
#
3 35306 0 "3" 0 # RCECSTG1 18.00 PGEN=254.00 QGEN=36.45
0
#
#
# (574) L-1/G-1 OVERLAPPING OUTAGE
# Newark - Ravenswood 230 kV Line and RCEC STG1
1 30630 30703 "1 " 0 # line from NEWARK D 230.00 BRKR to BRKR RAVENSWD 230.00
#
3 35306 0 "3" 0 # RCECSTG1 18.00 PGEN=254.00 QGEN=36.45
0
#
#
# (575) L-1/G-1 OVERLAPPING OUTAGE
# Newark Distribution 230 kV Line and RCEC STG1
1 30631 30635 "1 " 0 # line from NEWARK E 230.00 BRKR to BRKR NWK DIST 230.00
#
3 35306 0 "3" 0 # RCECSTG1 18.00 PGEN=254.00 QGEN=36.45
0
#
#
# (576) L-1/G-1 OVERLAPPING OUTAGE
# Newark Distribution - Los Esteros 230 kV Line and RCEC STG1
1 30635 30731 "1 " 0 # line from NWK DIST 230.00 BRKR to BRKR LS ESTRS 230.00
#
3 35306 0 "3" 0 # RCECSTG1 18.00 PGEN=254.00 QGEN=36.45
0
#
#
# (577) L-1/G-1 OVERLAPPING OUTAGE
# Tesla - Newark #2 230 kV Line and RCEC STG1
1 30655 30631 "2 " 0 # line from ADCC 230.00 (3) to BRKR NEWARK E 230.00
1 30655 30640 "2 " 0 # line from ADCC 230.00 (3) to BRKR TESLA C 230.00
2 30655 35310 "1 " 0 # TRAN from ADCC 230.00 (3) to (1) LFC FIN+ 9.11
#
3 35306 0 "3" 0 # RCECSTG1 18.00 PGEN=254.00 QGEN=36.45
0
#
#
# (578) L-1/G-1 OVERLAPPING OUTAGE
# Vineyard - Newark 230 kV Line and RCEC STG1
1 35219 30630 "1 " 0 # line from VINEYARD 230.00 BRKR to BRKR NEWARK D 230.00
#
3 35306 0 "3" 0 # RCECSTG1 18.00 PGEN=254.00 QGEN=36.45
0
#
#
# 2013 category b contingency list
# DeAnza Division Zone 317
#
#
# (579) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
1 30705 30720 "1 " 0 # line from MONTAVIS 230.00 BRKR to BRKR SARATOGA 230.00
0
#
#
# (580) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
1 30705 30730 "1 " 0 # line from MONTAVIS 230.00 BRKR to BRKR HICKS 230.00
0
#
#
# (581) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
1 30720 30733 "1 " 0 # line from SARATOGA 230.00 BRKR to BRKR VASONA 230.00
0
#
#
# (582) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
1 30733 30735 "1 " 0 # line from VASONA 230.00 BRKR to BRKR METCALF 230.00
0
#
#
# (583) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#

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1 30735 30705 "3 " 0 # line from METCALF 230.00 BRKR to BRKR MONTAVIS 230.00
0
#
#
# (584) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30741 30705 "4 " 0 # line from CAL MEC 230.00 BRKR to BRKR MONTAVIS 230.00
0
#
#
# (585) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35351 35349 "1 " 0 # line from AMES BS2 115.00 BRKR to BRKR AMES DST 115.00
0
#
#
# (586) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35352 35356 "1 " 0 # line from WHISMAN 115.00 BRKR to BRKR MNTA VSA 115.00
0
#
#
# (587) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35353 35356 "1 " 0 # line from MT VIEW 115.00 BRKR to BRKR MNTA VSA 115.00
0
#
#
# (588) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35354 35355 "1 " 0 # line from STELLING 115.00 BRKR to BRKR WOLFE 115.00
0
#
#
# (589) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35354 35356 "1 " 0 # line from STELLING 115.00 BRKR to BRKR MNTA VSA 115.00
0
#
#
# (590) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35355 35356 "1 " 0 # line from WOLFE 115.00 BRKR to BRKR MNTA VSA 115.00
0
#
#
# (591) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35356 35367 "1 " 0 # line from MNTA VSA 115.00 BRKR to (3) PHLPS_JT 115.00
1 35367 35363 "1 " 0 # line from PHLPS_JT 115.00 (3) to BRKR LAWRENCE 115.00
1 35367 35366 "1 " 0 # line from PHLPS_JT 115.00 (3) to BRKR PHILLIPS 115.00
4 35366 0 "1 " 0 # LOAD-DROP PHILLIPS 115.00 LOAD==1.25(0.00)
0
#
#
# (592) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35356 35368 "1 " 0 # line from MNTA VSA 115.00 BRKR to BRKR BRITTN 115.00
0
#
#
# (593) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35368 35369 "1 " 0 # line from BRITTN 115.00 BRKR to BRKR APP MAT 115.00
0
#
#
# (594) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35370 35353 "1 " 0 # line from AMES J1A 115.00 (2) to BRKR MT VIEW 115.00
1 35370 35371 "1 " 0 # line from AMES J1A 115.00 (2) to (2) AMES J1B 115.00
1 35371 35352 "1 " 0 # line from AMES J1B 115.00 (2) to BRKR WHISMAN 115.00
0
#
#
# (595) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35450 35452 "1 " 0 # line from LOS ALTS 60.00 (1) to BRKR LOYOLA 60.00

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

```

4 35450      0 "1 " 0 # LOAD-DROP LOS ALTS 60.00 LOAD==1.89(0.43)
4 35450      0 "2 " 0 # LOAD-DROP LOS ALTS 60.00 LOAD==9.73(2.22)
4 35450      0 "3 " 0 # LOAD-DROP LOS ALTS 60.00 LOAD==11.00(2.51)
1 35450 35451 "1 " 1 # close Line from LOS ALTS 60.00 to L.ALTS J (Los Altos - Loyola)
4 35450 0     ""*"" 1 # restore all loads to LOS ALTS 60.00 (Monta Vista - Loyola)
0
#
#
# (596) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35452 35455 "1 " 0 # line from LOYOLA 60.00 BRKR to BRKR MNTA VSA 60.00
1 35450 35451 "1 " 1 # close Line from LOS ALTS to L.ALTS J (Monta Vista - Loyola)
0
#
#
# (597) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35455 35456 "1 " 0 # line from MNTA VSA 60.00 BRKR to (2) PRMNT J3 60.00
1 35456 36000 "1 " 0 # line from PRMNT J3 60.00 (2) to (2) BIG BASN 60.00
1 36000 36001 "1 " 0 # line from BIG BASN 60.00 (2) to (3) BURNS J1 60.00
1 36001 36002 "1 " 0 # line from BURNS J1 60.00 (3) to BRKR BURNS 60.00
1 36001 36003 "1 " 0 # line from BURNS J1 60.00 (3) to BRKR BURNS J2 60.00
4 36000      0 "1 " 0 # LOAD-DROP BIG BASN 60.00 LOAD==6.71(0.96)
0
#
#
# (598) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35455 35458 "1 " 0 # line from MNTA VSA 60.00 BRKR to (2) PRMNT J1 60.00
1 35458 35459 "1 " 0 # line from PRMNT J1 60.00 (2) to (2) PRMNT J2 60.00
1 35459 35457 "1 " 0 # line from PRMNT J2 60.00 (2) to BRKR PERMNTE 60.00
4 35457      0 "1 " 0 # LOAD-DROP PERMNTE 60.00 LOAD==29.94(20.90)
0
#
#
# (599) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35455 35460 "1 " 0 # line from MNTA VSA 60.00 BRKR to (2) LOS GATS 60.00
1 35460 35757 "1 " 0 # line from LOS GATS 60.00 (2) to BRKR ALMADEN 60.00
4 35460      0 "1 " 0 # LOAD-DROP LOS GATS 60.00 LOAD==20.79(4.74)
4 35460      0 "2 " 0 # LOAD-DROP LOS GATS 60.00 LOAD==17.01(3.88)
1 35757 35460 "1 " 1 # close Los Gatos to Almaden (Monta Vista - Los Gatos 60 kV)
4 35460 0     ""*"" 1 # restore all loads to LOS GATS (Monta Vista - Los Gatos 60 kV)
0
#
#
# (600) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 35356 30705 "2 " 0 # TRAN from MNTA VSA 115.00 BRKR to BRKR MONTAVIS 230.00
0
#
#
# (601) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 35356 30705 "3 " 0 # TRAN from MNTA VSA 115.00 BRKR to BRKR MONTAVIS 230.00
0
#
#
# (602) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 35356 30705 "4 " 0 # TRAN from MNTA VSA 115.00 BRKR to BRKR MONTAVIS 230.00
0
#
#
# (603) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 35455 30705 "5 " 0 # TRAN from MNTA VSA 60.00 BRKR to BRKR MONTAVIS 230.00
0
#
#
# (604) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 35455 35356 "6 " 0 # TRAN from MNTA VSA 60.00 BRKR to BRKR MNTA VSA 115.00
0
#
#
# (605) L-1/G-1 OVERLAPPING OUTAGE
# Monta Vista - Jefferson #1 230 kV Line and MEC

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

```

1 30705 30710 "1 " 0 # line from MONTAVIS 230.00 BRKR to (3) SLACTAP1 230.00
1 30710 30711 "1 " 0 # line from SLACTAP1 230.00 (3) to BRKR S.L.A.C. 230.00
1 30710 30715 "1 " 0 # line from SLACTAP1 230.00 (3) to BRKR JEFFERSN 230.00
4 30711 0 "1 " 0 # LOAD-DROP S.L.A.C. 230.00 LOAD==58.00(11.78)
1 30711 30712 "1 " 1 # LINE-TRANSFER SLACTAP1 to SLACTAP2
4 30711 0 "***" 1 # RESTORE S.L.A.C. load
#
3 35881 0 "1" 0 # MEC CTG1 18.00 PGEN=180.00 QGEN=61.41
3 35882 0 "1" 0 # MEC CTG2 18.00 PGEN=180.00 QGEN=61.41
3 35883 0 "1" 0 # MEC STG1 18.00 PGEN=200.00 QGEN=62.96
0
#
#
# (606) L-1/G-1 OVERLAPPING OUTAGE
# Monta Vista - Jefferson #2 230 kV Line and MEC
1 30705 30712 "2 " 0 # line from MONTAVIS 230.00 BRKR to (2) SLACTAP2 230.00
1 30712 30715 "2 " 0 # line from SLACTAP2 230.00 (2) to BRKR JEFFERSN 230.00
#
3 35881 0 "1" 0 # MEC CTG1 18.00 PGEN=180.00 QGEN=61.41
3 35882 0 "1" 0 # MEC CTG2 18.00 PGEN=180.00 QGEN=61.41
3 35883 0 "1" 0 # MEC STG1 18.00 PGEN=200.00 QGEN=62.96
0
#
#
# (607) L-1/G-1 OVERLAPPING OUTAGE
# Monta Vista - Jefferson #2 230 kV Line and MEC
1 30705 30720 "1 " 0 # line from MONTAVIS 230.00 BRKR to BRKR SARATOGA 230.00
#
3 35881 0 "1" 0 # MEC CTG1 18.00 PGEN=180.00 QGEN=61.41
3 35882 0 "1" 0 # MEC CTG2 18.00 PGEN=180.00 QGEN=61.41
3 35883 0 "1" 0 # MEC STG1 18.00 PGEN=200.00 QGEN=62.96
0
#
#
# (608) L-1/G-1 OVERLAPPING OUTAGE
# Monta Vista - Hicks 230 kV Line and MEC
1 30705 30730 "1 " 0 # line from MONTAVIS 230.00 BRKR to BRKR HICKS 230.00
#
3 35881 0 "1" 0 # MEC CTG1 18.00 PGEN=180.00 QGEN=61.41
3 35882 0 "1" 0 # MEC CTG2 18.00 PGEN=180.00 QGEN=61.41
3 35883 0 "1" 0 # MEC STG1 18.00 PGEN=200.00 QGEN=62.96
0
#
#
# (609) L-1/G-1 OVERLAPPING OUTAGE
# Saratoga - Vasona 230 kV Line and MEC
1 30720 30733 "1 " 0 # line from SARATOGA 230.00 BRKR to BRKR VASONA 230.00
#
3 35881 0 "1" 0 # MEC CTG1 18.00 PGEN=180.00 QGEN=61.41
3 35882 0 "1" 0 # MEC CTG2 18.00 PGEN=180.00 QGEN=61.41
3 35883 0 "1" 0 # MEC STG1 18.00 PGEN=200.00 QGEN=62.96
0
#
#
# (610) L-1/G-1 OVERLAPPING OUTAGE
# Vasona - Metcalf 230 kV Line and MEC
1 30733 30735 "1 " 0 # line from VASONA 230.00 BRKR to BRKR METCALF 230.00
#
3 35881 0 "1" 0 # MEC CTG1 18.00 PGEN=180.00 QGEN=61.41
3 35882 0 "1" 0 # MEC CTG2 18.00 PGEN=180.00 QGEN=61.41
3 35883 0 "1" 0 # MEC STG1 18.00 PGEN=200.00 QGEN=62.96
0
#
#
# (611) L-1/G-1 OVERLAPPING OUTAGE
# Monta Vista - Metcalf #3 230 kV Line and MEC
1 30735 30705 "3 " 0 # line from METCALF 230.00 BRKR to BRKR MONTAVIS 230.00
#
3 35881 0 "1" 0 # MEC CTG1 18.00 PGEN=180.00 QGEN=61.41
3 35882 0 "1" 0 # MEC CTG2 18.00 PGEN=180.00 QGEN=61.41
3 35883 0 "1" 0 # MEC STG1 18.00 PGEN=200.00 QGEN=62.96
0
#
#
# (612) L-1/G-1 OVERLAPPING OUTAGE
# Monta Vista - Coyote Sw Sta 230 kV Line and MEC
1 30741 30705 "4 " 0 # line from CAL MEC 230.00 BRKR to BRKR MONTAVIS 230.00
#

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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3 35881      0 "1"      0      # MEC CTG1 18.00      PGEN=180.00 QGEN=61.41
3 35882      0 "1"      0      # MEC CTG2 18.00      PGEN=180.00 QGEN=61.41
3 35883      0 "1"      0      # MEC STG1 18.00      PGEN=200.00 QGEN=62.96
0
#
#
# 2013 category b contingency list
# San Jose Division Zone 318
#
#
# (613) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30731 38901 "1 "      0      # line from LS ESTRS 230.00 BRKR to (2) SSS      230.00
1 38901 36893 "1 "      0      # line from SSS      230.00 (2) to (3) NRSriser 230.00
1 36893 38900 "1 "      0      # line from NRSriser 230.00 (3) to (3) NRS      230.00
1 36893 38900 "2 "      0      # line from NRSriser 230.00 (3) to (3) NRS      230.00
2 38900 36851 "1 "      0      # TRAN from NRS      230.00 (3) to BRKR NRS 400 115.00
0
#
#
# (614) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30735 30730 "1 "      0      # line from METCALF 230.00 BRKR to BRKR HICKS      230.00
0
#
#
# (615) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30735 30731 "1 "      0      # line from METCALF 230.00 BRKR to BRKR LS ESTRS 230.00
0
#
#
# (616) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30735 30741 "4 "      0      # line from METCALF 230.00 BRKR to BRKR CAL MEC 230.00
0
#
#
# (617) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30735 30750 "1 "      0      # line from METCALF 230.00 BRKR to BRKR MOSSLND2 230.00
0
#
#
# (618) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30735 30755 "1 "      0      # line from METCALF 230.00 BRKR to BRKR MOSSLND1 230.00
0
#
#
# (619) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35600 35629 "1 "      0      # line from DIXON LD 115.00 BRKR to (3) MABURY J 115.00
1 35629 35626 "1 "      0      # line from MABURY J 115.00 (3) to BRKR MCKEE 115.00
1 35629 35630 "1 "      0      # line from MABURY J 115.00 (3) to BRKR MABURY 115.00
4 35630      0 "2 "      0      # LOAD-DROP MABURY 115.00 LOAD==19.00(4.33)
0
#
#
# (620) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35612 35610 "1 "      0      # line from TRIMBLE 115.00 BRKR to BRKR MONTAGUE 115.00
0
#
#
# (621) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35612 35616 "1 "      0      # line from TRIMBLE 115.00 BRKR to BRKR SJ B E 115.00
0
#
#
# (622) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35613 35614 "1 "      0      # line from ELPT_SJ1 115.00 (3) to (3) ELPT_SJ2 115.00
1 35613 35614 "2 "      0      # line from ELPT_SJ1 115.00 (3) to (3) ELPT_SJ2 115.00
1 35613 35618 "1 "      0      # line from ELPT_SJ1 115.00 (3) to BRKR SN JSE A 115.00
1 35614 35620 "1 "      0      # line from ELPT_SJ2 115.00 (3) to BRKR EL PATIO 115.00
0

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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#
#
# (623)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35615 35616 "1 " 0 # line from FMC 115.00 BRKR to BRKR SJ B E 115.00
0
#
#
# (624)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35615 35617 "1 " 0 # line from FMC 115.00 BRKR to (2) FMC JCT 115.00
1 35617 36850 "1 " 0 # line from FMC JCT 115.00 (2) to BRKR KRS 115.00
0
#
#
# (625)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35618 35619 "1 " 0 # line from SN JSE A 115.00 BRKR to BRKR SJ B F 115.00
0
#
#
# (626)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35619 35631 "1 " 0 # line from SJ B F 115.00 BRKR to (3) MARKHM J 115.00
1 35631 35632 "1 " 0 # line from MARKHM J 115.00 (3) to (2) MARKHAM 115.00
1 35631 35636 "1 " 0 # line from MARKHM J 115.00 (3) to BRKR EVRGRN 1 115.00
2 35632 35863 "1 " 0 # TRAN from MARKHAM 115.00 BRKR to (1) CATALYST 9.11
4 35863 0 "1 " 0 # LOAD-DROP CATALYST 9.11 LOAD==9.12(3.09)
3 35863 0 "1 " 0 # GEN-DROP CATALYST 9.11 GEN==2.30(0.00)
1 35632 36420 "1 " 1 # close Markham to Stone
2 35632 35863 "1 " 1 # restore TRAN from MARKHAM 115.00 to CATALYST 9.11
4 35863 0 "1 " 1 # restore all loads to CATALYST
0
#
#
# (627)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35620 35621 "1 " 0 # line from EL PATIO 115.00 BRKR to (2) IBM-HR J 115.00
1 35621 35642 "1 " 0 # line from IBM-HR J 115.00 (2) to BRKR MTCALF D 115.00
0
#
#
# (628)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35620 35651 "2 " 0 # line from EL PATIO 115.00 BRKR to (2) BAILY J3 115.00
1 35651 35642 "2 " 0 # line from BAILY J3 115.00 (2) to BRKR MTCALF D 115.00
0
#
#
# (629)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35622 35624 "1 " 0 # line from SWIFT 115.00 BRKR to BRKR MILPITAS 115.00
0
#
#
# (630)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35622 35643 "1 " 0 # line from SWIFT 115.00 BRKR to BRKR MTCALF E 115.00
0
#
#
# (631)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35625 35645 "1 " 0 # line from MARKH MJ2 115.00 (2) to (3) EVRGRN J 115.00
1 35625 35634 "1 " 0 # line from MARKH MJ2 115.00 (2) to (2) STONE J 115.00
1 35645 35633 "2 " 0 # line from EVRGRN J 115.00 (3) to BRKR EVRGRN 2 115.00
1 35645 35643 "2 " 0 # line from EVRGRN J 115.00 (3) to BRKR MTCALF E 115.00
1 35634 36420 "1 " 0 # line from STONE J 115.00 (2) to BRKR STONE 115.00
4 36420 0 "1 " 0 # LOAD-DROP STONE 115.00 LOAD==35.69(8.13)
4 36420 0 "2 " 0 # LOAD-DROP STONE 115.00 LOAD==14.87(3.39)
0
#
#
# (632)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35626 35656 "1 " 0 # line from MCKEE 115.00 BRKR to BRKR PIERCY 115.00
0
#

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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#
# (633) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35636 35643 "1 " 0 # line from EVRGRN 1 115.00 BRKR to BRKR MTCALF E 115.00
0
#
#
# (634) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35637 35649 "1 " 0 # line from IBM-CTLE 115.00 (1) to (3) EDNVL J3 115.00
1 35649 35638 "1 " 0 # line from EDNVL J3 115.00 (3) to BRKR EDENVALE 115.00
1 35649 35641 "1 " 0 # line from EDNVL J3 115.00 BRKR to (1) EDNVL J1 115.00
4 35637 0 "1 " 0 # LOAD-DROP IBM-CTLE 115.00 LOAD==28.58(22.18)
0
#
#
# (635) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35638 35653 "1 " 0 # line from EDENVALE 115.00 BRKR to (3) BAILY J2 115.00
1 35653 35642 "1 " 0 # line from BAILY J2 115.00 (3) to BRKR MTCALF D 115.00
1 35653 35652 "1 " 0 # line from BAILY J2 115.00 (3) to (2) BAILY J1 115.00
1 35652 35640 "1 " 0 # line from BAILY J1 115.00 (2) to BRKR IBM-BALY 115.00
4 35640 0 "1 " 0 # LOAD-DROP IBM-BALY 115.00 LOAD==5.63(3.04)
0
#
#
# (636) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35639 35641 "1 " 0 # line from IBM-HRRS 115.00 BRKR to (3) EDNVL J1 115.00
1 35641 35642 "1 " 0 # line from EDNVL J1 115.00 (3) to BRKR MTCALF D 115.00
1 35641 35649 "1 " 0 # line from EDNVL J1 115.00 (3) to BRKR EDNVL J3 115.00
4 35639 0 "1 " 0 # LOAD-DROP IBM-HRRS 115.00 LOAD==2.43(1.63)
4 35639 0 "2 " 0 # LOAD-DROP IBM-HRRS 115.00 LOAD==2.43(1.63)
1 35621 35639 "1 " 1 # close IBM Harry to Metcalf-El Patio
4 35639 0 "***" 1 # restore all loads to IBM HRRS
0
#
#
# (637) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35642 35646 "1 " 0 # line from MTCALF D 115.00 BRKR to BRKR MRGN HIL 115.00
0
#
#
# (638) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35642 35654 "1 " 0 # line from MTCALF D 115.00 BRKR to (2) MORGN J1 115.00
1 35654 35655 "1 " 0 # line from MORGN J1 115.00 (2) to (2) MORGN J2 115.00
1 35655 35648 "1 " 0 # line from MORGN J2 115.00 (2) to BRKR LLAGAS 115.00
0
#
#
# (639) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35643 35644 "1 " 0 # line from MTCALF E 115.00 BRKR to BRKR CYTE PMP 115.00
4 35644 0 "1 " 0 # LOAD-DROP CYTE PMP 115.00 LOAD==4.90(1.12)
0
#
#
# (640) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35646 35648 "1 " 0 # line from MRGN HIL 115.00 BRKR to BRKR LLAGAS 115.00
0
#
#
# (641) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35648 35660 "1 " 0 # line from LLAGAS 115.00 BRKR to (4) GILROYTP 115.00
1 35660 35647 "1 " 0 # line from GILROYTP 115.00 (4) to BRKR GILROY 115.00
1 35660 35650 "1 " 0 # line from GILROYTP 115.00 (4) to (1) GILROY F 115.00
1 35660 35661 "1 " 0 # line from GILROYTP 115.00 (4) to (4) GILROYPK 115.00
2 35661 35851 "1 " 0 # TRAN from GILROYPK 115.00 (4) to (1) GROYPKR1 13.80
2 35661 35852 "1 " 0 # TRAN from GILROYPK 115.00 (4) to (1) GROYPKR2 13.80
2 35661 35853 "1 " 0 # TRAN from GILROYPK 115.00 (4) to (1) GROYPKR3 13.80
4 35650 0 "1 " 0 # LOAD-DROP GILROY F 115.00 LOAD==8.88(7.83)
3 35851 0 "1 " 0 # GEN-DROP GROYPKR1 13.80 GEN==48.70(-6.28)
3 35852 0 "1 " 0 # GEN-DROP GROYPKR2 13.80 GEN==48.70(-6.28)
3 35853 0 "1 " 0 # GEN-DROP GROYPKR3 13.80 GEN==48.70(-6.28)

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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0
#
#
# (642) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35656 35643 "1 " 0 # line from PIERCY 115.00 BRKR to BRKR MTCALF E 115.00
0
#
#
# (643) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
# post-project outage
1 35657 35658 "1 " 0 # line from CP LECEF 115.00 BRKR to BRKR LS ESTRS 115.00
0
#
#
# (644) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
# post-project outage
1 35657 35658 "2 " 0 # line from CP LECEF 115.00 BRKR to BRKR LS ESTRS 115.00
0
#
#
# (645) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35658 35606 "1 " 0 # line from LS ESTRS 115.00 BRKR to BRKR AGNEW 115.00
0
#
#
# (646) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35658 35610 "1 " 0 # line from LS ESTRS 115.00 BRKR to BRKR MONTAGUE 115.00
0
#
#
# (647) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35658 35612 "1 " 0 # line from LS ESTRS 115.00 BRKR to BRKR TRIMBLE 115.00
0
#
#
# (648) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
# pre-project outage
1 35659 35666 "1 " 0 # line from NORTECH 115.00 BRKR to (3) LECEFTAP 115.00
1 35666 35657 "1 " 0 # line from LECEFTAP 115.00 (3) to BRKR CP LECEF 115.00
1 35666 35658 "1 " 0 # line from LECEFTAP 115.00 (3) to BRKR LS ESTRS 115.00
0
#
#
# (649) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
# post-project outage
1 35658 35659 "1 " 0 # line from LS ESTRS 115.00 BRKR to BRKR NORTECH 115.00
0
#
#
# (650) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35659 36853 "1 " 0 # line from NORTECH 115.00 BRKR to BRKR NRS 300 115.00
0
#
#
# (651) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35750 35752 "1 " 0 # line from MABURY 60.00 BRKR to (3) JENING J 60.00
1 35752 35751 "1 " 0 # line from JENING J 60.00 (3) to BRKR JENNINGS 60.00
1 35752 35754 "1 " 0 # line from JENING J 60.00 (3) to (3) EVRGRN J 60.00
1 35754 35753 "1 " 0 # line from EVRGRN J 60.00 (3) to BRKR EVERGREN 60.00
1 35754 35755 "1 " 0 # line from EVRGRN J 60.00 (3) to BRKR SENTER 60.00
4 35750 0 "1 " 0 # LOAD-DROP MABURY 60.00 LOAD==17.10(3.90)
4 35751 0 "1 " 0 # LOAD-DROP JENNINGS 60.00 LOAD==0.71(0.77)
1 35755 35756 "1 " 1 # close Senter to Almaden (Evergreen - Mabury 60 kV)
4 35755 0 "***" 1 # restore all loads to SENTER (Evergreen - Mabury 60 kV)
0
#
#
# (652) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35753 35756 "1 " 0 # line from EVERGREN 60.00 BRKR to (2) SENTER J 60.00
1 35756 35757 "1 " 0 # line from SENTER J 60.00 (2) to BRKR ALMADEN 60.00
1 35757 35460 "1 " 1 # close Almaden to Los Gatos (Evergreen - Los Gatos 60 kV)

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

```

4 35757 0      "***"    1      # restore all loads to ALMADEN (Evergreen - Los Gatos 60 kV)
0
#
#
# (653) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 30735 30042 "11"     0      # TRAN from METCALF 230.00 BRKR to BRKR METCALF 500.00
0
#
#
# (654) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 30735 30042 "12"     0      # TRAN from METCALF 230.00 BRKR to BRKR METCALF 500.00
0
#
#
# (655) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 30735 30042 "13"     0      # TRAN from METCALF 230.00 BRKR to BRKR METCALF 500.00
0
#
#
# (656) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 35642 30735 "1 "      0      # TRAN from MTALF D 115.00 BRKR to BRKR METCALF 230.00
0
#
#
# (657) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 35642 30735 "4 "      0      # TRAN from MTALF D 115.00 BRKR to BRKR METCALF 230.00
0
#
#
# (658) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 35643 30735 "2 "      0      # TRAN from MTALF E 115.00 BRKR to BRKR METCALF 230.00
0
#
#
# (659) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 35643 30735 "3 "      0      # TRAN from MTALF E 115.00 BRKR to BRKR METCALF 230.00
0
#
#
# (660) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 35658 30731 "3 "      0      # TRAN from LS ESTRS 115.00 BRKR to BRKR LS ESTRS 230.00
0
#
#
# (661) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 35658 30731 "4 "      0      # TRAN from LS ESTRS 115.00 BRKR to BRKR LS ESTRS 230.00
0
#
#
# (662) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 35753 35633 "1 "      0      # TRAN from EVERGREN 60.00 BRKR to BRKR EVRGRN 2 115.00
1 35756 35757 "1 "      0      # open ALMADEN to SENTER J (Evergreen 115/60 kV Bank)
1 35757 35460 "1 "      1      # close Almaden to Los Gatos (Evergreen 115/60 kV Bank)
0
#
#
# (663) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 35850 35647 "1 "      0      # TRAN from GLRY COG 13.80 (1) to BRKR GILROY 115.00
4 35850      0 "SG"      0      # LOAD-DROP GLRY COG 13.80 LOAD==1.73(1.43)
3 35850      0 "1 "      0      # GEN-DROP GLRY COG 13.80 GEN==80.50(20.69)
3 35850      0 "2 "      0      # GEN-DROP GLRY COG 13.80 GEN==41.50(10.67)
0
#
#
# (664) B1 GENERATOR OUTAGE
#
3 35850      0 "1"       0      # GLRY COG 13.80 PGEN=80.50 QGEN=15.86

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

```

0
#
#
# (665) B1 GENERATOR OUTAGE
#
3 35850      0 "1"      0      # GLRY COG  13.80      PGEN=41.50  QGEN=15.86
0
#
#
# (666) B1 GENERATOR OUTAGE
#
3 35851      0 "1"      0      # GROYPKR1  13.80      PGEN=48.70  QGEN=-6.01
0
#
#
# (667) B1 GENERATOR OUTAGE
#
3 35852      0 "1"      0      # GROYPKR2  13.80      PGEN=48.70  QGEN=-6.01
0
#
#
# (668) B1 GENERATOR OUTAGE
#
3 35853      0 "1"      0      # GROYPKR3  13.80      PGEN=48.70  QGEN=-6.01
0
#
#
# (669) B1 GENERATOR OUTAGE
#
3 35854      0 "1"      0      # LECEFGT1  13.80      PGEN=50.00  QGEN=29.91
0
#
#
# (670) B1 GENERATOR OUTAGE
#
3 35855      0 "1"      0      # LECEFGT2  13.80      PGEN=50.00  QGEN=29.91
0
#
#
# (671) B1 GENERATOR OUTAGE
#
3 35856      0 "1"      0      # LECEFGT3  13.80      PGEN=50.00  QGEN=29.91
0
#
#
# (672) B1 GENERATOR OUTAGE
#
3 35857      0 "1"      0      # LECEFGT4  13.80      PGEN=50.00  QGEN=29.91
0
#
#
# (673) B1 GENERATOR OUTAGE
#
3 35860      0 "1"      0      # OLS-AGNE   9.11      PGEN=29.60  QGEN=6.64
0
#
#
# (674) B1 GENERATOR OUTAGE
#
3 35861      0 "1"      0      # SJ-SCL W   9.11      PGEN=5.00   QGEN=0.00
0
#
#
# (675) B1 GENERATOR OUTAGE
#
3 35863      0 "1"      0      # CATALYST   9.11      PGEN=2.30   QGEN=0.00
0
#
#
# (676) B1 GENERATOR OUTAGE
#
3 35881      0 "1"      0      # MEC CTG1   18.00      PGEN=180.00 QGEN=61.41
3 35882      0 "1"      0      # MEC CTG2   18.00      PGEN=180.00 QGEN=61.41
3 35883      0 "1"      0      # MEC STG1   18.00      PGEN=200.00 QGEN=62.96
0
#
#
# (677) B1 GENERATOR OUTAGE

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

```

#
3 35858      0 "1"      0      # T378ST1   13.80      PGEN=120.00  QGEN=-2.05
0
#
#
# (678) L-1/G-1 OVERLAPPING OUTAGE
# Newark Distribution - Los Esteros 230 kV Line and MEC
1 30635 30731 "1 "      0      # line from  NWK DIST 230.00  BRKR to BRKR  LS ESTRS 230.00
#
3 35881      0 "1"      0      # MEC CTG1   18.00      PGEN=180.00  QGEN=61.41
3 35882      0 "1"      0      # MEC CTG2   18.00      PGEN=180.00  QGEN=61.41
3 35883      0 "1"      0      # MEC STG1   18.00      PGEN=200.00  QGEN=62.96
0
#
#
# (679) L-1/G-1 OVERLAPPING OUTAGE
# Los Esteros - NRS 230 kV Line and MEC
1 30731 38901 "1 "      0      # line from  LS ESTRS 230.00  BRKR to (2)  SSS      230.00
1 38901 36893 "1 "      0      # line from  SSS      230.00  (2) to (3)  NRSriser 230.00
1 36893 38900 "1 "      0      # line from  NRSriser 230.00  (3) to (3)  NRS      230.00
1 36893 38900 "2 "      0      # line from  NRSriser 230.00  (3) to (3)  NRS      230.00
2 38900 36851 "1 "      0      # TRAN from  NRS      230.00  (3) to BRKR  NRS 400  115.00
#
3 35881      0 "1"      0      # MEC CTG1   18.00      PGEN=180.00  QGEN=61.41
3 35882      0 "1"      0      # MEC CTG2   18.00      PGEN=180.00  QGEN=61.41
3 35883      0 "1"      0      # MEC STG1   18.00      PGEN=200.00  QGEN=62.96
0
#
#
# (680) L-1/G-1 OVERLAPPING OUTAGE
# Los Esteros - Metcalf 230 kV Line and MEC
1 30735 30731 "1 "      0      # line from  METCALF 230.00  BRKR to BRKR  LS ESTRS 230.00
#
3 35881      0 "1"      0      # MEC CTG1   18.00      PGEN=180.00  QGEN=61.41
3 35882      0 "1"      0      # MEC CTG2   18.00      PGEN=180.00  QGEN=61.41
3 35883      0 "1"      0      # MEC STG1   18.00      PGEN=200.00  QGEN=62.96
0
#
#
# (681) L-1/G-1 OVERLAPPING OUTAGE
# Coyote Sw Sta - Metcalf 230 kV Line and MEC
1 30735 30741 "4 "      0      # line from  METCALF 230.00  BRKR to BRKR  CAL MEC  230.00
#
3 35881      0 "1"      0      # MEC CTG1   18.00      PGEN=180.00  QGEN=61.41
3 35882      0 "1"      0      # MEC CTG2   18.00      PGEN=180.00  QGEN=61.41
3 35883      0 "1"      0      # MEC STG1   18.00      PGEN=200.00  QGEN=62.96
0
#
#
# (682) L-1/G-1 OVERLAPPING OUTAGE
# Metcalf - Moss Landing #2 230 kV Line and MEC
1 30735 30750 "1 "      0      # line from  METCALF 230.00  BRKR to BRKR  MOSSLND2 230.00
#
3 35881      0 "1"      0      # MEC CTG1   18.00      PGEN=180.00  QGEN=61.41
3 35882      0 "1"      0      # MEC CTG2   18.00      PGEN=180.00  QGEN=61.41
3 35883      0 "1"      0      # MEC STG1   18.00      PGEN=200.00  QGEN=62.96
0
#
#
# (683) L-1/G-1 OVERLAPPING OUTAGE
# Metcalf - Moss Landing #1 230 kV Line and MEC
1 30735 30755 "1 "      0      # line from  METCALF 230.00  BRKR to BRKR  MOSSLND1 230.00
#
3 35881      0 "1"      0      # MEC CTG1   18.00      PGEN=180.00  QGEN=61.41
3 35882      0 "1"      0      # MEC CTG2   18.00      PGEN=180.00  QGEN=61.41
3 35883      0 "1"      0      # MEC STG1   18.00      PGEN=200.00  QGEN=62.96
0
#
#
# (684) L-1/G-1 OVERLAPPING OUTAGE
# Newark Distribution - Los Esteros 230 kV Line and LECEF GT1
1 30635 30731 "1 "      0      # line from  NWK DIST 230.00  BRKR to BRKR  LS ESTRS 230.00
#
3 35854      0 "1"      0      # LECEFGT1   13.80      PGEN=50.00   QGEN=29.91
0
#
#
# (685) L-1/G-1 OVERLAPPING OUTAGE

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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# Los Esteros - NRS 230 kV Line and LECEF GT1
1 30731 38901 "1 " 0 # line from LS ESTRS 230.00 BRKR to (2) SSS 230.00
1 38901 36893 "1 " 0 # line from SSS 230.00 (2) to (3) NRSriser 230.00
1 36893 38900 "1 " 0 # line from NRSriser 230.00 (3) to (3) NRS 230.00
1 36893 38900 "2 " 0 # line from NRSriser 230.00 (3) to (3) NRS 230.00
2 38900 36851 "1 " 0 # TRAN from NRS 230.00 (3) to BRKR NRS 400 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (686) L-1/G-1 OVERLAPPING OUTAGE
# Los Esteros - Metcalf 230 kV Line and LECEF GT1
1 30735 30731 "1 " 0 # line from METCALF 230.00 BRKR to BRKR LS ESTRS 230.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (687) L-1/G-1 OVERLAPPING OUTAGE
# Newark - Dixon Landing 115 kV Line and LECEF GT1
1 35122 35600 "1 " 0 # line from NEWARK F 115.00 BRKR to BRKR DIXON LD 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (688) L-1/G-1 OVERLAPPING OUTAGE
# Newark - Kifer 115 kV Line and LECEF GT1
1 35122 35602 "1 " 0 # line from NEWARK F 115.00 BRKR to (3) ZNKER J2 115.00
1 35602 35604 "1 " 0 # line from ZNKER J2 115.00 (3) to (3) ZANKER 115.00
1 35602 36850 "1 " 0 # line from ZNKER J2 115.00 (3) to BRKR KRS 115.00
2 35604 35861 "1 " 0 # TRAN from ZANKER 115.00 (3) to (2) SJ-SCL W 9.11
2 35604 35861 "2 " 0 # TRAN from ZANKER 115.00 (3) to (2) SJ-SCL W 9.11
4 35861 0 "SG" 0 # LOAD-DROP SJ-SCL W 9.11 LOAD==6.17(2.09)
3 35861 0 "1 " 0 # GEN-DROP SJ-SCL W 9.11 GEN==5.00(0.00)
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (689) L-1/G-1 OVERLAPPING OUTAGE
# Newark - Trimble 115 kV Line and LECEF GT1
1 35122 35603 "1 " 0 # line from NEWARK F 115.00 BRKR to (3) ZNKER J1 115.00
1 35603 35605 "1 " 0 # line from ZNKER J1 115.00 (3) to (1) AGNEW J 115.00
1 35603 35612 "1 " 0 # line from ZNKER J1 115.00 (3) to BRKR TRIMBLE 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (690) L-1/G-1 OVERLAPPING OUTAGE
# Newark - Milpitas #1 115 kV Line and LECEF GT1
1 35122 35624 "1 " 0 # line from NEWARK F 115.00 BRKR to BRKR MILPITAS 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (691) L-1/G-1 OVERLAPPING OUTAGE
# Newark - Milpitas #2 115 kV Line and LECEF GT1
1 35122 35624 "2 " 0 # line from NEWARK F 115.00 BRKR to BRKR MILPITAS 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (692) L-1/G-1 OVERLAPPING OUTAGE
# Dixon Landing - McKee 115 kV Line and LECEF GT1
1 35600 35629 "1 " 0 # line from DIXON LD 115.00 BRKR to (3) MABURY J 115.00
1 35629 35626 "1 " 0 # line from MABURY J 115.00 (3) to BRKR MCKEE 115.00
1 35629 35630 "1 " 0 # line from MABURY J 115.00 (3) to BRKR MABURY 115.00
4 35630 0 "2 " 0 # LOAD-DROP MABURY 115.00 LOAD==19.00(4.33)
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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# (693) L-1/G-1 OVERLAPPING OUTAGE
# Montague - Trimble 115 kV Line and LECEF GT1
1 35612 35610 "1 " 0 # line from TRIMBLE 115.00 BRKR to BRKR MONTAGUE 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (694) L-1/G-1 OVERLAPPING OUTAGE
# Trimble - San Jose B 115 kV Line and LECEF GT1
1 35612 35616 "1 " 0 # line from TRIMBLE 115.00 BRKR to BRKR SJ B E 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (695) L-1/G-1 OVERLAPPING OUTAGE
# El Patio - San Jose A 115 kV Line and LECEF GT1
1 35613 35614 "1 " 0 # line from ELPT_SJ1 115.00 (3) to (3) ELPT_SJ2 115.00
1 35613 35614 "2 " 0 # line from ELPT_SJ1 115.00 (3) to (3) ELPT_SJ2 115.00
1 35613 35618 "1 " 0 # line from ELPT_SJ1 115.00 (3) to BRKR SN JSE A 115.00
1 35614 35620 "1 " 0 # line from ELPT_SJ2 115.00 (3) to BRKR EL PATIO 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (696) L-1/G-1 OVERLAPPING OUTAGE
# FMC - San Jose B 115 kV Line and LECEF GT1
1 35615 35616 "1 " 0 # line from FMC 115.00 BRKR to BRKR SJ B E 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (697) L-1/G-1 OVERLAPPING OUTAGE
# Kifer - FMC 115 kV Line and LECEF GT1
1 35615 35617 "1 " 0 # line from FMC 115.00 BRKR to (2) FMC JCT 115.00
1 35617 36850 "1 " 0 # line from FMC JCT 115.00 (2) to BRKR KRS 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (698) L-1/G-1 OVERLAPPING OUTAGE
# San Jose B - San Jose A 115 kV Line and LECEF GT1
1 35618 35619 "1 " 0 # line from SN JSE A 115.00 BRKR to BRKR SJ B F 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (699) L-1/G-1 OVERLAPPING OUTAGE
# Evergreen - San Jose A 115 kV Line and LECEF GT1
1 35619 35631 "1 " 0 # line from SJ B F 115.00 BRKR to (3) MARKHM J 115.00
1 35631 35632 "1 " 0 # line from MARKHM J 115.00 (3) to (2) MARKHAM 115.00
1 35631 35636 "1 " 0 # line from MARKHM J 115.00 (3) to BRKR EVRGRN 1 115.00
2 35632 35863 "1 " 0 # TRAN from MARKHAM 115.00 BRKR to (1) CATALYST 9.11
4 35863 0 "1 " 0 # LOAD-DROP CATALYST 9.11 LOAD==9.12(3.09)
3 35863 0 "1 " 0 # GEN-DROP CATALYST 9.11 GEN==2.30(0.00)
1 35632 36420 "1 " 1 # close Markham to Stone
2 35632 35863 "1 " 1 # restore TRAN from MARKHAM 115.00 to CATALYST 9.11
4 35863 0 "1 " 1 # restore all loads to CATALYST
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (700) L-1/G-1 OVERLAPPING OUTAGE
# Metcalf - El Patio #1 115 kV Line and LECEF GT1
1 35620 35621 "1 " 0 # line from EL PATIO 115.00 BRKR to (2) IBM-HR J 115.00
1 35621 35642 "1 " 0 # line from IBM-HR J 115.00 (2) to BRKR MTCALF D 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (701) L-1/G-1 OVERLAPPING OUTAGE

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

```

# Metcalf - El Patio #2 115 kV Line and LECEF GT1
1 35620 35651 "2 " 0 # line from EL PATIO 115.00 BRKR to (2) BAILY J3 115.00
1 35651 35642 "2 " 0 # line from BAILY J3 115.00 (2) to BRKR MTCALF D 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (702) L-1/G-1 OVERLAPPING OUTAGE
# Milpitas - Swift 115 kV Line and LECEF GT1
1 35622 35624 "1 " 0 # line from SWIFT 115.00 BRKR to BRKR MILPITAS 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (703) L-1/G-1 OVERLAPPING OUTAGE
# Swift - Metcalf 115 kV Line and LECEF GT1
1 35622 35643 "1 " 0 # line from SWIFT 115.00 BRKR to BRKR MTCALF E 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (704) L-1/G-1 OVERLAPPING OUTAGE
# Metcalf - Evergreen #2 115 kV Line and LECEF GT1
1 35625 35645 "1 " 0 # line from MARKHJM2 115.00 (2) to (3) EVRGRN J 115.00
1 35625 35634 "1 " 0 # line from MARKHJM2 115.00 (2) to (2) STONE J 115.00
1 35645 35633 "2 " 0 # line from EVRGRN J 115.00 (3) to BRKR EVRGRN 2 115.00
1 35645 35643 "2 " 0 # line from EVRGRN J 115.00 (3) to BRKR MTCALF E 115.00
1 35634 36420 "1 " 0 # line from STONE J 115.00 (2) to BRKR STONE 115.00
4 36420 0 "1 " 0 # LOAD-DROP STONE 115.00 LOAD==35.69(8.13)
4 36420 0 "2 " 0 # LOAD-DROP STONE 115.00 LOAD==14.87(3.39)
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (705) L-1/G-1 OVERLAPPING OUTAGE
# Mc Kee - Piercy 115 kV Line and LECEF GT1
1 35626 35656 "1 " 0 # line from MCKEE 115.00 BRKR to BRKR PIERCY 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (706) L-1/G-1 OVERLAPPING OUTAGE
# Metcalf - Evergreen #1 115 kV Line and LECEF GT1
1 35636 35643 "1 " 0 # line from EVRGRN 1 115.00 BRKR to BRKR MTCALF E 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (707) L-1/G-1 OVERLAPPING OUTAGE
# Piercy - Metcalf 115 kV Line and LECEF GT1
1 35656 35643 "1 " 0 # line from PIERCY 115.00 BRKR to BRKR MTCALF E 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (708) L-1/G-1 OVERLAPPING OUTAGE
# Los Esteros - Agnew 115 kV Line and LECEF GT1
1 35658 35606 "1 " 0 # line from LS ESTRS 115.00 BRKR to BRKR AGNEW 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (709) L-1/G-1 OVERLAPPING OUTAGE
# Los Esteros - Montague 115 kV Line and LECEF GT1
1 35658 35610 "1 " 0 # line from LS ESTRS 115.00 BRKR to BRKR MONTAGUE 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#

```


APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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# (710) L-1/G-1 OVERLAPPING OUTAGE
# Los Esteros - Trimble 115 kV Line and LECEF GT1
1 35658 35612 "1 " 0 # line from LS ESTRS 115.00 BRKR to BRKR TRIMBLE 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (711) L-1/G-1 OVERLAPPING OUTAGE
# Los Esteros - Nortech 115 kV Line and LECEF GT1 post-project outage
1 35658 35659 "1 " 0 # line from LS ESTRS 115.00 BRKR to BRKR NORTECH 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (712) L-1/G-1 OVERLAPPING OUTAGE
# Nortech - NRS 115 kV Line and LECEF GT1
1 35659 36853 "1 " 0 # line from NORTECH 115.00 BRKR to BRKR NRS 300 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (713) L-1/G-1 OVERLAPPING OUTAGE
# Metcalf - Morgan Hill 115 kV Line and Gilroy Energy 1
1 35642 35646 "1 " 0 # line from MTCALF D 115.00 BRKR to BRKR MRGN HIL 115.00
#
3 35850 0 "1" 0 # GLRY COG 13.80 PGEN=80.50 QGEN=15.86
0
#
#
# (714) L-1/G-1 OVERLAPPING OUTAGE
# Metcalf - Llagas 115 kV Line and Gilroy Energy 1
1 35642 35654 "1 " 0 # line from MTCALF D 115.00 BRKR to (2) MORGN J1 115.00
1 35654 35655 "1 " 0 # line from MORGN J1 115.00 (2) to (2) MORGN J2 115.00
1 35655 35648 "1 " 0 # line from MORGN J2 115.00 (2) to BRKR LLAGAS 115.00
#
3 35850 0 "1" 0 # GLRY COG 13.80 PGEN=80.50 QGEN=15.86
0
#
#
# (715) L-1/G-1 OVERLAPPING OUTAGE
# Morgan Hill - Llagas 115 kV Line and Gilroy Energy 1
1 35646 35648 "1 " 0 # line from MRGN HIL 115.00 BRKR to BRKR LLAGAS 115.00
#
3 35850 0 "1" 0 # GLRY COG 13.80 PGEN=80.50 QGEN=15.86
0
#
#
-1
# EOF

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```
# PG&E TCP1 Group 5 Greater Bay Area 2013 category c contingency list (dctl and bus outages)
# North Bay, East Bay, Diablo, San Francisco, Peninsula, Mission, DeAnza and San Jose Divisions
# Zones 306, 307, 308, 309, 310, 316, 317, 318 and selected outages from Sacramento/Sierra 304/311
#
# 2013 category c contingency list (dctl and bus outages)
# selected Sacramento/Sierra outages
#
#
# (1) C5 DCTL OUTAGE
# Vaca-Dixon - Lambie and Vaca-Dixon - Peabody 230 kV Lines pre-project outage
1 30460 30472 "1 " 0 # line from VACA-DIX 230.00 BRKR to BRKR PEABODY 230.00
#
1 30460 30478 "1 " 0 # line from VACA-DIX 230.00 BRKR to BRKR LAMBIE 230.00
0
#
#
# (2) C5 DCTL OUTAGE
# Lambie - Birds Landing and Peabody - Birds Landing 230 kV Lines pre-project outage
1 30478 30479 "1 " 0 # line from LAMBIE 230.00 BRKR to BRKR BDLSWSTA 230.00
#
1 30472 30479 "1 " 0 # line from PEABODY 230.00 BRKR to BRKR BDLSWSTA 230.00
0
#
#
# (3) C5 DCTL OUTAGE
# Vaca-Dixon - T257 #1 and #2 230 kV Lines post-project outage
1 30460 30452 "1 " 0 # line from VACA-DIX 230.00 BRKR to BRKR T275SWST 230.00
#
1 30460 30452 "2 " 0 # line from VACA-DIX 230.00 BRKR to BRKR T275SWST 230.00
0
#
#
# (4) C5 DCTL OUTAGE
# T257 - Lambie and T257 - Peabody 230 kV Lines pre-project outage
1 30452 30478 "1 " 0 # line from T275SWST 230.00 BRKR to BRKR LAMBIE 230.00
#
1 30452 30472 "1 " 0 # line from T275SWST 230.00 BRKR to BRKR PEABODY 230.00
0
#
#
# (5) C5 DCTL OUTAGE
# Vaca-Dixon - Tesla 500 kV and Peabody - Birds Landing 230 kV Lines pre-project outage
1 30030 30040 "1 " 0 # line from VACA-DIX 500.00 BRKR to BRKR TESLA 500.00
#
1 30472 30479 "1 " 0 # line from PEABODY 230.00 BRKR to BRKR BDLSWSTA 230.00
0
#
#
# (6) C5 DCTL OUTAGE
# Vaca-Dixon - T171 500 kV and Peabody - Birds Landing 230 kV Lines post-project outage
1 30030 30070 "1 " 0 # line from VACA-DIX 500.00 BRKR to BRKR T171 500.00
#
1 30472 30479 "1 " 0 # line from PEABODY 230.00 BRKR to BRKR BDLSWSTA 230.00
0
#
#
# (7) C5 DCTL OUTAGE
# T171 - Tesla 500 kV and Peabody - Birds Landing 230 kV Lines post-project outage
1 30070 30040 "1 " 0 # line from T171 500.00 BRKR to BRKR TESLA 500.00
#
1 30472 30479 "1 " 0 # line from PEABODY 230.00 BRKR to BRKR BDLSWSTA 230.00
0
#
#
# 2013 category c contingency list (dctl and bus outages)
# North Bay Division Zone 306
#
#
# (8) C5 DCTL OUTAGE
# Lakeville - Ignacio #1 and Lakeville - Sobrante #2 230 kV Lines pre-project outage
1 30435 30445 "1 " 0 # line from LAKEVILLE 230.00 BRKR to BRKR IGNACIO 230.00
#
1 30435 30540 "2 " 0 # line from LAKEVILLE 230.00 BRKR to BRKR SOBRANTE 230.00
0
#
#
```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

# (9) C5 DCTL OUTAGE
# Lakeville - Ignacio #1 and Lakeville - T257 230 kV Lines post-project outage
1 30435 30445 "1 " 0 # line from LAKEVILLE 230.00 BRKR to BRKR IGNACIO 230.00
#
1 30435 30446 "1 " 0 # line from LAKEVILLE 230.00 BRKR to BRKR T257SWST 230.00
0
#
#
# (10) C5 DCTL OUTAGE
# Lakeville - Ignacio #1 and T257 - Sobrante #2 230 kV Lines post-project outage
1 30435 30445 "1 " 0 # line from LAKEVILLE 230.00 BRKR to BRKR IGNACIO 230.00
#
1 30446 30540 "2 " 0 # line from T257SWST 230.00 BRKR to BRKR SOBRANTE 230.00
0
#
#
# (11) C5 DCTL OUTAGE
# Lakeville - Ignacio #1 and Ignacio - Sobrante 230 kV Lines pre-project outage
1 30435 30445 "1 " 0 # line from LAKEVILLE 230.00 BRKR to BRKR IGNACIO 230.00
#
1 30437 30445 "1 " 0 # line from CROCKETT 230.00 (3) to BRKR IGNACIO 230.00
1 30437 30438 "1 " 0 # line from CROCKETT 230.00 (3) to (2) C&H 230.00
1 30437 30540 "1 " 0 # line from CROCKETT 230.00 (3) to BRKR SOBRANTE 230.00
2 30438 32900 "1 " 0 # TRAN from C&H 230.00 BRKR to (1) CRCKTCOG 18.00
4 30438 0 "1 " 0 # LOAD-DROP C&H 230.00 LOAD==3.32 (0.76)
3 32900 0 "1 " 0 # GEN-DROP CRCKTCOG 18.00 GEN==240.00 (40.82)
0
#
#
# (12) C5 DCTL OUTAGE
# Lakeville - Ignacio #1 and Ignacio - T257 230 kV Lines post-project outage
1 30435 30445 "1 " 0 # line from LAKEVILLE 230.00 BRKR to BRKR IGNACIO 230.00
#
1 30445 30446 "1 " 0 # line from IGNACIO 230.00 BRKR to BRKR T257SWST 230.00
0
#
#
# (13) C5 DCTL OUTAGE
# Lakeville - Ignacio #1 and T257 - Sobrante #1 230 kV Lines post-project outage
1 30435 30445 "1 " 0 # line from LAKEVILLE 230.00 BRKR to BRKR IGNACIO 230.00
#
1 30446 30437 "1 " 0 # line from T257SWST 230.00 BRKR to (3) CROCKETT 230.00
1 30437 30438 "1 " 0 # line from CROCKETT 230.00 (3) to (2) C&H 230.00
1 30437 30540 "1 " 0 # line from CROCKETT 230.00 (3) to BRKR SOBRANTE 230.00
2 30438 32900 "1 " 0 # TRAN from C&H 230.00 BRKR to (1) CRCKTCOG 18.00
4 30438 0 "1 " 0 # LOAD-DROP C&H 230.00 LOAD==3.32 (0.76)
3 32900 0 "1 " 0 # GEN-DROP CRCKTCOG 18.00 GEN==240.00 (54.42)
0
#
#
# (14) C5 DCTL OUTAGE
# Lakeville - Ignacio #2 and Ignacio - Sobrante 230 kV Lines pre-project outage
1 30433 30445 "2 " 0 # line from T22_93B 230.00 (2) to BRKR IGNACIO 230.00
1 30433 30435 "2 " 0 # line from T22_93B 230.00 (2) to BRKR LAKEVILLE 230.00
#
1 30437 30445 "1 " 0 # line from CROCKETT 230.00 (3) to BRKR IGNACIO 230.00
1 30437 30438 "1 " 0 # line from CROCKETT 230.00 (3) to (2) C&H 230.00
1 30437 30540 "1 " 0 # line from CROCKETT 230.00 (3) to BRKR SOBRANTE 230.00
2 30438 32900 "1 " 0 # TRAN from C&H 230.00 BRKR to (1) CRCKTCOG 18.00
4 30438 0 "1 " 0 # LOAD-DROP C&H 230.00 LOAD==3.32 (0.76)
3 32900 0 "1 " 0 # GEN-DROP CRCKTCOG 18.00 GEN==240.00 (40.82)
0
#
#
# (15) C5 DCTL OUTAGE
# Lakeville - Ignacio #2 and Ignacio - T257 230 kV Lines post-project outage
1 30433 30445 "2 " 0 # line from T22_93B 230.00 (2) to BRKR IGNACIO 230.00
1 30433 30435 "2 " 0 # line from T22_93B 230.00 (2) to BRKR LAKEVILLE 230.00
#
1 30445 30446 "1 " 0 # line from IGNACIO 230.00 BRKR to BRKR T257SWST 230.00
0
#
#
# (16) C5 DCTL OUTAGE
# Lakeville - Ignacio #2 and T257 - Sobrante #1 230 kV Lines post-project outage
1 30433 30445 "2 " 0 # line from T22_93B 230.00 (2) to BRKR IGNACIO 230.00
1 30433 30435 "2 " 0 # line from T22_93B 230.00 (2) to BRKR LAKEVILLE 230.00
#

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APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

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1 30446 30437 "1 " 0 # line from T257SWST 230.00 BRKR to (3) CROCKETT 230.00
1 30437 30438 "1 " 0 # line from CROCKETT 230.00 (3) to (2) C&H 230.00
1 30437 30540 "1 " 0 # line from CROCKETT 230.00 (3) to BRKR SOBRANTE 230.00
2 30438 32900 "1 " 0 # TRAN from C&H 230.00 BRKR to (1) CRCKTCOG 18.00
4 30438 0 "1 " 0 # LOAD-DROP C&H 230.00 LOAD==3.32(0.76)
3 32900 0 "1 " 0 # GEN-DROP CRCKTCOG 18.00 GEN==240.00(54.42)
0
#
#
# (17) C5 DCTL OUTAGE
# Lakeville - Ignacio #2 and Fulton - Ignacio 230 kV Lines
1 30433 30445 "2 " 0 # line from T22_93B 230.00 (2) to BRKR IGNACIO 230.00
1 30433 30435 "2 " 0 # line from T22_93B 230.00 (2) to BRKR LAKEVILLE 230.00
#
1 30430 30445 "1 " 0 # line from FULTON 230.00 BRKR to BRKR IGNACIO 230.00
0
#
#
# (18) C5 DCTL OUTAGE
# Vaca-Dixon - Bahia and Vaca-Dixon - Parkway 230 kV Lines
1 30460 30465 "1 " 0 # line from VACA-DIX 230.00 BRKR to BRKR BAHIA 230.00
#
1 30460 30467 "1 " 0 # line from VACA-DIX 230.00 BRKR to BRKR PARKWAY 230.00
0
#
#
# (19) C5 DCTL OUTAGE
# Vaca-Dixon - Bahia and Parkway - Moraga 230 kV Lines
1 30460 30465 "1 " 0 # line from VACA-DIX 230.00 BRKR to BRKR BAHIA 230.00
#
1 30467 30550 "1 " 0 # line from PARKWAY 230.00 BRKR to BRKR MORAGA 230.00
0
#
#
# (20) C5 DCTL OUTAGE
# Bahia - Q177 and Parkway - Moraga 230 kV Lines
1 30465 30466 "1 " 0 # line from BAHIA 230.00 BRKR to BRKR Q177 230.00
#
1 30467 30550 "1 " 0 # line from PARKWAY 230.00 BRKR to BRKR MORAGA 230.00
0
#
#
# (21) C5 DCTL OUTAGE
# Q177 - Moraga and Parkway - Moraga 230 kV Lines
1 30466 30550 "1 " 0 # line from Q177 230.00 BRKR to BRKR MORAGA 230.00
#
1 30467 30550 "1 " 0 # line from PARKWAY 230.00 BRKR to BRKR MORAGA 230.00
0
#
#
# (22) C5 DCTL OUTAGE
# Ignacio - San Rafael #1 and Ignacio - Las Gallinas #3 115 kV Lines
1 32568 32574 "1 " 0 # line from IGNACIO 115.00 BRKR to BRKR SAN RAFL 115.00
#
1 32568 32570 "3 " 0 # line from IGNACIO 115.00 BRKR to BRKR LS GLLNS 115.00
0
#
#
# (23) C5 DCTL OUTAGE
# Ignacio - San Rafael #1 and Las Gallinas - San Rafael #3 115 kV Lines
1 32568 32574 "1 " 0 # line from IGNACIO 115.00 BRKR to BRKR SAN RAFL 115.00
#
1 32570 32574 "3 " 0 # line from LS GLLNS 115.00 BRKR to BRKR SAN RAFL 115.00
0
#
#
# (24) C5 DCTL OUTAGE
# Ignacio - Mare Island #1 and #2 115 kV Lines
1 32568 32576 "1 " 0 # line from IGNACIO 115.00 BRKR to (3) SKGGS J1 115.00
1 32576 32580 "1 " 0 # line from SKGGS J1 115.00 (3) to (1) SKAGGS 115.00
1 32576 32588 "1 " 0 # line from SKGGS J1 115.00 (3) to (2) HGHWY J1 115.00
1 32588 32593 "1 " 0 # line from HGHWY J1 115.00 (2) to (3) JCPMPJCT 115.00
1 32593 32595 "1 " 0 # line from JCPMPJCT 115.00 (3) to (1) JMSCNPMP 115.00
1 32593 32604 "1 " 0 # line from JCPMPJCT 115.00 (3) to (2) MREIS JC 115.00
1 32604 32612 "1 " 0 # line from MREIS JC 115.00 (2) to (3) CRQNZTP1 115.00
1 32612 32610 "1 " 0 # line from CRQNZTP1 115.00 (3) to BRKR MRE IS-Q 115.00
1 32612 32614 "1 " 0 # line from CRQNZTP1 115.00 (3) to (3) MEYERTP1 115.00
1 32614 32600 "1 " 0 # line from MEYERTP1 115.00 (3) to BRKR MEYERS 115.00

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APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

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1 32614 32606 "1 " 0 # line from MEYERTP1 115.00 (3) to BRKR CARQUINZ 115.00
4 32610 0 "1 " 0 # LOAD-DROP MRE IS-Q 115.00 LOAD==4.25(0.86)
4 32600 0 "1 " 0 # LOAD-DROP MEYERS 115.00 LOAD==0.24(0.05)
4 32606 0 "1 " 0 # LOAD-DROP CARQUINZ 115.00 LOAD==13.23(1.89)
4 32606 0 "2 " 0 # LOAD-DROP CARQUINZ 115.00 LOAD==11.26(1.60)
1 32616 32606 "1 " 1 # LINE-TRANSFER MEYERTP1 115.00 to MEYERTP2 115.00
4 32606 0 "***" 1 # RESTORE CARQUINEZ load
#
1 32568 32569 "1 " 0 # line from IGNACIO 115.00 BRKR to (2) HMLT WET 115.00
1 32569 32578 "1 " 0 # line from HMLT WET 115.00 (2) to (2) SKGGS J2 115.00
1 32578 32586 "1 " 0 # line from SKGGS J2 115.00 (2) to (3) HGHWY J2 115.00
1 32586 31956 "1 " 0 # line from HGHWY J2 115.00 (3) to (2) CORDELLT 115.00
1 32586 32590 "1 " 0 # line from HGHWY J2 115.00 (3) to BRKR HIGHWAY 115.00
1 31956 32598 "1 " 0 # line from CORDELLT 115.00 (2) to (2) NTWR ALT 115.00
1 32598 32608 "1 " 0 # line from NTWR ALT 115.00 (2) to (2) CRQNZTP2 115.00
1 32608 32616 "1 " 0 # line from CRQNZTP2 115.00 (2) to (1) MEYERTP2 115.00
4 32569 0 "1 " 0 # LOAD-DROP HMLT WET 115.00 LOAD==15.00(9.30)
4 32590 0 "1 " 0 # LOAD-DROP HIGHWAY 115.00 LOAD==20.67(2.94)
4 32590 0 "2 " 0 # LOAD-DROP HIGHWAY 115.00 LOAD==25.37(3.61)
1 32588 32590 "1 " 1 # LINE-TRANSFER HGHWY J2 115.00 to HGHWY J1 115.00
4 32590 0 "***" 1 # RESTORE HIGHWAY load
0
#
#
# (25) C5 DCTL OUTAGE
# Vaca-Vacaville-Jameson-North Tower and Ignacio - Mare Island #2 115 kV Lines
1 32618 32020 "1 " 0 # line from NTWRJCT1 115.00 (1) to (3) JMSN JCT 115.00
1 32020 31996 "1 " 0 # line from JMSN JCT 115.00 (3) to (3) HALE J1 115.00
1 32020 32010 "1 " 0 # line from JMSN JCT 115.00 (3) to BRKR JAMESON 115.00
1 31996 31995 "1 " 0 # line from HALE J1 115.00 (3) to (2) HALE 115.00
1 31996 32006 "1 " 0 # line from HALE J1 115.00 (3) to (3) VCVLLE1J 115.00
1 31995 32013 "1 " 0 # line from HALE 115.00 (2) to (1) HALE2 115.00
1 32006 31998 "1 " 0 # line from VCVLLE1J 115.00 (3) to BRKR VACA-DIX 115.00
1 32006 32000 "1 " 0 # line from VCVLLE1J 115.00 (3) to BRKR VACAVLL1 115.00
4 32010 0 "1 " 0 # LOAD-DROP JAMESON 115.00 LOAD==35.07(1.57)
4 31995 0 "1 " 0 # LOAD-DROP HALE 115.00 LOAD==2.36(1.40)
4 32000 0 "1 " 0 # LOAD-DROP VACAVLL1 115.00 LOAD==27.49(1.23)
1 32002 32000 "1" 1 #Line transfer VACAVLL1 115kV TO VACAVLL2 115kV
4 32000 0 "***" 1 #Restore VACAVLL1 load
1 32012 32013 "1" 1 #Transfer load to HALE alternate
4 31995 0 "***" 1 #Restore load at HALE
1 32010 32009 "1 " 1 # LINE-TRANSFER JMSN JCT 115.00 to JAMESN-A 115.00
4 32010 0 "***" 1 # RESTORE JAMESON load
#
1 32568 32569 "1 " 0 # line from IGNACIO 115.00 BRKR to (2) HMLT WET 115.00
1 32569 32578 "1 " 0 # line from HMLT WET 115.00 (2) to (2) SKGGS J2 115.00
1 32578 32586 "1 " 0 # line from SKGGS J2 115.00 (2) to (3) HGHWY J2 115.00
1 32586 31956 "1 " 0 # line from HGHWY J2 115.00 (3) to (2) CORDELLT 115.00
1 32586 32590 "1 " 0 # line from HGHWY J2 115.00 (3) to BRKR HIGHWAY 115.00
1 31956 32598 "1 " 0 # line from CORDELLT 115.00 (2) to (2) NTWR ALT 115.00
1 32598 32608 "1 " 0 # line from NTWR ALT 115.00 (2) to (2) CRQNZTP2 115.00
1 32608 32616 "1 " 0 # line from CRQNZTP2 115.00 (2) to (1) MEYERTP2 115.00
4 32569 0 "1 " 0 # LOAD-DROP HMLT WET 115.00 LOAD==15.00(9.30)
4 32590 0 "1 " 0 # LOAD-DROP HIGHWAY 115.00 LOAD==20.67(2.94)
4 32590 0 "2 " 0 # LOAD-DROP HIGHWAY 115.00 LOAD==25.37(3.61)
1 32588 32590 "1 " 1 # LINE-TRANSFER HGHWY J2 115.00 to HGHWY J1 115.00
4 32590 0 "***" 1 # RESTORE HIGHWAY load
0
#
#
# (26) C5 DCTL OUTAGE
# Ignacio - San Rafael #1 115 kV and Ignacio - Alto 60 kV Lines
1 32568 32574 "1 " 0 # line from IGNACIO 115.00 BRKR to BRKR SAN RAFL 115.00
#
1 32664 32667 "1 " 0 # line from IGNACO A 60.00 BRKR to (3) IG JCT 60.00
1 32667 32678 "1 " 0 # line from IG JCT 60.00 (3) to (2) SAN RFLJ 60.00
1 32667 32668 "1 " 0 # line from IG JCT 60.00 (3) to BRKR NOVATO 60.00
1 32678 32680 "1 " 0 # line from SAN RFLJ 60.00 (2) to BRKR GREENBRE 60.00
0
#
#
# (27) C5 DCTL OUTAGE
# Ignacio - Alto - Sausalito #1 and #2 60 kV Lines
1 32664 32676 "1 " 0 # line from IGNACO A 60.00 BRKR to (2) HMLTN FD 60.00
1 32676 32686 "1 " 0 # line from HMLTN FD 60.00 (2) to (2) ALTOJT2 60.00
1 32686 32682 "1 " 0 # line from ALTOJT2 60.00 (2) to BRKR ALTO 60.00
1 32676 32677 "1 " 1 # LINE-TRANSFER HMLTN FD 60.00 to HMLTNBFD 60.00
4 32676 0 "***" 1 # RESTORE HMLTN FD load

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APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

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#
1 32664 32677 "1 " 0 # line from IGNACO A 60.00 BRKR to (2) HMLTNBFD 60.00
1 32677 32684 "1 " 0 # line from HMLTNBFD 60.00 (2) to (3) ALTOJT1 60.00
1 32684 32682 "1 " 0 # line from ALTOJT1 60.00 (3) to BRKR ALTO 60.00
1 32684 32688 "1 " 0 # line from ALTOJT1 60.00 (3) to BRKR SAUSALTO 60.00
4 32688 0 "2 " 0 # LOAD-DROP SAUSALTO 60.00 LOAD==10.92(1.56)
1 32688 32686 "1 " 1 # LINE-TRANSFER SAUSALTO 60.00 to ALTOJT2 60.00
4 32688 0 "***" 1 # RESTORE SAUSALTO load
0
#
#
# (28) BUS FAULT 30445 "IGNACIO" Ignacio 230 kV Bus Section 1
#
1 30445 30430 "1" 0 # LINE from IGNACIO 230.00 to FULTON 230.00
2 30445 32568 "6" 0 # TRAN from IGNACIO 230.00 to IGNACIO 115.00
0
#
#
# (29) BUS FAULT 30445 "IGNACIO" Ignacio 230 kV Bus Section 2
# pre and post-project outage
1 30445 30433 "2" 0 # LINE from IGNACIO 230.00 to T22_93B 230.00
1 30445 30435 "1" 0 # LINE from IGNACIO 230.00 to LAKEVILLE 230.00
1 30445 30437 "1" 0 # LINE from IGNACIO 230.00 to CROCKETT 230.00 pre-project
1 30445 30446 "1" 0 # LINE from IGNACIO 230.00 to T257SWST 230.00 post-project
2 30445 32568 "4" 0 # TRAN from IGNACIO 230.00 to IGNACIO 115.00
0
#
#
# (30) BUS FAULT 30465 "BAHIA"
#
1 30465 30460 "1" 0 # LINE from BAHIA 230.00 to VACA-DIX 230.00
1 30465 30466 "1" 0 # LINE from BAHIA 230.00 to Q177 230.00
2 30465 30464 "1" 0 # TRAN from BAHIA 230.00 to EXXON_BH 12.47
2 30465 30464 "2" 0 # TRAN from BAHIA 230.00 to EXXON_BH 12.47
2 30465 30464 "3" 0 # TRAN from BAHIA 230.00 to EXXON_BH 12.47
4 30465 0 "1 " 0 # LOAD-DROP BAHIA 230.00 LOAD==30.11(4.29)
4 30465 0 "2 " 0 # LOAD-DROP BAHIA 230.00 LOAD==19.06(2.72)
0
#
#
# (31) BUS FAULT 30466 "Q177"
#
1 30466 30465 "1" 0 # LINE from Q177 230.00 to BAHIA 230.00
1 30466 30550 "1" 0 # LINE from Q177 230.00 to MORAGA 230.00
2 30466 32701 "1" 0 # TRAN from Q177 230.00 to Q177CL1 34.50
0
#
#
# (32) BUS FAULT 30467 "PARKWAY"
#
1 30467 30460 "1" 0 # LINE from PARKWAY 230.00 to VACA-DIX 230.00
1 30467 30550 "1" 0 # LINE from PARKWAY 230.00 to MORAGA 230.00
4 30467 0 "1 " 0 # LOAD-DROP PARKWAY 230.00 LOAD==32.48(4.63)
0
#
#
# (33) BUS FAULT 32564 "PUEBLO"
#
1 32564 31258 "1" 0 # LINE from PUEBLO 115.00 to SONOMA 115.00
1 32564 32562 "1" 0 # LINE from PUEBLO 115.00 to PUEBLOJT 115.00
4 32564 0 "1 " 0 # LOAD-DROP PUEBLO 115.00 LOAD==48.17(6.86)
4 32564 0 "2 " 0 # LOAD-DROP PUEBLO 115.00 LOAD==38.82(5.53)
0
#
#
# (34) BUS FAULT 32568 "IGNACIO" Ignacio 115 kV Bus Section D
#
1 32568 32574 "1" 0 # LINE from IGNACIO 115.00 to SAN RAFL 115.00
1 32568 32576 "1" 0 # LINE from IGNACIO 115.00 to SKGGS J1 115.00
2 32568 30445 "4" 0 # TRAN from IGNACIO 115.00 to IGNACIO 230.00
2 32568 32666 "3" 0 # TRAN from IGNACIO 115.00 to IGNACO B 60.00
0
#
#
# (35) BUS FAULT 32568 "IGNACIO" Ignacio 115 kV Bus Section E
#
1 32568 32569 "1" 0 # LINE from IGNACIO 115.00 to HMLT_WET 115.00
1 32568 32570 "3" 0 # LINE from IGNACIO 115.00 to LS GLNS 115.00

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APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

2 32568 30445 "6" 0 # TRAN from IGNACIO 115.00 to IGNACIO 230.00
2 32568 32666 "1" 0 # TRAN from IGNACIO 115.00 to IGNACIO B 60.00
4 32568 0 "2 " 0 # LOAD-DROP IGNACIO 115.00 LOAD==15.92(2.27)
4 32568 0 "5 " 0 # LOAD-DROP IGNACIO 115.00 LOAD==16.10(2.29)
0
#
#
# (36) BUS FAULT 32570 "LS GLLNS"
#
1 32570 32568 "3" 0 # LINE from LS GLLNS 115.00 to IGNACIO 115.00
1 32570 32574 "3" 0 # LINE from LS GLLNS 115.00 to SAN RAFL 115.00
4 32570 0 "1 " 0 # LOAD-DROP LS GLLNS 115.00 LOAD==14.53(2.07)
4 32570 0 "2 " 0 # LOAD-DROP LS GLLNS 115.00 LOAD==9.81(1.40)
4 32570 0 "3 " 0 # LOAD-DROP LS GLLNS 115.00 LOAD==10.97(1.56)
0
#
#
# (37) BUS FAULT 32574 "SAN RAFL"
#
1 32574 32568 "1" 0 # LINE from SAN RAFL 115.00 to IGNACIO 115.00
1 32574 32570 "3" 0 # LINE from SAN RAFL 115.00 to LS GLLNS 115.00
4 32574 0 "1 " 0 # LOAD-DROP SAN RAFL 115.00 LOAD==26.66(3.80)
4 32574 0 "2 " 0 # LOAD-DROP SAN RAFL 115.00 LOAD==25.42(3.62)
4 32574 0 "3 " 0 # LOAD-DROP SAN RAFL 115.00 LOAD==17.66(2.52)
0
#
#
# (38) BUS FAULT 32590 "HIGHWAY"
#
1 32590 32586 "1" 0 # LINE from HIGHWAY 115.00 to HGHWY J2 115.00
1 32590 32588 "1" 0 # LINE from HIGHWAY 115.00 to HGHWY J1 115.00
4 32590 0 "1 " 0 # LOAD-DROP HIGHWAY 115.00 LOAD==20.67(2.94)
4 32590 0 "2 " 0 # LOAD-DROP HIGHWAY 115.00 LOAD==25.37(3.61)
0
#
#
# (39) BUS FAULT 32600 "MEYERS"
#
1 32600 32614 "1" 0 # LINE from MEYERS 115.00 to MEYERTP1 115.00
1 32600 32616 "1" 0 # LINE from MEYERS 115.00 to MEYERTP2 115.00
4 32600 0 "1 " 0 # LOAD-DROP MEYERS 115.00 LOAD==0.24(0.05)
0
#
#
# (40) BUS FAULT 32602 "NRTH TWR"
#
1 32602 32618 "1" 0 # LINE from NRTH TWR 115.00 to NTRWJCT1 115.00
1 32602 32620 "1" 0 # LINE from NRTH TWR 115.00 to NTRWJCT2 115.00
4 32602 0 "1 " 0 # LOAD-DROP NRTH TWR 115.00 LOAD==14.43(2.06)
4 32602 0 "2 " 0 # LOAD-DROP NRTH TWR 115.00 LOAD==9.58(1.37)
4 32602 0 "3 " 0 # LOAD-DROP NRTH TWR 115.00 LOAD==6.08(0.87)
4 32602 0 "4 " 0 # LOAD-DROP NRTH TWR 115.00 LOAD==2.85(0.41)
0
#
#
# (41) BUS FAULT 32606 "CARQUINZ"
#
1 32606 32614 "1" 0 # LINE from CARQUINZ 115.00 to MEYERTP1 115.00
1 32606 32616 "1" 0 # LINE from CARQUINZ 115.00 to MEYERTP2 115.00
4 32606 0 "1 " 0 # LOAD-DROP CARQUINZ 115.00 LOAD==13.23(1.89)
4 32606 0 "2 " 0 # LOAD-DROP CARQUINZ 115.00 LOAD==11.26(1.60)
0
#
#
# (42) BUS FAULT 32652 "CALISTGA"
#
1 32652 31342 "1" 0 # LINE from CALISTGA 60.00 to MIDDLETWN 60.00
1 32652 32650 "1" 0 # LINE from CALISTGA 60.00 to ST.HELNA 60.00
4 32652 0 "1 " 0 # LOAD-DROP CALISTGA 60.00 LOAD==18.46(2.63)
0
#
#
# (43) BUS FAULT 32654 "TULUCAY"
#
1 32654 32655 "1" 0 # LINE from TULUCAY 60.00 to TULCAY1 60.00
1 32654 32660 "1" 0 # LINE from TULUCAY 60.00 to BSLT TAP 60.00
2 32654 30440 "1" 0 # TRAN from TULUCAY 60.00 to TULUCAY 230.00
2 32654 30440 "3" 0 # TRAN from TULUCAY 60.00 to TULUCAY 230.00

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

4 32654      0 "2 "    0      # LOAD-DROP    TULUCAY    60.00    LOAD==11.77(1.68)
0
#
#
# (44) BUS FAULT    32656    "NAPA"
#
1 32656    32660    "1"    0      # LINE from    NAPA      60.00    to    BSLT TAP    60.00
1 32656    32662    "1"    0      # LINE from    NAPA      60.00    to    TULCY JT    60.00
4 32656      0    "1 "    0      # LOAD-DROP    NAPA      60.00    LOAD==19.68(2.80)
4 32656      0    "2 "    0      # LOAD-DROP    NAPA      60.00    LOAD==16.99(2.42)
0
#
#
# (45) BUS FAULT    32664    "IGNACO A"
#
1 32664    32666    "1"    0      # LINE from    IGNACO A    60.00    to    IGNACO B    60.00
1 32664    32667    "1"    0      # LINE from    IGNACO A    60.00    to    IG JCT      60.00
1 32664    32676    "1"    0      # LINE from    IGNACO A    60.00    to    HMLTN FD    60.00
1 32664    32677    "1"    0      # LINE from    IGNACO A    60.00    to    HMLTNBFD    60.00
0
#
#
# (46) BUS FAULT    32666    "IGNACO B"
#
1 32666    32664    "1"    0      # LINE from    IGNACO B    60.00    to    IGNACO A    60.00
1 32666    32669    "1"    0      # LINE from    IGNACO B    60.00    to    STAF_JCT    60.00
1 32666    32674    "1"    0      # LINE from    IGNACO B    60.00    to    WOODACRE    60.00
2 32666    32568    "1"    0      # TRAN from    IGNACO B    60.00    to    IGNACIO    115.00
2 32666    32568    "3"    0      # TRAN from    IGNACO B    60.00    to    IGNACIO    115.00
0
#
#
# (47) BUS FAULT    32668    "NOVATO"
#
1 32668    32665    "1"    0      # LINE from    NOVATO      60.00    to    NVTO JCT    60.00
1 32668    32667    "1"    0      # LINE from    NOVATO      60.00    to    IG JCT      60.00
4 32668      0    "1 "    0      # LOAD-DROP    NOVATO      60.00    LOAD==5.04(0.72)
4 32668      0    "2 "    0      # LOAD-DROP    NOVATO      60.00    LOAD==15.47(2.20)
0
#
#
# (48) BUS FAULT    32670    "STAFFORD"
#
1 32670    32665    "1"    0      # LINE from    STAFFORD    60.00    to    NVTO JCT    60.00
1 32670    32669    "1"    0      # LINE from    STAFFORD    60.00    to    STAF_JCT    60.00
4 32670      0    "1 "    0      # LOAD-DROP    STAFFORD    60.00    LOAD==10.16(1.45)
4 32670      0    "2 "    0      # LOAD-DROP    STAFFORD    60.00    LOAD==10.61(1.51)
0
#
#
# (49) BUS FAULT    32671    "BOLINAS"
#
1 32671    32674    "1"    0      # LINE from    BOLINAS      60.00    to    WOODACRE    60.00
1 32671    32672    "1"    0      # LINE from    BOLINAS      60.00    to    OLEMA      60.00
4 32671      0    "1 "    0      # LOAD-DROP    BOLINAS      60.00    LOAD==1.48(0.21)
0
#
#
# (50) BUS FAULT    32672    "OLEMA"
#
1 32672    32671    "1"    0      # LINE from    OLEMA      60.00    to    BOLINAS      60.00
1 32672    32673    "1"    0      # LINE from    OLEMA      60.00    to    TOCA JCT    60.00
4 32672      0    "1 "    0      # LOAD-DROP    OLEMA      60.00    LOAD==3.24(0.46)
0
#
#
# (51) BUS FAULT    32680    "GREENBRE"
#
1 32680    32678    "1"    0      # LINE from    GREENBRE    60.00    to    SAN RFLJ    60.00
1 32680    32682    "1"    0      # LINE from    GREENBRE    60.00    to    ALTO      60.00
4 32680      0    "1 "    0      # LOAD-DROP    GREENBRE    60.00    LOAD==10.09(1.44)
4 32680      0    "2 "    0      # LOAD-DROP    GREENBRE    60.00    LOAD==13.05(1.86)
0
#
#
# (52) BUS FAULT    32682    "ALTO"
#
1 32682    32680    "1"    0      # LINE from    ALTO      60.00    to    GREENBRE    60.00

```


APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

1 32682 32684 "1" 0 # LINE from ALTO 60.00 to ALTOJT1 60.00
1 32682 32686 "1" 0 # LINE from ALTO 60.00 to ALTOJT2 60.00
4 32682 0 "1 " 0 # LOAD-DROP ALTO 60.00 LOAD==17.21(2.45)
4 32682 0 "3 " 0 # LOAD-DROP ALTO 60.00 LOAD==18.42(2.62)
0
#
#
# (53) BUS FAULT 32688 "SAUSALTO"
#
1 32688 32684 "1" 0 # LINE from SAUSALTO 60.00 to ALTOJT1 60.00
1 32688 32686 "1" 0 # LINE from SAUSALTO 60.00 to ALTOJT2 60.00
4 32688 0 "2 " 0 # LOAD-DROP SAUSALTO 60.00 LOAD==10.92(1.56)
0
#
#
# 2013 category c contingency list (dctl and bus outages)
# East Bay Division Zone 307
#
#
# (54) C5 DCTL OUTAGE
# Ignacio - Sobrante and Lakeville - Sobrante 230 kV Lines pre-project outage
1 30437 30445 "1 " 0 # line from CROCKETT 230.00 (3) to BRKR IGNACIO 230.00
1 30437 30438 "1 " 0 # line from CROCKETT 230.00 (3) to (2) C&H 230.00
1 30437 30540 "1 " 0 # line from CROCKETT 230.00 (3) to BRKR SOBRANTE 230.00
2 30438 32900 "1 " 0 # TRAN from C&H 230.00 BRKR to (1) CRCKTCOG 18.00
4 30438 0 "1 " 0 # LOAD-DROP C&H 230.00 LOAD==3.32(0.76)
3 32900 0 "1 " 0 # GEN-DROP CRCKTCOG 18.00 GEN==240.00(40.82)
#
1 30435 30540 "2 " 0 # line from LAKEVILLE 230.00 BRKR to BRKR SOBRANTE 230.00
0
#
#
# (55) C5 DCTL OUTAGE
# T257 - Sobrante #1 and #2 230 kV Lines post-project outage
1 30446 30437 "1 " 0 # line from T257SWST 230.00 BRKR to (3) CROCKETT 230.00
1 30437 30438 "1 " 0 # line from CROCKETT 230.00 (3) to (2) C&H 230.00
1 30437 30540 "1 " 0 # line from CROCKETT 230.00 (3) to BRKR SOBRANTE 230.00
2 30438 32900 "1 " 0 # TRAN from C&H 230.00 BRKR to (1) CRCKTCOG 18.00
4 30438 0 "1 " 0 # LOAD-DROP C&H 230.00 LOAD==3.32(0.76)
3 32900 0 "1 " 0 # GEN-DROP CRCKTCOG 18.00 GEN==240.00(54.42)
#
1 30446 30540 "2 " 0 # line from T257SWST 230.00 BRKR to BRKR SOBRANTE 230.00
0
#
#
# (56) C5 DCTL OUTAGE
# Christie - Sobrante and Martinez - Sobrante 115 kV Lines
1 32756 33010 "1 " 0 # line from CHRISTIE 115.00 BRKR to BRKR SOBRANTE 115.00
#
1 32990 33014 "1 " 0 # line from MARTNZ D 115.00 BRKR to (3) ALHAMTP1 115.00
1 33014 33010 "1 " 0 # line from ALHAMTP1 115.00 (3) to BRKR SOBRANTE 115.00
1 33014 33011 "1 " 0 # line from ALHAMTP1 115.00 (3) to BRKR ALHAMBRA 115.00
4 33011 0 "1 " 0 # LOAD-DROP ALHAMBRA 115.00 LOAD==10.29(2.34)
4 33011 0 "2 " 0 # LOAD-DROP ALHAMBRA 115.00 LOAD==9.17(2.09)
1 33016 33011 "1 " 1 # LINE-TRANSFER ALHAMTP1 115.00 TO ALHAMTP2 115.00
4 33011 0 "3 " 1 # RESTORE ALHAMBRA load
0
#
#
# (57) C5 DCTL OUTAGE
# Sobrante - El Cerrito #1 and #2 115 kV Lines
1 32765 33010 "1 " 0 # line from ELCRTJ1 115.00 (2) to BRKR SOBRANTE 115.00
1 32765 32766 "1 " 0 # line from ELCRTJ1 115.00 (2) to BRKR EL CRRTO 115.00
#
1 32766 33010 "2 " 0 # line from EL CRRTO 115.00 BRKR to BRKR SOBRANTE 115.00
0
#
#
# (58) C5 DCTL OUTAGE
# Sobrante - Richmond #1 and #2 115 kV Lines
1 32767 33010 "1 " 0 # line from ELCRTJ2 115.00 (2) to BRKR SOBRANTE 115.00
1 32767 32768 "1 " 0 # line from ELCRTJ2 115.00 (2) to BRKR RICHMOND 115.00
#
1 32768 33010 "2 " 0 # line from RICHMOND 115.00 BRKR to BRKR SOBRANTE 115.00
0
#
#
# (59) C5 DCTL OUTAGE

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APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

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# Sobrante - Standard Oil #1 and #2 115 kV Lines
1 32748 32750 "1 " 0 # line from PP STEEL 115.00 BRKR to (3) PPSTLTAP 115.00
1 32750 32774 "1 " 0 # line from PPSTLTAP 115.00 (3) to (3) PTPNLTAP 115.00
1 32750 32760 "1 " 0 # line from PPSTLTAP 115.00 (3) to (1) PT PINLE 115.00
1 32774 32762 "1 " 0 # line from PTPNLTAP 115.00 (3) to BRKR STD. OIL 115.00
1 32774 32808 "1 " 0 # line from PTPNLTAP 115.00 (3) to (2) SNPBLTP2 115.00
1 32808 33010 "1 " 0 # line from SNPBLTP2 115.00 (2) to BRKR SOBRANTE 115.00
4 32748 0 "1 " 0 # LOAD-DROP PP STEEL 115.00 LOAD==0.19(0.25)
4 32760 0 "1 " 0 # LOAD-DROP PT PINLE 115.00 LOAD==14.78(3.36)
#
1 32806 32758 "1 " 0 # line from SNPBLTP1 115.00 (3) to BRKR SAN PBLO 115.00
1 32806 32762 "2 " 0 # line from SNPBLTP1 115.00 (3) to BRKR STD. OIL 115.00
1 32806 33010 "2 " 0 # line from SNPBLTP1 115.00 (3) to BRKR SOBRANTE 115.00
4 32758 0 "1 " 0 # LOAD-DROP SAN PBLO 115.00 LOAD==19.98(4.55)
1 32758 32808 "2 " 1 # LINE-TRANSFER SNPBLTP1 to SNPBLTP2
4 32758 0 "***" 1 # RESTORE SAN PABLO load
0
#
#
# (60) C5 DCTL OUTAGE
# Oleum - North Tower - Christie and Martinez - Sobrante 115 kV Lines
1 32620 32778 "1 " 0 # line from NTRWJCT2 115.00 (2) to (3) MRTNZJCT 115.00
1 32620 32602 "1 " 0 # line from NTRWJCT2 115.00 (2) to BRKR NRTH TWR 115.00
1 32778 32754 "1 " 0 # line from MRTNZJCT 115.00 (3) to BRKR OLEUM 115.00
1 32778 32756 "1 " 0 # line from MRTNZJCT 115.00 (3) to BRKR CHRISTIE 115.00
4 32602 0 "1 " 0 # LOAD-DROP NRTH TWR 115.00 LOAD==14.43(2.06)
4 32602 0 "2 " 0 # LOAD-DROP NRTH TWR 115.00 LOAD==9.58(1.37)
4 32602 0 "3 " 0 # LOAD-DROP NRTH TWR 115.00 LOAD==6.08(0.87)
4 32602 0 "4 " 0 # LOAD-DROP NRTH TWR 115.00 LOAD==2.85(0.41)
1 32602 32618 "1 " 1 # LINE-TRANSFER NTRWJCT2 115.00 to NTRWJCT1 115.00
4 32602 0 "***" 1 # RESTORE NORTH TOWER load
#
1 32990 33014 "1 " 0 # line from MARTNZ D 115.00 BRKR to (3) ALHAMTP1 115.00
1 33014 33010 "1 " 0 # line from ALHAMTP1 115.00 (3) to BRKR SOBRANTE 115.00
1 33014 33011 "1 " 0 # line from ALHAMTP1 115.00 (3) to BRKR ALHAMBRA 115.00
4 33011 0 "1 " 0 # LOAD-DROP ALHAMBRA 115.00 LOAD==10.29(2.34)
4 33011 0 "2 " 0 # LOAD-DROP ALHAMBRA 115.00 LOAD==9.17(2.09)
1 33016 33011 "1 " 1 # LINE-TRANSFER ALHAMTP1 115.00 TO ALHAMTP2 115.00
4 33011 0 "***" 1 # RESTORE ALHAMBRA load
0
#
#
# (61) C5 DCTL OUTAGE
# Oleum - Martinez and Martinez - Sobrante 115 kV Lines
1 33016 32754 "1 " 0 # line from ALHAMTP2 115.00 (2) to BRKR OLEUM 115.00
1 33016 32990 "1 " 0 # line from ALHAMTP2 115.00 (2) to BRKR MARTNZ D 115.00
#
1 32990 33014 "1 " 0 # line from MARTNZ D 115.00 BRKR to (3) ALHAMTP1 115.00
1 33014 33010 "1 " 0 # line from ALHAMTP1 115.00 (3) to BRKR SOBRANTE 115.00
1 33014 33011 "1 " 0 # line from ALHAMTP1 115.00 (3) to BRKR ALHAMBRA 115.00
4 33011 0 "1 " 0 # LOAD-DROP ALHAMBRA 115.00 LOAD==10.29(2.34)
4 33011 0 "2 " 0 # LOAD-DROP ALHAMBRA 115.00 LOAD==9.17(2.09)
1 33016 33011 "1 " 1 # LINE-TRANSFER ALHAMTP1 115.00 TO ALHAMTP2 115.00
4 33011 0 "***" 1 # RESTORE ALHAMBRA load
0
#
#
# (62) C5 DCTL OUTAGE
# Oleum - North Tower - Christie and Oleum - Martinez 115 kV Lines
1 32620 32778 "1 " 0 # line from NTRWJCT2 115.00 (2) to (3) MRTNZJCT 115.00
1 32620 32602 "1 " 0 # line from NTRWJCT2 115.00 (2) to BRKR NRTH TWR 115.00
1 32778 32754 "1 " 0 # line from MRTNZJCT 115.00 (3) to BRKR OLEUM 115.00
1 32778 32756 "1 " 0 # line from MRTNZJCT 115.00 (3) to BRKR CHRISTIE 115.00
4 32602 0 "1 " 0 # LOAD-DROP NRTH TWR 115.00 LOAD==14.43(2.06)
4 32602 0 "2 " 0 # LOAD-DROP NRTH TWR 115.00 LOAD==9.58(1.37)
4 32602 0 "3 " 0 # LOAD-DROP NRTH TWR 115.00 LOAD==6.08(0.87)
4 32602 0 "4 " 0 # LOAD-DROP NRTH TWR 115.00 LOAD==2.85(0.41)
1 32602 32618 "1 " 1 # LINE-TRANSFER NTRWJCT2 115.00 to NTRWJCT1 115.00
4 32602 0 "***" 1 # RESTORE NORTH TOWER load
#
1 33016 32754 "1 " 0 # line from ALHAMTP2 115.00 (2) to BRKR OLEUM 115.00
1 33016 32990 "1 " 0 # line from ALHAMTP2 115.00 (2) to BRKR MARTNZ D 115.00
0
#
#
# (63) C5 DCTL OUTAGE
# Oleum - El Cerrito #1 and #2 115 kV Lines
1 32754 32802 "1 " 0 # line from OLEUM 115.00 BRKR to (3) VLYVWTP1 115.00

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APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

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1 32802 32764 "1 " 0 # line from VLYVWTP1 115.00 (3) to BRKR VALLY VW 115.00
1 32802 32766 "1 " 0 # line from VLYVWTP1 115.00 (3) to BRKR EL CRRTO 115.00
4 32764 0 "1 " 0 # LOAD-DROP VALLY VW 115.00 LOAD==7.65(1.74)
4 32764 0 "2 " 0 # LOAD-DROP VALLY VW 115.00 LOAD==15.69(3.58)
1 32764 32804 "2 " 1 # LINE-TRANSFER VLYVWTP1 to VLYVWTP2
4 32764 0 "***" 1 # RESTORE VALLEY VIEW load
#
1 32754 32804 "2 " 0 # line from OLEUM 115.00 BRKR to (2) VLYVWTP2 115.00
1 32804 32766 "2 " 0 # line from VLYVWTP2 115.00 (2) to BRKR EL CRRTO 115.00
0
#
#
# (64) C5 DCTL OUTAGE
# Moraga - Claremont #1 and #2 115 kV Lines
1 33020 32780 "1 " 0 # line from MORAGA 115.00 BRKR to BRKR CLARMNT 115.00
#
1 33020 32780 "2 " 0 # line from MORAGA 115.00 BRKR to BRKR CLARMNT 115.00
0
#
#
# (65) C5 DCTL OUTAGE
# Moraga - Oakland X #1 and #2 115 kV Lines
1 33020 32790 "1 " 0 # line from MORAGA 115.00 BRKR to BRKR STATIN X 115.00
#
1 33020 32790 "2 " 0 # line from MORAGA 115.00 BRKR to BRKR STATIN X 115.00
0
#
#
# (66) C5 DCTL OUTAGE
# Moraga - Oakland X #3 and #4 115 kV Lines
1 33020 32790 "3 " 0 # line from MORAGA 115.00 BRKR to BRKR STATIN X 115.00
#
1 33020 32790 "4 " 0 # line from MORAGA 115.00 BRKR to BRKR STATIN X 115.00
0
#
#
# (67) C5 DCTL OUTAGE
# Moraga - Oakland J and Moraga - San Leandro #3 115 kV Lines
1 33020 32792 "1 " 0 # line from MORAGA 115.00 BRKR to BRKR STATIN J 115.00
#
1 33020 35101 "3 " 0 # line from MORAGA 115.00 BRKR to BRKR SN LNDRO 115.00
0
#
#
# (68) C5 DCTL OUTAGE
# Moraga - Oakland J and San Leandro - Oakland J 115 kV Lines
1 33020 32792 "1 " 0 # line from MORAGA 115.00 BRKR to BRKR STATIN J 115.00
#
1 32792 32814 "1 " 0 # line from STATIN J 115.00 BRKR to (3) EDESTAP1 115.00
1 32814 32810 "1 " 0 # line from EDESTAP1 115.00 (3) to BRKR EDES 115.00
1 32814 35113 "1 " 0 # line from EDESTAP1 115.00 (3) to (2) DMTAR SL 115.00
1 35113 35101 "1 " 0 # line from DMTAR SL 115.00 (2) to BRKR SN LNDRO 115.00
4 32810 0 "2 " 0 # LOAD-DROP EDES 115.00 LOAD==18.85(4.29)
4 32810 0 "3 " 0 # LOAD-DROP EDES 115.00 LOAD==29.45(6.71)
4 35113 0 "1 " 0 # LOAD-DROP DMTAR SL 115.00 LOAD==3.61(2.24)
1 32810 32812 "1 " 1 # LINE-TRANSFER EDESTAP1 to EDS GRNT
4 32810 0 "***" 1 # RESTORE EDES load
0
#
#
# (69) BUS FAULT 32740 "HILLSIDE"
#
1 32740 33006 "1" 0 # LINE from HILLSIDE 115.00 to GRIZLYJ1 115.00
1 32740 33008 "2" 0 # LINE from HILLSIDE 115.00 to GRIZLYJ2 115.00
1 32740 32770 "1" 0 # LINE from HILLSIDE 115.00 to GRIZZLY2 115.00
1 32740 32770 "2" 0 # LINE from HILLSIDE 115.00 to GRIZZLY2 115.00
4 32740 0 "SG" 0 # LOAD-DROP HILLSIDE 115.00 LOAD==30.51(18.91)
3 32740 0 "1 " 0 # GEN-DROP HILLSIDE 115.00 GEN==26.00(-8.70)
0
#
#
# (70) BUS FAULT 32748 "PP STEEL"
#
1 32748 32750 "1" 0 # LINE from PP STEEL 115.00 to PPSTLTAP 115.00
4 32748 0 "1 " 0 # LOAD-DROP PP STEEL 115.00 LOAD==0.19(0.25)
0
#
#

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

# (71) BUS FAULT 32754 "OLEUM" Oleum 115 kV Bus Section E
#
1 32754 32778 "1" 0 # LINE from OLEUM 115.00 to MRTNZJCT 115.00
1 32754 32849 "2" 0 # LINE from OLEUM 115.00 to CON25 115.00
1 32754 32911 "2" 0 # LINE from OLEUM 115.00 to UNOCAL2 115.00
1 32754 33016 "1" 0 # LINE from OLEUM 115.00 to ALHAMTP2 115.00
0
#
#
# (72) BUS FAULT 32754 "OLEUM" Oleum 115 kV Bus Section F
#
1 32754 32802 "1" 0 # LINE from OLEUM 115.00 to VLYVWTP1 115.00
1 32754 32804 "2" 0 # LINE from OLEUM 115.00 to VLYVWTP2 115.00
1 32754 32849 "1" 0 # LINE from OLEUM 115.00 to CON25 115.00
1 32754 32911 "1" 0 # LINE from OLEUM 115.00 to UNOCAL2 115.00
0
#
#
# (73) BUS FAULT 32756 "CHRISTIE"
#
1 32756 32778 "1" 0 # LINE from CHRISTIE 115.00 to MRTNZJCT 115.00
1 32756 33010 "1" 0 # LINE from CHRISTIE 115.00 to SOBRANTE 115.00
2 32756 32852 "1" 0 # TRAN from CHRISTIE 115.00 to CHRISTIE 60.00
0
#
#
# (74) BUS FAULT 32758 "SAN PBLO"
#
1 32758 32806 "1" 0 # LINE from SAN PBLO 115.00 to SNPBLTP1 115.00
1 32758 32808 "2" 0 # LINE from SAN PBLO 115.00 to SNPBLTP2 115.00
4 32758 0 "1 " 0 # LOAD-DROP SAN PBLO 115.00 LOAD==19.98(4.55)
0
#
#
# (75) BUS FAULT 32764 "VALLY VW"
#
1 32764 32802 "1" 0 # LINE from VALLY VW 115.00 to VLYVWTP1 115.00
1 32764 32804 "2" 0 # LINE from VALLY VW 115.00 to VLYVWTP2 115.00
4 32764 0 "1 " 0 # LOAD-DROP VALLY VW 115.00 LOAD==7.65(1.74)
4 32764 0 "2 " 0 # LOAD-DROP VALLY VW 115.00 LOAD==15.69(3.58)
0
#
#
# (76) BUS FAULT 32766 "EL CRRTO" El Cerrito 115 kV Bus Section D
#
1 32766 32765 "1" 0 # LINE from EL CRRTO 115.00 to ELCRTJ1 115.00
1 32766 32802 "1" 0 # LINE from EL CRRTO 115.00 to VLYVWTP1 115.00
4 32766 0 "5 " 0 # LOAD-DROP EL CRRTO 115.00 LOAD==7.10(1.44)
0
#
#
# (77) BUS FAULT 32766 "EL CRRTO" El Cerrito 115 kV Bus Section E
#
1 32766 33010 "2" 0 # LINE from EL CRRTO 115.00 to SOBRANTE 115.00
1 32766 32804 "2" 0 # LINE from EL CRRTO 115.00 to VLYVWTP2 115.00
4 32766 0 "6 " 0 # LOAD-DROP EL CRRTO 115.00 LOAD==6.90(1.40)
0
#
#
# (78) BUS FAULT 32766 "EL CRRTO" El Cerrito 115 kV Bus Section Loads 1 & 2
#
4 32766 0 "1 " 0 # LOAD-DROP EL CRRTO 115.00 LOAD==25.48(5.81)
4 32766 0 "2 " 0 # LOAD-DROP EL CRRTO 115.00 LOAD==31.69(7.22)
0
#
#
# (79) BUS FAULT 32766 "EL CRRTO" El Cerrito 115 kV Bus Section Load 4
#
4 32766 0 "4 " 0 # LOAD-DROP EL CRRTO 115.00 LOAD==55.53(12.65)
0
#
#
# (80) BUS FAULT 32768 "RICHMOND" Richmond 115 kV Bus Section 1
#
1 32768 32767 "1" 0 # LINE from RICHMOND 115.00 to ELCRTJ2 115.00
4 32768 0 "2 " 0 # LOAD-DROP RICHMOND 115.00 LOAD==18.34(4.18)
0
#

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

#
# (81) BUS FAULT 32768 "RICHMOND" Richmond 115 kV Bus Section 2
#
1 32768 33010 "2" 0 # LINE from RICHMOND 115.00 to SOBRANTE 115.00
4 32768 0 "1" 0 # LOAD-DROP RICHMOND 115.00 LOAD==37.70(8.59)
0
#
#
# (82) BUS FAULT 32770 "GRIZZLY2"
#
1 32770 32740 "1" 0 # LINE from GRIZZLY2 115.00 to HILLSIDE 115.00
1 32770 32740 "2" 0 # LINE from GRIZZLY2 115.00 to HILLSIDE 115.00
4 32770 0 "1" 0 # LOAD-DROP GRIZZLY2 115.00 LOAD==4.37(0.77)
0
#
#
# (83) BUS FAULT 32780 "CLARMNT" Claremont 115 kV Bus Section 1
#
1 32780 32782 "1" 0 # LINE from CLARMNT 115.00 to STATIN D 115.00
1 32780 33012 "1" 0 # LINE from CLARMNT 115.00 to EST PRTL 115.00
1 32780 33020 "1" 0 # LINE from CLARMNT 115.00 to MORAGA 115.00
0
#
#
# (84) BUS FAULT 32780 "CLARMNT" Claremont 115 kV Bus Section 2
#
1 32780 32782 "2" 0 # LINE from CLARMNT 115.00 to STATIN D 115.00
1 32780 33008 "2" 0 # LINE from CLARMNT 115.00 to GRIZZLY2 115.00
1 32780 33020 "2" 0 # LINE from CLARMNT 115.00 to MORAGA 115.00
4 32780 0 "2" 0 # LOAD-DROP CLARMNT 115.00 LOAD==19.48(4.44)
0
#
#
# (85) BUS FAULT 32782 "STATIN D"
#
1 32782 32780 "1" 0 # LINE from STATIN D 115.00 to CLARMNT 115.00
1 32782 32780 "2" 0 # LINE from STATIN D 115.00 to CLARMNT 115.00
1 32782 32788 "1" 0 # LINE from STATIN D 115.00 to STATIN L 115.00
4 32782 0 "3" 0 # LOAD-DROP STATIN D 115.00 LOAD==26.13(5.95)
4 32782 0 "4" 0 # LOAD-DROP STATIN D 115.00 LOAD==39.73(9.05)
4 32782 0 "5" 0 # LOAD-DROP STATIN D 115.00 LOAD==43.68(9.96)
0
#
#
# (86) BUS FAULT 32786 "OAK C115" Oakland C 115 kV Bus Section D
#
1 32786 32788 "1" 0 # LINE from OAK C115 115.00 to STATIN L 115.00
2 32786 32908 "3" 0 # TRAN from OAK C115 115.00 to OAK C12 12.00
4 32786 0 "5" 0 # LOAD-DROP OAK C115 115.00 LOAD==10.40(2.11)
0
#
#
# (87) BUS FAULT 32786 "OAK C115" Oakland C 115 kV Bus Section E
#
1 32786 32787 "1" 0 # LINE from OAK C115 115.00 to Q155 115.00
1 32786 32790 "2" 0 # LINE from OAK C115 115.00 to STATIN X 115.00
1 32786 32790 "3" 0 # LINE from OAK C115 115.00 to STATIN X 115.00
1 32786 32793 "1" 0 # LINE from OAK C115 115.00 to SCHNITZ 115.00
1 32786 38026 "1" 0 # LINE from OAK C115 115.00 to ALAMEDCT 115.00
2 32786 32908 "1" 0 # TRAN from OAK C115 115.00 to OAK C12 12.00
2 32786 32908 "2" 0 # TRAN from OAK C115 115.00 to OAK C12 12.00
4 32786 0 "6" 0 # LOAD-DROP OAK C115 115.00 LOAD==4.23(0.86)
0
#
#
# (88) BUS FAULT 32788 "STATIN L"
#
1 32788 32782 "1" 0 # LINE from STATIN L 115.00 to STATIN D 115.00
1 32788 32786 "1" 0 # LINE from STATIN L 115.00 to OAK C115 115.00
4 32788 0 "1" 0 # LOAD-DROP STATIN L 115.00 LOAD==18.05(4.11)
4 32788 0 "3" 0 # LOAD-DROP STATIN L 115.00 LOAD==18.05(4.11)
4 32788 0 "5" 0 # LOAD-DROP STATIN L 115.00 LOAD==18.05(4.11)
0
#
#
# (89) BUS FAULT 32790 "STATIN X" Oakland X 115 kV Bus Section 1
#
1 32790 32786 "3" 0 # LINE from STATIN X 115.00 to OAK C115 115.00

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

1 32790 33020 "2" 0 # LINE from STATIN X 115.00 to MORAGA 115.00
1 32790 33020 "3" 0 # LINE from STATIN X 115.00 to MORAGA 115.00
4 32790 0 "2 " 0 # LOAD-DROP STATIN X 115.00 LOAD==21.01(4.79)
0
#
#
# (90) BUS FAULT 32790 "STATIN X" Oakland X 115 kV Bus Section 1
#
1 32790 32786 "2" 0 # LINE from STATIN X 115.00 to OAK C115 115.00
1 32790 33020 "1" 0 # LINE from STATIN X 115.00 to MORAGA 115.00
1 32790 33020 "4" 0 # LINE from STATIN X 115.00 to MORAGA 115.00
4 32790 0 "3 " 0 # LOAD-DROP STATIN X 115.00 LOAD==17.34(3.95)
4 32790 0 "4 " 0 # LOAD-DROP STATIN X 115.00 LOAD==16.12(3.67)
0
#
#
# (91) BUS FAULT 32792 "STATIN J" Oakland J 115 kV Bus Section D
#
1 32792 32798 "1" 0 # LINE from STATIN J 115.00 to OWENSTAP 115.00
1 32792 38024 "1" 0 # LINE from STATIN J 115.00 to JENNY 115.00
4 32792 0 "1 " 0 # LOAD-DROP STATIN J 115.00 LOAD==38.21(8.71)
0
#
#
# (92) BUS FAULT 32792 "STATIN J" Oakland J 115 kV Bus Section E
#
1 32792 32814 "1" 0 # LINE from STATIN J 115.00 to EDESTAP1 115.00
1 32792 33020 "1" 0 # LINE from STATIN J 115.00 to MORAGA 115.00
4 32792 0 "2 " 0 # LOAD-DROP STATIN J 115.00 LOAD==17.16(3.91)
4 32792 0 "5 " 0 # LOAD-DROP STATIN J 115.00 LOAD==28.89(6.58)
0
#
#
# (93) BUS FAULT 32794 "MARITIME"
#
1 32794 32793 "1" 0 # LINE from MARITIME 115.00 to SCHNITZ 115.00
4 32794 0 "1 " 0 # LOAD-DROP MARITIME 115.00 LOAD==0.95(1.11)
0
#
#
# (94) BUS FAULT 32800 "OWNBRKWY"
#
1 32800 32798 "1" 0 # LINE from OWNBRKWY 115.00 to OWENSTAP 115.00
4 32800 0 "1 " 0 # LOAD-DROP OWNBRKWY 115.00 LOAD==9.29(5.51)
0
#
#
# (95) BUS FAULT 32810 "EDES" Edes 115 kV Bus Section E
#
1 32810 32812 "1" 0 # LINE from EDES 115.00 to EDS GRNT 115.00
4 32810 0 "2 " 0 # LOAD-DROP EDES 115.00 LOAD==18.85(4.29)
0
#
#
# (96) BUS FAULT 32810 "EDES" Edes 115 kV Bus Section H
#
1 32810 32814 "1" 0 # LINE from EDES 115.00 to EDESTAP1 115.00
4 32810 0 "3 " 0 # LOAD-DROP EDES 115.00 LOAD==29.45(6.71)
0
#
#
# (97) BUS FAULT 32852 "CHRISTIE"
#
1 32852 32850 "1" 0 # LINE from CHRISTIE 60.00 to UNIN CHM 60.00
1 32852 32856 "2" 0 # LINE from CHRISTIE 60.00 to FRANKLIN 60.00
1 32852 33067 "1" 0 # LINE from CHRISTIE 60.00 to PCBRICK 60.00
2 32852 32756 "1" 0 # TRAN from CHRISTIE 60.00 to CHRISTIE 115.00
0
#
#
# (98) BUS FAULT 32860 "FRKLNALT"
#
1 32860 32850 "1" 0 # LINE from FRKLNALT 60.00 to UNIN CHM 60.00
1 32860 32856 "1" 0 # LINE from FRKLNALT 60.00 to FRANKLIN 60.00
0
#
#
# 2013 category c contingency list (dctl and bus outages)

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```
# Diablo Division Zone 308
#
#
# (99) C5 DCTL OUTAGE
# Contra Costa #1 and #2 115 kV Lines
1 33000 33047 "1 " 0 # line from CC SUB 115.00 BRKR to (2) CC JCT 115.00
1 33047 33045 "1 " 0 # line from CC JCT 115.00 (2) to (2) FIBRJCT1 115.00
1 33045 33048 "1 " 0 # line from FIBRJCT1 115.00 (2) to (2) RVECTP 115.00
1 33048 33049 "1 " 0 # line from RVECTP 115.00 (2) to BRKR RVEC 115.00
#
1 33000 33046 "1 " 0 # line from CC SUB 115.00 BRKR to (3) FIBRJCT2 115.00
1 33046 33001 "1 " 0 # line from FIBRJCT2 115.00 (3) to BRKR DOMTAR 115.00
1 33046 33044 "1 " 0 # line from FIBRJCT2 115.00 (3) to (2) FIBRBJCT 115.00
1 33044 33002 "1 " 0 # line from FIBRBJCT 115.00 (2) to (2) CROWN Z 115.00
2 33002 33133 "1 " 0 # TRAN from CROWN Z 115.00 (2) to (1) GWF #3 13.80
4 33001 0 "1 " 0 # LOAD-DROP DOMTAR 115.00 LOAD==2.40(2.12)
4 33133 0 "SG" 0 # LOAD-DROP GWF #3 13.80 LOAD==2.84(0.65)
3 33133 0 "1 " 0 # GEN-DROP GWF #3 13.80 GEN==19.00(4.33)
0
#
#
# (100) C5 DCTL OUTAGE
# Contra Costa - DuPont and Contra Costa - Balfour 60 kV Lines
1 33050 33080 "1 " 0 # line from CC SUB 60.00 BRKR to (3) WILBRTAP 60.00
1 33080 33051 "1 " 0 # line from WILBRTAP 60.00 (3) to BRKR DU PONT 60.00
2 33080 33134 "1 " 0 # TRAN from WILBRTAP 60.00 (3) to (1) GWF #4 13.80
4 33051 0 "1 " 0 # LOAD-DROP DU PONT 60.00 LOAD==2.00(2.16)
4 33134 0 "SG" 0 # LOAD-DROP GWF #4 13.80 LOAD==2.88(0.66)
3 33134 0 "1 " 0 # GEN-DROP GWF #4 13.80 GEN==18.60(3.34)
1 33051 33081 "1 " 1 # LINE-TRANSFER WILBRTAP 60.00 TO DUPNTJCT 60.00
4 33051 0 "***" 1 # RESTORE DU PONT load
#
1 33050 33081 "1 " 0 # line from CC SUB 60.00 BRKR to (2) DUPNTJCT 60.00
1 33081 33082 "1 " 0 # line from DUPNTJCT 60.00 (2) to (3) BALFRJCT 60.00
1 33082 33052 "1 " 0 # line from BALFRJCT 60.00 (3) to (2) MARSH 60.00
1 33082 33054 "1 " 0 # line from BALFRJCT 60.00 (3) to BRKR BALFOUR 60.00
1 33052 33053 "1 " 0 # line from MARSH 60.00 (2) to (1) BRIONES 60.00
4 33054 0 "1 " 0 # LOAD-DROP BALFOUR 60.00 LOAD==4.00(0.81)
4 33053 0 "1 " 0 # LOAD-DROP BRIONES 60.00 LOAD==3.90(1.84)
1 33083 33054 "1 " 1 # LINE-TRANSFER BALFRJCT 60.00 TO MDLRVRJT 60.00
4 33054 0 "***" 1 # RESTORE BALFOUR load
0
#
#
# (101) C5 DCTL OUTAGE
# Pittsburg - Martinez #1 and #2 115 kV Lines
1 32950 32993 "1 " 0 # line from PITSBURG 115.00 BRKR to (2) W.P.BART 115.00
1 32993 33040 "1 " 0 # line from W.P.BART 115.00 (2) to (3) BOLLMAN1 115.00
1 33040 32994 "1 " 0 # line from BOLLMAN1 115.00 (3) to (1) BOLLMAN 115.00
1 33040 33042 "1 " 0 # line from BOLLMAN1 115.00 (3) to (2) IMHOFF_1 115.00
1 33042 32991 "1 " 0 # line from IMHOFF_1 115.00 (2) to BRKR MARTNZ E 115.00
4 32993 0 "1 " 0 # LOAD-DROP W.P.BART 115.00 LOAD==7.29(1.48)
4 32993 0 "3 " 0 # LOAD-DROP W.P.BART 115.00 LOAD==13.49(3.07)
4 32994 0 "1 " 0 # LOAD-DROP BOLLMAN 115.00 LOAD==2.59(1.36)
4 32994 0 "2 " 0 # LOAD-DROP BOLLMAN 115.00 LOAD==2.59(1.36)
#
1 32950 32992 "2 " 0 # line from PITSBURG 115.00 BRKR to (2) BOLLMAN2 115.00
1 32992 33043 "2 " 0 # line from BOLLMAN2 115.00 (2) to (3) IMHOFF_2 115.00
1 33043 32991 "2 " 0 # line from IMHOFF_2 115.00 (3) to BRKR MARTNZ E 115.00
1 33043 33041 "2 " 0 # line from IMHOFF_2 115.00 (3) to (2) IMHOFF 115.00
2 33041 33136 "1 " 0 # TRAN from IMHOFF 115.00 (2) to (1) CCCSD 12.47
4 33136 0 "SG" 0 # LOAD-DROP CCCSD 12.47 LOAD==3.37(0.77)
3 33136 0 "1 " 0 # GEN-DROP CCCSD 12.47 GEN==4.40(0.53)
0
#
#
# (102) C5 DCTL OUTAGE
# Pittsburg - Clayton #3 and #4 115 kV Lines
1 32950 33032 "3 " 0 # line from PITSBURG 115.00 BRKR to (2) KIRKTAP1 115.00
1 33032 32970 "3 " 0 # line from KIRKTAP1 115.00 (2) to BRKR CLAYTN 115.00
#
1 32950 32970 "4 " 0 # line from PITSBURG 115.00 BRKR to BRKR CLAYTN 115.00
0
#
#
# (103) C5 DCTL OUTAGE
# Pittsburg - Columbia Steel and Pittsburg - Kirker - Columbia Steel 115 kV Lines
1 32950 33030 "1 " 0 # line from PITSBURG 115.00 BRKR to (2) COLSTJTT1 115.00
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APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

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1 33030 33036 "1 " 0 # line from COLSTJT1 115.00 (2) to (3) LINDETP1 115.00
1 33036 32954 "1 " 0 # line from LINDETP1 115.00 (3) to (2) DOW TAP1 115.00
1 33036 32961 "1 " 0 # line from LINDETP1 115.00 (3) to (3) GWF2 TAP 115.00
1 32954 32956 "1 " 0 # line from DOW TAP1 115.00 (2) to (2) DOW MTR 115.00
2 32956 33160 "1 " 0 # TRAN from DOW MTR 115.00 (2) to (4) DOW CHEM 13.80
1 33160 33161 "1 " 0 # line from DOW CHEM 13.80 (4) to (1) DOWCHEM1 13.80
1 33160 33162 "1 " 0 # line from DOW CHEM 13.80 (4) to (1) DOWCHEM2 13.80
1 33160 33163 "1 " 0 # line from DOW CHEM 13.80 (4) to (1) DOWCHEM3 13.80
1 32961 32960 "1 " 0 # line from GWF2 TAP 115.00 (3) to (2) GWF#2 HS 115.00
1 32961 33038 "1 " 0 # line from GWF2 TAP 115.00 (3) to (2) LINDEJCT 115.00
2 32960 33132 "1 " 0 # TRAN from GWF#2 HS 115.00 (2) to (1) GWF #2 13.80
1 33038 32957 "1 " 0 # line from LINDEJCT 115.00 (2) to BRKR PRAXAIR 115.00
4 33160 0 "SG" 0 # LOAD-DROP DOW CHEM 13.80 LOAD==15.00(9.30)
4 33132 0 "SG" 0 # LOAD-DROP GWF #2 13.80 LOAD==2.81(0.64)
4 32957 0 "1 " 0 # LOAD-DROP PRAXAIR 115.00 LOAD==20.67(4.61)
3 33161 0 "1 " 0 # GEN-DROP DOWCHEM1 13.80 GEN==15.30(6.00)
3 33162 0 "1 " 0 # GEN-DROP DOWCHEM2 13.80 GEN==22.00(5.29)
3 33163 0 "1 " 0 # GEN-DROP DOWCHEM3 13.80 GEN==22.00(5.29)
3 33132 0 "1 " 0 # GEN-DROP GWF #2 13.80 GEN==12.30(3.13)
#
1 32950 33033 "1 " 0 # line from PITTSBURG 115.00 BRKR to (3) KIRKTAP2 115.00
1 33033 32951 "1 " 0 # line from KIRKTAP2 115.00 (3) to BRKR KIRKER 115.00
1 33033 33031 "1 " 0 # line from KIRKTAP2 115.00 (3) to (2) COLSTJT2 115.00
1 33031 33037 "1 " 0 # line from COLSTJT2 115.00 (2) to (2) LINDETP2 115.00
1 33037 32955 "1 " 0 # line from LINDETP2 115.00 (2) to (1) DOW TAP2 115.00
4 32951 0 "1 " 0 # LOAD-DROP KIRKER 115.00 LOAD==38.02(7.72)
4 32951 0 "2 " 0 # LOAD-DROP KIRKER 115.00 LOAD==44.19(8.97)
4 32951 0 "3 " 0 # LOAD-DROP KIRKER 115.00 LOAD==53.77(10.92)
1 33032 32951 "1 " 1 # LINE-TRANSFER KIRKTAP2 115.00 TO KIRKTAP1
4 32951 0 "***" 1 # RESTORE KIRKER load
0
#
#
# (104) C5 DCTL OUTAGE
# Sobrante - Grizzly - East Portal and Sobrante - Grizzly - Claremont #2 115 kV Lines
1 32740 33006 "1 " 0 # line from HILLSIDE 115.00 BRKR to (3) GRIZLYJ1 115.00
1 33006 33010 "1 " 0 # line from GRIZLYJ1 115.00 (3) to BRKR SOBRANTE 115.00
1 33006 33012 "1 " 0 # line from GRIZLYJ1 115.00 (3) to BRKR EST PRTL 115.00
1 32770 32740 "1 " 0 # include GRIZZLY2 115.00 BRKR to HILLSIDE 115.00 ckt 1
#
1 32740 33008 "2 " 0 # line from HILLSIDE 115.00 BRKR to (3) GRIZLYJ2 115.00
1 33008 32780 "2 " 0 # line from GRIZLYJ2 115.00 (3) to BRKR CLARMNT 115.00
1 33008 33010 "2 " 0 # line from GRIZLYJ2 115.00 (3) to BRKR SOBRANTE 115.00
1 32770 32740 "2 " 0 # include GRIZZLY2 115.00 BRKR to HILLSIDE 115.00 ckt 2
0
#
#
# (105) C5 DCTL OUTAGE
# East Portal - Claremont and Sobrante - Grizzly - Claremont #2 115 kV Lines
1 33012 32780 "1 " 0 # line from EST PRTL 115.00 BRKR to BRKR CLARMNT 115.00
#
1 32740 33008 "2 " 0 # line from HILLSIDE 115.00 BRKR to (3) GRIZLYJ2 115.00
1 33008 32780 "2 " 0 # line from GRIZLYJ2 115.00 (3) to BRKR CLARMNT 115.00
1 33008 33010 "2 " 0 # line from GRIZLYJ2 115.00 (3) to BRKR SOBRANTE 115.00
1 32770 32740 "2 " 0 # include GRIZZLY2 115.00 BRKR to HILLSIDE 115.00 ckt 2
0
#
#
# (106) C5 DCTL OUTAGE
# Lakewood - Clayton #2 and Lakewood - Meadow Lane - Clayton 115 kV Lines
1 32970 32974 "2 " 0 # line from CLAYTN 115.00 BRKR to BRKR LAKEWD-M 115.00
#
1 32970 33035 "1 " 0 # line from CLAYTN 115.00 BRKR to (3) LKWD_JCT 115.00
1 33035 32972 "1 " 0 # line from LKWD_JCT 115.00 (3) to (2) EBMUDGRY 115.00
1 33035 32973 "1 " 0 # line from LKWD_JCT 115.00 (3) to BRKR LAKEWD-C 115.00
1 32972 32971 "1 " 0 # line from EBMUDGRY 115.00 (2) to BRKR MEDW LNE 115.00
4 32972 0 "1 " 0 # LOAD-DROP EBMUDGRY 115.00 LOAD==5.67(1.86)
0
#
#
# (107) C5 DCTL OUTAGE
# Birds Landing - Contra Costa Sub and Birds Landing - Contra Costa 230 kV Lines
1 30479 30523 "1 " 0 # line from BDLSWSTA 230.00 BRKR to BRKR CC SUB 230.00
#
1 30525 30479 "1 " 0 # line from C.COSTA 230.00 BRKR to BRKR BDLSWSTA 230.00
0
#
#

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APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

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# (108) C5 DCTL OUTAGE
# Contra Costa Sub - Contra Costa and Birds Landing - Contra Costa 230 kV Lines
1 30523 30525 "1 " 0 # line from CC SUB 230.00 BRKR to BRKR C.COSTA 230.00
#
1 30525 30479 "1 " 0 # line from C.COSTA 230.00 BRKR to BRKR BDLSWSTA 230.00
0
#
#
# (109) C5 DCTL OUTAGE
# Contra Costa - Moraga #1 and #2 230 kV Lines
1 30525 30543 "1 " 0 # line from C.COSTA 230.00 BRKR to (3) ROSSTAP1 230.00
1 30543 30545 "1 " 0 # line from ROSSTAP1 230.00 (3) to BRKR ROSSMOOR 230.00
1 30543 30550 "1 " 0 # line from ROSSTAP1 230.00 (3) to BRKR MORAGA 230.00
4 30545 0 "1 " 0 # LOAD-DROP ROSSMOOR 230.00 LOAD==36.95(8.42)
4 30545 0 "2 " 0 # LOAD-DROP ROSSMOOR 230.00 LOAD==32.85(7.49)
1 30544 30545 "2 " 1 # LINE-TRANSFER ROSSTAP1 230.00 TO ROSSTAP2 230.00
4 30545 0 "***" 1 # RESTORE ROSSMOOR load
#
1 30525 30544 "2 " 0 # line from C.COSTA 230.00 BRKR to (2) ROSSTAP2 230.00
1 30544 30550 "2 " 0 # line from ROSSTAP2 230.00 (2) to BRKR MORAGA 230.00
0
#
#
# (110) C5 DCTL OUTAGE
# Contra Costa - Brentwood and Contra Costa - Delta Pumps 230 kV Lines
1 30525 30565 "1 " 0 # line from C.COSTA 230.00 BRKR to BRKR BRENTWOD 230.00
#
1 30525 30575 "1 " 0 # line from C.COSTA 230.00 BRKR to (3) WND MSTR 230.00
1 30575 38610 "1 " 0 # line from WND MSTR 230.00 (3) to BRKR DELTAPMP 230.00
2 30575 33170 "1 " 0 # TRAN from WND MSTR 230.00 (3) to (1) WINDMSTR 9.11
0
#
#
# (111) C5 DCTL OUTAGE
# Brentwood - Kelso and Contra Costa - Delta Pumps 230 kV Lines
1 30565 30569 "1 " 0 # line from BRENTWOD 230.00 BRKR to BRKR KELSO 230.00
#
1 30525 30575 "1 " 0 # line from C.COSTA 230.00 BRKR to (3) WND MSTR 230.00
1 30575 38610 "1 " 0 # line from WND MSTR 230.00 (3) to BRKR DELTAPMP 230.00
2 30575 33170 "1 " 0 # TRAN from WND MSTR 230.00 (3) to (1) WINDMSTR 9.11
0
#
#
# (112) C5 DCTL OUTAGE
# Contra Costa - Las Positas and Contra Costa - Lonetree 230 kV Lines
1 30525 30585 "1 " 0 # line from C.COSTA 230.00 BRKR to BRKR LS PSTAS 230.00
#
1 30525 30567 "1 " 0 # line from C.COSTA 230.00 BRKR to BRKR LONETREE 230.00
0
#
#
# (113) C5 DCTL OUTAGE
# Contra Costa - Las Positas and Lonetree - Cayetano 230 kV Lines
1 30525 30585 "1 " 0 # line from C.COSTA 230.00 BRKR to BRKR LS PSTAS 230.00
#
1 30567 30590 "1 " 0 # line from LONETREE 230.00 BRKR to (3) USWP-JRW 230.00
1 30590 30530 "1 " 0 # line from USWP-JRW 230.00 (3) to BRKR CAYETANO 230.00
2 30590 33838 "1 " 0 # TRAN from USWP-JRW 230.00 (3) to (1) USWP_#3 9.11
4 33838 0 "SG" 0 # LOAD-DROP USWP_#3 9.11 LOAD==0.50(0.20)
0
#
#
# (114) C5 DCTL OUTAGE
# Contra Costa - Las Positas and North Dublin - Vineyard 230 kV Lines
1 30525 30585 "1 " 0 # line from C.COSTA 230.00 BRKR to BRKR LS PSTAS 230.00
#
1 30537 35224 "1 " 0 # line from NDUBLIN 230.00 BRKR to BRKR VINEYD_D 230.00
0
#
#
# (115) C5 DCTL OUTAGE
# Cayetano - North Dublin and Lonetree - Cayetano 230 kV Lines
1 30530 30537 "1 " 0 # line from CAYETANO 230.00 BRKR to BRKR NDUBLIN 230.00
#
1 30567 30590 "1 " 0 # line from LONETREE 230.00 BRKR to (3) USWP-JRW 230.00
1 30590 30530 "1 " 0 # line from USWP-JRW 230.00 (3) to BRKR CAYETANO 230.00
2 30590 33838 "1 " 0 # TRAN from USWP-JRW 230.00 (3) to (1) USWP_#3 9.11
4 33838 0 "SG" 0 # LOAD-DROP USWP_#3 9.11 LOAD==0.50(0.20)

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

0
#
#
# (116) C5 DCTL OUTAGE
# Pittsburg - Tidewater and Pittsburg - Tesoro 230 kV Lines
1 30527 30535 "1 " 0 # line from PITSBG E 230.00 BRKR to BRKR TIDEWATR 230.00
#
1 30527 30536 "1 " 0 # line from PITSBG E 230.00 BRKR to BRKR TESORO 230.00
0
#
#
# (117) C5 DCTL OUTAGE
# Tidewater - Sobrante and Tesoro - Sobrante 230 kV Lines
1 30535 30540 "1 " 0 # line from TIDEWATR 230.00 BRKR to BRKR SOBRANTE 230.00
#
1 30536 30540 "1 " 0 # line from TESORO 230.00 BRKR to BRKR SOBRANTE 230.00
0
#
#
# (118) C5 DCTL OUTAGE
# Pittsburg - San Mateo and Pittsburg - East Shore 230 kV Lines
1 30700 30527 "1 " 0 # line from SANMATEO 230.00 BRKR to BRKR PITSBG E 230.00
#
1 30560 30527 "1 " 0 # line from E. SHORE 230.00 BRKR to BRKR PITSBG E 230.00
0
#
#
# (119) C5 DCTL OUTAGE
# Pittsburg - Tesla #1 and #2 230 kV Lines pre and post-project outage
1 30527 30595 "1 " 0 # line from PITSBG E 230.00 BRKR to (3) FLOWIND2 230.00
1 30595 30640 "1 " 0 # line from FLOWIND2 230.00 (3) to BRKR TESLA C 230.00
2 30595 33840 "1 " 0 # TRAN from FLOWIND2 230.00 (3) to (1) FLOWD3-6 9.11
4 33840 0 "SG" 0 # LOAD-DROP FLOWD3-6 9.11 LOAD==0.70(0.34)
3 33840 0 "1 " 0 # GEN-DROP FLOWD3-6 9.11 GEN==1.30(0.00)
3 33840 0 "4 " 0 # GEN-DROP FLOWD3-6 9.11 GEN==1.10(0.00)
#
1 30527 30600 "2 " 0 # line from PITSBG E 230.00 BRKR to (4) TRES VAQ 230.00
1 30600 30640 "2 " 0 # line from TRES VAQ 230.00 (4) to BRKR TESLA C 230.00
2 30600 33171 "1 " 0 # TRAN from TRES VAQ 230.00 (4) to (1) TRSVQ+NW 9.11
2 30600 33195 "1 " 0 # TRAN from TRES VAQ 230.00 (4) to (1) T417 34.50
4 33195 0 "ss" 0 # LOAD-DROP T417 34.50 LOAD==0.10(0.06)
3 33195 0 "1 " 0 # GEN-DROP T417 34.50 GEN==36.10(0.00)
0
#
#
# (120) C5 DCTL OUTAGE
# Pittsburg - San Ramon and Pittsburg - Tassajara 230 kV Lines
1 30526 30555 "1 " 0 # line from PITSBG D 230.00 BRKR to BRKR SANRAMON 230.00
#
1 30526 30561 "1 " 0 # line from PITSBG D 230.00 BRKR to BRKR TASSAJAR 230.00
0
#
#
# (121) C5 DCTL OUTAGE
# Moraga - Castro Valley and San Ramon - Moraga 230 kV Lines
1 30550 30554 "1 " 0 # line from MORAGA 230.00 BRKR to BRKR CASTROVL 230.00
#
1 30550 30555 "1 " 0 # line from MORAGA 230.00 BRKR to BRKR SANRAMON 230.00
0
#
#
# (122) C5 DCTL OUTAGE
# Castro Valley - Newark and San Ramon - Moraga 230 kV Lines
1 30554 30631 "1 " 0 # line from CASTROVL 230.00 BRKR to BRKR NEWARK E 230.00
#
1 30550 30555 "1 " 0 # line from MORAGA 230.00 BRKR to BRKR SANRAMON 230.00
0
#
#
# (123) C5 DCTL OUTAGE
# Ignacio - T257 and Lakeville - T257 230 kV Lines post-project outage
1 30445 30446 "1 " 0 # line from IGNACIO 230.00 BRKR to BRKR T257SWST 230.00
#
1 30435 30446 "1 " 0 # line from LAKEVILLE 230.00 BRKR to BRKR T257SWST 230.00
0
#
#
# (124) C5 DCTL OUTAGE

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APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

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# T257 - Sobrante #1 and #2 230 kV Lines post-project outage
1 30446 30437 "1 " 0 # line from T257SWST 230.00 BRKR to (3) CROCKETT 230.00
1 30437 30438 "1 " 0 # line from CROCKETT 230.00 (3) to (2) C&H 230.00
1 30437 30540 "1 " 0 # line from CROCKETT 230.00 (3) to BRKR SOBRANTE 230.00
2 30438 32900 "1 " 0 # TRAN from C&H 230.00 BRKR to (1) CRCKTCOG 18.00
4 30438 0 "1 " 0 # LOAD-DROP C&H 230.00 LOAD==3.32(0.76)
3 32900 0 "1 " 0 # GEN-DROP CRCKTCOG 18.00 GEN==240.00(54.42)
#
1 30435 30446 "1 " 0 # line from LAKEVILE 230.00 BRKR to BRKR T257SWST 230.00
0
#
#
# (125) BUS FAULT 30523 "CC SUB" Contra Costa Sub 230 kV Bus Section 1
#
1 30523 30479 "1" 0 # LINE from CC SUB 230.00 to BDLSWSTA 230.00
2 30523 33000 "3" 0 # TRAN from CC SUB 230.00 to CC SUB 115.00
4 30523 0 "9 " 0 # LOAD-DROP CC SUB 230.00 LOAD==77.62(15.76)
0
#
#
# (126) BUS FAULT 30523 "CC SUB" Contra Costa Sub 230 kV Bus Section 2
#
1 30523 30525 "1" 0 # LINE from CC SUB 230.00 to C.COSTA 230.00
4 30523 0 "8 " 0 # LOAD-DROP CC SUB 230.00 LOAD==71.78(14.58)
0
#
#
# (127) BUS FAULT 30525 "C.COSTA" Contra Costa 230 kV Bus Section 1D
#
1 30525 30523 "1" 0 # LINE from C.COSTA 230.00 to CC SUB 230.00
0
#
#
# (128) BUS FAULT 30525 "C.COSTA" Contra Costa 230 kV Bus Section 2D
#
1 30525 30479 "1" 0 # LINE from C.COSTA 230.00 to BDLSWSTA 230.00
0
#
#
# (129) BUS FAULT 30525 "C.COSTA" Contra Costa 230 kV Bus Section 1E
#
1 30525 30585 "1" 0 # LINE from C.COSTA 230.00 to LS PSTAS 230.00
0
#
#
# (130) BUS FAULT 30525 "C.COSTA" Contra Costa 230 kV Bus Section 2E
#
1 30525 30567 "1" 0 # LINE from C.COSTA 230.00 to LONETREE 230.00
0
#
#
# (131) BUS FAULT 30525 "C.COSTA" Contra Costa 230 kV Bus Section 1F
#
1 30525 30543 "1" 0 # LINE from C.COSTA 230.00 to ROSSTAP1 230.00
1 30525 30565 "1" 0 # LINE from C.COSTA 230.00 to BRENTWOD 230.00
2 30525 33116 "1" 0 # TRAN from C.COSTA 230.00 to C.COS 6 18.00
0
#
#
# (132) BUS FAULT 30525 "C.COSTA" Contra Costa 230 kV Bus Section 2F
#
1 30525 30544 "2" 0 # LINE from C.COSTA 230.00 to ROSSTAP2 230.00
1 30525 30575 "1" 0 # LINE from C.COSTA 230.00 to WND MSTR 230.00
2 30525 33117 "1" 0 # TRAN from C.COSTA 230.00 to C.COS 7 18.00
0
#
#
# (133) BUS FAULT 30526 "PITSBG D" Pittsburg 230 kV Bus Section 1D
#
1 30526 30561 "1" 0 # LINE from PITSBG D 230.00 to TASSAJAR 230.00
1 30526 30528 "1" 0 # LINE from PITSBG D 230.00 to DEC PTSG 230.00
1 30526 30531 "1" 0 # LINE from PITSBG D 230.00 to T322BUS1 230.00
2 30526 32950 "13" 0 # TRAN from PITSBG D 230.00 to PITSBURG 115.00
0
#
#
# (134) BUS FAULT 30526 "PITSBG D" Pittsburg 230 kV Bus Section 2D
#

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APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

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1 30526 30555 "1" 0 # LINE from PITSBG D 230.00 to SANRAMON 230.00
1 30526 30528 "2" 0 # LINE from PITSBG D 230.00 to DEC PTSG 230.00
1 30526 30532 "1" 0 # LINE from PITSBG D 230.00 to T322BUS2 230.00
2 30526 32950 "12" 0 # TRAN from PITSBG D 230.00 to PITSBURG 115.00
0
#
#
# (135) BUS FAULT 30527 "PITSBG E" Pittsburg 230 kV Bus Section 1E
#
1 30527 30535 "1" 0 # LINE from PITSBG E 230.00 to TIDEWATR 230.00
1 30527 30560 "1" 0 # LINE from PITSBG E 230.00 to E. SHORE 230.00
1 30527 30595 "1" 0 # LINE from PITSBG E 230.00 to FLOWIND2 230.00
2 30527 33105 "1" 0 # TRAN from PITSBG E 230.00 to PTSB 5 18.00
2 30527 33105 "2" 0 # TRAN from PITSBG E 230.00 to PTSB 5 18.00
0
#
#
# (136) BUS FAULT 30527 "PITSBG E" Pittsburg 230 kV Bus Section 2E
#
1 30527 30536 "1" 0 # LINE from PITSBG E 230.00 to TESORO 230.00
1 30527 30600 "2" 0 # LINE from PITSBG E 230.00 to TRES VAQ 230.00
1 30527 30700 "1" 0 # LINE from PITSBG E 230.00 to SANMATEO 230.00
0
#
#
# (137) BUS FAULT 30535 "TIDEWATR"
#
1 30535 30527 "1" 0 # LINE from TIDEWATR 230.00 to PITSBG E 230.00
1 30535 30540 "1" 0 # LINE from TIDEWATR 230.00 to SOBRANTE 230.00
2 30535 33151 "1" 0 # TRAN from TIDEWATR 230.00 to FOSTER W 12.47
2 30535 33151 "2" 0 # TRAN from TIDEWATR 230.00 to FOSTER W 12.47
4 30535 0 "1 " 0 # LOAD-DROP TIDEWATR 230.00 LOAD==72.24(16.46)
4 30535 0 "2 " 0 # LOAD-DROP TIDEWATR 230.00 LOAD==59.79(13.63)
0
#
#
# (138) BUS FAULT 30536 "TESORO"
#
1 30536 30527 "1" 0 # LINE from TESORO 230.00 to PITSBG E 230.00
1 30536 30540 "1" 0 # LINE from TESORO 230.00 to SOBRANTE 230.00
4 30536 0 "1 " 0 # LOAD-DROP TESORO 230.00 LOAD==9.01(5.35)
0
#
#
# (139) BUS FAULT 30540 "SOBRANTE" Sobrante 230 kV Bus Section 1
#
1 30540 30437 "1" 0 # LINE from SOBRANTE 230.00 to CROCKETT 230.00
1 30540 30535 "1" 0 # LINE from SOBRANTE 230.00 to TIDEWATR 230.00
2 30540 33010 "1" 0 # TRAN from SOBRANTE 230.00 to SOBRANTE 115.00
0
#
#
# (140) BUS FAULT 30540 "SOBRANTE" Sobrante 230 kV Bus Section 2
# pre and post-project outage
1 30540 30435 "2" 0 # LINE from SOBRANTE 230.00 to LAKEVILLE 230.00
1 30540 30446 "2" 0 # LINE from SOBRANTE 230.00 to T257SWST 230.00
1 30540 30536 "1" 0 # LINE from SOBRANTE 230.00 to TESORO 230.00
2 30540 33010 "2" 0 # TRAN from SOBRANTE 230.00 to SOBRANTE 115.00
0
#
#
# (141) BUS FAULT 30545 "ROSSMOOR"
#
1 30545 30543 "1" 0 # LINE from ROSSMOOR 230.00 to ROSSTAP1 230.00
1 30545 30544 "2" 0 # LINE from ROSSMOOR 230.00 to ROSSTAP2 230.00
4 30545 0 "1 " 0 # LOAD-DROP ROSSMOOR 230.00 LOAD==36.95(8.42)
4 30545 0 "2 " 0 # LOAD-DROP ROSSMOOR 230.00 LOAD==32.85(7.49)
0
#
#
# (142) BUS FAULT 30550 "MORAGA" Moraga 230 kV Bus Section 1
#
1 30550 30467 "1" 0 # LINE from MORAGA 230.00 to PARKWAY 230.00
1 30550 30543 "1" 0 # LINE from MORAGA 230.00 to ROSSTAP1 230.00
1 30550 30555 "1" 0 # LINE from MORAGA 230.00 to SANRAMON 230.00
2 30550 30553 "3" 0 # TRAN from MORAGA 230.00 to MRAGA_3M 13.20
0
#

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

#
# (143) BUS FAULT 30550 "MORAGA" Moraga 230 kV Bus Section 2
#
1 30550 30466 "1" 0 # LINE from MORAGA 230.00 to Q177 230.00
1 30550 30544 "2" 0 # LINE from MORAGA 230.00 to ROSSTAP2 230.00
1 30550 30554 "1" 0 # LINE from MORAGA 230.00 to CASTROVL 230.00
2 30550 30551 "1" 0 # TRAN from MORAGA 230.00 to MRAGA_1M 13.20
2 30550 30552 "2" 0 # TRAN from MORAGA 230.00 to MRAGA_2M 13.20
0
#
#
# (144) BUS FAULT 30561 "TASSAJAR"
#
1 30561 30526 "1" 0 # LINE from TASSAJAR 230.00 to PITSBG D 230.00
1 30561 30562 "1" 0 # LINE from TASSAJAR 230.00 to TES JCT 230.00
4 30561 0 "1 " 0 # LOAD-DROP TASSAJAR 230.00 LOAD==53.13(12.11)
4 30561 0 "2 " 0 # LOAD-DROP TASSAJAR 230.00 LOAD==82.91(18.90)
0
#
#
# (145) BUS FAULT 30563 "RESEARCH"
#
1 30563 30562 "1" 0 # LINE from RESEARCH 230.00 to TES JCT 230.00
4 30563 0 "1 " 0 # LOAD-DROP RESEARCH 230.00 LOAD==37.05(8.44)
0
#
#
# (146) BUS FAULT 30565 "BRENTWOD"
#
1 30565 30525 "1" 0 # LINE from BRENTWOD 230.00 to C.COSTA 230.00
1 30565 30569 "1" 0 # LINE from BRENTWOD 230.00 to KELSO 230.00
4 30565 0 "1 " 0 # LOAD-DROP BRENTWOD 230.00 LOAD==41.07(8.34)
4 30565 0 "2 " 0 # LOAD-DROP BRENTWOD 230.00 LOAD==38.95(7.91)
4 30565 0 "3 " 0 # LOAD-DROP BRENTWOD 230.00 LOAD==42.75(8.68)
0
#
#
# (147) BUS FAULT 30567 "LONETREE"
#
1 30567 30525 "1" 0 # LINE from LONETREE 230.00 to C.COSTA 230.00
1 30567 30590 "1" 0 # LINE from LONETREE 230.00 to USWP-JRW 230.00
4 30567 0 "1 " 0 # LOAD-DROP LONETREE 230.00 LOAD==23.91(5.44)
4 30567 0 "2 " 0 # LOAD-DROP LONETREE 230.00 LOAD==23.91(5.44)
4 30567 0 "3 " 0 # LOAD-DROP LONETREE 230.00 LOAD==23.91(5.44)
0
#
#
# (148) BUS FAULT 32950 "PITSBURG" Pittsburg 115 kV Bus Section 1D
#
1 32950 33032 "3" 0 # LINE from PITSBURG 115.00 to KIRKTAP1 115.00
1 32950 32970 "4" 0 # LINE from PITSBURG 115.00 to CLAYTN 115.00
1 32950 33030 "1" 0 # LINE from PITSBURG 115.00 to COLSTJT1 115.00
0
#
#
# (149) BUS FAULT 32950 "PITSBURG" Pittsburg 115 kV Bus Section 2D
#
1 32950 33033 "1" 0 # LINE from PITSBURG 115.00 to KIRKTAP2 115.00
0
#
#
# (150) BUS FAULT 32950 "PITSBURG" Pittsburg 115 kV Bus Section 1E
#
1 32950 32993 "1" 0 # LINE from PITSBURG 115.00 to W.P.BART 115.00
0
#
#
# (151) BUS FAULT 32950 "PITSBURG" Pittsburg 115 kV Bus Section 2E
#
1 32950 32970 "1" 0 # LINE from PITSBURG 115.00 to CLAYTN 115.00
1 32950 32992 "2" 0 # LINE from PITSBURG 115.00 to BOLLMAN2 115.00
2 32950 30526 "12" 0 # TRAN from PITSBURG 115.00 to PITSBG D 230.00
0
#
#
# (152) BUS FAULT 32951 "KIRKER"
#
1 32951 33032 "1" 0 # LINE from KIRKER 115.00 to KIRKTAP1 115.00

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APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

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1 32951 33033 "1" 0 # LINE from KIRKER 115.00 to KIRKTAP2 115.00
4 32951 0 "1 " 0 # LOAD-DROP KIRKER 115.00 LOAD==38.02(7.72)
4 32951 0 "2 " 0 # LOAD-DROP KIRKER 115.00 LOAD==44.19(8.97)
4 32951 0 "3 " 0 # LOAD-DROP KIRKER 115.00 LOAD==53.77(10.92)
0
#
#
# (153) BUS FAULT 32953 "CLMBA_ST"
#
1 32953 32954 "1" 0 # LINE from CLMBA_ST 115.00 to DOW TAP1 115.00
1 32953 32955 "1" 0 # LINE from CLMBA_ST 115.00 to DOW TAP2 115.00
0
#
#
# (154) BUS FAULT 32957 "PRAXAIR"
#
1 32957 33038 "1" 0 # LINE from PRAXAIR 115.00 to LINDEJCT 115.00
4 32957 0 "1 " 0 # LOAD-DROP PRAXAIR 115.00 LOAD==20.67(4.61)
0
#
#
# (155) BUS FAULT 32970 "CLAYTN" Clayton 115 kV Bus Section 1
#
1 32970 32971 "1" 0 # LINE from CLAYTN 115.00 to MEDW LNE 115.00
1 32970 32974 "2" 0 # LINE from CLAYTN 115.00 to LAKEWD-M 115.00
1 32970 33032 "3" 0 # LINE from CLAYTN 115.00 to KIRKTAP1 115.00
0
#
#
# (156) BUS FAULT 32970 "CLAYTN" Clayton 115 kV Bus Section 2
#
1 32970 32950 "1" 0 # LINE from CLAYTN 115.00 to PITTSBURG 115.00
1 32970 32950 "4" 0 # LINE from CLAYTN 115.00 to PITTSBURG 115.00
1 32970 33035 "1" 0 # LINE from CLAYTN 115.00 to LKWD_JCT 115.00
0
#
#
# (157) BUS FAULT 32971 "MEDW LNE"
#
1 32971 32970 "1" 0 # LINE from MEDW LNE 115.00 to CLAYTN 115.00
1 32971 32972 "1" 0 # LINE from MEDW LNE 115.00 to EBMUDGRY 115.00
4 32971 0 "1 " 0 # LOAD-DROP MEDW LNE 115.00 LOAD==39.33(8.97)
4 32971 0 "2 " 0 # LOAD-DROP MEDW LNE 115.00 LOAD==46.84(10.68)
4 32971 0 "3 " 0 # LOAD-DROP MEDW LNE 115.00 LOAD==43.88(10.00)
0
#
#
# (158) BUS FAULT 32973 "LAKEWD-C"
#
1 32973 33035 "1" 0 # LINE from LAKEWD-C 115.00 to LKWD_JCT 115.00
1 32973 32974 "1" 0 # LINE from LAKEWD-C 115.00 to LAKEWD-M 115.00
4 32973 0 "5 " 0 # LOAD-DROP LAKEWD-C 115.00 LOAD==19.48(4.44)
4 32973 0 "6 " 0 # LOAD-DROP LAKEWD-C 115.00 LOAD==44.20(10.08)
0
#
#
# (159) BUS FAULT 32974 "LAKEWD-M"
#
1 32974 32970 "2" 0 # LINE from LAKEWD-M 115.00 to CLAYTN 115.00
1 32974 32973 "1" 0 # LINE from LAKEWD-M 115.00 to LAKEWD-C 115.00
1 32974 32976 "0" 0 # LINE from LAKEWD-M 115.00 to LK_REACT 115.00
1 32974 32976 "2" 0 # LINE from LAKEWD-M 115.00 to LK_REACT 115.00
1 32974 32976 "4" 0 # LINE from LAKEWD-M 115.00 to LK_REACT 115.00
1 32974 32976 "7" 0 # LINE from LAKEWD-M 115.00 to LK_REACT 115.00
1 32974 32976 "9" 0 # LINE from LAKEWD-M 115.00 to LK_REACT 115.00
4 32974 0 "1 " 0 # LOAD-DROP LAKEWD-M 115.00 LOAD==38.07(8.68)
4 32974 0 "2 " 0 # LOAD-DROP LAKEWD-M 115.00 LOAD==25.72(5.86)
4 32974 0 "4 " 0 # LOAD-DROP LAKEWD-M 115.00 LOAD==48.09(10.96)
4 32974 0 "LW" 0 # LOAD-DROP LAKEWD-M 115.00 LOAD==5.66(1.15)
0
#
#
# (160) BUS FAULT 32990 "MARTNZ D"
#
1 32990 33014 "1" 0 # LINE from MARTNZ D 115.00 to ALHAMTP1 115.00
1 32990 33016 "1" 0 # LINE from MARTNZ D 115.00 to ALHAMTP2 115.00
1 32990 32991 "1" 0 # LINE from MARTNZ D 115.00 to MARTNZ E 115.00
1 32990 32996 "1" 0 # LINE from MARTNZ D 115.00 to SHELLJ1 115.00

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APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

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2 32990 33142 "2" 0 # TRAN from MARTNZ D 115.00 to SHELL 2 12.47
4 32990 0 "5 " 0 # LOAD-DROP MARTNZ D 115.00 LOAD==45.86(10.45)
0
#
#
# (161) BUS FAULT 32991 "MARTNZ E"
#
1 32991 32990 "1" 0 # LINE from MARTNZ E 115.00 to MARTNZ D 115.00
1 32991 33042 "1" 0 # LINE from MARTNZ E 115.00 to IMHOFF 1 115.00
1 32991 33043 "2" 0 # LINE from MARTNZ E 115.00 to IMHOFF 2 115.00
1 32991 32997 "2" 0 # LINE from MARTNZ E 115.00 to SHELLJ2 115.00
2 32991 33142 "1" 0 # TRAN from MARTNZ E 115.00 to SHELL 2 12.47
0
#
#
# (162) BUS FAULT 33000 "CC SUB" Contra Costa Sub 115 kV Bus Section 1
#
1 33000 33047 "1" 0 # LINE from CC SUB 115.00 to CC JCT 115.00
2 33000 30523 "3" 0 # TRAN from CC SUB 115.00 to CC SUB 230.00
2 33000 33050 "1" 0 # TRAN from CC SUB 115.00 to CC SUB 60.00
4 33000 0 "4 " 0 # LOAD-DROP CC SUB 115.00 LOAD==42.14(8.55)
0
#
#
# (163) BUS FAULT 33000 "CC SUB" Contra Costa Sub 115 kV Bus Section 2
#
1 33000 33046 "1" 0 # LINE from CC SUB 115.00 to FIBRJCT2 115.00
2 33000 33050 "2" 0 # TRAN from CC SUB 115.00 to CC SUB 60.00
0
#
#
# (164) BUS FAULT 33001 "DOMTAR"
#
1 33001 33046 "1" 0 # LINE from DOMTAR 115.00 to FIBRJCT2 115.00
4 33001 0 "1 " 0 # LOAD-DROP DOMTAR 115.00 LOAD==2.40(2.12)
0
#
#
# (165) BUS FAULT 33010 "SOBRANTE" Sobrante 115 kV Bus Section 1
#
1 33010 32756 "1" 0 # LINE from SOBRANTE 115.00 to CHRISTIE 115.00
1 33010 32765 "1" 0 # LINE from SOBRANTE 115.00 to ELCRTJ1 115.00
1 33010 32767 "1" 0 # LINE from SOBRANTE 115.00 to ELCRTJ2 115.00
1 33010 32808 "1" 0 # LINE from SOBRANTE 115.00 to SNPBLTP2 115.00
1 33010 33006 "1" 0 # LINE from SOBRANTE 115.00 to GRIZLYJ1 115.00
1 33010 33014 "1" 0 # LINE from SOBRANTE 115.00 to ALHAMTP1 115.00
1 33010 33020 "1" 0 # LINE from SOBRANTE 115.00 to MORAGA 115.00
0
#
#
# (166) BUS FAULT 33010 "SOBRANTE" Sobrante 115 kV Bus Section 2
#
1 33010 32766 "2" 0 # LINE from SOBRANTE 115.00 to EL CRRTO 115.00
1 33010 32768 "2" 0 # LINE from SOBRANTE 115.00 to RICHMOND 115.00
1 33010 32806 "2" 0 # LINE from SOBRANTE 115.00 to SNPBLTP1 115.00
1 33010 33008 "2" 0 # LINE from SOBRANTE 115.00 to GRIZLYJ2 115.00
2 33010 30540 "1" 0 # TRAN from SOBRANTE 115.00 to SOBRANTE 230.00
2 33010 30540 "2" 0 # TRAN from SOBRANTE 115.00 to SOBRANTE 230.00
0
#
#
# (167) BUS FAULT 33011 "ALHAMBRA"
#
1 33011 33014 "1" 0 # LINE from ALHAMBRA 115.00 to ALHAMTP1 115.00
1 33011 33016 "1" 0 # LINE from ALHAMBRA 115.00 to ALHAMTP2 115.00
4 33011 0 "1 " 0 # LOAD-DROP ALHAMBRA 115.00 LOAD==10.29(2.34)
4 33011 0 "2 " 0 # LOAD-DROP ALHAMBRA 115.00 LOAD==9.17(2.09)
0
#
#
# (168) BUS FAULT 33012 "EST PRTL"
#
1 33012 33006 "1" 0 # LINE from EST PRTL 115.00 to GRIZLYJ1 115.00
1 33012 32780 "1" 0 # LINE from EST PRTL 115.00 to CLARMNT 115.00
4 33012 0 "1 " 0 # LOAD-DROP EST PRTL 115.00 LOAD==7.66(1.55)
0
#
#

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

# (169) BUS FAULT 33020 "MORAGA" Moraga 115 kV Bus Section 1D
#
1 33020 32780 "1" 0 # LINE from MORAGA 115.00 to CLARMNT 115.00
1 33020 32790 "1" 0 # LINE from MORAGA 115.00 to STATIN X 115.00
1 33020 33010 "1" 0 # LINE from MORAGA 115.00 to SOBRANTE 115.00
2 33020 30551 "1" 0 # TRAN from MORAGA 115.00 to MRAGA_1M 13.20
0
#
#
# (170) BUS FAULT 33020 "MORAGA" Moraga 115 kV Bus Section 2D
#
1 33020 32780 "2" 0 # LINE from MORAGA 115.00 to CLARMNT 115.00
1 33020 32790 "2" 0 # LINE from MORAGA 115.00 to STATIN X 115.00
1 33020 32976 "1" 0 # LINE from MORAGA 115.00 to LK_REACT 115.00
2 33020 30552 "2" 0 # TRAN from MORAGA 115.00 to MRAGA_2M 13.20
0
#
#
# (171) BUS FAULT 33020 "MORAGA" Moraga 115 kV Bus Section 1E
#
1 33020 32790 "3" 0 # LINE from MORAGA 115.00 to STATIN X 115.00
1 33020 35101 "1" 0 # LINE from MORAGA 115.00 to SN LNDRO 115.00
1 33020 35101 "3" 0 # LINE from MORAGA 115.00 to SN LNDRO 115.00
0
#
#
# (172) BUS FAULT 33020 "MORAGA" Moraga 115 kV Bus Section 2E
#
1 33020 32790 "4" 0 # LINE from MORAGA 115.00 to STATIN X 115.00
1 33020 32792 "1" 0 # LINE from MORAGA 115.00 to STATIN J 115.00
1 33020 35101 "2" 0 # LINE from MORAGA 115.00 to SN LNDRO 115.00
0
#
#
# (173) BUS FAULT 33049 "RVEC"
#
1 33049 33048 "1" 0 # LINE from RVEC 115.00 to RVECTP 115.00
2 33049 33178 "1" 0 # TRAN from RVEC 115.00 to RVEC_GEN 13.80
0
#
#
# (174) BUS FAULT 33050 "CC SUB" Contra Costa Sub 60 kV Bus Section 1
#
1 33050 33081 "1" 0 # LINE from CC SUB 60.00 to DUPNTJCT 60.00
1 33050 33060 "1" 0 # LINE from CC SUB 60.00 to ANTIOCH 60.00
2 33050 33000 "1" 0 # TRAN from CC SUB 60.00 to CC SUB 115.00
0
#
#
# (175) BUS FAULT 33050 "CC SUB" Contra Costa Sub 60 kV Bus Section 2
#
1 33050 33080 "1" 0 # LINE from CC SUB 60.00 to WILBRTAP 60.00
1 33050 33090 "1" 0 # LINE from CC SUB 60.00 to SHLLCHMT 60.00
2 33050 33000 "2" 0 # TRAN from CC SUB 60.00 to CC SUB 115.00
0
#
#
# (176) BUS FAULT 33051 "DU PONT"
#
1 33051 33080 "1" 0 # LINE from DU PONT 60.00 to WILBRTAP 60.00
1 33051 33081 "1" 0 # LINE from DU PONT 60.00 to DUPNTJCT 60.00
4 33051 0 "1" 0 # LOAD-DROP DU PONT 60.00 LOAD==2.00(2.16)
0
#
#
# (177) BUS FAULT 33054 "BALFOUR"
#
1 33054 33082 "1" 0 # LINE from BALFOUR 60.00 to BALFRJCT 60.00
1 33054 33083 "1" 0 # LINE from BALFOUR 60.00 to MDLRVRJT 60.00
4 33054 0 "1" 0 # LOAD-DROP BALFOUR 60.00 LOAD==4.00(0.81)
0
#
#
# (178) BUS FAULT 33063 "WLLW PSS"
#
1 33063 33062 "1" 0 # LINE from WLLW PSS 60.00 to SHLL CHM 60.00
1 33063 33091 "1" 0 # LINE from WLLW PSS 60.00 to TAP GWF5 60.00
4 33063 0 "1" 0 # LOAD-DROP WLLW PSS 60.00 LOAD==9.78(2.23)

```


APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

0
#
#
# 2013 category c contingency list (dctl and bus outages)
# San Francisco Division Zone 309
#
#
# (179) C5 DCTL OUTAGE
# Martin - Daly City #1 and #2 115 kV Lines
1 33208 33300 "1 " 0 # line from MARTIN C 115.00 BRKR to BRKR DALY CTY 115.00
#
1 33208 33301 "2 " 0 # line from MARTIN C 115.00 BRKR to (3) DLY CTYP 115.00
1 33301 33300 "2 " 0 # line from DLY CTYP 115.00 (3) to BRKR DALY CTY 115.00
1 33301 33302 "1 " 0 # line from DLY CTYP 115.00 (3) to BRKR SERRMNT 115.00
4 33302 0 "1 " 0 # LOAD-DROP SERRMNT 115.00 LOAD==11.42(2.60)
0
#
#
# (180) C5 DCTL OUTAGE
# Martin - East Grand and Martin - San Mateo #3 115 kV Lines
1 33208 33303 "2 " 0 # line from MARTIN C 115.00 BRKR to BRKR EST GRND 115.00
#
1 33208 33310 "3 " 0 # line from MARTIN C 115.00 BRKR to BRKR SANMATEO 115.00
0
#
#
# (181) C5 DCTL OUTAGE
# Martin - Millbrae and Martin - San Mateo #6 115 kV Lines
1 33208 33307 "1 " 0 # line from MARTIN C 115.00 BRKR to BRKR MILLBRAE 115.00
#
1 33305 33208 "6 " 0 # line from SHAWROAD 115.00 (2) to BRKR MARTIN C 115.00
1 33305 33310 "6 " 0 # line from SHAWROAD 115.00 (2) to BRKR SANMATEO 115.00
4 33305 33309 "1 " 1 # LOAD-TRANSFER SHAWROAD 115.00 TO SANPAULA 115.00 LOAD==9.00(1.83)
0
#
#
# (182) C5 DCTL OUTAGE
# Burlingame - San Mateo and Martin - San Mateo #3 115 kV Lines
1 33310 33356 "4 " 0 # line from SANMATEO 115.00 BRKR to BRKR BURLINGME 115.00
#
1 33208 33310 "3 " 0 # line from MARTIN C 115.00 BRKR to BRKR SANMATEO 115.00
0
#
#
# (183) C5 DCTL OUTAGE
# Martin - Burlingame and Martin - San Mateo #3 115 kV Lines
1 33356 33208 "4 " 0 # line from BURLINGME 115.00 BRKR to BRKR MARTIN C 115.00
#
1 33208 33310 "3 " 0 # line from MARTIN C 115.00 BRKR to BRKR SANMATEO 115.00
0
#
#
# (184) C5 DCTL OUTAGE
# SF Airport - San Mateo and Martin - San Mateo #3 115 kV Lines
1 33306 33310 "5 " 0 # line from SFIA 115.00 BRKR to BRKR SANMATEO 115.00
#
1 33208 33310 "3 " 0 # line from MARTIN C 115.00 BRKR to BRKR SANMATEO 115.00
0
#
#
# (185) C5 DCTL OUTAGE
# Martin - SF Airport and Martin - San Mateo #6 115 kV Lines
1 33208 33322 "5 " 0 # line from MARTIN C 115.00 BRKR to (3) UAL TAP 115.00
1 33322 33306 "5 " 0 # line from UAL TAP 115.00 (3) to BRKR SFIA 115.00
1 33322 33323 "1 " 0 # line from UAL TAP 115.00 (3) to (3) SFASWSTA 115.00
1 33323 33304 "1 " 0 # line from SFASWSTA 115.00 (3) to (2) UAL COGN 115.00
1 33323 33324 "1 " 0 # line from SFASWSTA 115.00 (3) to (2) SFAERP11 115.00
2 33304 33466 "1 " 0 # TRAN from UAL COGN 115.00 BRKR to (1) UNTED CO 9.11
2 33324 33467 "1 " 0 # TRAN from SFAERP11 115.00 (2) to (1) SFAERP 13.80
4 33467 0 "ss" 0 # LOAD-DROP SFAERP 13.80 LOAD==1.80(1.12)
3 33466 0 "1 " 0 # GEN-DROP UNTED CO 9.11 GEN==28.20(11.16)
3 33467 0 "1 " 0 # GEN-DROP SFAERP 13.80 GEN==48.00(10.34)
#
1 33305 33208 "6 " 0 # line from SHAWROAD 115.00 (2) to BRKR MARTIN C 115.00
1 33305 33310 "6 " 0 # line from SHAWROAD 115.00 (2) to BRKR SANMATEO 115.00
4 33305 33309 "1 " 1 # LOAD-TRANSFER SHAWROAD 115.00 TO SANPAULA 115.00 LOAD==9.00(1.83)
0
#

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

#
# (186) BUS FAULT 33204 "POTRERO" Potrero 115 kV Bus Section 1D
#
1 33204 33200 "1" 0 # LINE from POTRERO 115.00 to LARKIN D 115.00
1 33204 33203 "1" 0 # LINE from POTRERO 115.00 to MISSON 115.00
1 33204 33206 "1" 0 # LINE from POTRERO 115.00 to BAYSHOR1 115.00
2 33204 33252 "1" 0 # TRAN from POTRERO 115.00 to POTRERO3 20.00
2 33204 33252 "2" 0 # TRAN from POTRERO 115.00 to POTRERO3 20.00
4 33204 0 "1 " 0 # LOAD-DROP POTRERO 115.00 LOAD==43.69(8.87)
4 33204 0 "2 " 0 # LOAD-DROP POTRERO 115.00 LOAD==43.69(3.92)
0
#
#
# (187) BUS FAULT 33204 "POTRERO" Potrero 115 kV Bus Section 2D
#
1 33204 33207 "2" 0 # LINE from POTRERO 115.00 to BAYSHOR2 115.00
2 33204 33253 "1" 0 # TRAN from POTRERO 115.00 to POTRERO4 13.80
2 33204 33254 "1" 0 # TRAN from POTRERO 115.00 to POTRERO5 13.80
2 33204 33255 "1" 0 # TRAN from POTRERO 115.00 to POTRERO6 13.80
4 33204 0 "10" 0 # LOAD-DROP POTRERO 115.00 LOAD==43.69(8.87)
0
#
#
# (188) BUS FAULT 33204 "POTRERO" Potrero 115 kV Bus Section 1E
#
1 33204 33205 "1" 0 # LINE from POTRERO 115.00 to HNTRS PT 115.00
1 33204 33210 "1" 0 # LINE from POTRERO 115.00 to POT_SVC 115.00
0
#
#
# (189) BUS FAULT 33204 "POTRERO" Potrero 115 kV Bus Section 2E
#
1 33204 33201 "2" 0 # LINE from POTRERO 115.00 to LARKIN E 115.00
6 33204 0 "v " 0 # SVD-DROP POTRERO 115.00
0
#
#
# (190) BUS FAULT 33208 "MARTIN C" Martin 115 kV Bus Section 1E
#
1 33208 33205 "1" 0 # LINE from MARTIN C 115.00 to HNTRS PT 115.00
1 33208 33300 "1" 0 # LINE from MARTIN C 115.00 to DALY CTY 115.00
1 33208 33303 "2" 0 # LINE from MARTIN C 115.00 to EST GRND 115.00
4 33208 0 "4 " 0 # LOAD-DROP MARTIN C 115.00 LOAD==32.54(2.06)
6 33208 0 "v " 0 # SVD-DROP MARTIN C 115.00
0
#
#
# (191) BUS FAULT 33208 "MARTIN C" Martin 115 kV Bus Section 2E
#
1 33208 33207 "2" 0 # LINE from MARTIN C 115.00 to BAYSHOR2 115.00
1 33208 33301 "2" 0 # LINE from MARTIN C 115.00 to DLY CTYP 115.00
1 33208 33310 "3" 0 # LINE from MARTIN C 115.00 to SANMATEO 115.00
0
#
#
# (192) BUS FAULT 33208 "MARTIN C" Martin 115 kV Bus Section 1D
#
1 33208 33206 "1" 0 # LINE from MARTIN C 115.00 to BAYSHOR1 115.00
1 33208 33305 "6" 0 # LINE from MARTIN C 115.00 to SHAWROAD 115.00
1 33208 33322 "5" 0 # LINE from MARTIN C 115.00 to UAL TAP 115.00
1 33208 33356 "4" 0 # LINE from MARTIN C 115.00 to BURLNGME 115.00
0
#
#
# (193) BUS FAULT 33208 "MARTIN C" Martin 115 kV Bus Section 2D
#
1 33208 33202 "1" 0 # LINE from MARTIN C 115.00 to LARKIN F 115.00
1 33208 33307 "1" 0 # LINE from MARTIN C 115.00 to MILLBRAE 115.00
1 33208 33205 "3" 0 # LINE from MARTIN C 115.00 to HNTRS PT 115.00
2 33208 33209 "6" 0 # TRAN from MARTIN C 115.00 to MARTIN 60.00
4 33208 0 "1B" 0 # LOAD-DROP MARTIN C 115.00 LOAD==32.54(2.06)
0
#
#
# (194) BUS FAULT 33209 "MARTIN"
#
1 33209 33347 "1" 0 # LINE from MARTIN 60.00 to SNTH JCT 60.00
2 33209 33208 "6" 0 # TRAN from MARTIN 60.00 to MARTIN C 115.00

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

0
#
#
# 2013 category c contingency list (dctl and bus outages)
# Peninsula Division Zone 310
#
#
# (195) C5 DCTL OUTAGE
# Pittsburg - San Mateo and East Shore - San Mateo 230 kV Lines
1 30700 30527 "1 " 0 # line from SANMATEO 230.00 BRKR to BRKR PITSBG E 230.00
#
1 30560 30700 "1 " 0 # line from E. SHORE 230.00 BRKR to BRKR SANMATEO 230.00
0
#
#
# (196) C5 DCTL OUTAGE
# Newark - Ravenswood and Tesla - Ravenswood 230 kV Lines
1 30630 30703 "1 " 0 # line from NEWARK D 230.00 BRKR to BRKR RAVENSWD 230.00
#
1 30640 30703 "1 " 0 # line from TESLA C 230.00 BRKR to BRKR RAVENSWD 230.00
0
#
#
# (197) C5 DCTL OUTAGE
# Ravenswood - San Mateo #1 and #2 230 kV Lines
1 30703 30700 "1 " 0 # line from RAVENSWD 230.00 BRKR to BRKR SANMATEO 230.00
#
1 30703 30700 "2 " 0 # line from RAVENSWD 230.00 BRKR to BRKR SANMATEO 230.00
0
#
#
# (198) C5 DCTL OUTAGE
# Monta Vista - Jefferson #1 and #2 230 kV Lines
1 30705 30710 "1 " 0 # line from MONTAVIS 230.00 BRKR to (3) SLACTAP1 230.00
1 30710 30711 "1 " 0 # line from SLACTAP1 230.00 (3) to BRKR S.L.A.C. 230.00
1 30710 30715 "1 " 0 # line from SLACTAP1 230.00 (3) to BRKR JEFFERSN 230.00
4 30711 0 "1 " 0 # LOAD-DROP S.L.A.C. 230.00 LOAD==58.00(11.78)
1 30711 30712 "1 " 1 # LINE-TRANSFER SLACTAP1 to SLACTAP2
4 30711 0 "***" 1 # RESTORE S.L.A.C. load
#
1 30705 30712 "2 " 0 # line from MONTAVIS 230.00 BRKR to (2) SLACTAP2 230.00
1 30712 30715 "2 " 0 # line from SLACTAP2 230.00 (2) to BRKR JEFFERSN 230.00
0
#
#
# (199) C5 DCTL OUTAGE
# Jefferson - Ralston and Millbrae - Pacifica 115 kV Lines
1 33349 33362 "1 " 0 # line from CAROLD2 60.00 (1) to (2) CRYSTLSG 60.00
1 33362 33399 "1 " 0 # line from CRYSTLSG 60.00 (2) to (2) HILDAL47 60.00
1 33399 33398 "1 " 0 # line from HILDAL47 60.00 (2) to (3) RLSTN45 60.00
1 33398 33363 "1 " 0 # line from RLSTN45 60.00 (3) to BRKR RALSTON 60.00
1 33398 33400 "1 " 0 # line from RLSTN45 60.00 (3) to BRKR JEFRSN_E 60.00
4 33362 0 "1 " 0 # LOAD-DROP CRYSTLSG 60.00 LOAD==3.00(0.61)
1 33397 33363 "1 " 1 # LINE-TRANSFER RLSTN35 60.00 TO RALSTON 60.00
4 33363 0 "***" 1 # RESTORE RALSTON LOAD
#
1 33351 33345 "1 " 0 # line from SN BRNOT 60.00 (2) to (2) SNTH TP1 60.00
1 33351 33352 "1 " 0 # line from SN BRNOT 60.00 (2) to (2) SNANDRES 60.00
1 33345 33355 "1 " 0 # line from SNTH TP1 60.00 (2) to BRKR PACIFICA 60.00
1 33352 33354 "1 " 0 # line from SNANDRES 60.00 (2) to (2) MLLBRETP 60.00
1 33354 33353 "1 " 0 # line from MLLBRETP 60.00 (2) to BRKR MILLBRAE 60.00
4 33351 0 "1 " 0 # LOAD-DROP SN BRNOT 60.00 LOAD==3.36(0.77)
4 33352 0 "1 " 0 # LOAD-DROP SNANDRES 60.00 LOAD==1.80(0.37)
4 33355 0 "1 " 0 # LOAD-DROP PACIFICA 60.00 LOAD==9.92(2.26)
4 33355 0 "2 " 0 # LOAD-DROP PACIFICA 60.00 LOAD==5.61(1.28)
1 33355 33389 "1 " 1 # LINE-TRANSFER PACIFICA 60.00 TO PACIFJCT 60.00
4 33355 0 "***" 1 # RESTORE PACIFICA LOAD
0
#
#
# (200) C5 DCTL OUTAGE
# Jefferson - Ralston and Jefferson - Hillsdale Jct 115 kV Lines
1 33349 33362 "1 " 0 # line from CAROLD2 60.00 (1) to (2) CRYSTLSG 60.00
1 33362 33399 "1 " 0 # line from CRYSTLSG 60.00 (2) to (2) HILDAL47 60.00
1 33399 33398 "1 " 0 # line from HILDAL47 60.00 (2) to (3) RLSTN45 60.00
1 33398 33363 "1 " 0 # line from RLSTN45 60.00 (3) to BRKR RALSTON 60.00
1 33398 33400 "1 " 0 # line from RLSTN45 60.00 (3) to BRKR JEFRSN_E 60.00
4 33362 0 "1 " 0 # LOAD-DROP CRYSTLSG 60.00 LOAD==3.00(0.61)

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

1 33397 33363 "1 " 1 # LINE-TRANSFER RLSTN35 60.00 TO RALSTON 60.00
4 33363 0 "***" 1 # RESTORE RALSTON LOAD
#
1 33348 33359 "1 " 0 # line from CAROLD1 60.00 (3) to BRKR CAROLNDS 60.00
1 33348 33391 "1 " 0 # line from CAROLD1 60.00 (3) to (2) TRAN-60 60.00
1 33348 33396 "1 " 0 # line from CAROLD1 60.00 (3) to (3) HILDAL49 60.00
1 33391 33392 "1 " 0 # line from TRAN-60 60.00 (2) to (1) MLLBTP97 60.00
1 33396 33361 "1 " 0 # line from HILDAL49 60.00 (3) to (3) HLLSDLJT 60.00
1 33396 33397 "1 " 0 # line from HILDAL49 60.00 (3) to (2) RLSTN35 60.00
1 33361 33360 "1 " 0 # line from HLLSDLJT 60.00 BRKR to BRKR HILLSdle 60.00
1 33361 33394 "1 " 0 # line from HLLSDLJT 60.00 (3) to BRKR OXMTN_TP 60.00
1 33397 33378 "1 " 0 # line from RLSTN35 60.00 (2) to (3) WTRSHDTP 60.00
1 33378 33379 "1 " 0 # line from WTRSHDTP 60.00 (3) to (1) WATRSHED 60.00
1 33378 33400 "1 " 0 # line from WTRSHDTP 60.00 (3) to BRKR JEFERN_E 60.00
4 33359 0 "1 " 0 # LOAD-DROP CAROLNDS 60.00 LOAD==2.65(0.60)
4 33359 0 "2 " 0 # LOAD-DROP CAROLNDS 60.00 LOAD==4.88(1.11)
4 33379 33363 "1 " 1 # LOAD-TRANSFER WATRSHED 60.00 TO RALSTON 60.00 LOAD==0.70(0.32)
1 33349 33359 "1 " 1 # LINE-TRANSFER CAROLNDS 60.00 TO CAROLD2 60.00
4 33359 0 "***" 1 # RESTORE CAROLANDS load
0
#
#
# (201) C5 DCTL OUTAGE
# Millbrae - San Mateo and East Grand - San Mateo 115 kV Lines
1 33307 33310 "1 " 0 # line from MILLBRAE 115.00 BRKR to BRKR SANMATEO 115.00
#
1 33308 33303 "2 " 0 # line from SFIA-MA 115.00 (2) to BRKR EST GRND 115.00
1 33308 33310 "2 " 0 # line from SFIA-MA 115.00 (2) to BRKR SANMATEO 115.00
4 33308 33306 "1 " 1 # LOAD-TRANSFER SFIA-MA 115.00 TO SFIA 115.00 LOAD==20.20(4.10)
0
#
#
# (202) C5 DCTL OUTAGE
# San Mateo - Bay Meadows #1 and #2 115 kV Lines
1 33310 33311 "1 " 0 # line from SANMATEO 115.00 BRKR to BRKR BAY MDWS 115.00
#
1 33310 33311 "2 " 0 # line from SANMATEO 115.00 BRKR to BRKR BAY MDWS 115.00
0
#
#
# (203) C5 DCTL OUTAGE
# San Mateo - Belmont and Ravenswood - San Mateo 115 kV Lines
1 33310 33312 "1 " 0 # line from SANMATEO 115.00 BRKR to BRKR BELMONT 115.00
#
1 33310 33321 "1 " 0 # line from SANMATEO 115.00 BRKR to BRKR RVNSWD D 115.00
0
#
#
# (204) C5 DCTL OUTAGE
# San Mateo - Belmont 115 kV and San Mateo - San Carlos 60 kV Lines
1 33310 33312 "1 " 0 # line from SANMATEO 115.00 BRKR to BRKR BELMONT 115.00
#
1 33357 33364 "1 " 0 # line from SAN MATO 60.00 BRKR to (2) ORACLE60 60.00
1 33364 33365 "1 " 0 # line from ORACLE60 60.00 (2) to BRKR SAN CRLS 60.00
4 33364 0 "1 " 0 # LOAD-DROP ORACLE60 60.00 LOAD==11.86(5.40)
0
#
#
# (205) C5 DCTL OUTAGE
# Ravenswood - Bair #2 and Ravenswood - San Mateo 115 kV Lines
1 33313 33319 "2 " 0 # line from BAIR 115.00 BRKR to (3) SHREDJCT 115.00
1 33319 33314 "1 " 0 # line from SHREDJCT 115.00 (3) to (2) SHREDDER 115.00
1 33319 33321 "2 " 0 # line from SHREDJCT 115.00 (3) to BRKR RVNSWD D 115.00
1 33314 33320 "1 " 0 # line from SHREDDER 115.00 (2) to (1) LONESTAR 115.00
4 33314 0 "1 " 0 # LOAD-DROP SHREDDER 115.00 LOAD==4.77(5.43)
4 33320 0 "1 " 0 # LOAD-DROP LONESTAR 115.00 LOAD==2.57(3.43)
#
1 33310 33321 "1 " 0 # line from SANMATEO 115.00 BRKR to BRKR RVNSWD D 115.00
0
#
#
# (206) C5 DCTL OUTAGE
# Belmont - Bair 115 kV and San Carlos - Bair 60 kV Lines
1 33312 33313 "1 " 0 # line from BELMONT 115.00 BRKR to BRKR BAIR 115.00
#
1 33365 33367 "1 " 0 # line from SAN CRLS 60.00 BRKR to BRKR BAIR 60.00
0
#

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

#
# (207) C5 DCTL OUTAGE
# Ravenswood - Bair #1 and #2 115 kV Lines
1 33321 33313 "1 " 0 # line from RVNSWD D 115.00 BRKR to BRKR BAIR 115.00
#
1 33313 33319 "2 " 0 # line from BAIR 115.00 BRKR to (3) SHREDJCT 115.00
1 33319 33314 "1 " 0 # line from SHREDJCT 115.00 (3) to (2) SHREDDER 115.00
1 33319 33321 "2 " 0 # line from SHREDJCT 115.00 (3) to BRKR RVNSWD D 115.00
1 33314 33320 "1 " 0 # line from SHREDDER 115.00 (2) to (1) LONESTAR 115.00
4 33314 0 "1 " 0 # LOAD-DROP SHREDDER 115.00 LOAD==4.77(5.43)
4 33320 0 "1 " 0 # LOAD-DROP LONESTAR 115.00 LOAD==2.57(3.43)
0
#
#
# (208) C5 DCTL OUTAGE
# Ravenswood - Cooley Landing #1 and #2 115 kV Lines
1 33321 33317 "1 " 0 # line from RVNSWD D 115.00 BRKR to BRKR CLY LND 115.00
#
1 33315 33316 "2 " 0 # line from RVNSWD E 115.00 BRKR to BRKR CLY LND2 115.00
0
#
#
# (209) C5 DCTL OUTAGE
# Ravenswood - Ames #1 and #2 115 kV Lines
1 33315 35350 "1 " 0 # line from RVNSWD E 115.00 BRKR to BRKR AMES BS1 115.00
#
1 33315 35351 "2 " 0 # line from RVNSWD E 115.00 BRKR to BRKR AMES BS2 115.00
0
#
#
# (210) C5 DCTL OUTAGE
# Ravenswood - Palo Alto #1 and #2 115 kV Lines
1 33315 38028 "1 " 0 # line from RVNSWD E 115.00 BRKR to BRKR PLO ALTO 115.00
#
1 33315 38028 "2 " 0 # line from RVNSWD E 115.00 BRKR to BRKR PLO ALTO 115.00
0
#
#
# (211) C5 DCTL OUTAGE
# Ravenswood - Palo Alto #1 and Cooley Landing - Palo Alto 115 kV Lines
1 33315 38028 "1 " 0 # line from RVNSWD E 115.00 BRKR to BRKR PLO ALTO 115.00
#
1 33316 38028 "1 " 0 # line from CLY LND2 115.00 BRKR to BRKR PLO ALTO 115.00
0
#
#
# (212) C5 DCTL OUTAGE
# Bair - Cooley Landing #1 and #2 60 kV Lines
1 33367 33368 "1 " 0 # line from BAIR 60.00 BRKR to (2) REDWDTP1 60.00
1 33368 33373 "1 " 0 # line from REDWDTP1 60.00 (2) to (3) BLHVNTTP1 60.00
1 33373 33372 "1 " 0 # line from BLHVNTTP1 60.00 (3) to (1) BLLE HVN 60.00
1 33373 33375 "1 " 0 # line from BLHVNTTP1 60.00 (3) to BRKR CLY LNDG 60.00
4 33372 0 "1 " 0 # LOAD-DROP BLLE HVN 60.00 LOAD==7.52(1.71)
4 33372 0 "2 " 0 # LOAD-DROP BLLE HVN 60.00 LOAD==8.46(1.93)
4 33372 0 "3 " 0 # LOAD-DROP BLLE HVN 60.00 LOAD==15.39(3.51)
4 33372 0 "4 " 0 # LOAD-DROP BLLE HVN 60.00 LOAD==14.12(3.21)
4 33372 0 "5 " 0 # LOAD-DROP BLLE HVN 60.00 LOAD==29.05(6.62)
1 33372 33374 "2 " 1 # LINE-TRANSFER BLHVNTTP1 60.00 TO BLHVNTTP2 60.00
4 33372 0 "3 " 1 # RESTORE BELLE HAVEN load
#
1 33367 33369 "2 " 0 # line from BAIR 60.00 BRKR to (3) REDWDTP2 60.00
1 33369 33370 "2 " 0 # line from REDWDTP2 60.00 (3) to BRKR REDWOOD 60.00
1 33369 33374 "2 " 0 # line from REDWDTP2 60.00 (3) to (2) BLHVNTTP2 60.00
1 33374 33371 "2 " 0 # line from BLHVNTTP2 60.00 (2) to (2) RAYCHEM 60.00
1 33371 33375 "2 " 0 # line from RAYCHEM 60.00 (2) to BRKR CLY LNDG 60.00
4 33370 0 "1 " 0 # LOAD-DROP REDWOOD 60.00 LOAD==11.80(2.69)
4 33370 0 "2 " 0 # LOAD-DROP REDWOOD 60.00 LOAD==5.12(1.17)
4 33370 0 "3 " 0 # LOAD-DROP REDWOOD 60.00 LOAD==8.98(2.05)
4 33370 0 "4 " 0 # LOAD-DROP REDWOOD 60.00 LOAD==8.44(1.93)
4 33370 0 "5 " 0 # LOAD-DROP REDWOOD 60.00 LOAD==30.43(6.94)
4 33371 0 "1 " 0 # LOAD-DROP RAYCHEM 60.00 LOAD==7.48(5.22)
1 33368 33370 "1 " 1 # LINE-TRANSFER REDWDTP2 60.00 TO REDWDTP1 60.00
4 33370 0 "3 " 1 # RESTORE REDWOOD CITY load
0
#
#
# (213) C5 DCTL OUTAGE
# Martin - Sneath Lane and Millbrae - Pacifica 60 kV Lines

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

1 33209 33347 "1 " 0 # line from MARTIN 60.00 BRKR to (2) SNTH JCT 60.00
1 33347 33346 "1 " 0 # line from SNTH JCT 60.00 (2) to (3) SNTH TP2 60.00
1 33346 33389 "1 " 0 # line from SNTH TP2 60.00 (3) to (1) PACIFJCT 60.00
1 33346 33350 "1 " 0 # line from SNTH TP2 60.00 (3) to BRKR SNTH LNE 60.00
4 33350 0 "1 " 0 # LOAD-DROP SNTH LNE 60.00 LOAD==7.61(1.73)
4 33350 0 "2 " 0 # LOAD-DROP SNTH LNE 60.00 LOAD==9.62(2.19)
1 33350 33345 "1 " 1 # LINE-TRANSFER SNTH LNE 60.00 TO SNTH TP 60.00
4 33350 0 "***" 1 # RESTORE SNEATH LANE LOAD
#
#
# (214) C5 DCTL OUTAGE
# Martin - Sneath Lane and Jefferson - Hillsdale Jct 60 kV Lines
1 33209 33347 "1 " 0 # line from MARTIN 60.00 BRKR to (2) SNTH JCT 60.00
1 33347 33346 "1 " 0 # line from SNTH JCT 60.00 (2) to (3) SNTH TP2 60.00
1 33346 33389 "1 " 0 # line from SNTH TP2 60.00 (3) to (1) PACIFJCT 60.00
1 33346 33350 "1 " 0 # line from SNTH TP2 60.00 (3) to BRKR SNTH LNE 60.00
4 33350 0 "1 " 0 # LOAD-DROP SNTH LNE 60.00 LOAD==7.61(1.73)
4 33350 0 "2 " 0 # LOAD-DROP SNTH LNE 60.00 LOAD==9.62(2.19)
1 33350 33345 "1 " 1 # LINE-TRANSFER SNTH LNE 60.00 TO SNTH TP 60.00
4 33350 0 "***" 1 # RESTORE SNEATH LANE LOAD
#
#
1 33348 33359 "1 " 0 # line from CAROLD1 60.00 (3) to BRKR CAROLNDS 60.00
1 33348 33391 "1 " 0 # line from CAROLD1 60.00 (3) to (2) TRAN-60 60.00
1 33348 33396 "1 " 0 # line from CAROLD1 60.00 (3) to (3) HILDAL49 60.00
1 33391 33392 "1 " 0 # line from TRAN-60 60.00 (2) to (1) MLLBTP97 60.00
1 33396 33361 "1 " 0 # line from HILDAL49 60.00 (3) to (3) HLLSDLJT 60.00
1 33396 33397 "1 " 0 # line from HILDAL49 60.00 (3) to (2) RLSTN35 60.00
1 33361 33360 "1 " 0 # line from HLLSDLJT 60.00 BRKR to BRKR HILLSDL 60.00
1 33361 33394 "1 " 0 # line from HLLSDLJT 60.00 (3) to BRKR OXMTN_TP 60.00
1 33397 33378 "1 " 0 # line from RLSTN35 60.00 (2) to (3) WTRSHDTP 60.00
1 33378 33379 "1 " 0 # line from WTRSHDTP 60.00 (3) to (1) WATRSBED 60.00
1 33378 33400 "1 " 0 # line from WTRSHDTP 60.00 (3) to BRKR JEFNSN_E 60.00
4 33359 0 "1 " 0 # LOAD-DROP CAROLNDS 60.00 LOAD==2.65(0.60)
4 33359 0 "2 " 0 # LOAD-DROP CAROLNDS 60.00 LOAD==4.88(1.11)
4 33379 33363 "1 " 1 # LOAD-TRANSFER WATRSBED 60.00 TO RALSTON 60.00 LOAD==0.70(0.32)
1 33349 33359 "1 " 1 # LINE-TRANSFER CAROLNDS 60.00 TO CAROLD2 60.00
4 33359 0 "***" 1 # RESTORE CAROLANDS load
#
#
# (215) BUS FAULT 30700 "SANMATEO" San Mateo 230 kV Bus Section 1E
#
1 30700 30703 "2" 0 # LINE from SANMATEO 230.00 to RAVENSWD 230.00
4 30700 0 "v " 0 # SVD-DROP SANMATEO 230.00
#
#
# (216) BUS FAULT 30700 "SANMATEO" San Mateo 230 kV Bus Section 2E
#
1 30700 30703 "1" 0 # LINE from SANMATEO 230.00 to RAVENSWD 230.00
#
#
# (217) BUS FAULT 30700 "SANMATEO" San Mateo 230 kV Bus Section 1D
#
1 30700 30527 "1" 0 # LINE from SANMATEO 230.00 to PITSBG E 230.00
2 30700 30701 "5" 0 # TRAN from SANMATEO 230.00 to SMATEO5M 13.20
#
#
# (218) BUS FAULT 30700 "SANMATEO" San Mateo 230 kV Bus Section 2D
#
1 30700 30560 "1" 0 # LINE from SANMATEO 230.00 to E. SHORE 230.00
2 30700 30702 "6" 0 # TRAN from SANMATEO 230.00 to SMATEO6M 13.20
#

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APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

#
#
# (219) BUS FAULT 30711 "S.L.A.C."
#
1 30711 30710 "1" 0 # LINE from S.L.A.C. 230.00 to SLACTAP1 230.00
1 30711 30712 "1" 0 # LINE from S.L.A.C. 230.00 to SLACTAP2 230.00
4 30711 0 "1 " 0 # LOAD-DROP S.L.A.C. 230.00 LOAD==58.00(11.78)
0
#
#
# (220) BUS FAULT 30715 "JEFFERSN"
#
1 30715 30710 "1" 0 # LINE from JEFFERSN 230.00 to SLACTAP1 230.00
1 30715 30712 "2" 0 # LINE from JEFFERSN 230.00 to SLACTAP2 230.00
1 30715 30713 "1" 0 # LINE from JEFFERSN 230.00 to JMDAMCX1 230.00
2 30715 33380 "1" 0 # TRAN from JEFFERSN 230.00 to JEFERSN_D 60.00
2 30715 33400 "2" 0 # TRAN from JEFFERSN 230.00 to JEFERSN_E 60.00
0
#
#
# (221) BUS FAULT 33300 "DALY CTY"
#
1 33300 33208 "1" 0 # LINE from DALY CTY 115.00 to MARTIN C 115.00
1 33300 33301 "2" 0 # LINE from DALY CTY 115.00 to DLY CTYP 115.00
4 33300 0 "1 " 0 # LOAD-DROP DALY CTY 115.00 LOAD==50.29(11.46)
4 33300 0 "2 " 0 # LOAD-DROP DALY CTY 115.00 LOAD==30.35(6.92)
0
#
#
# (222) BUS FAULT 33302 "SERRMNTTE"
#
1 33302 33301 "1" 0 # LINE from SERRMNTTE 115.00 to DLY CTYP 115.00
4 33302 0 "1 " 0 # LOAD-DROP SERRMNTTE 115.00 LOAD==11.42(2.60)
0
#
#
# (223) BUS FAULT 33303 "EST GRND"
#
1 33303 33208 "2" 0 # LINE from EST GRND 115.00 to MARTIN C 115.00
1 33303 33308 "2" 0 # LINE from EST GRND 115.00 to SFIA-MA 115.00
4 33303 0 "1 " 0 # LOAD-DROP EST GRND 115.00 LOAD==58.02(13.22)
4 33303 0 "4 " 0 # LOAD-DROP EST GRND 115.00 LOAD==38.34(8.74)
4 33303 0 "5 " 0 # LOAD-DROP EST GRND 115.00 LOAD==35.32(8.05)
0
#
#
# (224) BUS FAULT 33306 "SFIA"
#
1 33306 33310 "5" 0 # LINE from SFIA 115.00 to SANMATEO 115.00
1 33306 33322 "5" 0 # LINE from SFIA 115.00 to UAL TAP 115.00
4 33306 33308 "1 " 1 # LOAD-TRANSFER SFIA 115.00 TO SFIA-MA 115.00 LOAD==18.70(3.80)
4 33306 33308 "2 " 1 # LOAD-TRANSFER SFIA 115.00 TO SFIA-MA 115.00 LOAD==18.70(3.80)
0
#
#
# (225) BUS FAULT 33307 "MILLBRAE" Millbrae 115 kV Bus Section 1
#
1 33307 33208 "1" 0 # LINE from MILLBRAE 115.00 to MARTIN C 115.00
1 33307 33309 "1" 0 # LINE from MILLBRAE 115.00 to SANPAULA 115.00
4 33307 0 "4 " 0 # LOAD-DROP MILLBRAE 115.00 LOAD==22.69(5.18)
0
#
#
# (226) BUS FAULT 33307 "MILLBRAE" Millbrae 115 kV Bus Section 2
#
1 33307 33310 "1" 0 # LINE from MILLBRAE 115.00 to SANMATEO 115.00
2 33307 33353 "5" 0 # TRAN from MILLBRAE 115.00 to MILLBRAE 60.00
4 33307 0 "3 " 0 # LOAD-DROP MILLBRAE 115.00 LOAD==23.03(5.25)
0
#
#
# (227) BUS FAULT 33310 "SANMATEO" San Mateo 115 kV Bus Section 1E
#
1 33310 33208 "3" 0 # LINE from SANMATEO 115.00 to MARTIN C 115.00
1 33310 33306 "5" 0 # LINE from SANMATEO 115.00 to SFIA 115.00
2 33310 30702 "6" 0 # TRAN from SANMATEO 115.00 to SMATEO6M 13.20
2 33310 33357 "8" 0 # TRAN from SANMATEO 115.00 to SAN MATO 60.00
4 33310 0 "9 " 0 # LOAD-DROP SANMATEO 115.00 LOAD==18.54(4.22)

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APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

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0
#
#
# (228) BUS FAULT 33310 "SANMATEO" San Mateo 115 kV Bus Section 2E
#
1 33310 33305 "6" 0 # LINE from SANMATEO 115.00 to SHAWROAD 115.00
1 33310 33356 "4" 0 # LINE from SANMATEO 115.00 to BURLNGME 115.00
1 33310 33321 "1" 0 # LINE from SANMATEO 115.00 to RVNSWD D 115.00
1 33310 33311 "2" 0 # LINE from SANMATEO 115.00 to BAY MDWS 115.00
1 33310 33312 "1" 0 # LINE from SANMATEO 115.00 to BELMONT 115.00
0
#
#
# (229) BUS FAULT 33310 "SANMATEO" San Mateo 115 kV Bus Section 1D
#
1 33310 33307 "1" 0 # LINE from SANMATEO 115.00 to MILLBRAE 115.00
1 33310 33311 "1" 0 # LINE from SANMATEO 115.00 to BAY MDWS 115.00
0
#
#
# (230) BUS FAULT 33310 "SANMATEO" San Mateo 115 kV Bus Section 2D
#
1 33310 33308 "2" 0 # LINE from SANMATEO 115.00 to SFIA-MA 115.00
2 33310 30701 "5" 0 # TRAN from SANMATEO 115.00 to SMATEO5M 13.20
0
#
#
# (231) BUS FAULT 33311 "BAY MDWS"
#
1 33311 33310 "1" 0 # LINE from BAY MDWS 115.00 to SANMATEO 115.00
1 33311 33310 "2" 0 # LINE from BAY MDWS 115.00 to SANMATEO 115.00
4 33311 0 "1 " 0 # LOAD-DROP BAY MDWS 115.00 LOAD==43.91(10.01)
4 33311 0 "2 " 0 # LOAD-DROP BAY MDWS 115.00 LOAD==34.54(7.87)
4 33311 0 "3 " 0 # LOAD-DROP BAY MDWS 115.00 LOAD==20.42(4.66)
4 33311 0 "5 " 0 # LOAD-DROP BAY MDWS 115.00 LOAD==19.08(4.35)
0
#
#
# (232) BUS FAULT 33312 "BELMONT"
#
1 33312 33310 "1" 0 # LINE from BELMONT 115.00 to SANMATEO 115.00
1 33312 33313 "1" 0 # LINE from BELMONT 115.00 to BAIR 115.00
4 33312 0 "1 " 0 # LOAD-DROP BELMONT 115.00 LOAD==37.28(8.49)
4 33312 0 "2 " 0 # LOAD-DROP BELMONT 115.00 LOAD==9.80(2.23)
4 33312 0 "3 " 0 # LOAD-DROP BELMONT 115.00 LOAD==31.91(7.27)
0
#
#
# (233) BUS FAULT 33313 "BAIR"
#
1 33313 33312 "1" 0 # LINE from BAIR 115.00 to BELMONT 115.00
1 33313 33319 "2" 0 # LINE from BAIR 115.00 to SHREDJCT 115.00
1 33313 33321 "1" 0 # LINE from BAIR 115.00 to RVNSWD D 115.00
2 33313 33367 "1" 0 # TRAN from BAIR 115.00 to BAIR 60.00
4 33313 0 "2 " 0 # LOAD-DROP BAIR 115.00 LOAD==16.67(3.80)
0
#
#
# (234) BUS FAULT 33315 "RVNSWD E" Ravenswood 115 kV Bus Section 1E
#
1 33315 35350 "1" 0 # LINE from RVNSWD E 115.00 to AMES BS1 115.00
1 33315 38028 "1" 0 # LINE from RVNSWD E 115.00 to PLO ALTO 115.00
0
#
#
# (235) BUS FAULT 33315 "RVNSWD E" Ravenswood 115 kV Bus Section 2E
#
1 33315 33316 "2" 0 # LINE from RVNSWD E 115.00 to CLY LND2 115.00
1 33315 35351 "2" 0 # LINE from RVNSWD E 115.00 to AMES BS2 115.00
1 33315 38028 "2" 0 # LINE from RVNSWD E 115.00 to PLO ALTO 115.00
0
#
#
# (236) BUS FAULT 33316 "CLY LND2"
#
1 33316 33315 "2" 0 # LINE from CLY LND2 115.00 to RVNSWD E 115.00
1 33316 38028 "1" 0 # LINE from CLY LND2 115.00 to PLO ALTO 115.00
1 33316 33317 "1" 0 # LINE from CLY LND2 115.00 to CLY LND 115.00

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APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

2 33316 33375 "2" 0 # TRAN from CLY LND2 115.00 to CLY LNDG 60.00
0
#
#
# (237) BUS FAULT 33317 "CLY LND"
#
1 33317 33316 "1" 0 # LINE from CLY LND 115.00 to CLY LND2 115.00
1 33317 33321 "1" 0 # LINE from CLY LND 115.00 to RVNSWD D 115.00
2 33317 33375 "1" 0 # TRAN from CLY LND 115.00 to CLY LNDG 60.00
0
#
#
# (238) BUS FAULT 33321 "RVNSWD D" Ravenswood 115 kV Bus Section 1D
#
1 33321 33313 "1" 0 # LINE from RVNSWD D 115.00 to BAIR 115.00
1 33321 33317 "1" 0 # LINE from RVNSWD D 115.00 to CLY LND 115.00
0
#
#
# (239) BUS FAULT 33321 "RVNSWD D" Ravenswood 115 kV Bus Section 1D
#
1 33321 33310 "1" 0 # LINE from RVNSWD D 115.00 to SANMATEO 115.00
1 33321 33319 "2" 0 # LINE from RVNSWD D 115.00 to SHREDJCT 115.00
0
#
#
# (240) BUS FAULT 33350 "SNTH LNE"
#
1 33350 33345 "1" 0 # LINE from SNTH LNE 60.00 to SNTH TP1 60.00
1 33350 33346 "1" 0 # LINE from SNTH LNE 60.00 to SNTH TP2 60.00
4 33350 0 "1 " 0 # LOAD-DROP SNTH LNE 60.00 LOAD==7.61(1.73)
4 33350 0 "2 " 0 # LOAD-DROP SNTH LNE 60.00 LOAD==9.62(2.19)
0
#
#
# (241) BUS FAULT 33353 "MILLBRAE"
#
1 33353 33354 "1" 0 # LINE from MILLBRAE 60.00 to MLLBRETP 60.00
2 33353 33307 "5" 0 # TRAN from MILLBRAE 60.00 to MILLBRAE 115.00
4 33353 0 "1 " 0 # LOAD-DROP MILLBRAE 60.00 LOAD==5.16(1.18)
0
#
#
# (242) BUS FAULT 33355 "PACIFICA"
#
1 33355 33345 "1" 0 # LINE from PACIFICA 60.00 to SNTH TP1 60.00
1 33355 33389 "1" 0 # LINE from PACIFICA 60.00 to PACIFJCT 60.00
4 33355 0 "1 " 0 # LOAD-DROP PACIFICA 60.00 LOAD==9.92(2.26)
4 33355 0 "2 " 0 # LOAD-DROP PACIFICA 60.00 LOAD==5.61(1.28)
0
#
#
# (243) BUS FAULT 33356 "BURLNGME"
#
1 33356 33310 "4" 0 # LINE from BURLNGME 115.00 to SANMATEO 115.00
1 33356 33208 "4" 0 # LINE from BURLNGME 115.00 to MARTIN C 115.00
4 33356 0 "1 " 0 # LOAD-DROP BURLNGME 115.00 LOAD==10.08(2.30)
0
#
#
# (244) BUS FAULT 33357 "SAN MATO" San Mateo 60 kV Bus Section 1
#
1 33357 33358 "1" 0 # LINE from SAN MATO 60.00 to BERESFRD 60.00
2 33357 33318 "3" 0 # TRAN from SAN MATO 60.00 to SMATEO3M 115.00
0
#
#
# (245) BUS FAULT 33357 "SAN MATO" San Mateo 60 kV Bus Section 2
#
1 33357 33364 "1" 0 # LINE from SAN MATO 60.00 to ORACLE60 60.00
2 33357 33310 "8" 0 # TRAN from SAN MATO 60.00 to SANMATEO 115.00
4 33357 0 "4 " 0 # LOAD-DROP SAN MATO 60.00 LOAD==8.55(1.94)
0
#
#
# (246) BUS FAULT 33358 "BERESFRD"
#
1 33358 33357 "1" 0 # LINE from BERESFRD 60.00 to SAN MATO 60.00

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

1 33358 33360 "1" 0 # LINE from BERESFRD 60.00 to HILLSDL 60.00
4 33358 0 "1 " 0 # LOAD-DROP BERESFRD 60.00 LOAD==5.80(1.32)
4 33358 0 "2 " 0 # LOAD-DROP BERESFRD 60.00 LOAD==4.07(0.93)
0
#
#
# (247) BUS FAULT 33359 "CAROLNDS"
#
1 33359 33348 "1" 0 # LINE from CAROLNDS 60.00 to CAROLD1 60.00
1 33359 33349 "1" 0 # LINE from CAROLNDS 60.00 to CAROLD2 60.00
4 33359 0 "1 " 0 # LOAD-DROP CAROLNDS 60.00 LOAD==2.65(0.60)
4 33359 0 "2 " 0 # LOAD-DROP CAROLNDS 60.00 LOAD==4.88(1.11)
0
#
#
# (248) BUS FAULT 33360 "HILLSDL"
#
1 33360 33358 "1" 0 # LINE from HILLSDL 60.00 to BERESFRD 60.00
1 33360 33361 "1" 0 # LINE from HILLSDL 60.00 to HLLSDLJT 60.00
4 33360 0 "1 " 0 # LOAD-DROP HILLSDL 60.00 LOAD==7.32(1.67)
0
#
#
# (249) BUS FAULT 33363 "RALSTON"
#
1 33363 33397 "1" 0 # LINE from RALSTON 60.00 to RLSTN35 60.00
1 33363 33398 "1" 0 # LINE from RALSTON 60.00 to RLSTN45 60.00
4 33363 33379 "1 " 1 # LOAD-TRANSFER RALSTON 60.00 TO WATRSHED 60.00 LOAD==6.53(1.49)
4 33363 33379 "2 " 1 # LOAD-TRANSFER RALSTON 60.00 TO WATRSHED 60.00 LOAD==3.37(0.77)
0
#
#
# (250) BUS FAULT 33365 "SAN CRLS"
#
1 33365 33364 "1" 0 # LINE from SAN CRLS 60.00 to ORACLE60 60.00
1 33365 33367 "1" 0 # LINE from SAN CRLS 60.00 to BAIR 60.00
4 33365 0 "1 " 0 # LOAD-DROP SAN CRLS 60.00 LOAD==12.95(2.95)
4 33365 0 "2 " 0 # LOAD-DROP SAN CRLS 60.00 LOAD==19.09(4.35)
4 33365 0 "3 " 0 # LOAD-DROP SAN CRLS 60.00 LOAD==9.80(2.23)
0
#
#
# (251) BUS FAULT 33366 "HLF MNBY"
#
1 33366 33389 "1" 0 # LINE from HLF MNBY 60.00 to PACIFJCT 60.00
1 33366 33394 "1" 0 # LINE from HLF MNBY 60.00 to OXMTN TP 60.00
4 33366 0 "1 " 0 # LOAD-DROP HLF MNBY 60.00 LOAD==8.02(1.82)
4 33366 0 "2 " 0 # LOAD-DROP HLF MNBY 60.00 LOAD==8.73(1.99)
4 33366 0 "3 " 0 # LOAD-DROP HLF MNBY 60.00 LOAD==9.64(2.19)
0
#
#
# (252) BUS FAULT 33367 "BAIR"
#
1 33367 33365 "1" 0 # LINE from BAIR 60.00 to SAN CRLS 60.00
1 33367 33368 "1" 0 # LINE from BAIR 60.00 to REDWDTP1 60.00
1 33367 33369 "2" 0 # LINE from BAIR 60.00 to REDWDTP2 60.00
2 33367 33313 "1" 0 # TRAN from BAIR 60.00 to BAIR 115.00
0
#
#
# (253) BUS FAULT 33370 "REDWOOD"
#
1 33370 33368 "1" 0 # LINE from REDWOOD 60.00 to REDWDTP1 60.00
1 33370 33369 "2" 0 # LINE from REDWOOD 60.00 to REDWDTP2 60.00
4 33370 0 "1 " 0 # LOAD-DROP REDWOOD 60.00 LOAD==11.80(2.69)
4 33370 0 "2 " 0 # LOAD-DROP REDWOOD 60.00 LOAD==5.12(1.17)
4 33370 0 "3 " 0 # LOAD-DROP REDWOOD 60.00 LOAD==8.98(2.05)
4 33370 0 "4 " 0 # LOAD-DROP REDWOOD 60.00 LOAD==8.44(1.93)
4 33370 0 "5 " 0 # LOAD-DROP REDWOOD 60.00 LOAD==30.43(6.94)
0
#
#
# (254) BUS FAULT 33375 "CLY LNDG" Cooley Landing 60 kV Bus Section 1
#
1 33375 33373 "1" 0 # LINE from CLY LNDG 60.00 to BLHVNTP1 60.00
1 33375 33382 "1" 0 # LINE from CLY LNDG 60.00 to S.R.I. 60.00
2 33375 33317 "1" 0 # TRAN from CLY LNDG 60.00 to CLY LND 115.00

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

0
#
#
# (255) BUS FAULT 33375 "CLY LNDG" Cooley Landing 60 kV Bus Section 1
#
1 33375 33371 "2" 0 # LINE from CLY LNDG 60.00 to RAYCHEM 60.00
1 33375 35454 "1" 0 # LINE from CLY LNDG 60.00 to WSTNG JT 60.00
2 33375 33316 "2" 0 # TRAN from CLY LNDG 60.00 to CLY LND2 115.00
0
#
#
# (256) BUS FAULT 33376 "LAS PLGS"
#
1 33376 33387 "1" 0 # LINE from LAS PLGS 60.00 to WOODSIDE 60.00
1 33376 33393 "1" 0 # LINE from LAS PLGS 60.00 to LSPLGSJT 60.00
4 33376 0 "1 " 0 # LOAD-DROP LAS PLGS 60.00 LOAD==3.30(0.75)
4 33376 0 "2 " 0 # LOAD-DROP LAS PLGS 60.00 LOAD==3.30(0.75)
0
#
#
# (257) BUS FAULT 33380 "JEFRSN_D" Jefferson 60 kV Bus Section 1D
#
1 33380 33377 "1" 0 # LINE from JEFRSN_D 60.00 to EMRLD LE 60.00
1 33380 33400 "1" 0 # LINE from JEFRSN_D 60.00 to JEFRSN_E 60.00
0
#
#
# (258) BUS FAULT 33380 "JEFRSN_D" Jefferson 60 kV Bus Section 2D and 2E
#
1 33380 33387 "1" 0 # LINE from JEFRSN_D 60.00 to WOODSIDE 60.00
2 33380 30715 "1" 0 # TRAN from JEFRSN_D 60.00 to JEFFERSN 230.00
1 33400 33378 "1" 0 # LINE from JEFRSN_E 60.00 to WTRSHDTP 60.00
0
#
#
# (259) BUS FAULT 33381 "GLENWOOD"
#
1 33381 33382 "1" 0 # LINE from GLENWOOD 60.00 to S.R.I. 60.00
1 33381 33384 "1" 0 # LINE from GLENWOOD 60.00 to MNLO JCT 60.00
4 33381 0 "1 " 0 # LOAD-DROP GLENWOOD 60.00 LOAD==10.42(2.37)
4 33381 0 "2 " 0 # LOAD-DROP GLENWOOD 60.00 LOAD==7.20(1.64)
4 33381 0 "3 " 0 # LOAD-DROP GLENWOOD 60.00 LOAD==9.03(2.06)
0
#
#
# (260) BUS FAULT 33383 "MENLO"
#
1 33383 33385 "1" 0 # LINE from MENLO 60.00 to MNLOJCT2 60.00
1 33383 33390 "1" 0 # LINE from MENLO 60.00 to MENLO G 60.00
4 33383 0 "1 " 0 # LOAD-DROP MENLO 60.00 LOAD==4.91(1.12)
4 33383 0 "3 " 0 # LOAD-DROP MENLO 60.00 LOAD==14.12(3.21)
0
#
#
# (261) BUS FAULT 33386 "STANFORD"
#
1 33386 33384 "1" 0 # LINE from STANFORD 60.00 to MNLO JCT 60.00
1 33386 33388 "1" 0 # LINE from STANFORD 60.00 to S.L.A.C. 60.00
2 33386 33463 "1" 0 # TRAN from STANFORD 60.00 to CARDINAL 12.47
4 33386 0 "SG" 0 # LOAD-DROP STANFORD 60.00 LOAD==30.83(6.26)
0
#
#
# (262) BUS FAULT 33387 "WOODSIDE"
#
1 33387 33376 "1" 0 # LINE from WOODSIDE 60.00 to LAS PLGS 60.00
1 33387 33380 "1" 0 # LINE from WOODSIDE 60.00 to JEFRSN_D 60.00
4 33387 0 "1 " 0 # LOAD-DROP WOODSIDE 60.00 LOAD==12.61(2.87)
4 33387 0 "2 " 0 # LOAD-DROP WOODSIDE 60.00 LOAD==10.53(2.40)
4 33387 0 "3 " 0 # LOAD-DROP WOODSIDE 60.00 LOAD==10.53(2.40)
0
#
#
# (263) BUS FAULT 33390 "MENLO G"
#
1 33390 33383 "1" 0 # LINE from MENLO G 60.00 to MENLO 60.00
1 33390 33384 "1" 0 # LINE from MENLO G 60.00 to MNLO JCT 60.00
4 33390 0 "2 " 0 # LOAD-DROP MENLO G 60.00 LOAD==5.32(1.21)

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

4 33390      0  "4 "    0      # LOAD-DROP    MENLO G    60.00  LOAD==14.35(3.27)
0
#
#
# (264) BUS FAULT  33394  "OXMTN_TP"
#
1 33394 33361 "1"    0      # LINE from  OXMTN_TP  60.00  to  HLLSDLJT  60.00
1 33394 33366 "1"    0      # LINE from  OXMTN_TP  60.00  to  HLF MNBY  60.00
1 33394 33395 "1"    0      # LINE from  OXMTN_TP  60.00  to  OX_MTN60  60.00
0
#
#
# (265) BUS FAULT  33400  "JEFRSN_E" Jefferson 60 kV Bus Section 1E
#
1 33400 33380 "1"    0      # LINE from  JEFRSN_E  60.00  to  JEFRSN_D  60.00
1 33400 33398 "1"    0      # LINE from  JEFRSN_E  60.00  to  RLSTN45  60.00
2 33400 30715 "2"    0      # TRAN from  JEFRSN_E  60.00  to  JEFFERSN  230.00
0
#
#
# 2013 category c contingency list (dctl and bus outages)
# Mission Division Zone 316
#
#
# (266) C5 DCTL OUTAGE
# Tassajara - Newark and San Ramon - Moraga 230 kV Lines
1 30562 30631 "1 "    0      # line from  TES JCT  230.00  (3) to BRKR  NEWARK E  230.00
1 30562 30561 "1 "    0      # line from  TES JCT  230.00  (3) to BRKR  TASSAJAR 230.00
1 30562 30563 "1 "    0      # line from  TES JCT  230.00  (3) to BRKR  RESEARCH 230.00
4 30563      0  "1 "    0      # LOAD-DROP    RESEARCH 230.00  LOAD==37.05(8.44)
#
1 30550 30555 "1 "    0      # line from  MORAGA   230.00  BRKR to BRKR  SANRAMON 230.00
0
#
#
# (267) C5 DCTL OUTAGE
# Tassajara - Newark and Castro Valley - Newark 230 kV Lines
1 30562 30631 "1 "    0      # line from  TES JCT  230.00  (3) to BRKR  NEWARK E  230.00
1 30562 30561 "1 "    0      # line from  TES JCT  230.00  (3) to BRKR  TASSAJAR 230.00
1 30562 30563 "1 "    0      # line from  TES JCT  230.00  (3) to BRKR  RESEARCH 230.00
4 30563      0  "1 "    0      # LOAD-DROP    RESEARCH 230.00  LOAD==37.05(8.44)
#
1 30554 30631 "1 "    0      # line from  CASTROVL 230.00  BRKR to BRKR  NEWARK E  230.00
0
#
#
# (268) C5 DCTL OUTAGE
# Moraga - San Leandro #1 and #2 115 kV Lines
1 33020 35101 "1 "    0      # line from  MORAGA   115.00  BRKR to BRKR  SN LNDRO 115.00
#
1 33020 35101 "2 "    0      # line from  MORAGA   115.00  BRKR to BRKR  SN LNDRO 115.00
0
#
#
# (269) C5 DCTL OUTAGE
# Grant - East Shore #1 and #2 115 kV Lines
1 35104 35105 "1 "    0      # line from  GRANT    115.00  BRKR to BRKR  EASTSHRE 115.00
#
1 35104 35105 "2 "    0      # line from  GRANT    115.00  BRKR to BRKR  EASTSHRE 115.00
0
#
#
# (270) C5 DCTL OUTAGE
# East Shore - Mt Eden #1 and #2 115 kV Lines
1 35105 35106 "1 "    0      # line from  EASTSHRE 115.00  BRKR to BRKR  MT EDEN  115.00
#
1 35105 35106 "2 "    0      # line from  EASTSHRE 115.00  BRKR to BRKR  MT EDEN  115.00
0
#
#
# (271) C5 DCTL OUTAGE
# Newark - Jarvis #1 and #2 115 kV Lines
1 35120 35111 "1 "    0      # line from  NEWARK D 115.00  BRKR to BRKR  JARVIS   115.00
#
1 35120 35124 "2 "    0      # line from  NEWARK D 115.00  BRKR to (2)  NUMI JCT 115.00
1 35124 35111 "2 "    0      # line from  NUMI JCT 115.00  (2) to BRKR  JARVIS   115.00
0
#

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APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

#
# (272) C5 DCTL OUTAGE
# Newark - Northern #1 and #2 115 kV Lines
1 35120 36851 "1 " 0 # line from NEWARK D 115.00 BRKR to BRKR NRS 400 115.00
#
1 35122 36853 "2 " 0 # line from NEWARK F 115.00 BRKR to BRKR NRS 300 115.00
0
#
#
# (273) C5 DCTL OUTAGE
# Newark - Fremont #1 and #2 115 kV Lines
1 35121 35110 "1 " 0 # line from NEWARK E 115.00 BRKR to BRKR FREMNT 115.00
#
1 35121 35110 "2 " 0 # line from NEWARK E 115.00 BRKR to BRKR FREMNT 115.00
0
#
#
# (274) C5 DCTL OUTAGE
# Newark - Ames #1 and #2 115 kV Lines
1 35121 35350 "1 " 0 # line from NEWARK E 115.00 BRKR to BRKR AMES BS1 115.00
#
1 35121 35351 "2 " 0 # line from NEWARK E 115.00 BRKR to BRKR AMES BS2 115.00
0
#
#
# (275) C5 DCTL OUTAGE
# Newark - Ames #3 and Newark - Ames Distribution 115 kV Lines
1 35121 35350 "3 " 0 # line from NEWARK E 115.00 BRKR to BRKR AMES BS1 115.00
#
1 35349 35121 "1 " 0 # line from AMES DST 115.00 BRKR to BRKR NEWARK E 115.00
0
#
#
# (276) C5 DCTL OUTAGE
# Newark - Nummi 115 kV and Newark - Livermore 60 kV Lines
1 35122 35126 "1 " 0 # line from NEWARK F 115.00 BRKR to (2) NUMI TAP 115.00
1 35126 35127 "1 " 0 # line from NUMI TAP 115.00 (2) to (2) WESTRN_D 115.00
1 35127 35112 "1 " 0 # line from WESTRN_D 115.00 (2) to BRKR NUMMI 115.00
4 35127 0 "1 " 0 # LOAD-DROP WESTRN_D 115.00 LOAD==6.80(4.25)
4 35112 0 "1 " 0 # LOAD-DROP NUMMI 115.00 LOAD==30.88(8.14)
#
1 35225 35217 "1 " 0 # line from LIVRMR_2 60.00 BRKR to BRKR NEWARK 60.00
0
#
#
# (277) C5 DCTL OUTAGE
# Newark - Lawrence and Newark - Applied Materials 115 kV Lines
1 35122 35357 "1 " 0 # line from NEWARK F 115.00 BRKR to (3) LCKHD J1 115.00
1 35357 35358 "1 " 0 # line from LCKHD J1 115.00 (3) to (3) MFT.FD J 115.00
1 35357 35363 "1 " 0 # line from LCKHD J1 115.00 (3) to BRKR LAWRENCE 115.00
1 35358 35359 "1 " 0 # line from MFT.FD J 115.00 (3) to (1) MOFT.FLD 115.00
1 35358 35361 "1 " 0 # line from MFT.FD J 115.00 (3) to BRKR LOCKHD 1 115.00
4 35359 0 "1 " 0 # LOAD-DROP MOFT.FLD 115.00 LOAD==4.46(1.12)
4 35361 0 "3 " 0 # LOAD-DROP LOCKHD 1 115.00 LOAD==17.45(14.46)
1 35361 35362 "1 " 1 # close LOCKHD 1 115.00 LOCKHD 2 115.00
4 35361 0 "***" 1 # restore all loads to LOCKHD 1
#
1 35122 35360 "1 " 0 # line from NEWARK F 115.00 BRKR to (3) LCKHD J2 115.00
1 35360 35362 "1 " 0 # line from LCKHD J2 115.00 (3) to BRKR LOCKHD 2 115.00
1 35360 35365 "1 " 0 # line from LCKHD J2 115.00 (3) to (3) AMD JCT 115.00
1 35365 35364 "1 " 0 # line from AMD JCT 115.00 (3) to BRKR A.M.D 115.00
1 35365 35369 "1 " 0 # line from AMD JCT 115.00 (3) to BRKR APP MAT 115.00
4 35362 0 "1 " 0 # LOAD-DROP LOCKHD 2 115.00 LOAD==7.56(1.72)
4 35362 0 "2 " 0 # LOAD-DROP LOCKHD 2 115.00 LOAD==3.42(0.78)
4 35362 0 "4 " 0 # LOAD-DROP LOCKHD 2 115.00 LOAD==16.21(12.58)
4 35364 0 "1 " 0 # LOAD-DROP A.M.D 115.00 LOAD==1.67(1.17)
1 35361 35362 "1 " 1 # close LOCKHD 1 115.00 LOCKHD 2 115.00
4 35362 0 "***" 1 # restore all loads to LOCKHD 2
0
#
#
# (278) C5 DCTL OUTAGE
# Newark - Dixon Landing and Newark - Milpitas #1 115 kV Lines
1 35122 35600 "1 " 0 # line from NEWARK F 115.00 BRKR to BRKR DIXON LD 115.00
#
1 35122 35624 "1 " 0 # line from NEWARK F 115.00 BRKR to BRKR MILPITAS 115.00
0
#

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APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

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#
# (279) C5 DCTL OUTAGE
# Newark - Kifer and Newark - Trimble 115 kV Lines
1 35122 35602 "1 " 0 # line from NEWARK F 115.00 BRKR to (3) ZNKER J2 115.00
1 35602 35604 "1 " 0 # line from ZNKER J2 115.00 (3) to (3) ZANKER 115.00
1 35602 36850 "1 " 0 # line from ZNKER J2 115.00 (3) to BRKR KRS 115.00
2 35604 35861 "1 " 0 # TRAN from ZANKER 115.00 (3) to (2) SJ-SCL W 9.11
2 35604 35861 "2 " 0 # TRAN from ZANKER 115.00 (3) to (2) SJ-SCL W 9.11
4 35861 0 "SG" 0 # LOAD-DROP SJ-SCL W 9.11 LOAD==6.17(2.09)
3 35861 0 "1 " 0 # GEN-DROP SJ-SCL W 9.11 GEN==5.00(0.00)
#
1 35122 35603 "1 " 0 # line from NEWARK F 115.00 BRKR to (3) ZNKER J1 115.00
1 35603 35605 "1 " 0 # line from ZNKER J1 115.00 (3) to (1) AGNEW J 115.00
1 35603 35612 "1 " 0 # line from ZNKER J1 115.00 (3) to BRKR TRIMBLE 115.00
0
#
#
# (280) BUS FAULT 30537 "NDUBLIN"
#
#
1 30537 30530 "1" 0 # LINE from NDUBLIN 230.00 to CAYETANO 230.00
1 30537 35224 "1" 0 # LINE from NDUBLIN 230.00 to VINEYD_D 230.00
4 30537 0 "1 " 0 # LOAD-DROP NDUBLIN 230.00 LOAD==18.81(4.29)
0
#
#
# (281) BUS FAULT 30554 "CASTROVL"
#
1 30554 30550 "1" 0 # LINE from CASTROVL 230.00 to MORAGA 230.00
1 30554 30556 "1" 0 # LINE from CASTROVL 230.00 to CV BART 230.00
1 30554 30631 "1" 0 # LINE from CASTROVL 230.00 to NEWARK E 230.00
4 30554 0 "1 " 0 # LOAD-DROP CASTROVL 230.00 LOAD==38.34(8.74)
4 30554 0 "2 " 0 # LOAD-DROP CASTROVL 230.00 LOAD==34.68(7.90)
0
#
#
# (282) BUS FAULT 30555 "SANRAMON" San Ramon 230 kV Bus Section 1
#
1 30555 30526 "1" 0 # LINE from SANRAMON 230.00 to PITSBG D 230.00
2 30555 35209 "1" 0 # TRAN from SANRAMON 230.00 to SAN RAMN 60.00
0
#
#
# (283) BUS FAULT 30555 "SANRAMON" San Ramon 230 kV Bus Section 2
#
1 30555 30550 "1" 0 # LINE from SANRAMON 230.00 to MORAGA 230.00
0
#
#
# (284) BUS FAULT 30585 "LS PSTAS"
#
1 30585 30525 "1" 0 # LINE from LS PSTAS 230.00 to C.COSTA 230.00
1 30585 30630 "1" 0 # LINE from LS PSTAS 230.00 to NEWARK D 230.00
2 30585 35220 "4" 0 # TRAN from LS PSTAS 230.00 to LPOSTAS 60.00
4 30585 0 "1 " 0 # LOAD-DROP LS PSTAS 230.00 LOAD==22.20(5.06)
4 30585 0 "2 " 0 # LOAD-DROP LS PSTAS 230.00 LOAD==51.40(11.71)
4 30585 0 "3 " 0 # LOAD-DROP LS PSTAS 230.00 LOAD==33.99(7.75)
0
#
#
# (285) BUS FAULT 30630 "NEWARK D" Newark 230 kV Bus Section 1D
#
1 30630 30585 "1" 0 # LINE from NEWARK D 230.00 to LS PSTAS 230.00
1 30630 30624 "1" 0 # LINE from NEWARK D 230.00 to TESLA E 230.00
1 30630 30703 "1" 0 # LINE from NEWARK D 230.00 to RAVENSWD 230.00
2 30630 30626 "7" 0 # TRAN from NEWARK D 230.00 to NWRK_7M 13.20
0
#
#
# (286) BUS FAULT 30630 "NEWARK D" Newark 230 kV Bus Section 2D
#
1 30630 30631 "1" 0 # LINE from NEWARK D 230.00 to NEWARK E 230.00
1 30630 35219 "1" 0 # LINE from NEWARK D 230.00 to VINEYARD 230.00
6 30630 0 "v " 0 # SVD-DROP NEWARK D 230.00
0
#
#
# (287) BUS FAULT 30631 "NEWARK E" Newark 230 kV Bus Section 1E

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

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#
1 30631 30554 "1" 0 # LINE from NEWARK E 230.00 to CASTROVL 230.00
1 30631 30635 "1" 0 # LINE from NEWARK E 230.00 to NWK DIST 230.00
0
#
#
# (288) BUS FAULT 30631 "NEWARK E" Newark 230 kV Bus Section 2E
#
1 30631 30562 "1" 0 # LINE from NEWARK E 230.00 to TES JCT 230.00
1 30631 30655 "2" 0 # LINE from NEWARK E 230.00 to ADCC 230.00
2 30631 30628 "11" 0 # TRAN from NEWARK E 230.00 to NWRK_11M 13.20
6 30631 0 "v" 0 # SVD-DROP NEWARK E 230.00
0
#
#
# (289) BUS FAULT 35101 "SN LNDRO" San Leandro 115 kV Bus Section D
#
1 35101 33020 "2" 0 # LINE from SN LNDRO 115.00 to MORAGA 115.00
1 35101 33020 "3" 0 # LINE from SN LNDRO 115.00 to MORAGA 115.00
4 35101 0 "3 " 0 # LOAD-DROP SN LNDRO 115.00 LOAD==26.45(6.03)
4 35101 0 "SL" 0 # LOAD-DROP SN LNDRO 115.00 LOAD==7.80(1.58)
0
#
#
# (290) BUS FAULT 35101 "SN LNDRO" San Leandro 115 kV Bus Section E
#
1 35101 33020 "1" 0 # LINE from SN LNDRO 115.00 to MORAGA 115.00
1 35101 35113 "1" 0 # LINE from SN LNDRO 115.00 to DMTAR_SL 115.00
4 35101 0 "1 " 0 # LOAD-DROP SN LNDRO 115.00 LOAD==26.90(6.13)
4 35101 0 "2 " 0 # LOAD-DROP SN LNDRO 115.00 LOAD==37.54(8.55)
0
#
#
# (291) BUS FAULT 35104 "GRANT"
#
1 35104 32812 "1" 0 # LINE from GRANT 115.00 to EDS GRNT 115.00
1 35104 35105 "1" 0 # LINE from GRANT 115.00 to EASTSHRE 115.00
1 35104 35105 "2" 0 # LINE from GRANT 115.00 to EASTSHRE 115.00
4 35104 0 "1 " 0 # LOAD-DROP GRANT 115.00 LOAD==23.95(5.46)
4 35104 0 "2 " 0 # LOAD-DROP GRANT 115.00 LOAD==26.01(5.93)
0
#
#
# (292) BUS FAULT 35105 "EASTSHRE" East Shore 115 kV Bus Section D
#
1 35105 35104 "2" 0 # LINE from EASTSHRE 115.00 to GRANT 115.00
1 35105 35106 "1" 0 # LINE from EASTSHRE 115.00 to MT EDEN 115.00
2 35105 30560 "1" 0 # TRAN from EASTSHRE 115.00 to E. SHORE 230.00
0
#
#
# (293) BUS FAULT 35105 "EASTSHRE" East Shore 115 kV Bus Section E
#
1 35105 35104 "1" 0 # LINE from EASTSHRE 115.00 to GRANT 115.00
1 35105 35106 "2" 0 # LINE from EASTSHRE 115.00 to MT EDEN 115.00
1 35105 35107 "1" 0 # LINE from EASTSHRE 115.00 to DUMBARTN 115.00
2 35105 30560 "2" 0 # TRAN from EASTSHRE 115.00 to E. SHORE 230.00
0
#
#
# (294) BUS FAULT 35106 "MT EDEN"
#
1 35106 35105 "1" 0 # LINE from MT EDEN 115.00 to EASTSHRE 115.00
1 35106 35105 "2" 0 # LINE from MT EDEN 115.00 to EASTSHRE 115.00
4 35106 0 "1 " 0 # LOAD-DROP MT EDEN 115.00 LOAD==38.61(8.80)
4 35106 0 "2 " 0 # LOAD-DROP MT EDEN 115.00 LOAD==36.10(8.23)
4 35106 0 "3 " 0 # LOAD-DROP MT EDEN 115.00 LOAD==34.77(7.93)
0
#
#
# (295) BUS FAULT 35107 "DUMBARTN"
#
1 35107 35105 "1" 0 # LINE from DUMBARTN 115.00 to EASTSHRE 115.00
1 35107 35120 "1" 0 # LINE from DUMBARTN 115.00 to NEWARK D 115.00
4 35107 0 "1 " 0 # LOAD-DROP DUMBARTN 115.00 LOAD==24.42(5.57)
4 35107 0 "2 " 0 # LOAD-DROP DUMBARTN 115.00 LOAD==25.84(5.89)
4 35107 0 "3 " 0 # LOAD-DROP DUMBARTN 115.00 LOAD==31.54(7.19)
0

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

#
#
# (296) BUS FAULT 35110 "FREMNT"
#
1 35110 35121 "1" 0 # LINE from FREMNT 115.00 to NEWARK E 115.00
1 35110 35121 "2" 0 # LINE from FREMNT 115.00 to NEWARK E 115.00
4 35110 0 "1 " 0 # LOAD-DROP FREMNT 115.00 LOAD==31.72(7.23)
4 35110 0 "2 " 0 # LOAD-DROP FREMNT 115.00 LOAD==19.38(4.41)
4 35110 0 "3 " 0 # LOAD-DROP FREMNT 115.00 LOAD==27.52(6.27)
0
#
#
# (297) BUS FAULT 35111 "JARVIS"
#
1 35111 35115 "1" 0 # LINE from JARVIS 115.00 to JV BART 115.00
1 35111 35116 "1" 0 # LINE from JARVIS 115.00 to CRYOGEN 115.00
1 35111 35120 "1" 0 # LINE from JARVIS 115.00 to NEWARK D 115.00
1 35111 35124 "2" 0 # LINE from JARVIS 115.00 to NUMI JCT 115.00
4 35111 0 "1 " 0 # LOAD-DROP JARVIS 115.00 LOAD==17.70(4.03)
4 35111 0 "2 " 0 # LOAD-DROP JARVIS 115.00 LOAD==26.59(6.06)
4 35111 0 "3 " 0 # LOAD-DROP JARVIS 115.00 LOAD==34.15(7.78)
0
#
#
# (298) BUS FAULT 35112 "NUMMI"
#
1 35112 35127 "1" 0 # LINE from NUMMI 115.00 to WESTRN_D 115.00
4 35112 0 "1 " 0 # LOAD-DROP NUMMI 115.00 LOAD==30.88(8.14)
0
#
#
# (299) BUS FAULT 35120 "NEWARK D" Newark 115 kV Bus Section 1D
#
1 35120 35111 "1" 0 # LINE from NEWARK D 115.00 to JARVIS 115.00
1 35120 36851 "1" 0 # LINE from NEWARK D 115.00 to NRS 400 115.00
1 35120 38446 "3" 0 # LINE from NEWARK D 115.00 to OAK-TAP1 115.00
4 35120 0 "3 " 0 # LOAD-DROP NEWARK D 115.00 LOAD==25.84(5.89)
0
#
#
# (300) BUS FAULT 35120 "NEWARK D" Newark 115 kV Bus Section 2D
#
1 35120 35107 "1" 0 # LINE from NEWARK D 115.00 to DUMBARTN 115.00
1 35120 35124 "2" 0 # LINE from NEWARK D 115.00 to NUMI JCT 115.00
1 35120 38448 "4" 0 # LINE from NEWARK D 115.00 to OAK-TAP2 115.00
2 35120 35109 "1" 0 # TRAN from NEWARK D 115.00 to NWRK 2 M 115.00
4 35120 0 "4 " 0 # LOAD-DROP NEWARK D 115.00 LOAD==24.33(5.54)
6 35120 0 "v " 0 # SVD-DROP NEWARK D 115.00
0
#
#
# (301) BUS FAULT 35121 "NEWARK E" Newark 115 kV Bus Section 1E
#
1 35121 35110 "1" 0 # LINE from NEWARK E 115.00 to FREMNT 115.00
1 35121 35350 "1" 0 # LINE from NEWARK E 115.00 to AMES BS1 115.00
1 35121 35350 "3" 0 # LINE from NEWARK E 115.00 to AMES BS1 115.00
0
#
#
# (302) BUS FAULT 35121 "NEWARK E" Newark 115 kV Bus Section 2E
#
1 35121 35110 "2" 0 # LINE from NEWARK E 115.00 to FREMNT 115.00
1 35121 35351 "2" 0 # LINE from NEWARK E 115.00 to AMES BS2 115.00
1 35121 35349 "1" 0 # LINE from NEWARK E 115.00 to AMES DST 115.00
2 35121 30626 "7" 0 # TRAN from NEWARK E 115.00 to NWRK_7M 13.20
0
#
#
# (303) BUS FAULT 35122 "NEWARK F" Newark 115 kV Bus Section 1F
#
1 35122 35357 "1" 0 # LINE from NEWARK F 115.00 to LCKHD J1 115.00
1 35122 35603 "1" 0 # LINE from NEWARK F 115.00 to ZNKER J1 115.00
1 35122 35624 "1" 0 # LINE from NEWARK F 115.00 to MILPITAS 115.00
1 35122 35624 "2" 0 # LINE from NEWARK F 115.00 to MILPITAS 115.00
0
#
#

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APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

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# (304) BUS FAULT 35122 "NEWARK F" Newark 115 kV Bus Section 1F
#
1 35122 35126 "1" 0 # LINE from NEWARK F 115.00 to NUMI TAP 115.00
1 35122 35360 "1" 0 # LINE from NEWARK F 115.00 to LCKHD J2 115.00
1 35122 35600 "1" 0 # LINE from NEWARK F 115.00 to DIXON LD 115.00
1 35122 35602 "1" 0 # LINE from NEWARK F 115.00 to ZNKER J2 115.00
1 35122 36853 "2" 0 # LINE from NEWARK F 115.00 to NRS 300 115.00
0
#
#
# (305) BUS FAULT 35201 "VASCO"
#
1 35201 35210 "1" 0 # LINE from VASCO 60.00 to VASCJCT. 60.00
1 35201 35211 "1" 0 # LINE from VASCO 60.00 to ALTAMONT 60.00
4 35201 0 "1 " 0 # LOAD-DROP VASCO 60.00 LOAD==6.00(1.37)
4 35201 0 "2 " 0 # LOAD-DROP VASCO 60.00 LOAD==8.78(2.00)
0
#
#
# (306) BUS FAULT 35203 "LIVERMRE"
#
1 35203 35220 "1" 0 # LINE from LIVERMRE 60.00 to LPOSTAS 60.00
1 35203 35222 "1" 0 # LINE from LIVERMRE 60.00 to CALMAT60 60.00
1 35203 35225 "1" 0 # LINE from LIVERMRE 60.00 to LIVRMR_2 60.00
4 35203 0 "1 " 0 # LOAD-DROP LIVERMRE 60.00 LOAD==10.62(2.42)
0
#
#
# (307) BUS FAULT 35205 "RADUM"
#
1 35205 35206 "1" 0 # LINE from RADUM 60.00 to KAISER 60.00
1 35205 35227 "1" 0 # LINE from RADUM 60.00 to VINEYARD 60.00
1 35205 35223 "1" 0 # LINE from RADUM 60.00 to PARKS TP 60.00
4 35205 0 "1 " 0 # LOAD-DROP RADUM 60.00 LOAD==9.13(2.08)
4 35205 0 "2 " 0 # LOAD-DROP RADUM 60.00 LOAD==10.18(2.32)
0
#
#
# (308) BUS FAULT 35209 "SAN RAMN"
#
1 35209 35221 "1" 0 # LINE from SAN RAMN 60.00 to E DUBLIN 60.00
2 35209 30555 "1" 0 # TRAN from SAN RAMN 60.00 to SANRAMON 230.00
0
#
#
# (309) BUS FAULT 35213 "VALLECTS"
#
1 35213 35212 "1" 0 # LINE from VALLECTS 60.00 to IUKA 60.00
1 35213 35214 "1" 0 # LINE from VALLECTS 60.00 to SUNOL 60.00
4 35213 0 "1 " 0 # LOAD-DROP VALLECTS 60.00 LOAD==1.16(0.20)
0
#
#
# (310) BUS FAULT 35217 "NEWARK"
#
1 35217 35216 "1" 0 # LINE from NEWARK 60.00 to DCTO JCT 60.00
1 35217 35225 "1" 0 # LINE from NEWARK 60.00 to LIVRMR_2 60.00
2 35217 35109 "1" 0 # TRAN from NEWARK 60.00 to NWRK 2 M 115.00
0
#
#
# (311) BUS FAULT 35220 "LPOSTAS"
#
1 35220 35203 "1" 0 # LINE from LPOSTAS 60.00 to LIVERMRE 60.00
1 35220 35210 "1" 0 # LINE from LPOSTAS 60.00 to VASCJCT. 60.00
2 35220 30585 "4" 0 # TRAN from LPOSTAS 60.00 to LS PSTAS 230.00
0
#
#
# (312) BUS FAULT 35224 "VINEYD_D"
#
1 35224 30537 "1" 0 # LINE from VINEYD_D 230.00 to NDUBLIN 230.00
1 35224 35219 "1" 0 # LINE from VINEYD_D 230.00 to VINEYARD 230.00
4 35224 0 "1 " 0 # LOAD-DROP VINEYD_D 230.00 LOAD==31.52(7.18)
0
#
#
# (313) BUS FAULT 35225 "LIVRMR_2"

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

#
1 35225 35203 "1" 0 # LINE from LIVRMR_2 60.00 to LIVERMRE 60.00
1 35225 35217 "1" 0 # LINE from LIVRMR_2 60.00 to NEWARK 60.00
4 35225 0 "2 " 0 # LOAD-DROP LIVRMR_2 60.00 LOAD==13.57(3.09)
0
#
#
# 2013 category c contingency list (dctl and bus outages)
# DeAnza Division Zone 317
#
#
# (314) C5 DCTL OUTAGE
# Monta Vista - Saratoga and Monta Vista - Hicks 230 kV Lines
1 30705 30720 "1 " 0 # line from MONTAVIS 230.00 BRKR to BRKR SARATOGA 230.00
#
1 30705 30730 "1 " 0 # line from MONTAVIS 230.00 BRKR to BRKR HICKS 230.00
0
#
#
# (315) C5 DCTL OUTAGE
# Saratoga - Vasona and Monta Vista - Hicks 230 kV Lines
1 30720 30733 "1 " 0 # line from SARATOGA 230.00 BRKR to BRKR VASONA 230.00
#
1 30705 30730 "1 " 0 # line from MONTAVIS 230.00 BRKR to BRKR HICKS 230.00
0
#
#
# (316) C5 DCTL OUTAGE
# Monta Vista - Metcalf and Monta Vista - Coyote Sw Sta 230 kV Lines
1 30735 30705 "3 " 0 # line from METCALF 230.00 BRKR to BRKR MONTAVIS 230.00
#
1 30741 30705 "4 " 0 # line from CAL MEC 230.00 BRKR to BRKR MONTAVIS 230.00
0
#
#
# (317) C5 DCTL OUTAGE
# Newark - Ames #3 and Ames - Ames Distribution 115 kV Lines
1 35121 35350 "3 " 0 # line from NEWARK E 115.00 BRKR to BRKR AMES BS1 115.00
#
1 35351 35349 "1 " 0 # line from AMES BS2 115.00 BRKR to BRKR AMES DST 115.00
0
#
#
# (318) C5 DCTL OUTAGE
# Whisman - Monta Vista and Moutain View - Monta Vista 115 kV Lines
1 35352 35356 "1 " 0 # line from WHISMAN 115.00 BRKR to BRKR MNTA VSA 115.00
#
1 35353 35356 "1 " 0 # line from MT VIEW 115.00 BRKR to BRKR MNTA VSA 115.00
0
#
#
# (319) C5 DCTL OUTAGE
# Whisman - Monta Vista and Moutain View - Whisman 115 kV Lines
1 35352 35356 "1 " 0 # line from WHISMAN 115.00 BRKR to BRKR MNTA VSA 115.00
#
1 35370 35353 "1 " 0 # line from AMES J1A 115.00 (2) to BRKR MT VIEW 115.00
1 35370 35371 "1 " 0 # line from AMES J1A 115.00 (2) to (2) AMES J1B 115.00
1 35371 35352 "1 " 0 # line from AMES J1B 115.00 (2) to BRKR WHISMAN 115.00
0
#
#
# (320) C5 DCTL OUTAGE
# Stelling - Monta Vista and Monta Vista - Wolfe 115 kV Lines
1 35354 35356 "1 " 0 # line from STELLING 115.00 BRKR to BRKR MNTA VSA 115.00
#
1 35355 35356 "1 " 0 # line from WOLFE 115.00 BRKR to BRKR MNTA VSA 115.00
0
#
#
# (321) C5 DCTL OUTAGE
# Stelling - Wolfe and Monta Vista - Wolfe 115 kV Lines
1 35354 35355 "1 " 0 # line from STELLING 115.00 BRKR to BRKR WOLFE 115.00
#
1 35355 35356 "1 " 0 # line from WOLFE 115.00 BRKR to BRKR MNTA VSA 115.00
0
#
#
# (322) C5 DCTL OUTAGE

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

# Lawrence - Monta Vista and Britton - Monta Vista 115 kV Lines
1 35356 35367 "1 " 0 # line from MNTA VSA 115.00 BRKR to (3) PHLPS_JT 115.00
1 35367 35363 "1 " 0 # line from PHLPS_JT 115.00 (3) to BRKR LAWRENCE 115.00
1 35367 35366 "1 " 0 # line from PHLPS_JT 115.00 (3) to BRKR PHILLIPS 115.00
4 35366 0 "1 " 0 # LOAD-DROP PHILLIPS 115.00 LOAD==1.25(0.00)
#
1 35356 35368 "1 " 0 # line from MNTA VSA 115.00 BRKR to BRKR BRITTN 115.00
0
#
#
# (323) C5 DCTL OUTAGE
# Lawrence - Monta Vista and Britton - Applied Materials 115 kV Lines
1 35356 35367 "1 " 0 # line from MNTA VSA 115.00 BRKR to (3) PHLPS_JT 115.00
1 35367 35363 "1 " 0 # line from PHLPS_JT 115.00 (3) to BRKR LAWRENCE 115.00
1 35367 35366 "1 " 0 # line from PHLPS_JT 115.00 (3) to BRKR PHILLIPS 115.00
4 35366 0 "1 " 0 # LOAD-DROP PHILLIPS 115.00 LOAD==1.25(0.00)
#
1 35368 35369 "1 " 0 # line from BRITTN 115.00 BRKR to BRKR APP MAT 115.00
0
#
#
# (324) C5 DCTL OUTAGE
# Lawrence - Monta Vista and Newark - Applied Materials 115 kV Lines
1 35356 35367 "1 " 0 # line from MNTA VSA 115.00 BRKR to (3) PHLPS_JT 115.00
1 35367 35363 "1 " 0 # line from PHLPS_JT 115.00 (3) to BRKR LAWRENCE 115.00
1 35367 35366 "1 " 0 # line from PHLPS_JT 115.00 (3) to BRKR PHILLIPS 115.00
4 35366 0 "1 " 0 # LOAD-DROP PHILLIPS 115.00 LOAD==1.25(0.00)
#
1 35122 35360 "1 " 0 # line from NEWARK F 115.00 BRKR to (3) LCKHD J2 115.00
1 35360 35362 "1 " 0 # line from LCKHD J2 115.00 (3) to BRKR LOCKHD 2 115.00
1 35360 35365 "1 " 0 # line from LCKHD J2 115.00 (3) to (3) AMD JCT 115.00
1 35365 35364 "1 " 0 # line from AMD JCT 115.00 (3) to BRKR A.M.D 115.00
1 35365 35369 "1 " 0 # line from AMD JCT 115.00 (3) to BRKR APP MAT 115.00
4 35362 0 "1 " 0 # LOAD-DROP LOCKHD 2 115.00 LOAD==7.56(1.72)
4 35362 0 "2 " 0 # LOAD-DROP LOCKHD 2 115.00 LOAD==3.42(0.78)
4 35362 0 "4 " 0 # LOAD-DROP LOCKHD 2 115.00 LOAD==16.21(12.58)
4 35364 0 "1 " 0 # LOAD-DROP A.M.D 115.00 LOAD==1.67(1.17)
1 35361 35362 "1 " 1 # close LOCKHD 1 115.00 LOCKHD 2 115.00
4 35362 0 "3 " 1 # restore all loads to LOCKHD 2
0
#
#
# (325) C5 DCTL OUTAGE
# Monta Vista - Burns and Monta Vista - Permanente 60 kV Lines
1 35455 35456 "1 " 0 # line from MNTA VSA 60.00 BRKR to (2) PRMNT J3 60.00
1 35456 36000 "1 " 0 # line from PRMNT J3 60.00 (2) to (2) BIG BASN 60.00
1 36000 36001 "1 " 0 # line from BIG BASN 60.00 (2) to (3) BURNS J1 60.00
1 36001 36002 "1 " 0 # line from BURNS J1 60.00 (3) to BRKR BURNS 60.00
1 36001 36003 "1 " 0 # line from BURNS J1 60.00 (3) to BRKR BURNS J2 60.00
4 36000 0 "1 " 0 # LOAD-DROP BIG BASN 60.00 LOAD==6.71(0.96)
#
1 35455 35458 "1 " 0 # line from MNTA VSA 60.00 BRKR to (2) PRMNT J1 60.00
1 35458 35459 "1 " 0 # line from PRMNT J1 60.00 (2) to (2) PRMNT J2 60.00
1 35459 35457 "1 " 0 # line from PRMNT J2 60.00 (2) to BRKR PERMNTE 60.00
4 35457 0 "1 " 0 # LOAD-DROP PERMNTE 60.00 LOAD==29.94(20.90)
0
#
#
# (326) BUS FAULT 30705 "MONTAVIS" Monta Vista 230 kV Bus Section 1
#
1 30705 30710 "1" 0 # LINE from MONTAVIS 230.00 to SLACTAP1 230.00
1 30705 30720 "1" 0 # LINE from MONTAVIS 230.00 to SARATOGA 230.00
1 30705 30735 "3" 0 # LINE from MONTAVIS 230.00 to METCALF 230.00
2 30705 35356 "2" 0 # TRAN from MONTAVIS 230.00 to MNTA VSA 115.00
6 30705 0 "v " 0 # SVD-DROP MONTAVIS 230.00
0
#
#
# (327) BUS FAULT 30705 "MONTAVIS" Monta Vista 230 kV Bus Section 2
#
1 30705 30712 "2" 0 # LINE from MONTAVIS 230.00 to SLACTAP2 230.00
1 30705 30730 "1" 0 # LINE from MONTAVIS 230.00 to HICKS 230.00
1 30705 30741 "4" 0 # LINE from MONTAVIS 230.00 to CAL MEC 230.00
2 30705 35356 "3" 0 # TRAN from MONTAVIS 230.00 to MNTA VSA 115.00
2 30705 35356 "4" 0 # TRAN from MONTAVIS 230.00 to MNTA VSA 115.00
2 30705 35455 "5" 0 # TRAN from MONTAVIS 230.00 to MNTA VSA 60.00
0
#

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

#
# (328) BUS FAULT 30720 "SARATOGA"
#
1 30720 30705 "1" 0 # LINE from SARATOGA 230.00 to MONTAVIS 230.00
1 30720 30733 "1" 0 # LINE from SARATOGA 230.00 to VASONA 230.00
4 30720 0 "1 " 0 # LOAD-DROP SARATOGA 230.00 LOAD==43.58(9.93)
4 30720 0 "2 " 0 # LOAD-DROP SARATOGA 230.00 LOAD==50.15(11.43)
4 30720 0 "3 " 0 # LOAD-DROP SARATOGA 230.00 LOAD==40.33(9.19)
0
#
#
# (329) BUS FAULT 30733 "VASONA"
#
1 30733 30720 "1" 0 # LINE from VASONA 230.00 to SARATOGA 230.00
1 30733 30735 "1" 0 # LINE from VASONA 230.00 to METCALF 230.00
4 30733 0 "1 " 0 # LOAD-DROP VASONA 230.00 LOAD==39.49(9.00)
4 30733 0 "2 " 0 # LOAD-DROP VASONA 230.00 LOAD==19.54(4.45)
0
#
#
# (330) BUS FAULT 35349 "AMES DST"
#
1 35349 35121 "1" 0 # LINE from AMES DST 115.00 to NEWARK E 115.00
1 35349 35351 "1" 0 # LINE from AMES DST 115.00 to AMES BS2 115.00
4 35349 0 "1 " 0 # LOAD-DROP AMES DST 115.00 LOAD==14.75(3.36)
0
#
#
# (331) BUS FAULT 35350 "AMES BS1"
#
1 35350 33315 "1" 0 # LINE from AMES BS1 115.00 to RVNSWD E 115.00
1 35350 35121 "1" 0 # LINE from AMES BS1 115.00 to NEWARK E 115.00
1 35350 35121 "3" 0 # LINE from AMES BS1 115.00 to NEWARK E 115.00
1 35350 35351 "1" 0 # LINE from AMES BS1 115.00 to AMES BS2 115.00
1 35350 35370 "1" 0 # LINE from AMES BS1 115.00 to AMES J1A 115.00
1 35350 35371 "1" 0 # LINE from AMES BS1 115.00 to AMES J1B 115.00
4 35350 0 "1 " 0 # LOAD-DROP AMES BS1 115.00 LOAD==43.14(0.00)
0
#
#
# (332) BUS FAULT 35351 "AMES BS2"
#
1 35351 33315 "2" 0 # LINE from AMES BS2 115.00 to RVNSWD E 115.00
1 35351 35121 "2" 0 # LINE from AMES BS2 115.00 to NEWARK E 115.00
1 35351 35350 "1" 0 # LINE from AMES BS2 115.00 to AMES BS1 115.00
1 35351 35349 "1" 0 # LINE from AMES BS2 115.00 to AMES DST 115.00
4 35351 0 "2 " 0 # LOAD-DROP AMES BS2 115.00 LOAD==43.14(0.00)
0
#
#
# (333) BUS FAULT 35352 "WHISMAN"
#
1 35352 35356 "1" 0 # LINE from WHISMAN 115.00 to MNTA VSA 115.00
1 35352 35371 "1" 0 # LINE from WHISMAN 115.00 to AMES J1B 115.00
4 35352 0 "1 " 0 # LOAD-DROP WHISMAN 115.00 LOAD==22.33(5.09)
4 35352 0 "2 " 0 # LOAD-DROP WHISMAN 115.00 LOAD==24.02(5.47)
4 35352 0 "3 " 0 # LOAD-DROP WHISMAN 115.00 LOAD==20.34(4.63)
0
#
#
# (334) BUS FAULT 35353 "MT VIEW"
#
1 35353 35356 "1" 0 # LINE from MT VIEW 115.00 to MNTA VSA 115.00
1 35353 35370 "1" 0 # LINE from MT VIEW 115.00 to AMES J1A 115.00
4 35353 0 "1 " 0 # LOAD-DROP MT VIEW 115.00 LOAD==30.30(6.90)
4 35353 0 "2 " 0 # LOAD-DROP MT VIEW 115.00 LOAD==32.19(7.34)
4 35353 0 "3 " 0 # LOAD-DROP MT VIEW 115.00 LOAD==29.11(6.63)
0
#
#
# (335) BUS FAULT 35354 "STELLING"
#
1 35354 35355 "1" 0 # LINE from STELLING 115.00 to WOLFE 115.00
1 35354 35356 "1" 0 # LINE from STELLING 115.00 to MNTA VSA 115.00
4 35354 0 "1 " 0 # LOAD-DROP STELLING 115.00 LOAD==31.51(7.18)
4 35354 0 "2 " 0 # LOAD-DROP STELLING 115.00 LOAD==32.14(7.32)
4 35354 0 "3 " 0 # LOAD-DROP STELLING 115.00 LOAD==32.89(7.50)
0

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

#
#
# (336) BUS FAULT 35355 "WOLFE"
#
1 35355 35354 "1" 0 # LINE from WOLFE 115.00 to STELLING 115.00
1 35355 35356 "1" 0 # LINE from WOLFE 115.00 to MNTA VSA 115.00
4 35355 0 "1 " 0 # LOAD-DROP WOLFE 115.00 LOAD==25.27(5.76)
4 35355 0 "2 " 0 # LOAD-DROP WOLFE 115.00 LOAD==31.85(7.26)
4 35355 0 "3 " 0 # LOAD-DROP WOLFE 115.00 LOAD==16.40(3.74)
0
#
#
# (337) BUS FAULT 35356 "MNTA VSA" Monta Vista 115 kV Bus Section 1
#
1 35356 35352 "1" 0 # LINE from MNTA VSA 115.00 to WHISMAN 115.00
1 35356 35354 "1" 0 # LINE from MNTA VSA 115.00 to STELLING 115.00
1 35356 35367 "1" 0 # LINE from MNTA VSA 115.00 to PHLPS_JT 115.00
2 35356 30705 "2" 0 # TRAN from MNTA VSA 115.00 to MONTAVIS 230.00
2 35356 30705 "3" 0 # TRAN from MNTA VSA 115.00 to MONTAVIS 230.00
0
#
#
# (338) BUS FAULT 35356 "MNTA VSA" Monta Vista 115 kV Bus Section 2
#
1 35356 35353 "1" 0 # LINE from MNTA VSA 115.00 to MT VIEW 115.00
1 35356 35355 "1" 0 # LINE from MNTA VSA 115.00 to WOLFE 115.00
1 35356 35368 "1" 0 # LINE from MNTA VSA 115.00 to BRITTN 115.00
2 35356 30705 "4" 0 # TRAN from MNTA VSA 115.00 to MONTAVIS 230.00
2 35356 35455 "6" 0 # TRAN from MNTA VSA 115.00 to MNTA VSA 60.00
0
#
#
# (339) BUS FAULT 35361 "LOCKHD 1"
#
1 35361 35358 "1" 0 # LINE from LOCKHD 1 115.00 to MFT.FD J 115.00
1 35361 35362 "1" 0 # LINE from LOCKHD 1 115.00 to LOCKHD 2 115.00
4 35361 0 "3 " 0 # LOAD-DROP LOCKHD 1 115.00 LOAD==17.45(14.46)
0
#
#
# (340) BUS FAULT 35362 "LOCKHD 2"
#
1 35362 35360 "1" 0 # LINE from LOCKHD 2 115.00 to LCKHD J2 115.00
1 35362 35361 "1" 0 # LINE from LOCKHD 2 115.00 to LOCKHD 1 115.00
4 35362 0 "1 " 0 # LOAD-DROP LOCKHD 2 115.00 LOAD==7.56(1.72)
4 35362 0 "2 " 0 # LOAD-DROP LOCKHD 2 115.00 LOAD==3.42(0.78)
4 35362 0 "4 " 0 # LOAD-DROP LOCKHD 2 115.00 LOAD==16.21(12.58)
0
#
#
# (341) BUS FAULT 35363 "LAWRENCE"
#
1 35363 35357 "1" 0 # LINE from LAWRENCE 115.00 to LCKHD J1 115.00
1 35363 35367 "1" 0 # LINE from LAWRENCE 115.00 to PHLPS_JT 115.00
4 35363 0 "1 " 0 # LOAD-DROP LAWRENCE 115.00 LOAD==50.73(11.56)
4 35363 0 "2 " 0 # LOAD-DROP LAWRENCE 115.00 LOAD==20.08(4.58)
4 35363 0 "3 " 0 # LOAD-DROP LAWRENCE 115.00 LOAD==35.41(8.07)
0
#
#
# (342) BUS FAULT 35364 "A.M.D"
#
1 35364 35365 "1" 0 # LINE from A.M.D 115.00 to AMD JCT 115.00
4 35364 0 "1 " 0 # LOAD-DROP A.M.D 115.00 LOAD==1.67(1.17)
0
#
#
# (343) BUS FAULT 35366 "PHILLIPS"
#
1 35366 35367 "1" 0 # LINE from PHILLIPS 115.00 to PHLPS_JT 115.00
4 35366 0 "1 " 0 # LOAD-DROP PHILLIPS 115.00 LOAD==1.25(0.00)
0
#
#
# (344) BUS FAULT 35368 "BRITTN"
#
1 35368 35356 "1" 0 # LINE from BRITTN 115.00 to MNTA VSA 115.00
1 35368 35369 "1" 0 # LINE from BRITTN 115.00 to APP MAT 115.00

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

4 35368      0 "1 " 0      # LOAD-DROP BRITTN 115.00 LOAD==27.96(6.37)
4 35368      0 "2 " 0      # LOAD-DROP BRITTN 115.00 LOAD==47.94(10.93)
4 35368      0 "3 " 0      # LOAD-DROP BRITTN 115.00 LOAD==23.61(5.38)
0
#
#
# (345) BUS FAULT 35369 "APP MAT"
#
1 35369 35368 "1" 0      # LINE from APP MAT 115.00 to BRITTN 115.00
1 35369 35365 "1" 0      # LINE from APP MAT 115.00 to AMD JCT 115.00
4 35369      0 "1 " 0      # LOAD-DROP APP MAT 115.00 LOAD==10.11(2.53)
0
#
#
# (346) BUS FAULT 35452 "LOYOLA"
#
1 35452 35450 "1" 0      # LINE from LOYOLA 60.00 to LOS ALTS 60.00
1 35452 35455 "1" 0      # LINE from LOYOLA 60.00 to MNTA VSA 60.00
4 35452      0 "1 " 0      # LOAD-DROP LOYOLA 60.00 LOAD==4.43(1.01)
4 35452      0 "2 " 0      # LOAD-DROP LOYOLA 60.00 LOAD==21.57(4.92)
0
#
#
# (347) BUS FAULT 35455 "MNTA VSA" Monta Vista 60 kV Bus Section 1
#
1 35455 35452 "1" 0      # LINE from MNTA VSA 60.00 to LOYOLA 60.00
1 35455 35458 "1" 0      # LINE from MNTA VSA 60.00 to PRMNT J1 60.00
2 35455 30705 "5" 0      # TRAN from MNTA VSA 60.00 to MONTAVIS 230.00
0
#
#
# (348) BUS FAULT 35455 "MNTA VSA" Monta Vista 60 kV Bus Section 2
#
1 35455 35456 "1" 0      # LINE from MNTA VSA 60.00 to PRMNT J3 60.00
1 35455 35460 "1" 0      # LINE from MNTA VSA 60.00 to LOS GATS 60.00
2 35455 35356 "6" 0      # TRAN from MNTA VSA 60.00 to MNTA VSA 115.00
0
#
#
# (349) BUS FAULT 35457 "PERMNTE"
#
1 35457 35458 "1" 0      # LINE from PERMNTE 60.00 to PRMNT J1 60.00
1 35457 35459 "1" 0      # LINE from PERMNTE 60.00 to PRMNT J2 60.00
4 35457      0 "1 " 0      # LOAD-DROP PERMNTE 60.00 LOAD==29.94(20.90)
0
#
#
# 2013 category c contingency list (dctl and bus outages)
# San Jose Division Zone 318
#
#
# (350) C5 DCTL OUTAGE
# Saratoga - Metcalf and Hicks - Metcalf 230 kV Lines
1 30733 30735 "1 " 0      # line from VASONA 230.00 BRKR to BRKR METCALF 230.00
#
1 30735 30730 "1 " 0      # line from METCALF 230.00 BRKR to BRKR HICKS 230.00
0
#
#
# (351) C5 DCTL OUTAGE
# Newark Distribution - Los Esteros and Los Esteros - Metcalf 230 kV Lines
1 30635 30731 "1 " 0      # line from NWK DIST 230.00 BRKR to BRKR LS ESTRS 230.00
#
1 30735 30731 "1 " 0      # line from METCALF 230.00 BRKR to BRKR LS ESTRS 230.00
0
#
#
# (352) C5 DCTL OUTAGE
# Metcalf - Moss Landing #1 and #2 230 kV Lines
1 30735 30755 "1 " 0      # line from METCALF 230.00 BRKR to BRKR MOSSLND1 230.00
#
1 30735 30750 "1 " 0      # line from METCALF 230.00 BRKR to BRKR MOSSLND2 230.00
0
#
#
# (353) C5 DCTL OUTAGE
# Dixon Landing - McKee and Newark - Milpitas #1 115 kV Lines
1 35600 35629 "1 " 0      # line from DIXON LD 115.00 BRKR to (3) MABURY J 115.00

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

1 35629 35626 "1 " 0 # line from MABURY J 115.00 (3) to BRKR MCKEE 115.00
1 35629 35630 "1 " 0 # line from MABURY J 115.00 (3) to BRKR MABURY 115.00
4 35630 0 "2 " 0 # LOAD-DROP MABURY 115.00 LOAD==19.00(4.33)
#
1 35122 35624 "1 " 0 # line from NEWARK F 115.00 BRKR to BRKR MILPITAS 115.00
0
#
#
# (354) C5 DCTL OUTAGE
# Dixon Landing - McKee and Milpitas - Swift 115 kV Lines
1 35600 35629 "1 " 0 # line from DIXON LD 115.00 BRKR to (3) MABURY J 115.00
1 35629 35626 "1 " 0 # line from MABURY J 115.00 (3) to BRKR MCKEE 115.00
1 35629 35630 "1 " 0 # line from MABURY J 115.00 (3) to BRKR MABURY 115.00
4 35630 0 "2 " 0 # LOAD-DROP MABURY 115.00 LOAD==19.00(4.33)
#
1 35622 35624 "1 " 0 # line from SWIFT 115.00 BRKR to BRKR MILPITAS 115.00
0
#
#
# (355) C5 DCTL OUTAGE
# McKee - Piercy and Milpitas - Swift 115 kV Lines
1 35626 35656 "1 " 0 # line from MCKEE 115.00 BRKR to BRKR PIERCY 115.00
#
1 35622 35624 "1 " 0 # line from SWIFT 115.00 BRKR to BRKR MILPITAS 115.00
0
#
#
# (356) C5 DCTL OUTAGE
# Swift - Metcalf and Piercy - Metcalf 115 kV Lines
1 35622 35643 "1 " 0 # line from SWIFT 115.00 BRKR to BRKR MTCALF E 115.00
#
1 35656 35643 "1 " 0 # line from PIERCY 115.00 BRKR to BRKR MTCALF E 115.00
0
#
#
# (357) C5 DCTL OUTAGE
# Los Esteros - Trimble and Los Esteros - Montague 115 kV Lines
1 35658 35612 "1 " 0 # line from LS ESTRS 115.00 BRKR to BRKR TRIMBLE 115.00
#
1 35658 35610 "1 " 0 # line from LS ESTRS 115.00 BRKR to BRKR MONTAGUE 115.00
0
#
#
# (358) C5 DCTL OUTAGE
# Los Esteros - Trimble and Montague - Trimble 115 kV Lines
1 35658 35612 "1 " 0 # line from LS ESTRS 115.00 BRKR to BRKR TRIMBLE 115.00
#
1 35612 35610 "1 " 0 # line from TRIMBLE 115.00 BRKR to BRKR MONTAGUE 115.00
0
#
#
# (359) C5 DCTL OUTAGE
# Los Esteros - Montague and Montague - Trimble 115 kV Lines
1 35658 35610 "1 " 0 # line from LS ESTRS 115.00 BRKR to BRKR MONTAGUE 115.00
#
1 35612 35610 "1 " 0 # line from TRIMBLE 115.00 BRKR to BRKR MONTAGUE 115.00
0
#
#
# (360) C5 DCTL OUTAGE
# Trimble - San Jose B and FMC - San Jose B 115 kV Lines
1 35612 35616 "1 " 0 # line from TRIMBLE 115.00 BRKR to BRKR SJ B E 115.00
#
1 35615 35616 "1 " 0 # line from FMC 115.00 BRKR to BRKR SJ B E 115.00
0
#
#
# (361) C5 DCTL OUTAGE
# Trimble - San Jose B and Kifer - FMC 115 kV Lines
1 35612 35616 "1 " 0 # line from TRIMBLE 115.00 BRKR to BRKR SJ B E 115.00
#
1 35615 35617 "1 " 0 # line from FMC 115.00 BRKR to (2) FMC JCT 115.00
1 35617 36850 "1 " 0 # line from FMC JCT 115.00 (2) to BRKR KRS 115.00
0
#
#
# (362) C5 DCTL OUTAGE
# Newark - Kifer and Kifer - FMC 115 kV Lines

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

1 35122 35602 "1 " 0 # line from NEWARK F 115.00 BRKR to (3) ZNKER J2 115.00
1 35602 35604 "1 " 0 # line from ZNKER J2 115.00 (3) to (3) ZANKER 115.00
1 35602 36850 "1 " 0 # line from ZNKER J2 115.00 (3) to BRKR KRS 115.00
2 35604 35861 "1 " 0 # TRAN from ZANKER 115.00 (3) to (2) SJ-SCL W 9.11
2 35604 35861 "2 " 0 # TRAN from ZANKER 115.00 (3) to (2) SJ-SCL W 9.11
4 35861 0 "SG" 0 # LOAD-DROP SJ-SCL W 9.11 LOAD==6.17(2.09)
3 35861 0 "1 " 0 # GEN-DROP SJ-SCL W 9.11 GEN==5.00(0.00)
#
1 35615 35617 "1 " 0 # line from FMC 115.00 BRKR to (2) FMC JCT 115.00
1 35617 36850 "1 " 0 # line from FMC JCT 115.00 (2) to BRKR KRS 115.00
0
#
#
# (363) C5 DCTL OUTAGE
# Newark - Trimble and Kifer - FMC 115 kV Lines
1 35122 35603 "1 " 0 # line from NEWARK F 115.00 BRKR to (3) ZNKER J1 115.00
1 35603 35605 "1 " 0 # line from ZNKER J1 115.00 (3) to (1) AGNEW J 115.00
1 35603 35612 "1 " 0 # line from ZNKER J1 115.00 (3) to BRKR TRIMBLE 115.00
#
1 35615 35617 "1 " 0 # line from FMC 115.00 BRKR to (2) FMC JCT 115.00
1 35617 36850 "1 " 0 # line from FMC JCT 115.00 (2) to BRKR KRS 115.00
0
#
#
# (364) C5 DCTL OUTAGE
# Metcalf - El Patio #1 and #2 115 kV Lines
1 35620 35621 "1 " 0 # line from EL PATIO 115.00 BRKR to (2) IBM-HR J 115.00
1 35621 35642 "1 " 0 # line from IBM-HR J 115.00 (2) to BRKR MTCALF D 115.00
#
1 35620 35651 "2 " 0 # line from EL PATIO 115.00 BRKR to (2) BAILY J3 115.00
1 35651 35642 "2 " 0 # line from BAILY J3 115.00 (2) to BRKR MTCALF D 115.00
0
#
#
# (365) C5 DCTL OUTAGE
# Metcalf - El Patio #1 and #2 115 kV Lines
1 35636 35643 "1 " 0 # line from EVRGRN 1 115.00 BRKR to BRKR MTCALF E 115.00
#
1 35625 35645 "1 " 0 # line from MARKHJM2 115.00 (2) to (3) EVRGRN J 115.00
1 35625 35634 "1 " 0 # line from MARKHJM2 115.00 (2) to (2) STONE J 115.00
1 35645 35633 "2 " 0 # line from EVRGRN J 115.00 (3) to BRKR EVRGRN 2 115.00
1 35645 35643 "2 " 0 # line from EVRGRN J 115.00 (3) to BRKR MTCALF E 115.00
1 35634 36420 "1 " 0 # line from STONE J 115.00 (2) to BRKR STONE 115.00
4 36420 0 "1 " 0 # LOAD-DROP STONE 115.00 LOAD==35.69(8.13)
4 36420 0 "2 " 0 # LOAD-DROP STONE 115.00 LOAD==14.87(3.39)
0
#
#
# (366) C5 DCTL OUTAGE
# Metcalf - Morgan Hill and Metcalf - Llagas 115 kV Lines
1 35642 35646 "1 " 0 # line from MTCALF D 115.00 BRKR to BRKR MRGN HIL 115.00
#
1 35642 35654 "1 " 0 # line from MTCALF D 115.00 BRKR to (2) MORGN J1 115.00
1 35654 35655 "1 " 0 # line from MORGN J1 115.00 (2) to (2) MORGN J2 115.00
1 35655 35648 "1 " 0 # line from MORGN J2 115.00 (2) to BRKR LLAGAS 115.00
0
#
#
# (367) C5 DCTL OUTAGE
# Morgan Hill - Llagas and Metcalf - Llagas 115 kV Lines
1 35646 35648 "1 " 0 # line from MRGN HIL 115.00 BRKR to BRKR LLAGAS 115.00
#
1 35642 35654 "1 " 0 # line from MTCALF D 115.00 BRKR to (2) MORGN J1 115.00
1 35654 35655 "1 " 0 # line from MORGN J1 115.00 (2) to (2) MORGN J2 115.00
1 35655 35648 "1 " 0 # line from MORGN J2 115.00 (2) to BRKR LLAGAS 115.00
0
#
#
# (368) BUS FAULT 30730 "HICKS"
#
1 30730 30705 "1" 0 # LINE from HICKS 230.00 to MONTAVIS 230.00
1 30730 30735 "1" 0 # LINE from HICKS 230.00 to METCALF 230.00
4 30730 0 "1 " 0 # LOAD-DROP HICKS 230.00 LOAD==36.06(8.22)
4 30730 0 "2 " 0 # LOAD-DROP HICKS 230.00 LOAD==41.64(9.49)
4 30730 0 "3 " 0 # LOAD-DROP HICKS 230.00 LOAD==50.98(11.62)
4 30730 0 "4 " 0 # LOAD-DROP HICKS 230.00 LOAD==36.06(8.22)
0
#

```


APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

#
# (369) BUS FAULT 30735 "METCALF" Metcalf 230 kV Bus Section 1D
#
1 30735 30733 "1" 0 # LINE from METCALF 230.00 to VASONA 230.00
2 30735 35642 "1" 0 # TRAN from METCALF 230.00 to MTCALF D 115.00
6 30735 0 "v " 0 # SVD-DROP METCALF 230.00
0
#
#
# (370) BUS FAULT 30735 "METCALF" Metcalf 230 kV Bus Section 2D
#
1 30735 30730 "1" 0 # LINE from METCALF 230.00 to HICKS 230.00
1 30735 30731 "1" 0 # LINE from METCALF 230.00 to LS ESTRS 230.00
2 30735 35642 "4" 0 # TRAN from METCALF 230.00 to MTCALF D 115.00
0
#
#
# (371) BUS FAULT 30735 "METCALF" Metcalf 230 kV Bus Section 1E
#
1 30735 30705 "3" 0 # LINE from METCALF 230.00 to MONTAVIS 230.00
1 30735 30755 "1" 0 # LINE from METCALF 230.00 to MOSSLND1 230.00
2 30735 35643 "3" 0 # TRAN from METCALF 230.00 to MTCALF E 115.00
0
#
#
# (372) BUS FAULT 30735 "METCALF" Metcalf 230 kV Bus Section 2E
#
1 30735 30741 "4" 0 # LINE from METCALF 230.00 to CAL MEC 230.00
1 30735 30750 "1" 0 # LINE from METCALF 230.00 to MOSSLND2 230.00
2 30735 35643 "2" 0 # TRAN from METCALF 230.00 to MTCALF E 115.00
0
#
#
# (373) BUS FAULT 35600 "DIXON LD"
#
1 35600 35122 "1" 0 # LINE from DIXON LD 115.00 to NEWARK F 115.00
1 35600 35629 "1" 0 # LINE from DIXON LD 115.00 to MABURY J 115.00
4 35600 0 "1 " 0 # LOAD-DROP DIXON LD 115.00 LOAD==28.68(6.54)
4 35600 0 "2 " 0 # LOAD-DROP DIXON LD 115.00 LOAD==19.33(4.40)
4 35600 0 "3 " 0 # LOAD-DROP DIXON LD 115.00 LOAD==15.35(3.50)
0
#
#
# (374) BUS FAULT 35606 "AGNEW"
#
1 35606 35605 "1" 0 # LINE from AGNEW 115.00 to AGNEW J 115.00
1 35606 35658 "1" 0 # LINE from AGNEW 115.00 to LS ESTRS 115.00
2 35606 35860 "1" 0 # TRAN from AGNEW 115.00 to OLS-AGNE 9.11
4 35606 0 "1 " 0 # LOAD-DROP AGNEW 115.00 LOAD==31.91(7.27)
4 35606 0 "2 " 0 # LOAD-DROP AGNEW 115.00 LOAD==42.41(9.66)
0
#
#
# (375) BUS FAULT 35610 "MONTAGUE"
#
1 35610 35612 "1" 0 # LINE from MONTAGUE 115.00 to TRIMBLE 115.00
1 35610 35658 "1" 0 # LINE from MONTAGUE 115.00 to LS ESTRS 115.00
4 35610 0 "1 " 0 # LOAD-DROP MONTAGUE 115.00 LOAD==37.77(8.61)
4 35610 0 "2 " 0 # LOAD-DROP MONTAGUE 115.00 LOAD==42.11(9.60)
4 35610 0 "3 " 0 # LOAD-DROP MONTAGUE 115.00 LOAD==34.14(7.78)
0
#
#
# (376) BUS FAULT 35612 "TRIMBLE" Trimble 115 kV Bus Section D
#
1 35612 35610 "1" 0 # LINE from TRIMBLE 115.00 to MONTAGUE 115.00
1 35612 35658 "1" 0 # LINE from TRIMBLE 115.00 to LS ESTRS 115.00
4 35612 0 "1 " 0 # LOAD-DROP TRIMBLE 115.00 LOAD==29.68(6.77)
0
#
#
# (377) BUS FAULT 35612 "TRIMBLE" Trimble 115 kV Bus Section E
#
1 35612 35616 "1" 0 # LINE from TRIMBLE 115.00 to SJ B E 115.00
4 35612 0 "2 " 0 # LOAD-DROP TRIMBLE 115.00 LOAD==33.72(7.68)
0
#
#

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

# (378) BUS FAULT 35612 "TRIMBLE" Trimble 115 kV Bus Section F
#
1 35612 35603 "1" 0 # LINE from TRIMBLE 115.00 to ZNKER J1 115.00
4 35612 0 "3 " 0 # LOAD-DROP TRIMBLE 115.00 LOAD==43.92(10.01)
4 35612 0 "5 " 0 # LOAD-DROP TRIMBLE 115.00 LOAD==35.64(8.12)
0
#
#
# (379) BUS FAULT 35615 "FMC"
#
1 35615 35616 "1" 0 # LINE from FMC 115.00 to SJ B E 115.00
1 35615 35617 "1" 0 # LINE from FMC 115.00 to FMC JCT 115.00
4 35615 0 "1 " 0 # LOAD-DROP FMC 115.00 LOAD==21.65(4.93)
4 35615 0 "3 " 0 # LOAD-DROP FMC 115.00 LOAD==28.54(6.51)
0
#
#
# (380) BUS FAULT 35616 "SJ B E" San Jose B 115 kV Bus Section E
#
1 35616 35612 "1" 0 # LINE from SJ B E 115.00 to TRIMBLE 115.00
1 35616 35615 "1" 0 # LINE from SJ B E 115.00 to FMC 115.00
1 35616 35619 "1" 0 # LINE from SJ B E 115.00 to SJ B F 115.00
4 35616 0 "1 " 0 # LOAD-DROP SJ B E 115.00 LOAD==45.43(10.35)
4 35616 0 "4 " 0 # LOAD-DROP SJ B E 115.00 LOAD==40.44(9.21)
0
#
#
# (381) BUS FAULT 35618 "SN JSE A"
#
1 35618 35613 "1" 0 # LINE from SN JSE A 115.00 to ELPT_SJ1 115.00
1 35618 35619 "1" 0 # LINE from SN JSE A 115.00 to SJ B F 115.00
4 35618 0 "1 " 0 # LOAD-DROP SN JSE A 115.00 LOAD==8.60(1.96)
4 35618 0 "2 " 0 # LOAD-DROP SN JSE A 115.00 LOAD==9.00(2.05)
4 35618 0 "3 " 0 # LOAD-DROP SN JSE A 115.00 LOAD==39.97(9.10)
0
#
#
# (382) BUS FAULT 35619 "SJ B F" San Jose B 115 kV Bus Section F
#
1 35619 35616 "1" 0 # LINE from SJ B F 115.00 to SJ B E 115.00
1 35619 35618 "1" 0 # LINE from SJ B F 115.00 to SN JSE A 115.00
1 35619 35631 "1" 0 # LINE from SJ B F 115.00 to MARKHM J 115.00
4 35619 0 "2 " 0 # LOAD-DROP SJ B F 115.00 LOAD==43.89(10.00)
4 35619 0 "3 " 0 # LOAD-DROP SJ B F 115.00 LOAD==45.67(10.41)
0
#
#
# (383) BUS FAULT 35620 "EL PATIO"
#
1 35620 35614 "1" 0 # LINE from EL PATIO 115.00 to ELPT_SJ2 115.00
1 35620 35621 "1" 0 # LINE from EL PATIO 115.00 to IBM-HR J 115.00
1 35620 35651 "2" 0 # LINE from EL PATIO 115.00 to BAILY J3 115.00
4 35620 0 "1 " 0 # LOAD-DROP EL PATIO 115.00 LOAD==45.08(10.28)
4 35620 0 "2 " 0 # LOAD-DROP EL PATIO 115.00 LOAD==41.19(9.39)
4 35620 0 "3 " 0 # LOAD-DROP EL PATIO 115.00 LOAD==41.00(9.34)
0
#
#
# (384) BUS FAULT 35622 "SWIFT"
#
1 35622 35624 "1" 0 # LINE from SWIFT 115.00 to MILPITAS 115.00
1 35622 35643 "1" 0 # LINE from SWIFT 115.00 to MTCALF E 115.00
4 35622 0 "1 " 0 # LOAD-DROP SWIFT 115.00 LOAD==32.49(7.41)
4 35622 0 "2 " 0 # LOAD-DROP SWIFT 115.00 LOAD==32.21(7.34)
4 35622 0 "3 " 0 # LOAD-DROP SWIFT 115.00 LOAD==43.51(9.91)
0
#
#
# (385) BUS FAULT 35624 "MILPITAS" Milpitas 115 kV Bus Section E
#
1 35624 35122 "1" 0 # LINE from MILPITAS 115.00 to NEWARK F 115.00
4 35624 0 "3 " 0 # LOAD-DROP MILPITAS 115.00 LOAD==19.80(4.51)
4 35624 0 "6 " 0 # LOAD-DROP MILPITAS 115.00 LOAD==38.57(8.79)
0
#
#
# (386) BUS FAULT 35624 "MILPITAS" Milpitas 115 kV Bus Section F
#

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

1 35624 35122 "2" 0 # LINE from MILPITAS 115.00 to NEWARK F 115.00
1 35624 35622 "1" 0 # LINE from MILPITAS 115.00 to SWIFT 115.00
4 35624 0 "1 " 0 # LOAD-DROP MILPITAS 115.00 LOAD==42.72(9.74)
4 35624 0 "2 " 0 # LOAD-DROP MILPITAS 115.00 LOAD==35.14(8.01)
0
#
#
# (387) BUS FAULT 35626 "MCKEE"
#
1 35626 35629 "1" 0 # LINE from MCKEE 115.00 to MABURY J 115.00
1 35626 35656 "1" 0 # LINE from MCKEE 115.00 to PIERCY 115.00
4 35626 0 "1 " 0 # LOAD-DROP MCKEE 115.00 LOAD==39.23(8.94)
4 35626 0 "2 " 0 # LOAD-DROP MCKEE 115.00 LOAD==24.48(5.57)
4 35626 0 "3 " 0 # LOAD-DROP MCKEE 115.00 LOAD==35.43(8.08)
0
#
#
# (388) BUS FAULT 35630 "MABURY"
#
1 35630 35629 "1" 0 # LINE from MABURY 115.00 to MABURY J 115.00
4 35630 0 "2 " 0 # LOAD-DROP MABURY 115.00 LOAD==19.00(4.33)
0
#
#
# (389) BUS FAULT 35633 "EVRGRN 2"
#
1 35633 35636 "1" 0 # LINE from EVRGRN 2 115.00 to EVRGRN 1 115.00
1 35633 35645 "2" 0 # LINE from EVRGRN 2 115.00 to EVRGRN J 115.00
2 35633 35753 "1" 0 # TRAN from EVRGRN 2 115.00 to EVERGREN 60.00
0
#
#
# (390) BUS FAULT 35636 "EVRGRN 1"
#
1 35636 35631 "1" 0 # LINE from EVRGRN 1 115.00 to MARKHM J 115.00
1 35636 35633 "1" 0 # LINE from EVRGRN 1 115.00 to EVRGRN 2 115.00
1 35636 35643 "1" 0 # LINE from EVRGRN 1 115.00 to MTCALF E 115.00
4 35636 0 "2 " 0 # LOAD-DROP EVRGRN 1 115.00 LOAD==48.55(11.07)
4 35636 0 "3 " 0 # LOAD-DROP EVRGRN 1 115.00 LOAD==16.81(3.83)
0
#
#
# (391) BUS FAULT 35639 "IBM-HRRS"
#
1 35639 35621 "1" 0 # LINE from IBM-HRRS 115.00 to IBM-HR J 115.00
1 35639 35641 "1" 0 # LINE from IBM-HRRS 115.00 to EDNVL J1 115.00
4 35639 0 "1 " 0 # LOAD-DROP IBM-HRRS 115.00 LOAD==2.43(1.63)
4 35639 0 "2 " 0 # LOAD-DROP IBM-HRRS 115.00 LOAD==2.43(1.63)
0
#
#
# (392) BUS FAULT 35640 "IBM-BALY"
#
1 35640 35652 "1" 0 # LINE from IBM-BALY 115.00 to BAILY J1 115.00
4 35640 0 "1 " 0 # LOAD-DROP IBM-BALY 115.00 LOAD==5.63(3.04)
0
#
#
# (393) BUS FAULT 35642 "MTCALF D" Metcalf 115 kV Bus Section 1D
#
1 35642 35641 "1" 0 # LINE from MTCALF D 115.00 to EDNVL J1 115.00
1 35642 35621 "1" 0 # LINE from MTCALF D 115.00 to IBM-HR J 115.00
1 35642 35654 "1" 0 # LINE from MTCALF D 115.00 to MORGN J1 115.00
0
#
#
# (394) BUS FAULT 35642 "MTCALF D" Metcalf 115 kV Bus Section 2D
#
1 35642 35651 "2" 0 # LINE from MTCALF D 115.00 to BAILY J3 115.00
1 35642 35653 "1" 0 # LINE from MTCALF D 115.00 to BAILY J2 115.00
1 35642 35646 "1" 0 # LINE from MTCALF D 115.00 to MRGN HIL 115.00
0
#
#
# (395) BUS FAULT 35643 "MTCALF E" Metcalf 115 kV Bus Section 1E
#
1 35643 35645 "2" 0 # LINE from MTCALF E 115.00 to EVRGRN J 115.00
1 35643 35656 "1" 0 # LINE from MTCALF E 115.00 to PIERCY 115.00

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

0
#
#
# (396) BUS FAULT 35643 "MTCALF E" Metcalf 115 kV Bus Section 2E
#
1 35643 35622 "1" 0 # LINE from MTCALF E 115.00 to SWIFT 115.00
1 35643 35636 "1" 0 # LINE from MTCALF E 115.00 to EVRGRN 1 115.00
1 35643 35644 "1" 0 # LINE from MTCALF E 115.00 to CYTE PMP 115.00
0
#
#
# (397) BUS FAULT 35644 "CYTE PMP"
#
1 35644 35643 "1" 0 # LINE from CYTE PMP 115.00 to MTCALF E 115.00
4 35644 0 "1 " 0 # LOAD-DROP CYTE PMP 115.00 LOAD==4.90(1.12)
0
#
#
# (398) BUS FAULT 35646 "MRGN HIL"
#
1 35646 35642 "1" 0 # LINE from MRGN HIL 115.00 to MTCALF D 115.00
1 35646 35648 "1" 0 # LINE from MRGN HIL 115.00 to LLAGAS 115.00
4 35646 0 "1 " 0 # LOAD-DROP MRGN HIL 115.00 LOAD==26.52(6.04)
4 35646 0 "2 " 0 # LOAD-DROP MRGN HIL 115.00 LOAD==22.86(5.21)
4 35646 0 "3 " 0 # LOAD-DROP MRGN HIL 115.00 LOAD==44.34(10.10)
0
#
#
# (399) BUS FAULT 35647 "GILROY"
#
1 35647 35660 "1" 0 # LINE from GILROY 115.00 to GILROYTP 115.00
2 35647 35850 "1" 0 # TRAN from GILROY 115.00 to GLRY COG 13.80
0
#
#
# (400) BUS FAULT 35648 "LLAGAS"
#
1 35648 35646 "1" 0 # LINE from LLAGAS 115.00 to MRGN HIL 115.00
1 35648 35655 "1" 0 # LINE from LLAGAS 115.00 to MORGN J2 115.00
1 35648 35660 "1" 0 # LINE from LLAGAS 115.00 to GILROYTP 115.00
4 35648 0 "1 " 0 # LOAD-DROP LLAGAS 115.00 LOAD==30.40(6.92)
4 35648 0 "2 " 0 # LOAD-DROP LLAGAS 115.00 LOAD==24.51(5.58)
4 35648 0 "3 " 0 # LOAD-DROP LLAGAS 115.00 LOAD==31.19(7.11)
0
#
#
# (401) BUS FAULT 35656 "PIERCY"
#
1 35656 35626 "1" 0 # LINE from PIERCY 115.00 to MCKEE 115.00
1 35656 35643 "1" 0 # LINE from PIERCY 115.00 to MTCALF E 115.00
4 35656 0 "3 " 0 # LOAD-DROP PIERCY 115.00 LOAD==35.37(8.06)
0
#
#
# (402) BUS FAULT 35659 "NORTECH"
#
1 35659 35658 "1" 0 # LINE from NORTECH 115.00 to LS ESTRS 115.00
1 35659 35666 "1" 0 # LINE from NORTECH 115.00 to LECEFTAP 115.00
1 35659 36853 "1" 0 # LINE from NORTECH 115.00 to NRS 300 115.00
4 35659 0 "3 " 0 # LOAD-DROP NORTECH 115.00 LOAD==15.25(3.48)
0
#
#
# (403) BUS FAULT 35750 "MABURY"
#
1 35750 35752 "1" 0 # LINE from MABURY 60.00 to JENING J 60.00
4 35750 0 "1 " 0 # LOAD-DROP MABURY 60.00 LOAD==17.10(3.90)
0
#
#
# (404) BUS FAULT 35751 "JENNINGS"
#
1 35751 35752 "1" 0 # LINE from JENNINGS 60.00 to JENING J 60.00
4 35751 0 "1 " 0 # LOAD-DROP JENNINGS 60.00 LOAD==0.71(0.77)
0
#
#
# (405) BUS FAULT 35753 "EVERGREN"

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

#
1 35753 35754 "1" 0 # LINE from EVERGREN 60.00 to EVRGRN J 60.00
1 35753 35756 "1" 0 # LINE from EVERGREN 60.00 to SENTER J 60.00
2 35753 35633 "1" 0 # TRAN from EVERGREN 60.00 to EVRGRN 2 115.00
0
#
#
# (406) BUS FAULT 35755 "SENTER"
#
1 35755 35754 "1" 0 # LINE from SENTER 60.00 to EVRGRN J 60.00
1 35755 35756 "1" 0 # LINE from SENTER 60.00 to SENTER J 60.00
0
#
#
# (407) BUS FAULT 35757 "ALMADEN"
#
1 35757 35756 "1" 0 # LINE from ALMADEN 60.00 to SENTER J 60.00
1 35757 35460 "1" 0 # LINE from ALMADEN 60.00 to LOS GATS 60.00
4 35757 0 "1 " 0 # LOAD-DROP ALMADEN 60.00 LOAD==18.96(4.32)
0
#
#
# (408) BUS FAULT 36420 "STONE"
#
1 36420 35632 "1" 0 # LINE from STONE 115.00 to MARKHAM 115.00
1 36420 35634 "1" 0 # LINE from STONE 115.00 to STONE J 115.00
4 36420 0 "1 " 0 # LOAD-DROP STONE 115.00 LOAD==35.69(8.13)
4 36420 0 "2 " 0 # LOAD-DROP STONE 115.00 LOAD==14.87(3.39)
0
#
#
-1
# EOF

```

Appendix C

Contingency Lists for Outages

Autocon Input Files

Group 1 - Greater Bay Area

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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# PG&E TCP1 Group 5 Greater Bay Area 2013 category b contingency list
# North Bay, East Bay, Diablo, San Francisco, Peninsula, Mission, DeAnza and San Jose Divisions
# Zones 306, 307, 308, 309, 310, 316, 317, 318 and selected outages from Sacramento/Sierra 304/311
#
# 2013 category b contingency list
# selected Sacramento/Sierra outages
#
#
# (1) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
# pre-project outage
1 30460 30472 "1 " 0 # line from VACA-DIX 230.00 BRKR to BRKR PEABODY 230.00
0
#
#
# (2) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
# pre-project outage
1 30460 30478 "1 " 0 # line from VACA-DIX 230.00 BRKR to BRKR LAMBIE 230.00
0
#
#
# (3) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
# post-project outage
1 30452 30472 "1 " 0 # line from T275SWST 230.00 BRKR to BRKR PEABODY 230.00
0
#
#
# (4) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
# post-project outage
1 30452 30478 "1 " 0 # line from T275SWST 230.00 BRKR to BRKR LAMBIE 230.00
0
#
#
# (5) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
# post-project outage
1 30460 30452 "1 " 0 # line from VACA-DIX 230.00 BRKR to BRKR T275SWST 230.00
0
#
#
# (6) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
# post-project outage
1 30460 30452 "2 " 0 # line from VACA-DIX 230.00 BRKR to BRKR T275SWST 230.00
0
#
#
# (7) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
1 30472 30479 "1 " 0 # line from PEABODY 230.00 BRKR to BRKR BDLSWSTA 230.00
0
#
#
# (8) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
1 30478 30479 "1 " 0 # line from LAMBIE 230.00 BRKR to BRKR BDLSWSTA 230.00
0
#
#
# (9) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
1 30330 30482 "1 " 0 # line from RIO OSO 230.00 BRKR to BRKR LOCKFORD 230.00
0
#
#
# (10) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
1 30337 30622 "1 " 0 # line from GOLDHILL 230.00 BRKR to BRKR EIGHT MI 230.00
0
#
#
# (11) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
1 30348 30500 "1 " 0 # line from BRIGHTON 230.00 BRKR to BRKR BELLOTA 230.00
0
#
#
# (12) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

```

1 30482 30500 "1 " 0 # line from LOCKFORD 230.00 BRKR to BRKR BELLOTA 230.00
0
#
#
# (13) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30485 30487 "1 " 0 # line from TIGR CRK 230.00 BRKR to BRKR ELECTRA 230.00
0
#
#
# (14) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30485 30490 "1 " 0 # line from TIGR CRK 230.00 BRKR to BRKR VLLY SPS 230.00
0
#
#
# (15) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30487 30500 "1 " 0 # line from ELECTRA 230.00 BRKR to BRKR BELLOTA 230.00
0
#
#
# (16) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30489 30624 "1 " 0 # line from STAGG-J2 230.00 (2) to BRKR TESLA E 230.00
1 30489 30499 "1 " 0 # line from STAGG-J2 230.00 (2) to BRKR STAGG-E 230.00
0
#
#
# (17) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30490 30500 "1 " 0 # line from VLLY SPS 230.00 BRKR to BRKR BELLOTA 230.00
0
#
#
# (18) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30500 30503 "1 " 0 # line from BELLOTA 230.00 BRKR to BRKR COLLERVL 230.00
0
#
#
# (19) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30500 30503 "2 " 0 # line from BELLOTA 230.00 BRKR to BRKR COLLERVL 230.00
0
#
#
# (20) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30500 30505 "1 " 0 # line from BELLOTA 230.00 BRKR to BRKR WEBER 230.00
0
#
#
# (21) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30500 30888 "1 " 0 # line from BELLOTA 230.00 BRKR to BRKR Q172 230.00
0
#
#
# (22) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30500 38206 "1 " 0 # line from BELLOTA 230.00 BRKR to (2) COTTLE A 230.00
1 38206 37563 "1 " 0 # line from COTTLE A 230.00 (2) to BRKR MELONES 230.00
4 38206 0 "1 " 0 # LOAD-DROP COTTLE A 230.00 LOAD==20.21(0.91)
0
#
#
# (23) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30500 38208 "1 " 0 # line from BELLOTA 230.00 BRKR to (2) COTTLE B 230.00
1 38208 30515 "1 " 0 # line from COTTLE B 230.00 (2) to BRKR WARNERVL 230.00
4 38208 0 "2 " 0 # LOAD-DROP COTTLE B 230.00 LOAD==23.24(1.04)
0
#
#
# (24) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30505 30888 "1 " 0 # line from WEBER 230.00 BRKR to BRKR Q172 230.00

```


APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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0
#
#
# (25) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30527 30595 "1 " 0 # line from PITSBG E 230.00 BRKR to (3) FLOWIND2 230.00
1 30595 30640 "1 " 0 # line from FLOWIND2 230.00 (3) to BRKR TESLA C 230.00
2 30595 33840 "1 " 0 # TRAN from FLOWIND2 230.00 (3) to (1) FLOWD3-6 9.11
4 33840 0 "SG" 0 # LOAD-DROP FLOWD3-6 9.11 LOAD==0.70(0.34)
3 33840 0 "1 " 0 # GEN-DROP FLOWD3-6 9.11 GEN==1.30(0.00)
3 33840 0 "4 " 0 # GEN-DROP FLOWD3-6 9.11 GEN==1.10(0.00)
0
#
#
# (26) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30565 30569 "1 " 0 # line from BRENTWOD 230.00 BRKR to BRKR KELSO 230.00
0
#
#
# (27) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30569 30570 "1 " 0 # line from KELSO 230.00 BRKR to (4) USWP-RLF 230.00
1 30570 30571 "1 " 0 # line from USWP-RLF 230.00 (4) to (2) ALTALAND 230.00
1 30570 30625 "1 " 0 # line from USWP-RLF 230.00 (4) to BRKR TESLA D 230.00
2 30570 33836 "1 " 0 # TRAN from USWP-RLF 230.00 (4) to (1) USWP #4 9.11
2 30571 33832 "1 " 0 # TRAN from ALTALAND 230.00 (2) to (1) COG.CAPT 9.11
4 33836 0 "SG" 0 # LOAD-DROP USWP #4 9.11 LOAD==0.34(0.21)
3 33836 0 "3 " 0 # GEN-DROP USWP #4 9.11 GEN==4.50(0.00)
3 33832 0 "1 " 0 # GEN-DROP COG.CAPT 9.11 GEN==4.30(6.60)
0
#
#
# (28) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30580 30625 "1 " 0 # line from ALTM MDW 230.00 (3) to BRKR TESLA D 230.00
1 30580 38610 "1 " 0 # line from ALTM MDW 230.00 (3) to BRKR DELTAPMP 230.00
2 30580 33175 "1 " 0 # TRAN from ALTM MDW 230.00 (3) to (1) ALTAMONT 9.11
0
#
#
# (29) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
# pre and post-project outage
1 30527 30600 "2 " 0 # line from PITSBG E 230.00 BRKR to (4) TRES VAQ 230.00
1 30600 30640 "2 " 0 # line from TRES VAQ 230.00 (4) to BRKR TESLA C 230.00
2 30600 33171 "1 " 0 # TRAN from TRES VAQ 230.00 (4) to (1) TRSVQ+NW 9.11
2 30600 33195 "1 " 0 # TRAN from TRES VAQ 230.00 (4) to (1) T417 34.50
4 33195 0 "ss" 0 # LOAD-DROP T417 34.50 LOAD==0.10(0.06)
3 33195 0 "1 " 0 # GEN-DROP T417 34.50 GEN==36.10(0.00)
0
#
#
# (30) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30622 30495 "1 " 0 # line from EIGHT MI 230.00 BRKR to BRKR STAGG 230.00
0
#
#
# (31) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30622 30624 "1 " 0 # line from EIGHT MI 230.00 BRKR to BRKR TESLA E 230.00
0
#
#
# (32) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30624 30630 "1 " 0 # line from TESLA E 230.00 BRKR to BRKR NEWARK D 230.00
0
#
#
# (33) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
# pre-project outage
1 30624 30670 "1 " 0 # line from TESLA E 230.00 BRKR to BRKR WESTLEY 230.00
0
#
#
# (34) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
# post-project outage

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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1 30624 30638 "1 " 0 # line from TESLA E 230.00 BRKR to BRKR T269 230.00
0
#
#
# (35) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
# post-project outage
1 30638 30670 "1 " 0 # line from T269 230.00 BRKR to BRKR WESTLEY 230.00
0
#
#
# (36) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30624 30888 "1 " 0 # line from TESLA E 230.00 BRKR to BRKR Q172 230.00
0
#
#
# (37) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30624 30888 "2 " 0 # line from TESLA E 230.00 BRKR to BRKR Q172 230.00
0
#
#
# (38) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30632 30624 "1 " 0 # line from TESL_GEN 230.00 BRKR to BRKR TESLA E 230.00
0
#
#
# (39) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30632 30624 "2 " 0 # line from TESL_GEN 230.00 BRKR to BRKR TESLA E 230.00
0
#
#
# (40) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30640 30655 "2 " 0 # line from TESLA C 230.00 BRKR to (3) ADCC 230.00
1 30655 30631 "2 " 0 # line from ADCC 230.00 (3) to BRKR NEWARK E 230.00
2 30655 35310 "1 " 0 # TRAN from ADCC 230.00 (3) to (1) LFC FIN+ 9.11
0
#
#
# (41) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30640 30703 "1 " 0 # line from TESLA C 230.00 BRKR to BRKR RAVENSWD 230.00
0
#
#
# (42) B1 GENERATOR OUTAGE
#
3 32191 0 "1" 0 # T275GT1 13.80 PGEN=109.00 QGEN=13.69
0
#
#
# (43) B1 GENERATOR OUTAGE
#
3 33813 0 "1" 0 # T334CT1 13.80 PGEN=49.40 QGEN=4.90
0
#
#
# (44) B1 GENERATOR OUTAGE
#
3 33879 0 "1" 0 # T269BS1 13.80 PGEN=8.43 QGEN=1.08
0
#
#
# 2013 category b contingency list
# North Bay Division Zone 306
#
#
# (45) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30430 30445 "1 " 0 # line from FULTON 230.00 BRKR to BRKR IGNACIO 230.00
0
#
#
# (46) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

```

1 30433 30445 "2 " 0 # line from T22_93B 230.00 (2) to BRKR IGNACIO 230.00
1 30433 30435 "2 " 0 # line from T22_93B 230.00 (2) to BRKR LAKEVILLE 230.00
0
#
#
# (47) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30435 30445 "1 " 0 # line from LAKEVILLE 230.00 BRKR to BRKR IGNACIO 230.00
0
#
#
# (48) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
# pre-project outage
1 30437 30445 "1 " 0 # line from CROCKETT 230.00 (3) to BRKR IGNACIO 230.00
1 30437 30438 "1 " 0 # line from CROCKETT 230.00 (3) to (2) C&H 230.00
1 30437 30540 "1 " 0 # line from CROCKETT 230.00 (3) to BRKR SOBRANTE 230.00
2 30438 32900 "1 " 0 # TRAN from C&H 230.00 BRKR to (1) CRCKTCOG 18.00
4 30438 0 "1 " 0 # LOAD-DROP C&H 230.00 LOAD==3.32 (0.76)
3 32900 0 "1 " 0 # GEN-DROP CRCKTCOG 18.00 GEN==240.00 (40.82)
0
#
#
# (49) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
# post-project outage
1 30435 30446 "1 " 0 # line from LAKEVILLE 230.00 BRKR to BRKR T257SWST 230.00
0
#
#
# (50) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
# post-project outage
1 30445 30446 "1 " 0 # line from IGNACIO 230.00 BRKR to BRKR T257SWST 230.00
0
#
#
# (51) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
# post-project outage
1 30446 30437 "1 " 0 # line from T257SWST 230.00 BRKR to (3) CROCKETT 230.00
1 30437 30438 "1 " 0 # line from CROCKETT 230.00 (3) to (2) C&H 230.00
1 30437 30540 "1 " 0 # line from CROCKETT 230.00 (3) to BRKR SOBRANTE 230.00
2 30438 32900 "1 " 0 # TRAN from C&H 230.00 BRKR to (1) CRCKTCOG 18.00
4 30438 0 "1 " 0 # LOAD-DROP C&H 230.00 LOAD==3.32 (0.76)
3 32900 0 "1 " 0 # GEN-DROP CRCKTCOG 18.00 GEN==240.00 (54.42)
0
#
#
# (52) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
# post-project outage
1 30446 30447 "1 " 0 # line from T257SWST 230.00 BRKR to (5) T257 230.00
2 30447 32711 "1 " 0 # TRAN from T257 230.00 (5) to (1) T257GT1 16.50
2 30447 32712 "1 " 0 # TRAN from T257 230.00 (5) to (1) T257GT2 16.50
2 30447 32713 "1 " 0 # TRAN from T257 230.00 (5) to (1) T257ST1 13.80
2 30447 32714 "1 " 0 # TRAN from T257 230.00 (5) to (1) T257ST2 13.80
4 32711 0 "ss" 0 # LOAD-DROP T257GT1 16.50 LOAD==3.75 (2.07)
4 32712 0 "ss" 0 # LOAD-DROP T257GT2 16.50 LOAD==3.75 (2.07)
4 32713 0 "ss" 0 # LOAD-DROP T257ST1 13.80 LOAD==3.75 (2.07)
4 32714 0 "ss" 0 # LOAD-DROP T257ST2 13.80 LOAD==3.75 (2.07)
3 32711 0 "1 " 0 # GEN-DROP T257GT1 16.50 GEN==218.00 (50.25)
3 32712 0 "2 " 0 # GEN-DROP T257GT2 16.50 GEN==218.00 (50.25)
3 32713 0 "3 " 0 # GEN-DROP T257ST1 13.80 GEN==77.00 (17.46)
3 32714 0 "4 " 0 # GEN-DROP T257ST2 13.80 GEN==77.00 (17.46)
0
#
#
# (53) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
# post-project outage
1 30446 30540 "2 " 0 # line from T257SWST 230.00 BRKR to BRKR SOBRANTE 230.00
0
#
#
# (54) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30460 30465 "1 " 0 # line from VACA-DIX 230.00 BRKR to BRKR BAHIA 230.00
0
#
#
# (55) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30460 30467 "1 " 0 # line from VACA-DIX 230.00 BRKR to BRKR PARKWAY 230.00

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APPENDIX B - 6

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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0
#
#
# (56) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30465 30466 "1 " 0 # line from BAHIA 230.00 BRKR to BRKR Q177 230.00
0
#
#
# (57) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30466 30550 "1 " 0 # line from Q177 230.00 BRKR to BRKR MORAGA 230.00
0
#
#
# (58) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30467 30550 "1 " 0 # line from PARKWAY 230.00 BRKR to BRKR MORAGA 230.00
0
#
#
# (59) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 31258 32564 "1 " 0 # line from SONOMA 115.00 BRKR to BRKR PUEBLO 115.00
0
#
#
# (60) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 31264 32553 "1 " 0 # line from STHELNJ2 115.00 (2) to (3) MNTCLOJ2 115.00
1 31264 32549 "1 " 0 # line from STHELNJ2 115.00 BRKR to BRKR SILVRDJ2 115.00
1 32553 32554 "1 " 0 # line from MNTCLOJ2 115.00 (3) to (1) MONTCLLO 115.00
1 32553 32559 "1 " 0 # line from MNTCLOJ2 115.00 (3) to (2) MTCLPHJ2 115.00
1 32559 32560 "1 " 0 # line from MTCLPHJ2 115.00 (2) to (2) MNTCLOPH 115.00
2 32560 32700 "1 " 0 # TRAN from MNTCLOPH 115.00 (2) to (1) MONTICLO 9.11
4 32554 0 "1 " 0 # LOAD-DROP MONTCLLO 115.00 LOAD==6.93(0.99)
3 32700 0 "1 " 0 # GEN-DROP MONTICLO 9.11 GEN==4.70(0.00)
3 32700 0 "2 " 0 # GEN-DROP MONTICLO 9.11 GEN==4.70(0.00)
0
#
#
# (61) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 31265 32555 "1 " 0 # line from STHELNJ1 115.00 (3) to (2) MNTCLOJ1 115.00
1 31265 32562 "1 " 0 # line from STHELNJ1 115.00 (3) to (2) PUEBLOJT 115.00
1 31265 32551 "1 " 0 # line from STHELNJ1 115.00 (3) to (2) SILVRDJ1 115.00
1 32555 32561 "1 " 0 # line from MNTCLOJ1 115.00 (2) to (1) MTCLPHJ1 115.00
1 32562 32564 "1 " 0 # line from PUEBLOJT 115.00 (2) to BRKR PUEBLO 115.00
1 32551 31251 "1 " 0 # line from SILVRDJ1 115.00 (2) to (2) RINCONJ1 115.00
1 31251 31236 "1 " 0 # line from RINCONJ1 115.00 (2) to BRKR FULTON 115.00
0
#
#
# (62) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32549 32550 "1 " 0 # line from SILVRDJ2 115.00 (3) to (1) SILVERDO 115.00
1 32549 31218 "1 " 0 # line from SILVRDJ2 115.00 (3) to (3) ER_FTNJT 115.00
1 32549 31264 "1 " 0 # line from SILVRDJ2 115.00 BRKR to BRKR STHELNJ2 115.00
1 31218 31219 "1 " 0 # line from ER_FTNJT 115.00 (3) to (2) ERFT5_25 115.00
1 31218 31249 "1 " 0 # line from ER_FTNJT 115.00 (3) to (3) RINCONJ2 115.00
1 31219 31220 "1 " 0 # line from ERFT5_25 115.00 (2) to BRKR EGLE RCK 115.00
1 31249 31236 "1 " 0 # line from RINCONJ2 115.00 (3) to BRKR FULTON 115.00
1 31249 31250 "1 " 0 # line from RINCONJ2 115.00 (3) to (1) RINCON 115.00
4 32550 0 "1 " 0 # LOAD-DROP SILVERDO 115.00 LOAD==21.67(3.09)
4 32550 0 "2 " 0 # LOAD-DROP SILVERDO 115.00 LOAD==27.99(3.99)
4 31250 0 "1 " 0 # LOAD-DROP RINCON 115.00 LOAD==19.57(2.79)
4 31250 0 "2 " 0 # LOAD-DROP RINCON 115.00 LOAD==17.92(2.55)
1 31251 31250 "1 " 1 # close Line from RINCONJ1 115.00 to RINCON 115.00
4 31250 0 "***" 1 # restore all loads to RINCON 115.00 (Eagle Rock-Fulton-Silverado 115 kV
1 32551 32550 "1 " 1 # close Line from SILVRDJ1 115.00 to SILVERDO 115.00
4 32550 0 "***" 1 # restore all loads to SILVERDO 115.00 (Eagle Rock-Fulton-Silverado 115 k
0
#
#
# (63) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32568 32569 "1 " 0 # line from IGNACIO 115.00 BRKR to (2) HMLT_WET 115.00
1 32569 32578 "1 " 0 # line from HMLT_WET 115.00 (2) to (2) SKGGS J2 115.00

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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1 32578 32586 "1 " 0 # line from SKGGS J2 115.00 (2) to (3) HGHWY J2 115.00
1 32586 31956 "1 " 0 # line from HGHWY J2 115.00 (3) to (2) CORDELLT 115.00
1 32586 32590 "1 " 0 # line from HGHWY J2 115.00 (3) to BRKR HIGHWAY 115.00
1 31956 32598 "1 " 0 # line from CORDELLT 115.00 (2) to (2) NTWR ALT 115.00
1 32598 32608 "1 " 0 # line from NTWR ALT 115.00 (2) to (2) CRQNZTP2 115.00
1 32608 32616 "1 " 0 # line from CRQNZTP2 115.00 (2) to (1) MEYERTP2 115.00
4 32569 0 "1 " 0 # LOAD-DROP HMLT_WET 115.00 LOAD==15.00(9.30)
4 32590 0 "1 " 0 # LOAD-DROP HIGHWAY 115.00 LOAD==20.67(2.94)
4 32590 0 "2 " 0 # LOAD-DROP HIGHWAY 115.00 LOAD==25.37(3.61)
1 32588 32590 "1 " 1 # LINE-TRANSFER HGHWY J2 115.00 to HGHWY J1 115.00
4 32590 0 "***" 1 # RESTORE HIGHWAY load
0
#
#
# (64) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32568 32570 "3 " 0 # line from IGNACIO 115.00 BRKR to BRKR LS GLLNS 115.00
0
#
#
# (65) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32568 32574 "1 " 0 # line from IGNACIO 115.00 BRKR to BRKR SAN RAFL 115.00
0
#
#
# (66) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32568 32576 "1 " 0 # line from IGNACIO 115.00 BRKR to (3) SKGGS J1 115.00
1 32576 32580 "1 " 0 # line from SKGGS J1 115.00 (3) to (1) SKAGGS 115.00
1 32576 32588 "1 " 0 # line from SKGGS J1 115.00 (3) to (2) HGHWY J1 115.00
1 32588 32593 "1 " 0 # line from HGHWY J1 115.00 (2) to (3) JCPMPJCT 115.00
1 32593 32595 "1 " 0 # line from JCPMPJCT 115.00 (3) to (1) JMSCNPMP 115.00
1 32593 32604 "1 " 0 # line from JCPMPJCT 115.00 (3) to (2) MREIS JC 115.00
1 32604 32612 "1 " 0 # line from MREIS JC 115.00 (2) to (3) CRQNZTP1 115.00
1 32612 32610 "1 " 0 # line from CRQNZTP1 115.00 (3) to BRKR MRE IS-Q 115.00
1 32612 32614 "1 " 0 # line from CRQNZTP1 115.00 (3) to (3) MEYERTP1 115.00
1 32614 32600 "1 " 0 # line from MEYERTP1 115.00 (3) to BRKR MEYERS 115.00
1 32614 32606 "1 " 0 # line from MEYERTP1 115.00 (3) to BRKR CARQUINZ 115.00
4 32610 0 "1 " 0 # LOAD-DROP MRE IS-Q 115.00 LOAD==4.25(0.86)
4 32600 0 "1 " 0 # LOAD-DROP MEYERS 115.00 LOAD==0.24(0.05)
4 32606 0 "1 " 0 # LOAD-DROP CARQUINZ 115.00 LOAD==13.23(1.89)
4 32606 0 "2 " 0 # LOAD-DROP CARQUINZ 115.00 LOAD==11.26(1.60)
1 32616 32606 "1 " 1 # LINE-TRANSFER MEYERTP1 115.00 to MEYERTP2 115.00
4 32606 0 "***" 1 # RESTORE CARQUINEZ load
0
#
#
# (67) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32570 32574 "3 " 0 # line from LS GLLNS 115.00 BRKR to BRKR SAN RAFL 115.00
0
#
#
# (68) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32602 32620 "1 " 0 # line from NRTH TWR 115.00 BRKR to (2) NTWRJCT2 115.00
1 32620 32778 "1 " 0 # line from NTWRJCT2 115.00 (2) to (3) MRTNZJCT 115.00
1 32778 32754 "1 " 0 # line from MRTNZJCT 115.00 (3) to BRKR OLEUM 115.00
1 32778 32756 "1 " 0 # line from MRTNZJCT 115.00 (3) to BRKR CHRISTIE 115.00
4 32602 0 "1 " 0 # LOAD-DROP NRTH TWR 115.00 LOAD==14.43(2.06)
4 32602 0 "2 " 0 # LOAD-DROP NRTH TWR 115.00 LOAD==9.58(1.37)
4 32602 0 "3 " 0 # LOAD-DROP NRTH TWR 115.00 LOAD==6.08(0.87)
4 32602 0 "4 " 0 # LOAD-DROP NRTH TWR 115.00 LOAD==2.85(0.41)
1 32602 32618 "1 " 1 # LINE-TRANSFER NTWRJCT2 115.00 to NTWRJCT1 115.00
4 32602 0 "***" 1 # RESTORE NORTH TOWER load
0
#
#
# (69) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32618 32020 "1 " 0 # line from NTWRJCT1 115.00 (1) to (3) JMSN JCT 115.00
1 32020 31996 "1 " 0 # line from JMSN JCT 115.00 (3) to (3) HALE J1 115.00
1 32020 32010 "1 " 0 # line from JMSN JCT 115.00 (3) to BRKR JAMESON 115.00
1 31996 31995 "1 " 0 # line from HALE J1 115.00 (3) to (2) HALE 115.00
1 31996 32006 "1 " 0 # line from HALE J1 115.00 (3) to (3) VCVLLE1J 115.00
1 31995 32013 "1 " 0 # line from HALE 115.00 (2) to (1) HALE2 115.00
1 32006 31998 "1 " 0 # line from VCVLLE1J 115.00 (3) to BRKR VACA-DIX 115.00

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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1 32006 32000 "1 " 0 # line from VCVLLE1J 115.00 (3) to BRKR VACAVLL1 115.00
4 32010 0 "1 " 0 # LOAD-DROP JAMESON 115.00 LOAD==35.07(1.57)
4 31995 0 "1 " 0 # LOAD-DROP HALE 115.00 LOAD==2.36(1.40)
4 32000 0 "1 " 0 # LOAD-DROP VACAVLL1 115.00 LOAD==27.49(1.23)
1 32002 32000 "1 " 1 #Line transfer VACAVLL1 115kV TO VACAVLL2 115kV
4 32000 0 "***" 1 #Restore VACAVLL1 load
1 32012 32013 "1 " 1 #Transfer load to HALE alternate
4 31995 0 "***" 1 #Restore load at HALE
1 32010 32009 "1 " 1 # LINE-TRANSFER JMSN JCT 115.00 to JAMESN-A 115.00
4 32010 0 "***" 1 # RESTORE JAMESON load
0
#
#
# (70) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32650 32652 "1 " 0 # line from ST.HELNA 60.00 (2) to BRKR CALISTGA 60.00
1 32650 31378 "1 " 0 # line from ST.HELNA 60.00 (2) to BRKR FULTON 60.00
4 32652 0 "1 " 0 # LOAD-DROP CALISTGA 60.00 LOAD==18.46(2.63)
0
#
#
# (71) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32654 32655 "1 " 0 # line from TULUCAY 60.00 BRKR to (2) TULCAY1 60.00
1 32655 32662 "1 " 0 # line from TULCAY1 60.00 (2) to (4) TULCY JT 60.00
1 32662 32077 "1 " 0 # line from TULCY JT 60.00 (4) to (1) CORD PMP 60.00
1 32662 32656 "1 " 0 # line from TULCY JT 60.00 (4) to BRKR NAPA 60.00
1 32662 32093 "1 " 0 # line from TULCY JT 60.00 (4) to (3) CRD-JCT 60.00
1 32093 32091 "1 " 0 # line from CRD-JCT 60.00 (3) to (1) CRD_INTR 60.00
1 32093 32074 "1 " 0 # line from CRD-JCT 60.00 (3) to (1) CORDELIA 60.00
4 32077 0 "1 " 0 # LOAD-DROP CORD PMP 60.00 LOAD==4.74(1.56)
4 32091 0 "1 " 0 # LOAD-DROP CRD_INTR 60.00 LOAD==2.80(0.90)
4 32074 0 "4 " 0 # LOAD-DROP CORDELIA 60.00 LOAD==11.94(0.53)
1 32662 32656 "1 " 1 # close Line from TULCY JT 60.00 to NAPA 60.00
1 32662 32077 "1 " 1 # close Line from TULCY JT 60.00 to CORD PMP 60.00
1 32077 32074 "1 " 1 # close Line from CORD PMP 60.00 to CORDELIA 60.00
4 32077 0 "***" 1 # restore all loads to CORD PMP 60.00
4 32074 0 "***" 1 # restore all loads to CORDELIA 60.00 (Tulucay - Napa #1 60 kV)
0
#
#
# (72) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32654 32660 "1 " 0 # line from TULUCAY 60.00 BRKR to (3) BSLT TAP 60.00
1 32660 32656 "1 " 0 # line from BSLT TAP 60.00 (3) to BRKR NAPA 60.00
1 32660 32658 "1 " 0 # line from BSLT TAP 60.00 (3) to (1) BASALT 60.00
4 32658 0 "1 " 0 # LOAD-DROP BASALT 60.00 LOAD==3.68(0.53)
4 32658 0 "2 " 0 # LOAD-DROP BASALT 60.00 LOAD==20.76(2.96)
1 32655 32658 "1 " 1 # close Line from TULUCAY 60.00 to BASALT 60.00
4 32658 0 "***" 1 # restore all loads to BASALT 60.00 (Tulucay - Napa #2 60 kV)
0
#
#
# (73) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32664 32667 "1 " 0 # line from IGNACO A 60.00 BRKR to (3) IG JCT 60.00
1 32667 32678 "1 " 0 # line from IG JCT 60.00 (3) to (2) SAN RFLJ 60.00
1 32667 32668 "1 " 0 # line from IG JCT 60.00 (3) to BRKR NOVATO 60.00
1 32678 32680 "1 " 0 # line from SAN RFLJ 60.00 (2) to BRKR GREENBRE 60.00
0
#
#
# (74) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32664 32676 "1 " 0 # line from IGNACO A 60.00 BRKR to (2) HMLTN FD 60.00
1 32676 32686 "1 " 0 # line from HMLTN FD 60.00 (2) to (2) ALTOJT2 60.00
1 32686 32682 "1 " 0 # line from ALTOJT2 60.00 (2) to BRKR ALTO 60.00
1 32676 32677 "1 " 1 # LINE-TRANSFER HMLTN FD 60.00 to HMLTNBFD 60.00
4 32676 0 "***" 1 # RESTORE HMLTN FD load
0
#
#
# (75) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32664 32677 "1 " 0 # line from IGNACO A 60.00 BRKR to (2) HMLTNBFD 60.00
1 32677 32684 "1 " 0 # line from HMLTNBFD 60.00 (2) to (3) ALTOJT1 60.00
1 32684 32682 "1 " 0 # line from ALTOJT1 60.00 (3) to BRKR ALTO 60.00
1 32684 32688 "1 " 0 # line from ALTOJT1 60.00 (3) to BRKR SAUSALTO 60.00

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4 32688      0 "2 " 0 # LOAD-DROP SAUSALTO 60.00 LOAD==10.92(1.56)
1 32688 32686 "1 " 1 # LINE-TRANSFER SAUSALTO 60.00 to ALTOJ2 60.00
4 32688      0 "***" 1 # RESTORE SAUSALTO load
0
#
#
# (76) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32666 32669 "1 " 0 # line from IGNACO B 60.00 BRKR to (3) STAF_JCT 60.00
1 32669 32673 "1 " 0 # line from STAF_JCT 60.00 (3) to (3) TOCA_JCT 60.00
1 32669 32670 "1 " 0 # line from STAF_JCT 60.00 (3) to BRKR STAFFORD 60.00
1 32673 32672 "1 " 0 # line from TOCA_JCT 60.00 (3) to BRKR OLEMA 60.00
1 32673 32675 "1 " 0 # line from TOCA_JCT 60.00 (3) to (1) TOCALOMA 60.00
4 32670      0 "1 " 0 # LOAD-DROP STAFFORD 60.00 LOAD==10.16(1.45)
4 32670      0 "2 " 0 # LOAD-DROP STAFFORD 60.00 LOAD==10.61(1.51)
1 32670 32665 "1 " 1 # LINE-TRANSFER STAF_JCT 60.00 to NVTO JCT 60.00
4 32670      0 "***" 1 # RESTORE STAFFORD load
0
#
#
# (77) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32666 32674 "1 " 0 # line from IGNACO B 60.00 BRKR to (2) WOODACRE 60.00
1 32674 32671 "1 " 0 # line from WOODACRE 60.00 (2) to BRKR BOLINAS 60.00
4 32674      0 "1 " 0 # LOAD-DROP WOODACRE 60.00 LOAD==7.94(1.13)
0
#
#
# (78) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32672 32671 "1 " 0 # line from OLEMA 60.00 BRKR to BRKR BOLINAS 60.00
0
#
#
# (79) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32680 32682 "1 " 0 # line from GREENBRE 60.00 BRKR to BRKR ALTO 60.00
0
#
#
# (80) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 30464 30465 "1 " 0 # TRAN from EXXON_BH 12.47 (3) to BRKR BAHIA 230.00
2 30464 30465 "2 " 0 # TRAN from EXXON_BH 12.47 (3) to BRKR BAHIA 230.00
2 30464 30465 "3 " 0 # TRAN from EXXON_BH 12.47 (3) to BRKR BAHIA 230.00
4 30464      0 "SG" 0 # LOAD-DROP EXXON_BH 12.47 LOAD==47.30(30.55)
3 30464      0 "1 " 0 # GEN-DROP EXXON_BH 12.47 GEN==52.00(19.25)
0
#
#
# (81) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 32568 30445 "4 " 0 # TRAN from IGNACIO 115.00 BRKR to BRKR IGNACIO 230.00
0
#
#
# (82) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 32568 30445 "6 " 0 # TRAN from IGNACIO 115.00 BRKR to BRKR IGNACIO 230.00
0
#
#
# (83) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 32654 30440 "1 " 0 # TRAN from TULUCAY 60.00 BRKR to BRKR TULUCAY 230.00
0
#
#
# (84) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 32654 30440 "3 " 0 # TRAN from TULUCAY 60.00 BRKR to BRKR TULUCAY 230.00
0
#
#
# (85) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 32666 32568 "1 " 0 # TRAN from IGNACO B 60.00 BRKR to BRKR IGNACIO 115.00
0

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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#
#
# (86) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 32666 32568 "3 " 0 # TRAN from IGNACO B 60.00 BRKR to BRKR IGNACIO 115.00
0
#
#
# (87) B1 GENERATOR OUTAGE
#
3 30464 0 "1 " 0 # EXXON_BH 12.47 PGEN=52.00 QGEN=19.25
0
#
#
# (88) B1 GENERATOR OUTAGE
#
3 32900 0 "1 " 0 # CRCKTCOG 18.00 PGEN=240.00 QGEN=40.82
0
#
#
# (89) B1 GENERATOR OUTAGE
#
3 32703 0 "1" 0 # Q177WG1 0.58 PGEN=100.00 QGEN=20.16
0
#
#
# (90) L-1/G-1 OVERLAPPING OUTAGE
# Fulton - Ignacio 230 kV Line and Crockett Cogen
1 30430 30445 "1 " 0 # line from FULTON 230.00 BRKR to BRKR IGNACIO 230.00
#
3 32900 0 "1 " 0 # CRCKTCOG 18.00 PGEN=240.00 QGEN=40.82
0
#
#
# (91) L-1/G-1 OVERLAPPING OUTAGE
# Lakeville - Ignacio #2 230 kV Line and Crockett Cogen
1 30433 30445 "2 " 0 # line from T22_93B 230.00 (2) to BRKR IGNACIO 230.00
1 30433 30435 "2 " 0 # line from T22_93B 230.00 (2) to BRKR LAKEVILLE 230.00
#
3 32900 0 "1 " 0 # CRCKTCOG 18.00 PGEN=240.00 QGEN=40.82
0
#
#
# (92) L-1/G-1 OVERLAPPING OUTAGE
# Lakeville - Ignacio #1 230 kV Line and Crockett Cogen
1 30435 30445 "1 " 0 # line from LAKEVILLE 230.00 BRKR to BRKR IGNACIO 230.00
#
3 32900 0 "1 " 0 # CRCKTCOG 18.00 PGEN=240.00 QGEN=40.82
0
#
#
# (93) L-1/G-1 OVERLAPPING OUTAGE
# Lakeville - T257 230 kV Line and Crockett Cogen post-project outage
1 30435 30446 "1 " 0 # line from LAKEVILLE 230.00 BRKR to BRKR T257SWST 230.00
#
3 32900 0 "1 " 0 # CRCKTCOG 18.00 PGEN=240.00 QGEN=40.82
0
#
#
# (94) L-1/G-1 OVERLAPPING OUTAGE
# Ignacio - T257 230 kV Line and Crockett Cogen post-project outage
1 30445 30446 "1 " 0 # line from IGNACIO 230.00 BRKR to BRKR T257SWST 230.00
#
3 32900 0 "1 " 0 # CRCKTCOG 18.00 PGEN=240.00 QGEN=40.82
0
#
#
# (95) L-1/G-1 OVERLAPPING OUTAGE
# T257 - Sobrante #2 230 kV Line and Crockett Cogen post-project outage
1 30446 30540 "2 " 0 # line from T257SWST 230.00 BRKR to BRKR SOBRANTE 230.00
#
3 32900 0 "1 " 0 # CRCKTCOG 18.00 PGEN=240.00 QGEN=40.82
0
#
#
# (96) L-1/G-1 OVERLAPPING OUTAGE
# Vaca-Dixon - Bahia 230 kV Line and Crockett Cogen
1 30460 30465 "1 " 0 # line from VACA-DIX 230.00 BRKR to BRKR BAHIA 230.00

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#
3 32900      0 "1 "    0      # CRCKTCOG  18.00      PGEN=240.00  QGEN=40.82
0
#
#
# (97) L-1/G-1 OVERLAPPING OUTAGE
# Vaca-Dixon - Parkway 230 kV Line and Crockett Cogen
1 30460 30467 "1 "    0      # line from  VACA-DIX 230.00  BRKR to BRKR  PARKWAY  230.00
#
3 32900      0 "1 "    0      # CRCKTCOG  18.00      PGEN=240.00  QGEN=40.82
0
#
#
# (98) L-1/G-1 OVERLAPPING OUTAGE
# Bahia - Q177 230 kV Line and Crockett Cogen
1 30465 30466 "1 "    0      # line from  BAHIA    230.00  BRKR to BRKR  Q177    230.00
#
3 32900      0 "1 "    0      # CRCKTCOG  18.00      PGEN=240.00  QGEN=40.82
0
#
#
# (99) L-1/G-1 OVERLAPPING OUTAGE
# Q177 - Moraga 230 kV Line and Crockett Cogen
1 30466 30550 "1 "    0      # line from  Q177    230.00  BRKR to BRKR  MORAGA   230.00
#
3 32900      0 "1 "    0      # CRCKTCOG  18.00      PGEN=240.00  QGEN=40.82
0
#
#
# (100) L-1/G-1 OVERLAPPING OUTAGE
# Parkway - Moraga 230 kV Line and Crockett Cogen
1 30467 30550 "1 "    0      # line from  PARKWAY 230.00  BRKR to BRKR  MORAGA   230.00
#
3 32900      0 "1 "    0      # CRCKTCOG  18.00      PGEN=240.00  QGEN=40.82
0
#
#
# 2013 category b contingency list
# East Bay Division Zone 307
#
#
# (101) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32740 33006 "1 "    0      # line from  HILLSIDE 115.00  BRKR to (3)  GRIZLYJ1 115.00
1 33006 33010 "1 "    0      # line from  GRIZLYJ1 115.00  (3) to BRKR  SOBRANTE 115.00
1 33006 33012 "1 "    0      # line from  GRIZLYJ1 115.00  (3) to BRKR  EST PRTL 115.00
1 32770 32740 "1 "    0      # include GRIZZLY2 115.00  BRKR to HILLSIDE 115.00 ckt 1
0
#
#
# (102) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32740 33008 "2 "    0      # line from  HILLSIDE 115.00  BRKR to (3)  GRIZLYJ2 115.00
1 33008 32780 "2 "    0      # line from  GRIZLYJ2 115.00  (3) to BRKR  CLARMNT 115.00
1 33008 33010 "2 "    0      # line from  GRIZLYJ2 115.00  (3) to BRKR  SOBRANTE 115.00
1 32770 32740 "2 "    0      # include GRIZZLY2 115.00  BRKR to HILLSIDE 115.00 ckt 2
0
#
#
# (103) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32748 32750 "1 "    0      # line from  PP STEEL 115.00  BRKR to (3)  PPSTLTAP 115.00
1 32750 32774 "1 "    0      # line from  PPSTLTAP 115.00  (3) to (3)  PTPNLTAP 115.00
1 32750 32760 "1 "    0      # line from  PPSTLTAP 115.00  (3) to (1)  PT PINLE 115.00
1 32774 32762 "1 "    0      # line from  PTPNLTAP 115.00  (3) to BRKR  STD. OIL 115.00
1 32774 32808 "1 "    0      # line from  PTPNLTAP 115.00  (3) to (2)  SNPBLTP2 115.00
1 32808 33010 "1 "    0      # line from  SNPBLTP2 115.00  (2) to BRKR  SOBRANTE 115.00
4 32748      0 "1 "    0      # LOAD-DROP   PP STEEL 115.00  LOAD==0.19(0.25)
4 32760      0 "1 "    0      # LOAD-DROP   PT PINLE 115.00  LOAD==14.78(3.36)
0
#
#
# (104) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32754 32802 "1 "    0      # line from  OLEUM    115.00  BRKR to (3)  VLYVWTP1 115.00
1 32802 32764 "1 "    0      # line from  VLYVWTP1 115.00  (3) to BRKR  VALLY VW 115.00
1 32802 32766 "1 "    0      # line from  VLYVWTP1 115.00  (3) to BRKR  EL CRRTO 115.00
4 32764      0 "1 "    0      # LOAD-DROP   VALLY VW 115.00  LOAD==7.65(1.74)

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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4 32764      0 "2 " 0 # LOAD-DROP VALLY VW 115.00 LOAD==15.69(3.58)
1 32764 32804 "2 " 1 # LINE-TRANSFER VLYVWTP1 to VLYVWTP2
4 32764      0 "***" 1 # RESTORE VALLEY VIEW load
0
#
#
# (105) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32754 32804 "2 " 0 # line from OLEUM 115.00 BRKR to (2) VLYVWTP2 115.00
1 32804 32766 "2 " 0 # line from VLYVWTP2 115.00 (2) to BRKR EL CRRTO 115.00
0
#
#
# (106) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32754 32849 "1 " 0 # line from OLEUM 115.00 BRKR to (2) CON25 115.00
1 32849 32754 "2 " 0 # line from CON25 115.00 (2) to BRKR OLEUM 115.00
4 32849      0 "1 " 0 # LOAD-DROP CON25 115.00 LOAD==25.00(15.56)
0
#
#
# (107) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32756 33010 "1 " 0 # line from CHRISTIE 115.00 BRKR to BRKR SOBRANTE 115.00
0
#
#
# (108) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32765 33010 "1 " 0 # line from ELCRTJ1 115.00 (2) to BRKR SOBRANTE 115.00
1 32765 32766 "1 " 0 # line from ELCRTJ1 115.00 (2) to BRKR EL CRRTO 115.00
0
#
#
# (109) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32766 33010 "2 " 0 # line from EL CRRTO 115.00 BRKR to BRKR SOBRANTE 115.00
0
#
#
# (110) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32767 33010 "1 " 0 # line from ELCRTJ2 115.00 (2) to BRKR SOBRANTE 115.00
1 32767 32768 "1 " 0 # line from ELCRTJ2 115.00 (2) to BRKR RICHMOND 115.00
0
#
#
# (111) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32768 33010 "2 " 0 # line from RICHMOND 115.00 BRKR to BRKR SOBRANTE 115.00
0
#
#
# (112) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32770 32740 "1 " 0 # line from GRIZZLY2 115.00 BRKR to BRKR HILLSIDE 115.00
0
#
#
# (113) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32770 32740 "2 " 0 # line from GRIZZLY2 115.00 BRKR to BRKR HILLSIDE 115.00
0
#
#
# (114) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32780 32782 "1 " 0 # line from CLARMNT 115.00 BRKR to BRKR STATIN D 115.00
0
#
#
# (115) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32780 32782 "2 " 0 # line from CLARMNT 115.00 BRKR to BRKR STATIN D 115.00
0
#
#
# (116) B2 LINE OUTAGE (BREAKER-TO-BREAKER)

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#
1 32782 32788 "1 " 0 # line from STATIN D 115.00 BRKR to BRKR STATIN L 115.00
0
#
#
# (117) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32786 32788 "1 " 0 # line from OAK C115 115.00 BRKR to BRKR STATIN L 115.00
0
#
#
# (118) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32786 32790 "2 " 0 # line from OAK C115 115.00 BRKR to BRKR STATIN X 115.00
0
#
#
# (119) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32786 32790 "3 " 0 # line from OAK C115 115.00 BRKR to BRKR STATIN X 115.00
0
#
#
# (120) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32786 32793 "1 " 0 # line from OAK C115 115.00 BRKR to (2) SCHNITZ 115.00
1 32793 32794 "1 " 0 # line from SCHNITZ 115.00 (2) to BRKR MARITIME 115.00
4 32793 0 "1 " 0 # LOAD-DROP SCHNITZ 115.00 LOAD==9.29(4.50)
4 32794 0 "1 " 0 # LOAD-DROP MARITIME 115.00 LOAD==0.95(1.11)
0
#
#
# (121) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32786 38026 "1 " 0 # line from OAK C115 115.00 BRKR to (4) ALAMEDCT 115.00
1 38026 38022 "1 " 0 # line from ALAMEDCT 115.00 (4) to BRKR CARTWRT 115.00
2 38026 38118 "1 " 0 # TRAN from ALAMEDCT 115.00 (4) to (1) ALMDACT1 13.80
2 38026 38119 "1 " 0 # TRAN from ALAMEDCT 115.00 (4) to (1) ALMDACT2 13.80
4 38022 0 "1 " 0 # LOAD-DROP CARTWRT 115.00 LOAD==23.04(4.31)
4 38022 0 "2 " 0 # LOAD-DROP CARTWRT 115.00 LOAD==23.04(4.31)
3 38118 0 "1 " 0 # GEN-DROP ALMDACT1 13.80 GEN==22.60(12.40)
3 38119 0 "1 " 0 # GEN-DROP ALMDACT2 13.80 GEN==22.60(12.40)
0
#
#
# (122) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32787 32786 "1 " 0 # line from Q155 115.00 (4) to BRKR OAK C115 115.00
2 32787 32905 "1 " 0 # TRAN from Q155 115.00 (4) to (1) Q155BUS1 13.80
2 32787 32906 "2 " 0 # TRAN from Q155 115.00 (4) to (1) Q155BUS2 13.80
2 32787 32907 "3 " 0 # TRAN from Q155 115.00 (4) to (1) Q155BUS3 13.80
4 32905 0 "ss" 0 # LOAD-DROP Q155BUS1 13.80 LOAD==1.20(0.66)
4 32906 0 "ss" 0 # LOAD-DROP Q155BUS2 13.80 LOAD==1.20(0.66)
4 32907 0 "ss" 0 # LOAD-DROP Q155BUS3 13.80 LOAD==0.60(0.33)
3 32905 0 "1 " 0 # GEN-DROP Q155BUS1 13.80 GEN==60.60(15.56)
3 32905 0 "2 " 0 # GEN-DROP Q155BUS1 13.80 GEN==60.60(15.56)
3 32906 0 "3 " 0 # GEN-DROP Q155BUS2 13.80 GEN==60.60(15.56)
3 32906 0 "4 " 0 # GEN-DROP Q155BUS2 13.80 GEN==60.60(15.56)
3 32907 0 "5 " 0 # GEN-DROP Q155BUS3 13.80 GEN==60.60(24.01)
0
#
#
# (123) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32792 32798 "1 " 0 # line from STATIN J 115.00 BRKR to (2) OWENSTAP 115.00
1 32798 32800 "1 " 0 # line from OWENSTAP 115.00 (2) to BRKR OWNBRKWY 115.00
4 32800 0 "1 " 0 # LOAD-DROP OWNBRKWY 115.00 LOAD==9.29(5.51)
0
#
#
# (124) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32792 32814 "1 " 0 # line from STATIN J 115.00 BRKR to (3) EDESTAP1 115.00
1 32814 32810 "1 " 0 # line from EDESTAP1 115.00 (3) to BRKR EDES 115.00
1 32814 35113 "1 " 0 # line from EDESTAP1 115.00 (3) to (2) DMTAR SL 115.00
1 35113 35101 "1 " 0 # line from DMTAR SL 115.00 (2) to BRKR SN LNDRO 115.00
4 32810 0 "2 " 0 # LOAD-DROP EDES 115.00 LOAD==18.85(4.29)
4 32810 0 "3 " 0 # LOAD-DROP EDES 115.00 LOAD==29.45(6.71)

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4 35113      0 "1 " 0 # LOAD-DROP DMTAR SL 115.00 LOAD==3.61(2.24)
1 32810 32812 "1 " 1 # LINE-TRANSFER EDESTAP1 to EDS GRNT
4 32810      0 "***" 1 # RESTORE EDES load
0
#
#
# (125) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32792 38024 "1 " 0 # line from STATIN J 115.00 BRKR to BRKR JENNY 115.00
4 38024      0 "1 " 0 # LOAD-DROP JENNY 115.00 LOAD==33.37(6.27)
1 38024 38022 "1 " 1 # LINE-TRANSFER ALAMDA J to ALAMDA C
4 38024      0 "***" 1 # RESTORE ALAMDA J load
0
#
#
# (126) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32806 32758 "1 " 0 # line from SNPBLTP1 115.00 (3) to BRKR SAN PBLO 115.00
1 32806 32762 "2 " 0 # line from SNPBLTP1 115.00 (3) to BRKR STD. OIL 115.00
1 32806 33010 "2 " 0 # line from SNPBLTP1 115.00 (3) to BRKR SOBRANTE 115.00
4 32758      0 "1 " 0 # LOAD-DROP SAN PBLO 115.00 LOAD==19.98(4.55)
1 32758 32808 "2 " 1 # LINE-TRANSFER SNPBLTP1 to SNPBLTP2
4 32758      0 "***" 1 # RESTORE SAN PABLO load
0
#
#
# (127) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32812 35104 "1 " 0 # line from EDS GRNT 115.00 (1) to BRKR GRANT 115.00
0
#
#
# (128) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32850 32852 "1 " 0 # line from UNIN CHM 60.00 (3) to BRKR CHRISTIE 60.00
1 32850 32860 "1 " 0 # line from UNIN CHM 60.00 (3) to BRKR FRKLNALT 60.00
2 32850 32920 "1 " 0 # TRAN from UNIN CHM 60.00 (3) to (1) UNION CH 9.11
4 32920      0 "SG" 0 # LOAD-DROP UNION CH 9.11 LOAD==2.35(0.54)
3 32920      0 "1 " 0 # GEN-DROP UNION CH 9.11 GEN==20.40(-9.00)
0
#
#
# (129) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32852 32856 "2 " 0 # line from CHRISTIE 60.00 BRKR to (2) FRANKLIN 60.00
1 32856 32858 "1 " 0 # line from FRANKLIN 60.00 (2) to (1) SEQUOIA 60.00
4 32856      0 "1 " 0 # LOAD-DROP FRANKLIN 60.00 LOAD==16.51(3.76)
4 32856      0 "2 " 0 # LOAD-DROP FRANKLIN 60.00 LOAD==16.30(3.72)
1 32856 32860 "1 " 1 # LINE-TRANSFER FRANKLIN to FRKLNALT
4 32856      0 "***" 1 # RESTORE FRANKLIN load
0
#
#
# (130) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32852 33067 "1 " 0 # line from CHRISTIE 60.00 BRKR to (3) PCBRICK 60.00
1 33067 32854 "1 " 0 # line from PCBRICK 60.00 (3) to (1) PRT CSTA 60.00
1 33067 33066 "1 " 0 # line from PCBRICK 60.00 (3) to (3) STAUFFER 60.00
1 33066 33065 "1 " 0 # line from STAUFFER 60.00 (3) to (2) URICH 60.00
2 33066 33139 "1 " 0 # TRAN from STAUFFER 60.00 (3) to (1) STAUFER 9.11
1 33065 33064 "1 " 0 # line from URICH 60.00 (2) to (2) SFPP CNC 60.00
1 33064 33091 "1 " 0 # line from SFPP CNC 60.00 (2) to (2) TAP GWF5 60.00
2 33091 33135 "1 " 0 # TRAN from TAP GWF5 60.00 (2) to (1) GWF #5 13.80
4 32854      0 "1 " 0 # LOAD-DROP PRT CSTA 60.00 LOAD==0.28(0.25)
4 33065      0 "1 " 0 # LOAD-DROP URICH 60.00 LOAD==1.99(1.23)
4 33139      0 "SG" 0 # LOAD-DROP STAUFER 9.11 LOAD==2.23(0.32)
4 33064      0 "1 " 0 # LOAD-DROP SFPP CNC 60.00 LOAD==8.05(4.78)
4 33135      0 "SG" 0 # LOAD-DROP GWF #5 13.80 LOAD==2.77(0.63)
3 33139      0 "1 " 0 # GEN-DROP STAUFER 9.11 GEN==2.00(-1.00)
3 33135      0 "1 " 0 # GEN-DROP GWF #5 13.80 GEN==18.90(3.52)
0
#
#
# (131) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32911 32754 "1 " 0 # line from UNOCAL2 115.00 (3) to BRKR OLEUM 115.00
1 32911 32754 "2 " 0 # line from UNOCAL2 115.00 (3) to BRKR OLEUM 115.00
2 32911 32910 "1 " 0 # TRAN from UNOCAL2 115.00 (3) to BRKR UNOCAL 12.00

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4 32910      0 "SG"      0      # LOAD-DROP      UNOCAL      12.00      LOAD==20.81 (12.90)
3 32910      0 "1 "      0      # GEN-DROP      UNOCAL      12.00      GEN==15.70 (6.59)
3 32910      0 "2 "      0      # GEN-DROP      UNOCAL      12.00      GEN==15.70 (6.59)
3 32910      0 "3 "      0      # GEN-DROP      UNOCAL      12.00      GEN==15.70 (6.59)
0
#
#
# (132)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33012 32780 "1 "      0      # line from EST PRTL 115.00 BRKR to BRKR CLARMNT 115.00
0
#
#
# (133)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33016 32754 "1 "      0      # line from ALHAMTP2 115.00 (2) to BRKR OLEUM 115.00
1 33016 32990 "1 "      0      # line from ALHAMTP2 115.00 (2) to BRKR MARTNZ D 115.00
0
#
#
# (134)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33020 32780 "1 "      0      # line from MORAGA 115.00 BRKR to BRKR CLARMNT 115.00
0
#
#
# (135)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33020 32780 "2 "      0      # line from MORAGA 115.00 BRKR to BRKR CLARMNT 115.00
0
#
#
# (136)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33020 32790 "1 "      0      # line from MORAGA 115.00 BRKR to BRKR STATIN X 115.00
0
#
#
# (137)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33020 32790 "2 "      0      # line from MORAGA 115.00 BRKR to BRKR STATIN X 115.00
0
#
#
# (138)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33020 32790 "3 "      0      # line from MORAGA 115.00 BRKR to BRKR STATIN X 115.00
0
#
#
# (139)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33020 32790 "4 "      0      # line from MORAGA 115.00 BRKR to BRKR STATIN X 115.00
0
#
#
# (140)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33020 32792 "1 "      0      # line from MORAGA 115.00 BRKR to BRKR STATIN J 115.00
0
#
#
# (141)  B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 32786 32908 "1 "      0      # TRAN from OAK C115 115.00 BRKR to BRKR OAK C12 12.00
0
#
#
# (142)  B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 32786 32908 "2 "      0      # TRAN from OAK C115 115.00 BRKR to BRKR OAK C12 12.00
0
#
#
# (143)  B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 32786 32908 "3 "      0      # TRAN from OAK C115 115.00 BRKR to BRKR OAK C12 12.00
0

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#
#
# (144) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 32852 32756 "1 " 0 # TRAN from CHRISTIE 60.00 BRKR to BRKR CHRISTIE 115.00
0
#
#
# (145) B1 GENERATOR OUTAGE
#
3 32740 0 "1" 0 # HILLSIDE 115.00 PGEN=26.00 QGEN=-8.70
0
#
#
# (146) B1 GENERATOR OUTAGE
#
3 32905 0 "1" 0 # Q155BUS1 13.80 PGEN=60.60 QGEN=15.56
0
#
#
# (147) B1 GENERATOR OUTAGE
#
3 32910 0 "1" 0 # UNOCAL 12.00 PGEN=15.70 QGEN=8.37
0
#
#
# (148) B1 GENERATOR OUTAGE
#
3 32920 0 "1" 0 # UNION CH 9.11 PGEN=20.40 QGEN=-9.00
0
#
#
# (149) B1 GENERATOR OUTAGE
#
3 32921 0 "1" 0 # ChevGen1 13.80 PGEN=54.00 QGEN=34.20
0
#
#
# (150) L-1/G-1 OVERLAPPING OUTAGE
# Ignacio - Sobrante 230 kV Line and Q155 Unit 1 pre-project outage
1 30437 30445 "1 " 0 # line from CROCKETT 230.00 (3) to BRKR IGNACIO 230.00
1 30437 30438 "1 " 0 # line from CROCKETT 230.00 (3) to (2) C&H 230.00
1 30437 30540 "1 " 0 # line from CROCKETT 230.00 (3) to BRKR SOBRANTE 230.00
2 30438 32900 "1 " 0 # TRAN from C&H 230.00 BRKR to (1) CRCKTCOG 18.00
4 30438 0 "1 " 0 # LOAD-DROP C&H 230.00 LOAD==3.32(0.76)
3 32900 0 "1 " 0 # GEN-DROP CRCKTCOG 18.00 GEN==240.00(40.82)
#
3 32905 0 "1" 0 # Q155BUS1 13.80 PGEN=60.60 QGEN=15.56
0
#
#
# (151) L-1/G-1 OVERLAPPING OUTAGE
# Ignacio - T257 230 kV Line and Q155 Unit 1 post-project outage
1 30445 30446 "1 " 0 # line from IGNACIO 230.00 BRKR to BRKR T257SWST 230.00
#
3 32905 0 "1" 0 # Q155BUS1 13.80 PGEN=60.60 QGEN=15.56
0
#
#
# (152) L-1/G-1 OVERLAPPING OUTAGE
# T257 - Sobrante #1 230 kV Line and Q155 Unit 1 post-project outage
1 30446 30437 "1 " 0 # line from T257SWST 230.00 BRKR to (3) CROCKETT 230.00
1 30437 30438 "1 " 0 # line from CROCKETT 230.00 (3) to (2) C&H 230.00
1 30437 30540 "1 " 0 # line from CROCKETT 230.00 (3) to BRKR SOBRANTE 230.00
2 30438 32900 "1 " 0 # TRAN from C&H 230.00 BRKR to (1) CRCKTCOG 18.00
4 30438 0 "1 " 0 # LOAD-DROP C&H 230.00 LOAD==3.32(0.76)
3 32900 0 "1 " 0 # GEN-DROP CRCKTCOG 18.00 GEN==240.00(54.42)
#
3 32905 0 "1" 0 # Q155BUS1 13.80 PGEN=60.60 QGEN=15.56
0
#
#
# (153) L-1/G-1 OVERLAPPING OUTAGE
# Sobrante - Grizzly - East Portal #1 115 kV Line and Q155 Unit 1
1 32740 33006 "1 " 0 # line from HILLSIDE 115.00 BRKR to (3) GRIZLYJ1 115.00
1 33006 33010 "1 " 0 # line from GRIZLYJ1 115.00 (3) to BRKR SOBRANTE 115.00
1 33006 33012 "1 " 0 # line from GRIZLYJ1 115.00 (3) to BRKR EST PRTL 115.00
1 32770 32740 "1 " 0 # include GRIZZLY2 115.00 BRKR to HILLSIDE 115.00 ckt 1

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#
3 32905      0 "1"      0      # Q155BUS1  13.80      PGEN=60.60  QGEN=15.56
0
#
#
# (154) L-1/G-1 OVERLAPPING OUTAGE
# Sobrante - Grizzly - Claremont #2 115 kV Line and Q155 Unit 1
1 32740 33008 "2 "      0      # line from  HILLSIDE 115.00  BRKR to (3)  GRIZLYJ2 115.00
1 33008 32780 "2 "      0      # line from  GRIZLYJ2 115.00  (3) to BRKR  CLARMNT 115.00
1 33008 33010 "2 "      0      # line from  GRIZLYJ2 115.00  (3) to BRKR  SOBRANTE 115.00
1 32770 32740 "2 "      0      # include GRIZZLY2 115.00  BRKR to HILLSIDE 115.00 ckt 2
#
3 32905      0 "1"      0      # Q155BUS1  13.80      PGEN=60.60  QGEN=15.56
0
#
#
# (155) L-1/G-1 OVERLAPPING OUTAGE
# Claremont - Oakland D #1 115 kV Line and Q155 Unit 1
1 32780 32782 "1 "      0      # line from  CLARMNT 115.00  BRKR to BRKR  STATIN D 115.00
#
3 32905      0 "1"      0      # Q155BUS1  13.80      PGEN=60.60  QGEN=15.56
0
#
#
# (156) L-1/G-1 OVERLAPPING OUTAGE
# Claremont - Oakland D #2 115 kV Line and Q155 Unit 1
1 32780 32782 "2 "      0      # line from  CLARMNT 115.00  BRKR to BRKR  STATIN D 115.00
#
3 32905      0 "1"      0      # Q155BUS1  13.80      PGEN=60.60  QGEN=15.56
0
#
#
# (157) L-1/G-1 OVERLAPPING OUTAGE
# Oakland D - Oakland L 115 kV Line and Q155 Unit 1
1 32782 32788 "1 "      0      # line from  STATIN D 115.00  BRKR to BRKR  STATIN L 115.00
#
3 32905      0 "1"      0      # Q155BUS1  13.80      PGEN=60.60  QGEN=15.56
0
#
#
# (158) L-1/G-1 OVERLAPPING OUTAGE
# Oakland C - Oakland L 115 kV Line and Q155 Unit 1
1 32786 32788 "1 "      0      # line from  OAK C115 115.00  BRKR to BRKR  STATIN L 115.00
#
3 32905      0 "1"      0      # Q155BUS1  13.80      PGEN=60.60  QGEN=15.56
0
#
#
# (159) L-1/G-1 OVERLAPPING OUTAGE
# Oakland C - Oakland X #2 115 kV Line and Q155 Unit 1
1 32786 32790 "2 "      0      # line from  OAK C115 115.00  BRKR to BRKR  STATIN X 115.00
#
3 32905      0 "1"      0      # Q155BUS1  13.80      PGEN=60.60  QGEN=15.56
0
#
#
# (160) L-1/G-1 OVERLAPPING OUTAGE
# Oakland C - Oakland X #3 115 kV Line and Q155 Unit 1
1 32786 32790 "3 "      0      # line from  OAK C115 115.00  BRKR to BRKR  STATIN X 115.00
#
3 32905      0 "1"      0      # Q155BUS1  13.80      PGEN=60.60  QGEN=15.56
0
#
#
# (161) L-1/G-1 OVERLAPPING OUTAGE
# Oakland C - Maritine 115 kV Line and Q155 Unit 1
1 32786 32793 "1 "      0      # line from  OAK C115 115.00  BRKR to (2)  SCHNITZ 115.00
1 32793 32794 "1 "      0      # line from  SCHNITZ 115.00  (2) to BRKR  MARITIME 115.00
4 32793      0 "1 "      0      # LOAD-DROP  SCHNITZ 115.00  LOAD==9.29(4.50)
4 32794      0 "1 "      0      # LOAD-DROP  MARITIME 115.00  LOAD==0.95(1.11)
#
3 32905      0 "1"      0      # Q155BUS1  13.80      PGEN=60.60  QGEN=15.56
0
#
#
# (162) L-1/G-1 OVERLAPPING OUTAGE
# Oakland C - Alameda 115 kV Line and Q155 Unit 1
1 32786 38026 "1 "      0      # line from  OAK C115 115.00  BRKR to (4)  ALAMEDCT 115.00

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1 38026 38022 "1 " 0 # line from ALAMEDCT 115.00 (4) to BRKR CARTWRT 115.00
2 38026 38118 "1 " 0 # TRAN from ALAMEDCT 115.00 (4) to (1) ALMDACT1 13.80
2 38026 38119 "1 " 0 # TRAN from ALAMEDCT 115.00 (4) to (1) ALMDACT2 13.80
4 38022 0 "1 " 0 # LOAD-DROP CARTWRT 115.00 LOAD==23.04(4.31)
4 38022 0 "2 " 0 # LOAD-DROP CARTWRT 115.00 LOAD==23.04(4.31)
3 38118 0 "1 " 0 # GEN-DROP ALMDACT1 13.80 GEN==22.60(12.40)
3 38119 0 "1 " 0 # GEN-DROP ALMDACT2 13.80 GEN==22.60(12.40)
#
3 32905 0 "1" 0 # Q155BUS1 13.80 PGEN=60.60 QGEN=15.56
0
#
#
# (163) L-1/G-1 OVERLAPPING OUTAGE
# Oakland J - Owens Brockway 115 kV Line and Q155 Unit 1
1 32792 32798 "1 " 0 # line from STATIN J 115.00 BRKR to (2) OWENSTAP 115.00
1 32798 32800 "1 " 0 # line from OWENSTAP 115.00 (2) to BRKR OWNBKWKY 115.00
4 32800 0 "1 " 0 # LOAD-DROP OWNBKWKY 115.00 LOAD==9.29(5.51)
#
3 32905 0 "1" 0 # Q155BUS1 13.80 PGEN=60.60 QGEN=15.56
0
#
#
# (164) L-1/G-1 OVERLAPPING OUTAGE
# San Leandro - Oakland J 115 kV Line and Q155 Unit 1
1 32792 32814 "1 " 0 # line from STATIN J 115.00 BRKR to (3) EDESTAP1 115.00
1 32814 32810 "1 " 0 # line from EDESTAP1 115.00 (3) to BRKR EDES 115.00
1 32814 35113 "1 " 0 # line from EDESTAP1 115.00 (3) to (2) DMTAR_SL 115.00
1 35113 35101 "1 " 0 # line from DMTAR_SL 115.00 (2) to BRKR SN LNDRO 115.00
4 32810 0 "2 " 0 # LOAD-DROP EDES 115.00 LOAD==18.85(4.29)
4 32810 0 "3 " 0 # LOAD-DROP EDES 115.00 LOAD==29.45(6.71)
4 35113 0 "1 " 0 # LOAD-DROP DMTAR_SL 115.00 LOAD==3.61(2.24)
1 32810 32812 "1 " 1 # LINE-TRANSFER EDESTAP1 to EDS GRNT
4 32810 0 "***" 1 # RESTORE EDES load
#
3 32905 0 "1" 0 # Q155BUS1 13.80 PGEN=60.60 QGEN=15.56
0
#
#
# (165) L-1/G-1 OVERLAPPING OUTAGE
# Oakland J - Alameda 115 kV Line and Q155 Unit 1
1 32792 38024 "1 " 0 # line from STATIN J 115.00 BRKR to BRKR JENNY 115.00
4 38024 0 "1 " 0 # LOAD-DROP JENNY 115.00 LOAD==33.37(6.27)
1 38024 38022 "1 " 1 # LINE-TRANSFER ALAMDA J to ALAMDA C
4 38024 0 "***" 1 # RESTORE ALAMDA J load
#
3 32905 0 "1" 0 # Q155BUS1 13.80 PGEN=60.60 QGEN=15.56
0
#
#
# (166) L-1/G-1 OVERLAPPING OUTAGE
# Sobrante - Standard Oil #1 115 kV Line and Standard Oil Unit 1
1 32748 32750 "1 " 0 # line from PP STEEL 115.00 BRKR to (3) PPSTLTAP 115.00
1 32750 32774 "1 " 0 # line from PPSTLTAP 115.00 (3) to (3) PTPNLTAP 115.00
1 32750 32760 "1 " 0 # line from PPSTLTAP 115.00 (3) to (1) PT PINLE 115.00
1 32774 32762 "1 " 0 # line from PTPNLTAP 115.00 (3) to BRKR STD. OIL 115.00
1 32774 32808 "1 " 0 # line from PTPNLTAP 115.00 (3) to (2) SNPBLTP2 115.00
1 32808 33010 "1 " 0 # line from SNPBLTP2 115.00 (2) to BRKR SOBRANTE 115.00
4 32748 0 "1 " 0 # LOAD-DROP PP STEEL 115.00 LOAD==0.19(0.25)
4 32760 0 "1 " 0 # LOAD-DROP PT PINLE 115.00 LOAD==14.78(3.36)
#
3 32921 0 "1" 0 # ChevGen1 13.80 PGEN=54.00 QGEN=34.20
0
#
#
# (167) L-1/G-1 OVERLAPPING OUTAGE
# Sobrante - Standard Oil #2 115 kV Line and Standard Oil Unit 1
1 32806 32758 "1 " 0 # line from SNPBLTP1 115.00 (3) to BRKR SAN PBLO 115.00
1 32806 32762 "2 " 0 # line from SNPBLTP1 115.00 (3) to BRKR STD. OIL 115.00
1 32806 33010 "2 " 0 # line from SNPBLTP1 115.00 (3) to BRKR SOBRANTE 115.00
4 32758 0 "1 " 0 # LOAD-DROP SAN PBLO 115.00 LOAD==19.98(4.55)
1 32758 32808 "2 " 1 # LINE-TRANSFER SNPBLTP1 to SNPBLTP2
4 32758 0 "***" 1 # RESTORE SAN PABLO load
#
3 32921 0 "1" 0 # ChevGen1 13.80 PGEN=54.00 QGEN=34.20
0
#
#
# (168) L-1/G-1 OVERLAPPING OUTAGE

```


APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

```

# Oleum - El Cerrito #1 115 kV Line and Oleum Unit 1
1 32754 32802 "1 " 0 # line from OLEUM 115.00 BRKR to (3) VLYVWTP1 115.00
1 32802 32764 "1 " 0 # line from VLYVWTP1 115.00 (3) to BRKR VALLY VW 115.00
1 32802 32766 "1 " 0 # line from VLYVWTP1 115.00 (3) to BRKR EL CRRTO 115.00
4 32764 0 "1 " 0 # LOAD-DROP VALLY VW 115.00 LOAD==7.65(1.74)
4 32764 0 "2 " 0 # LOAD-DROP VALLY VW 115.00 LOAD==15.69(3.58)
1 32764 32804 "2 " 1 # LINE-TRANSFER VLYVWTP1 to VLYVWTP2
4 32764 0 "3 " 1 # RESTORE VALLEY VIEW load
#
3 32910 0 "1" 0 # UNOCAL 12.00 PGEN=15.70 QGEN=8.37
0
#
#
# (169) L-1/G-1 OVERLAPPING OUTAGE
# Oleum - El Cerrito #2 115 kV Line and Oleum Unit 1
1 32754 32804 "2 " 0 # line from OLEUM 115.00 BRKR to (2) VLYVWTP2 115.00
1 32804 32766 "2 " 0 # line from VLYVWTP2 115.00 (2) to BRKR EL CRRTO 115.00
#
3 32910 0 "1" 0 # UNOCAL 12.00 PGEN=15.70 QGEN=8.37
0
#
#
# (170) L-1/G-1 OVERLAPPING OUTAGE
# Oleum - Martinez 115 kV Line and Oleum Unit 1
1 33016 32754 "1 " 0 # line from ALHAMTP2 115.00 (2) to BRKR OLEUM 115.00
1 33016 32990 "1 " 0 # line from ALHAMTP2 115.00 (2) to BRKR MARTNZ D 115.00
#
3 32910 0 "1" 0 # UNOCAL 12.00 PGEN=15.70 QGEN=8.37
0
#
#
# (171) L-1/G-1 OVERLAPPING OUTAGE
# Oleum - North Tower - Christie 115 kV Line and Oleum Unit 1
1 32620 32778 "1 " 0 # line from NTRWJCT2 115.00 (2) to (3) MRTNZJCT 115.00
1 32620 32602 "1 " 0 # line from NTRWJCT2 115.00 (2) to BRKR NRTH TWR 115.00
1 32778 32754 "1 " 0 # line from MRTNZJCT 115.00 (3) to BRKR OLEUM 115.00
1 32778 32756 "1 " 0 # line from MRTNZJCT 115.00 (3) to BRKR CHRISTIE 115.00
4 32602 0 "1 " 0 # LOAD-DROP NRTH TWR 115.00 LOAD==14.43(2.06)
4 32602 0 "2 " 0 # LOAD-DROP NRTH TWR 115.00 LOAD==9.58(1.37)
4 32602 0 "3 " 0 # LOAD-DROP NRTH TWR 115.00 LOAD==6.08(0.87)
4 32602 0 "4 " 0 # LOAD-DROP NRTH TWR 115.00 LOAD==2.85(0.41)
1 32602 32618 "1 " 1 # LINE-TRANSFER NTRWJCT2 115.00 to NTRWJCT1 115.00
4 32602 0 "3 " 1 # RESTORE NORTH TOWER load
#
3 32910 0 "1" 0 # UNOCAL 12.00 PGEN=15.70 QGEN=8.37
0
#
#
# 2013 category b contingency list
# Diablo Division Zone 308
#
#
# (172) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30479 30523 "1 " 0 # line from BDLSWSTA 230.00 BRKR to BRKR CC SUB 230.00
0
#
#
# (173) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30520 30525 "1 " 0 # line from GATEWAY 230.00 BRKR to BRKR C.COSTA 230.00
0
#
#
# (174) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30523 30525 "1 " 0 # line from CC SUB 230.00 BRKR to BRKR C.COSTA 230.00
0
#
#
# (175) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30525 30479 "1 " 0 # line from C.COSTA 230.00 BRKR to BRKR BDLSWSTA 230.00
0
#
#
# (176) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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1 30525 30543 "1 " 0 # line from C.COSTA 230.00 BRKR to (3) ROSSTAP1 230.00
1 30543 30545 "1 " 0 # line from ROSSTAP1 230.00 (3) to BRKR ROSSMOOR 230.00
1 30543 30550 "1 " 0 # line from ROSSTAP1 230.00 (3) to BRKR MORAGA 230.00
4 30545 0 "1 " 0 # LOAD-DROP ROSSMOOR 230.00 LOAD==36.95(8.42)
4 30545 0 "2 " 0 # LOAD-DROP ROSSMOOR 230.00 LOAD==32.85(7.49)
1 30544 30545 "2 " 1 # LINE-TRANSFER ROSSTAP1 230.00 TO ROSSTAP2 230.00
4 30545 0 "***" 1 # RESTORE ROSSMOOR load
0
#
#
# (177) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30525 30544 "2 " 0 # line from C.COSTA 230.00 BRKR to (2) ROSSTAP2 230.00
1 30544 30550 "2 " 0 # line from ROSSTAP2 230.00 (2) to BRKR MORAGA 230.00
0
#
#
# (178) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30525 30565 "1 " 0 # line from C.COSTA 230.00 BRKR to BRKR BRENTWOD 230.00
0
#
#
# (179) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30525 30567 "1 " 0 # line from C.COSTA 230.00 BRKR to BRKR LONETREE 230.00
0
#
#
# (180) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30525 30575 "1 " 0 # line from C.COSTA 230.00 BRKR to (3) WND MSTR 230.00
1 30575 38610 "1 " 0 # line from WND MSTR 230.00 (3) to BRKR DELTAPMP 230.00
2 30575 33170 "1 " 0 # TRAN from WND MSTR 230.00 (3) to (1) WINDMSTR 9.11
0
#
#
# (181) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30525 30585 "1 " 0 # line from C.COSTA 230.00 BRKR to BRKR LS PSTAS 230.00
0
#
#
# (182) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30526 30555 "1 " 0 # line from PITSBG D 230.00 BRKR to BRKR SANRAMON 230.00
0
#
#
# (183) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30526 30561 "1 " 0 # line from PITSBG D 230.00 BRKR to BRKR TASSAJAR 230.00
0
#
#
# (184) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30527 30535 "1 " 0 # line from PITSBG E 230.00 BRKR to BRKR TIDEWATR 230.00
0
#
#
# (185) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30527 30536 "1 " 0 # line from PITSBG E 230.00 BRKR to BRKR TESORO 230.00
0
#
#
# (186) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30535 30540 "1 " 0 # line from TIDEWATR 230.00 BRKR to BRKR SOBRANTE 230.00
0
#
#
# (187) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30536 30540 "1 " 0 # line from TESORO 230.00 BRKR to BRKR SOBRANTE 230.00
0
#

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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#
# (188)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30550 30554 "1 " 0 # line from MORAGA 230.00 BRKR to BRKR CASTROVL 230.00
0
#
#
# (189)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30550 30555 "1 " 0 # line from MORAGA 230.00 BRKR to BRKR SANRAMON 230.00
0
#
#
# (190)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30560 30527 "1 " 0 # line from E. SHORE 230.00 BRKR to BRKR PITSBG E 230.00
0
#
#
# (191)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30561 30562 "1 " 0 # line from TASSAJAR 230.00 BRKR to (3) TES JCT 230.00
1 30562 30563 "1 " 0 # line from TES JCT 230.00 (3) to BRKR RESEARCH 230.00
1 30562 30631 "1 " 0 # line from TES JCT 230.00 (3) to BRKR NEWARK E 230.00
4 30563 0 "1 " 0 # LOAD-DROP RESEARCH 230.00 LOAD==37.05(8.44)
0
#
#
# (192)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30567 30590 "1 " 0 # line from LONETREE 230.00 BRKR to (3) USWP-JRW 230.00
1 30590 30530 "1 " 0 # line from USWP-JRW 230.00 (3) to BRKR CAYETANO 230.00
2 30590 33838 "1 " 0 # TRAN from USWP-JRW 230.00 (3) to (1) USWP_#3 9.11
4 33838 0 "SG" 0 # LOAD-DROP USWP_#3 9.11 LOAD==0.50(0.20)
0
#
#
# (193)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30700 30527 "1 " 0 # line from SANMATEO 230.00 BRKR to BRKR PITSBG E 230.00
0
#
#
# (194)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30526 30528 "1 " 0 # line from PITSBG D 230.00 BRKR to BRKR DEC PTSG 230.00
3 33108 0 "***" 0 # GEN-DROP DEC CTG1 18.00
0
#
#
# (195)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30526 30528 "2 " 0 # line from PITSBG D 230.00 BRKR to BRKR DEC PTSG 230.00
3 33108 0 "***" 0 # GEN-DROP DEC CTG1 18.00
0
#
#
# (196)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30521 30523 "1 " 0 # line from T258 230.00 (4) to BRKR CC SUB 230.00
2 30521 33181 "1 " 0 # TRAN from T258 230.00 (4) to (1) T258CT1 18.00
2 30521 33182 "1 " 0 # TRAN from T258 230.00 (4) to (1) T258CT2 18.00
2 30521 33183 "1 " 0 # TRAN from T258 230.00 (4) to (1) T258ST1 18.00
4 33181 0 "ss" 0 # LOAD-DROP T258CT1 18.00 LOAD==5.67(3.14)
4 33182 0 "ss" 0 # LOAD-DROP T258CT2 18.00 LOAD==5.67(3.14)
4 33183 0 "ss" 0 # LOAD-DROP T258ST1 18.00 LOAD==5.67(3.14)
3 33181 0 "1 " 0 # GEN-DROP T258CT1 18.00 GEN==174.00(43.00)
3 33182 0 "2 " 0 # GEN-DROP T258CT2 18.00 GEN==174.00(43.00)
3 33183 0 "3 " 0 # GEN-DROP T258ST1 18.00 GEN==189.00(44.92)
0
#
#
# (197)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30522 30525 "1 " 0 # line from T305BUS1 230.00 (3) to BRKR C.COSTA 230.00
2 30522 33184 "1 " 0 # TRAN from T305BUS1 230.00 (3) to (1) T305GT1 16.50
2 30522 33185 "1 " 0 # TRAN from T305BUS1 230.00 (3) to (1) T305ST1 13.80
4 33184 0 "ss" 0 # LOAD-DROP T305GT1 16.50 LOAD==7.50(4.15)

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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3 33184      0 "1 "    0      # GEN-DROP      T305GT1    16.50  GEN==242.00 (32.00)
3 33185      0 "1 "    0      # GEN-DROP      T305ST1    13.80  GEN==71.00 (8.41)
0
#
#
# (198)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30524 30525 "1 "    0      # line from T305BUS2 230.00 (3) to BRKR C.COSTA 230.00
2 30524 33186 "1 "    0      # TRAN from T305BUS2 230.00 (3) to (1) T305GT2 16.50
2 30524 33187 "1 "    0      # TRAN from T305BUS2 230.00 (3) to (1) T305ST2 13.80
4 33186      0 "ss"    0      # LOAD-DROP      T305GT2    16.50  LOAD==7.50 (4.15)
3 33186      0 "2 "    0      # GEN-DROP      T305GT2    16.50  GEN==242.00 (32.00)
3 33187      0 "2 "    0      # GEN-DROP      T305ST2    13.80  GEN==71.00 (8.41)
0
#
#
# (199)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30531 30526 "1 "    0      # line from T322BUS1 230.00 (3) to BRKR PITSBG D 230.00
2 30531 33191 "1 "    0      # TRAN from T322BUS1 230.00 (3) to (1) T322GT1 16.50
2 30531 33192 "1 "    0      # TRAN from T322BUS1 230.00 (3) to (1) T322ST1 13.80
4 33191      0 "ss"    0      # LOAD-DROP      T322GT1    16.50  LOAD==7.50 (4.15)
3 33191      0 "1 "    0      # GEN-DROP      T322GT1    16.50  GEN==242.00 (46.44)
3 33192      0 "1 "    0      # GEN-DROP      T322ST1    13.80  GEN==71.00 (13.06)
0
#
#
# (200)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30532 30526 "1 "    0      # line from T322BUS2 230.00 (3) to BRKR PITSBG D 230.00
2 30532 33193 "1 "    0      # TRAN from T322BUS2 230.00 (3) to (1) T322GT2 16.50
2 30532 33194 "1 "    0      # TRAN from T322BUS2 230.00 (3) to (1) T322ST2 13.80
4 33193      0 "ss"    0      # LOAD-DROP      T322GT2    16.50  LOAD==7.50 (4.15)
3 33193      0 "2 "    0      # GEN-DROP      T322GT2    16.50  GEN==242.00 (46.44)
3 33194      0 "2 "    0      # GEN-DROP      T322ST2    13.80  GEN==71.00 (13.06)
0
#
#
# (201)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32950 32970 "1 "    0      # line from PITSBURG 115.00 BRKR to BRKR CLAYTN 115.00
0
#
#
# (202)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32950 32970 "4 "    0      # line from PITSBURG 115.00 BRKR to BRKR CLAYTN 115.00
0
#
#
# (203)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32950 32978 "1 "    0      # line from PITSBURG 115.00 BRKR to BRKR LMEC 115.00
0
#
#
# (204)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32950 32978 "2 "    0      # line from PITSBURG 115.00 BRKR to BRKR LMEC 115.00
0
#
#
# (205)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32950 32992 "2 "    0      # line from PITSBURG 115.00 BRKR to (2) BOLLMAN2 115.00
1 32992 33043 "2 "    0      # line from BOLLMAN2 115.00 (2) to (3) IMHOFF_2 115.00
1 33043 32991 "2 "    0      # line from IMHOFF_2 115.00 (3) to BRKR MARTNZ E 115.00
1 33043 33041 "2 "    0      # line from IMHOFF_2 115.00 (3) to (2) IMHOFF 115.00
2 33041 33136 "1 "    0      # TRAN from IMHOFF 115.00 (2) to (1) CCCSD 12.47
4 33136      0 "SG"    0      # LOAD-DROP      CCCSD 12.47  LOAD==3.37 (0.77)
3 33136      0 "1 "    0      # GEN-DROP      CCCSD 12.47  GEN==4.40 (0.53)
0
#
#
# (206)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32950 32993 "1 "    0      # line from PITSBURG 115.00 BRKR to (2) W.P.BART 115.00
1 32993 33040 "1 "    0      # line from W.P.BART 115.00 (2) to (3) BOLLMAN1 115.00

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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1 33040 32994 "1 " 0 # line from BOLLMAN1 115.00 (3) to (1) BOLLMAN 115.00
1 33040 33042 "1 " 0 # line from BOLLMAN1 115.00 (3) to (2) IMHOFF_1 115.00
1 33042 32991 "1 " 0 # line from IMHOFF_1 115.00 (2) to BRKR MARTNZ_E 115.00
4 32993 0 "1 " 0 # LOAD-DROP W.P.BART 115.00 LOAD==7.29(1.48)
4 32993 0 "3 " 0 # LOAD-DROP W.P.BART 115.00 LOAD==13.49(3.07)
4 32994 0 "1 " 0 # LOAD-DROP BOLLMAN 115.00 LOAD==2.59(1.36)
4 32994 0 "2 " 0 # LOAD-DROP BOLLMAN 115.00 LOAD==2.59(1.36)
0
#
#
# (207) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32950 33030 "1 " 0 # line from PITTSBURG 115.00 BRKR to (2) COLSTJTT1 115.00
1 33030 33036 "1 " 0 # line from COLSTJTT1 115.00 (2) to (3) LINDETP1 115.00
1 33036 32954 "1 " 0 # line from LINDETP1 115.00 (3) to (2) DOW TAP1 115.00
1 33036 32961 "1 " 0 # line from LINDETP1 115.00 (3) to (3) GWF2 TAP 115.00
1 32954 32956 "1 " 0 # line from DOW TAP1 115.00 (2) to (2) DOW MTR 115.00
2 32956 33160 "1 " 0 # TRAN from DOW MTR 115.00 (2) to (4) DOW CHEM 13.80
1 33160 33161 "1 " 0 # line from DOW CHEM 13.80 (4) to (1) DOWCHEM1 13.80
1 33160 33162 "1 " 0 # line from DOW CHEM 13.80 (4) to (1) DOWCHEM2 13.80
1 33160 33163 "1 " 0 # line from DOW CHEM 13.80 (4) to (1) DOWCHEM3 13.80
1 32961 32960 "1 " 0 # line from GWF2 TAP 115.00 (3) to (2) GWF#2 HS 115.00
1 32961 33038 "1 " 0 # line from GWF2 TAP 115.00 (3) to (2) LINDEJCT 115.00
2 32960 33132 "1 " 0 # TRAN from GWF#2 HS 115.00 (2) to (1) GWF #2 13.80
1 33038 32957 "1 " 0 # line from LINDEJCT 115.00 (2) to BRKR PRAXAIR 115.00
4 33160 0 "SG" 0 # LOAD-DROP DOW CHEM 13.80 LOAD==15.00(9.30)
4 33132 0 "SG" 0 # LOAD-DROP GWF #2 13.80 LOAD==2.81(0.64)
4 32957 0 "1 " 0 # LOAD-DROP PRAXAIR 115.00 LOAD==20.67(4.61)
3 33161 0 "1 " 0 # GEN-DROP DOWCHEM1 13.80 GEN==15.30(6.00)
3 33162 0 "1 " 0 # GEN-DROP DOWCHEM2 13.80 GEN==22.00(5.29)
3 33163 0 "1 " 0 # GEN-DROP DOWCHEM3 13.80 GEN==22.00(5.29)
3 33132 0 "1 " 0 # GEN-DROP GWF #2 13.80 GEN==12.30(3.13)
0
#
#
# (208) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32950 33032 "3 " 0 # line from PITTSBURG 115.00 BRKR to (2) KIRKTAP1 115.00
1 33032 32970 "3 " 0 # line from KIRKTAP1 115.00 (2) to BRKR CLAYTN 115.00
0
#
#
# (209) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32950 33033 "1 " 0 # line from PITTSBURG 115.00 BRKR to (3) KIRKTAP2 115.00
1 33033 32951 "1 " 0 # line from KIRKTAP2 115.00 (3) to BRKR KIRKER 115.00
1 33033 33031 "1 " 0 # line from KIRKTAP2 115.00 (3) to (2) COLSTJTT2 115.00
1 33031 33037 "1 " 0 # line from COLSTJTT2 115.00 (2) to (2) LINDETP2 115.00
1 33037 32955 "1 " 0 # line from LINDETP2 115.00 (2) to (1) DOW TAP2 115.00
4 32951 0 "1 " 0 # LOAD-DROP KIRKER 115.00 LOAD==38.02(7.72)
4 32951 0 "2 " 0 # LOAD-DROP KIRKER 115.00 LOAD==44.19(8.97)
4 32951 0 "3 " 0 # LOAD-DROP KIRKER 115.00 LOAD==53.77(10.92)
1 33032 32951 "1 " 1 # LINE-TRANSFER KIRKTAP2 115.00 TO KIRKTAP1
4 32951 0 "***" 1 # RESTORE KIRKER load
0
#
#
# (210) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32970 32971 "1 " 0 # line from CLAYTN 115.00 BRKR to BRKR MEDW LNE 115.00
0
#
#
# (211) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32970 32974 "2 " 0 # line from CLAYTN 115.00 BRKR to BRKR LAKEWD-M 115.00
0
#
#
# (212) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32970 33035 "1 " 0 # line from CLAYTN 115.00 BRKR to (3) LKWD_JCT 115.00
1 33035 32972 "1 " 0 # line from LKWD_JCT 115.00 (3) to (2) EBMUDGRY 115.00
1 33035 32973 "1 " 0 # line from LKWD_JCT 115.00 (3) to BRKR LAKEWD-C 115.00
1 32972 32971 "1 " 0 # line from EBMUDGRY 115.00 (2) to BRKR MEDW LNE 115.00
4 32972 0 "1 " 0 # LOAD-DROP EBMUDGRY 115.00 LOAD==5.67(1.86)
0
#

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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#
# (213)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32974 32976 "9 " 0 # line from LAKEWD-M 115.00 BRKR to (2) LK_REACT 115.00
1 32976 33020 "1 " 0 # line from LK_REACT 115.00 (2) to BRKR MORAGA 115.00
0
#
#
# (214)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32990 33014 "1 " 0 # line from MARTNZ D 115.00 BRKR to (3) ALHAMTP1 115.00
1 33014 33010 "1 " 0 # line from ALHAMTP1 115.00 (3) to BRKR SOBRANTE 115.00
1 33014 33011 "1 " 0 # line from ALHAMTP1 115.00 (3) to BRKR ALHAMBRA 115.00
4 33011 0 "1 " 0 # LOAD-DROP ALHAMBRA 115.00 LOAD==10.29(2.34)
4 33011 0 "2 " 0 # LOAD-DROP ALHAMBRA 115.00 LOAD==9.17(2.09)
1 33016 33011 "1 " 1 # LINE-TRANSFER ALHAMTP1 115.00 TO ALHAMTP2 115.00
4 33011 0 "***" 1 # RESTORE ALHAMBRA load
0
#
#
# (215)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32996 32990 "1 " 0 # line from SHELLJ1 115.00 (3) to BRKR MARTNZ D 115.00
2 32996 33141 "7 " 0 # TRAN from SHELLJ1 115.00 (3) to BRKR SHELL 1 12.47
2 32996 33143 "6 " 0 # TRAN from SHELLJ1 115.00 (3) to BRKR SHELL 3 12.47
0
#
#
# (216)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 32997 32991 "2 " 0 # line from SHELLJ2 115.00 (3) to BRKR MARTNZ E 115.00
2 32997 33141 "6 " 0 # TRAN from SHELLJ2 115.00 (3) to BRKR SHELL 1 12.47
2 32997 33143 "7 " 0 # TRAN from SHELLJ2 115.00 (3) to BRKR SHELL 3 12.47
0
#
#
# (217)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33000 33046 "1 " 0 # line from CC SUB 115.00 BRKR to (3) FIBRJCT2 115.00
1 33046 33001 "1 " 0 # line from FIBRJCT2 115.00 (3) to BRKR DOMTAR 115.00
1 33046 33044 "1 " 0 # line from FIBRJCT2 115.00 (3) to (2) FIBRBJCT 115.00
1 33044 33002 "1 " 0 # line from FIBRBJCT 115.00 (2) to (2) CROWN Z 115.00
2 33002 33133 "1 " 0 # TRAN from CROWN Z 115.00 (2) to (1) GWF #3 13.80
4 33001 0 "1 " 0 # LOAD-DROP DOMTAR 115.00 LOAD==2.40(2.12)
4 33133 0 "SG" 0 # LOAD-DROP GWF #3 13.80 LOAD==2.84(0.65)
3 33133 0 "1 " 0 # GEN-DROP GWF #3 13.80 GEN==19.00(4.33)
0
#
#
# (218)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33000 33047 "1 " 0 # line from CC SUB 115.00 BRKR to (2) CC JCT 115.00
1 33047 33045 "1 " 0 # line from CC JCT 115.00 (2) to (2) FIBRJCT1 115.00
1 33045 33048 "1 " 0 # line from FIBRJCT1 115.00 (2) to (2) RVECTP 115.00
1 33048 33049 "1 " 0 # line from RVECTP 115.00 (2) to BRKR RVEC 115.00
0
#
#
# (219)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33020 33010 "1 " 0 # line from MORAGA 115.00 BRKR to BRKR SOBRANTE 115.00
0
#
#
# (220)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33020 35101 "1 " 0 # line from MORAGA 115.00 BRKR to BRKR SN LNDRO 115.00
0
#
#
# (221)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33020 35101 "2 " 0 # line from MORAGA 115.00 BRKR to BRKR SN LNDRO 115.00
0
#
#
# (222)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

```

1 33020 35101 "3 " 0 # line from MORAGA 115.00 BRKR to BRKR SN LNDRO 115.00
0
#
#
# (223) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33050 33080 "1 " 0 # line from CC SUB 60.00 BRKR to (3) WILBRTAP 60.00
1 33080 33051 "1 " 0 # line from WILBRTAP 60.00 (3) to BRKR DU PONT 60.00
2 33080 33134 "1 " 0 # TRAN from WILBRTAP 60.00 (3) to (1) GWF #4 13.80
4 33051 0 "1 " 0 # LOAD-DROP DU PONT 60.00 LOAD==2.00(2.16)
4 33134 0 "SG" 0 # LOAD-DROP GWF #4 13.80 LOAD==2.88(0.66)
3 33134 0 "1 " 0 # GEN-DROP GWF #4 13.80 GEN==18.60(3.34)
1 33051 33081 "1 " 1 # LINE-TRANSFER WILBRTAP 60.00 TO DUPNTJCT 60.00
4 33051 0 "***" 1 # RESTORE DU PONT load
0
#
#
# (224) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33050 33081 "1 " 0 # line from CC SUB 60.00 BRKR to (2) DUPNTJCT 60.00
1 33081 33082 "1 " 0 # line from DUPNTJCT 60.00 (2) to (3) BALFRJCT 60.00
1 33082 33052 "1 " 0 # line from BALFRJCT 60.00 (3) to (2) MARSH 60.00
1 33082 33054 "1 " 0 # line from BALFRJCT 60.00 (3) to BRKR BALFOUR 60.00
1 33052 33053 "1 " 0 # line from MARSH 60.00 (2) to (1) BRIONES 60.00
4 33054 0 "1 " 0 # LOAD-DROP BALFOUR 60.00 LOAD==4.00(0.81)
4 33053 0 "1 " 0 # LOAD-DROP BRIONES 60.00 LOAD==3.90(1.84)
1 33083 33054 "1 " 1 # LINE-TRANSFER BALFRJCT 60.00 TO MDLVRJCT 60.00
4 33054 0 "***" 1 # RESTORE BALFOUR load
0
#
#
# (225) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33055 33084 "1 " 0 # line from BIXLER 60.00 (1) to (3) BXLRTAP 60.00
1 33084 33083 "1 " 0 # line from BXLRTAP 60.00 (3) to (2) MDLVRJCT 60.00
1 33084 33778 "1 " 0 # line from BXLRTAP 60.00 (3) to (2) MDL_RIVR 60.00
1 33083 33774 "1 " 0 # line from MDLVRJCT 60.00 (2) to (3) HRDLNJCT 60.00
1 33774 33770 "1 " 0 # line from HRDLNJCT 60.00 (3) to BRKR HERDLYN 60.00
1 33774 33782 "1 " 0 # line from HRDLNJCT 60.00 (3) to (1) WEST SDE 60.00
1 33778 33780 "1 " 0 # line from MDL_RIVR 60.00 (2) to (1) MCD_ISLE 60.00
4 33055 0 "1 " 0 # LOAD-DROP BIXLER 60.00 LOAD==2.00(0.97)
4 33778 0 "1 " 0 # LOAD-DROP MDL_RIVR 60.00 LOAD==4.84(0.22)
4 33782 0 "1 " 0 # LOAD-DROP WEST SDE 60.00 LOAD==1.90(0.40)
4 33780 0 "1 " 0 # LOAD-DROP MCD_ISLE 60.00 LOAD==5.76(0.82)
0
#
#
# (226) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33060 33050 "1 " 0 # line from ANTIOCH 60.00 (1) to BRKR CC SUB 60.00
4 33060 0 "1 " 0 # LOAD-DROP ANTIOCH 60.00 LOAD==1.93(0.39)
0
#
#
# (227) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33062 33090 "1 " 0 # line from SHLL CHM 60.00 (2) to (3) SHLLCHMT 60.00
1 33062 33063 "1 " 0 # line from SHLL CHM 60.00 (2) to BRKR WLLW PSS 60.00
1 33090 33050 "1 " 0 # line from SHLLCHMT 60.00 (3) to BRKR CC SUB 60.00
1 33090 33061 "1 " 0 # line from SHLLCHMT 60.00 (3) to (2) PITTSBRG 60.00
2 33061 33131 "1 " 0 # TRAN from PITTSBRG 60.00 (2) to (1) GWF #1 9.11
4 33062 0 "1 " 0 # LOAD-DROP SHLL CHM 60.00 LOAD==2.27(1.41)
4 33063 0 "1 " 0 # LOAD-DROP WLLW PSS 60.00 LOAD==9.78(2.23)
4 33061 0 "1 " 0 # LOAD-DROP PITTSBRG 60.00 LOAD==0.64(0.13)
4 33131 0 "SG" 0 # LOAD-DROP GWF #1 9.11 LOAD==2.56(0.58)
3 33131 0 "1 " 0 # GEN-DROP GWF #1 9.11 GEN==12.70(-2.78)
1 33091 33063 "1 " 1 # LINE-TRANSFER SHLL CHM 60.00 TO TAP GWF5 60.00
4 33063 0 "***" 1 # RESTORE WILLOW PASS load
0
#
#
# (228) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 32950 30526 "12" 0 # TRAN from PITTSBURG 115.00 BRKR to BRKR PITSBG D 230.00
0
#
#
# (229) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

```

#
2 32950 30526 "13" 0 # TRAN from PITSBURG 115.00 BRKR to BRKR PITSBG D 230.00
0
#
#
# (230) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 32950 30526 "14" 0 # TRAN from PITSBURG 115.00 BRKR to BRKR PITSBG D 230.00
0
#
#
# (231) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 32990 33142 "2 " 0 # TRAN from MARTNZ D 115.00 BRKR to BRKR SHELL 2 12.47
0
#
#
# (232) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 32991 33142 "1 " 0 # TRAN from MARTNZ E 115.00 BRKR to BRKR SHELL 2 12.47
0
#
#
# (233) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 33000 30523 "3 " 0 # TRAN from CC SUB 115.00 BRKR to BRKR CC SUB 230.00
0
#
#
# (234) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 33010 30540 "1 " 0 # TRAN from SOBRANTE 115.00 BRKR to BRKR SOBRANTE 230.00
0
#
#
# (235) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 33010 30540 "2 " 0 # TRAN from SOBRANTE 115.00 BRKR to BRKR SOBRANTE 230.00
0
#
#
# (236) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
# **** 3-WINDING TRANSFORMER 33020 (30551) 30550 33121 :
2 33020 30550 "1 " 0 # TRAN from MORAGA 115.00 BRKR to (1) MORAGA 230.00
0
#
#
# (237) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
# **** 3-WINDING TRANSFORMER 33020 (30552) 30550 33122 :
2 33020 30550 "2 " 0 # TRAN from MORAGA 115.00 BRKR to (1) MORAGA 230.00
0
#
#
# (238) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
# **** 3-WINDING TRANSFORMER 33020 (30553) 30550 33123 :
2 33020 30550 "3 " 0 # TRAN from MORAGA 115.00 BRKR to (1) MORAGA 230.00
0
#
#
# (239) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 33050 33000 "1 " 0 # TRAN from CC SUB 60.00 BRKR to BRKR CC SUB 115.00
0
#
#
# (240) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 33151 30535 "1 " 0 # TRAN from FOSTER W 12.47 BRKR to BRKR TIDEWATR 230.00
0
#
#
# (241) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 33151 30535 "2 " 0 # TRAN from FOSTER W 12.47 BRKR to BRKR TIDEWATR 230.00
0

```


APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

```

#
#
# (242)  B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 38950 30526 "1 " 0 # TRAN from VSC_PTSB 180.50 (1) to BRKR PITSBG D 230.00
3 38950 0 "1 " 0 # GEN-DROP VSC_PTSB 180.50 GEN==413.00 (-91.10)
3 38951 0 "1 " 0 # GEN-DROP VSC_POTR 180.50 GEN==401.40 (155.40)
0
#
#
# (243)  B1 GENERATOR OUTAGE
#
3 33118 0 "1" 0 # GATEWAY1 18.00 PGEN=200.00 QGEN=-7.87
0
#
#
# (244)  B1 GENERATOR OUTAGE
#
3 33118 0 "1" 0 # GATEWAY1 18.00 PGEN=200.00 QGEN=-7.87
3 33119 0 "1" 0 # GATEWAY2 18.00 PGEN=195.00 QGEN=-6.21
3 33120 0 "1" 0 # GATEWAY3 18.00 PGEN=195.00 QGEN=-6.21
0
#
#
# (245)  B1 GENERATOR OUTAGE
#
3 33178 0 "1" 0 # RVEC_GEN 13.80 PGEN=50.00 QGEN=4.37
0
#
#
# (246)  B1 GENERATOR OUTAGE
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (247)  B1 GENERATOR OUTAGE
#
3 33111 0 "1" 0 # LMECCT2 18.00 PGEN=150.00 QGEN=6.48
3 33112 0 "1" 0 # LMECCT1 18.00 PGEN=150.00 QGEN=6.48
3 33113 0 "1" 0 # LMECST1 18.00 PGEN=200.00 QGEN=10.61
0
#
#
# (248)  B1 GENERATOR OUTAGE
#
3 33134 0 "1" 0 # GWF #4 13.80 PGEN=18.60 QGEN=3.72
0
#
#
# (249)  B1 GENERATOR OUTAGE
#
3 33141 0 "1" 0 # SHELL 1 12.47 PGEN=20.00 QGEN=2.12
0
#
#
# (250)  B1 GENERATOR OUTAGE
#
3 33122 0 "1" 0 # MRAGA 2T 13.20 PGEN=0.00 QGEN=48.00
0
#
#
# (251)  B1 GENERATOR OUTAGE
#
3 33123 0 "1" 0 # MRAGA 3T 13.20 PGEN=0.00 QGEN=41.53
0
#
#
# (252)  B1 GENERATOR OUTAGE
#
3 33143 0 "1" 0 # SHELL 3 12.47 PGEN=40.00 QGEN=2.19
0
#
#
# (253)  B1 GENERATOR OUTAGE

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

```

#
3 33121      0  "1"      0      # MRAGA 1T  13.20      PGEN=0.00  QGEN=48.00
0
#
#
# (254)  B1  GENERATOR  OUTAGE
#
3 33142      0  "1"      0      # SHELL 2   12.47      PGEN=40.00  QGEN=2.20
0
#
#
# (255)  B1  GENERATOR  OUTAGE
#
3 33132      0  "1"      0      # GWF #2   13.80      PGEN=12.30  QGEN=5.65
0
#
#
# (256)  B1  GENERATOR  OUTAGE
#
3 33116      0  "1"      0      # C.COS 6   18.00      PGEN=330.00  QGEN=145.77
0
#
#
# (257)  B1  GENERATOR  OUTAGE
#
3 33117      0  "1"      0      # C.COS 7   18.00      PGEN=330.00  QGEN=145.77
0
#
#
# (258)  B1  GENERATOR  OUTAGE
#
3 33105      0  "1"      0      # PTSB 5    18.00      PGEN=310.00  QGEN=122.68
0
#
#
# (259)  B1  GENERATOR  OUTAGE
#
3 33106      0  "1"      0      # PTSB 6    18.00      PGEN=310.00  QGEN=113.24
0
#
#
# (260)  B1  GENERATOR  OUTAGE
#
3 30000      0  "1"      0      # PTSB 7    20.00      PGEN=700.00  QGEN=219.50
0
#
#
# (261)  B1  GENERATOR  OUTAGE
#
3 33151      0  "1"      0      # FOSTER W  12.47      PGEN=45.40  QGEN=24.97
0
#
#
# (262)  B1  GENERATOR  OUTAGE
#
3 33151      0  "2"      0      # FOSTER W  12.47      PGEN=45.40  QGEN=24.97
0
#
#
# (263)  B1  GENERATOR  OUTAGE
#
3 33151      0  "3"      0      # FOSTER W  12.47      PGEN=35.00  QGEN=21.00
0
#
#
# (264)  B1  GENERATOR  OUTAGE
#
3 33161      0  "1"      0      # DOWCHEM1  13.80      PGEN=15.30  QGEN=3.06
0
#
#
# (265)  B1  GENERATOR  OUTAGE
#
3 33133      0  "1"      0      # GWF #3    13.80      PGEN=19.00  QGEN=4.93
0
#
#
# (266)  B1  GENERATOR  OUTAGE

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

```

#
3 33139      0  "1"      0      # STAUFER      9.11      PGEN=2.00  QGEN=-1.00
0
#
#
# (267)  B1  GENERATOR  OUTAGE
#
3 33131      0  "1"      0      # GWF #1      9.11      PGEN=12.70  QGEN=-2.20
0
#
#
# (268)  B1  GENERATOR  OUTAGE
#
3 33135      0  "1"      0      # GWF #5     13.80      PGEN=18.90  QGEN=4.22
0
#
#
# (269)  B1  GENERATOR  OUTAGE
#
3 33162      0  "1"      0      # DOWCHEM2   13.80      PGEN=22.00  QGEN=8.00
0
#
#
# (270)  B1  GENERATOR  OUTAGE
#
3 33163      0  "1"      0      # DOWCHEM3   13.80      PGEN=22.00  QGEN=8.00
0
#
#
# (271)  B1  GENERATOR  OUTAGE
#
3 33136      0  "1"      0      # CCCSD      12.47      PGEN=4.40   QGEN=0.94
0
#
#
# (272)  B1  GENERATOR  OUTAGE
#
3 33181      0  "1"      0      # T258CT1    18.00      PGEN=174.00 QGEN=43.00
0
#
#
# (273)  B1  GENERATOR  OUTAGE
#
3 33182      0  "2"      0      # T258CT2    18.00      PGEN=174.00 QGEN=43.00
0
#
#
# (274)  B1  GENERATOR  OUTAGE
#
3 33183      0  "3"      0      # T258ST1    18.00      PGEN=189.00 QGEN=44.92
0
#
#
# (275)  B1  GENERATOR  OUTAGE
#
3 33184      0  "1"      0      # T305GT1    16.50      PGEN=242.00 QGEN=32.00
0
#
#
# (276)  B1  GENERATOR  OUTAGE
#
3 33185      0  "1"      0      # T305ST1    13.80      PGEN=71.00  QGEN=8.41
0
#
#
# (277)  B1  GENERATOR  OUTAGE
#
3 33186      0  "2"      0      # T305GT2    16.50      PGEN=242.00 QGEN=32.00
0
#
#
# (278)  B1  GENERATOR  OUTAGE
#
3 33187      0  "2"      0      # T305ST2    13.80      PGEN=71.00  QGEN=8.41
0
#
#
# (279)  B1  GENERATOR  OUTAGE

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

```

#
3 33188      0  "1"      0      # T320GT1  16.50      PGEN=242.00  QGEN=30.38
0
#
#
# (280)  B1 GENERATOR OUTAGE
#
3 33189      0  "2"      0      # T320GT2  16.50      PGEN=242.00  QGEN=30.38
0
#
#
# (281)  B1 GENERATOR OUTAGE
#
3 33191      0  "1"      0      # T322GT1  16.50      PGEN=242.00  QGEN=46.44
0
#
#
# (282)  B1 GENERATOR OUTAGE
#
3 33192      0  "1"      0      # T322ST1  13.80      PGEN=71.00   QGEN=13.06
0
#
#
# (283)  B1 GENERATOR OUTAGE
#
3 33193      0  "2"      0      # T322GT2  16.50      PGEN=242.00  QGEN=46.44
0
#
#
# (284)  B1 GENERATOR OUTAGE
#
3 33194      0  "2"      0      # T322ST2  13.80      PGEN=71.00   QGEN=13.06
0
#
#
# (285)  B1 GENERATOR OUTAGE
#
3 33195      0  "1"      0      # T417      34.50      PGEN=36.10   QGEN=0.00
0
#
#
# (286)  L-1/G-1 OVERLAPPING OUTAGE
# Lakeville - Sobrante #2 230 kV Line and DEC pre-project outage
1 30435 30540  "2 "      0      # line from LAKEVILLE 230.00  BRKR to BRKR  SOBRANTE 230.00
#
3 33107      0  "1"      0      # DEC STG1  24.00      PGEN=280.00  QGEN=81.62
3 33108      0  "1"      0      # DEC CTG1  18.00      PGEN=200.00  QGEN=58.29
3 33109      0  "1"      0      # DEC CTG2  18.00      PGEN=200.00  QGEN=58.29
3 33110      0  "1"      0      # DEC CTG3  18.00      PGEN=200.00  QGEN=58.29
0
#
#
# (287)  L-1/G-1 OVERLAPPING OUTAGE
# Ignacio - Sobrante 230 kV Line and DEC pre-project outage
1 30437 30445  "1 "      0      # line from CROCKETT 230.00  (3) to BRKR  IGNACIO 230.00
1 30437 30438  "1 "      0      # line from CROCKETT 230.00  (3) to (2)  C&H 230.00
1 30437 30540  "1 "      0      # line from CROCKETT 230.00  (3) to BRKR  SOBRANTE 230.00
2 30438 32900  "1 "      0      # TRAN from C&H 230.00  BRKR to (1)  CRCKTCOG 18.00
4 30438      0  "1 "      0      # LOAD-DROP C&H 230.00  LOAD==3.32 (0.76)
3 32900      0  "1 "      0      # GEN-DROP CRCKTCOG 18.00  GEN==240.00 (40.82)
#
3 33107      0  "1"      0      # DEC STG1  24.00      PGEN=280.00  QGEN=81.62
3 33108      0  "1"      0      # DEC CTG1  18.00      PGEN=200.00  QGEN=58.29
3 33109      0  "1"      0      # DEC CTG2  18.00      PGEN=200.00  QGEN=58.29
3 33110      0  "1"      0      # DEC CTG3  18.00      PGEN=200.00  QGEN=58.29
0
#
#
# (288)  L-1/G-1 OVERLAPPING OUTAGE
# Lakeville - T257 230 kV Line and DEC post-project outage
1 30435 30446  "1 "      0      # line from LAKEVILLE 230.00  BRKR to BRKR  T257SWST 230.00
#
3 33107      0  "1"      0      # DEC STG1  24.00      PGEN=280.00  QGEN=81.62
3 33108      0  "1"      0      # DEC CTG1  18.00      PGEN=200.00  QGEN=58.29
3 33109      0  "1"      0      # DEC CTG2  18.00      PGEN=200.00  QGEN=58.29
3 33110      0  "1"      0      # DEC CTG3  18.00      PGEN=200.00  QGEN=58.29
0
#

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

```

#
# (289) L-1/G-1 OVERLAPPING OUTAGE
# Ignacio - T257 230 kV Line and DEC post-project outage
1 30445 30446 "1 " 0 # line from IGNACIO 230.00 BRKR to BRKR T257SWST 230.00
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (290) L-1/G-1 OVERLAPPING OUTAGE
# T257 - Sobrante #1 230 kV Line and DEC post-project outage
1 30446 30437 "1 " 0 # line from T257SWST 230.00 BRKR to (3) CROCKETT 230.00
1 30437 30438 "1 " 0 # line from CROCKETT 230.00 (3) to (2) C&H 230.00
1 30437 30540 "1 " 0 # line from CROCKETT 230.00 (3) to BRKR SOBRANTE 230.00
2 30438 32900 "1 " 0 # TRAN from C&H 230.00 BRKR to (1) CRCKTCOG 18.00
4 30438 0 "1 " 0 # LOAD-DROP C&H 230.00 LOAD==3.32 (0.76)
3 32900 0 "1 " 0 # GEN-DROP CRCKTCOG 18.00 GEN==240.00 (54.42)
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (291) L-1/G-1 OVERLAPPING OUTAGE
# T257 - Sobrante #2 230 kV Line and DEC post-project outage
1 30446 30540 "2 " 0 # line from T257SWST 230.00 BRKR to BRKR SOBRANTE 230.00
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (292) L-1/G-1 OVERLAPPING OUTAGE
# Q177 - Moraga 230 kV Line and DEC
1 30466 30550 "1 " 0 # line from Q177 230.00 BRKR to BRKR MORAGA 230.00
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (293) L-1/G-1 OVERLAPPING OUTAGE
# Parkway - Moraga 230 kV Line and DEC
1 30467 30550 "1 " 0 # line from PARKWAY 230.00 BRKR to BRKR MORAGA 230.00
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (294) L-1/G-1 OVERLAPPING OUTAGE
# Birds Landing - Contra Costa Sub 230 kV Line and DEC
1 30479 30523 "1 " 0 # line from BDLSWSTA 230.00 BRKR to BRKR CC SUB 230.00
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (295) L-1/G-1 OVERLAPPING OUTAGE
# Contra Costa - Contra Costa Sub 230 kV Line and DEC
1 30523 30525 "1 " 0 # line from CC SUB 230.00 BRKR to BRKR C.COSTA 230.00
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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3 33109      0 "1"      0      # DEC CTG2  18.00      PGEN=200.00  QGEN=58.29
3 33110      0 "1"      0      # DEC CTG3  18.00      PGEN=200.00  QGEN=58.29
0
#
#
# (296) L-1/G-1 OVERLAPPING OUTAGE
# Birds Landing - Contra Costa 230 kV Line and DEC
1 30525 30479 "1 "      0      # line from C.COSTA 230.00 BRKR to BRKR BDLSWSTA 230.00
#
3 33107      0 "1"      0      # DEC STG1  24.00      PGEN=280.00  QGEN=81.62
3 33108      0 "1"      0      # DEC CTG1  18.00      PGEN=200.00  QGEN=58.29
3 33109      0 "1"      0      # DEC CTG2  18.00      PGEN=200.00  QGEN=58.29
3 33110      0 "1"      0      # DEC CTG3  18.00      PGEN=200.00  QGEN=58.29
0
#
#
# (297) L-1/G-1 OVERLAPPING OUTAGE
# Contra Costa - Moraga #1 230 kV Line and DEC
1 30525 30543 "1 "      0      # line from C.COSTA 230.00 BRKR to (3) ROSSTAP1 230.00
1 30543 30545 "1 "      0      # line from ROSSTAP1 230.00 (3) to BRKR ROSSMOOR 230.00
1 30543 30550 "1 "      0      # line from ROSSTAP1 230.00 (3) to BRKR MORAGA 230.00
4 30545      0 "1 "      0      # LOAD-DROP ROSSMOOR 230.00 LOAD==36.95(8.42)
4 30545      0 "2 "      0      # LOAD-DROP ROSSMOOR 230.00 LOAD==32.85(7.49)
1 30544 30545 "2 "      1      # LINE-TRANSFER ROSSTAP1 230.00 TO ROSSTAP2 230.00
4 30545      0 "***"    1      # RESTORE ROSSMOOR load
#
3 33107      0 "1"      0      # DEC STG1  24.00      PGEN=280.00  QGEN=81.62
3 33108      0 "1"      0      # DEC CTG1  18.00      PGEN=200.00  QGEN=58.29
3 33109      0 "1"      0      # DEC CTG2  18.00      PGEN=200.00  QGEN=58.29
3 33110      0 "1"      0      # DEC CTG3  18.00      PGEN=200.00  QGEN=58.29
0
#
#
# (298) L-1/G-1 OVERLAPPING OUTAGE
# Contra Costa - Moraga #2 230 kV Line and DEC
1 30525 30544 "2 "      0      # line from C.COSTA 230.00 BRKR to (2) ROSSTAP2 230.00
1 30544 30550 "2 "      0      # line from ROSSTAP2 230.00 (2) to BRKR MORAGA 230.00
#
3 33107      0 "1"      0      # DEC STG1  24.00      PGEN=280.00  QGEN=81.62
3 33108      0 "1"      0      # DEC CTG1  18.00      PGEN=200.00  QGEN=58.29
3 33109      0 "1"      0      # DEC CTG2  18.00      PGEN=200.00  QGEN=58.29
3 33110      0 "1"      0      # DEC CTG3  18.00      PGEN=200.00  QGEN=58.29
0
#
#
# (299) L-1/G-1 OVERLAPPING OUTAGE
# Contra Costa - Brentwood 230 kV Line and DEC
1 30525 30565 "1 "      0      # line from C.COSTA 230.00 BRKR to BRKR BRENTWOD 230.00
#
3 33107      0 "1"      0      # DEC STG1  24.00      PGEN=280.00  QGEN=81.62
3 33108      0 "1"      0      # DEC CTG1  18.00      PGEN=200.00  QGEN=58.29
3 33109      0 "1"      0      # DEC CTG2  18.00      PGEN=200.00  QGEN=58.29
3 33110      0 "1"      0      # DEC CTG3  18.00      PGEN=200.00  QGEN=58.29
0
#
#
# (300) L-1/G-1 OVERLAPPING OUTAGE
# Contra Costa - Lonetree 230 kV Line and DEC
1 30525 30567 "1 "      0      # line from C.COSTA 230.00 BRKR to BRKR LONETREE 230.00
#
3 33107      0 "1"      0      # DEC STG1  24.00      PGEN=280.00  QGEN=81.62
3 33108      0 "1"      0      # DEC CTG1  18.00      PGEN=200.00  QGEN=58.29
3 33109      0 "1"      0      # DEC CTG2  18.00      PGEN=200.00  QGEN=58.29
3 33110      0 "1"      0      # DEC CTG3  18.00      PGEN=200.00  QGEN=58.29
0
#
#
# (301) L-1/G-1 OVERLAPPING OUTAGE
# Contra Costa - Delta Pumps 230 kV Line and DEC
1 30525 30575 "1 "      0      # line from C.COSTA 230.00 BRKR to (3) WND MSTR 230.00
1 30575 38610 "1 "      0      # line from WND MSTR 230.00 (3) to BRKR DELTAPMP 230.00
2 30575 33170 "1 "      0      # TRAN from WND MSTR 230.00 (3) to (1) WINDMSTR 9.11
#
3 33107      0 "1"      0      # DEC STG1  24.00      PGEN=280.00  QGEN=81.62
3 33108      0 "1"      0      # DEC CTG1  18.00      PGEN=200.00  QGEN=58.29
3 33109      0 "1"      0      # DEC CTG2  18.00      PGEN=200.00  QGEN=58.29
3 33110      0 "1"      0      # DEC CTG3  18.00      PGEN=200.00  QGEN=58.29
0

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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#
#
# (302) L-1/G-1 OVERLAPPING OUTAGE
# Contra Costa - Las Positas 230 kV Line and DEC
1 30525 30585 "1 " 0 # line from C.COSTA 230.00 BRKR to BRKR LS PSTAS 230.00
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (303) L-1/G-1 OVERLAPPING OUTAGE
# Pittsburg - San Ramon 230 kV Line and DEC
1 30526 30555 "1 " 0 # line from PITSBG D 230.00 BRKR to BRKR SANRAMON 230.00
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (304) L-1/G-1 OVERLAPPING OUTAGE
# Pittsburg - Tassajara 230 kV Line and DEC
1 30526 30561 "1 " 0 # line from PITSBG D 230.00 BRKR to BRKR TASSAJAR 230.00
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (305) L-1/G-1 OVERLAPPING OUTAGE
# Pittsburg - Tidewater 230 kV Line and DEC
1 30527 30535 "1 " 0 # line from PITSBG E 230.00 BRKR to BRKR TIDEWATR 230.00
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (306) L-1/G-1 OVERLAPPING OUTAGE
# Pittsburg - Tesoro 230 kV Line and DEC
1 30527 30536 "1 " 0 # line from PITSBG E 230.00 BRKR to BRKR TESORO 230.00
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (307) L-1/G-1 OVERLAPPING OUTAGE
# Pittsburg - Tesla #1 230 kV Line and DEC
1 30527 30595 "1 " 0 # line from PITSBG E 230.00 BRKR to (3) FLOWIND2 230.00
1 30595 30640 "1 " 0 # line from FLOWIND2 230.00 (3) to BRKR TESLA C 230.00
2 30595 33840 "1 " 0 # TRAN from FLOWIND2 230.00 (3) to (1) FLOWD3-6 9.11
4 33840 0 "SG" 0 # LOAD-DROP FLOWD3-6 9.11 LOAD==0.70(0.34)
3 33840 0 "1 " 0 # GEN-DROP FLOWD3-6 9.11 GEN==1.30(0.00)
3 33840 0 "4 " 0 # GEN-DROP FLOWD3-6 9.11 GEN==1.10(0.00)
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (308) L-1/G-1 OVERLAPPING OUTAGE
# Pittsburg - Tesla #2 230 kV Line and DEC pre and post-project outage
1 30527 30600 "2 " 0 # line from PITSBG E 230.00 BRKR to (4) TRES VAQ 230.00
1 30600 30640 "2 " 0 # line from TRES VAQ 230.00 (4) to BRKR TESLA C 230.00
2 30600 33171 "1 " 0 # TRAN from TRES VAQ 230.00 (4) to (1) TRSVQ+NW 9.11

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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2 30600 33195 "1 " 0 # TRAN from TRES VAQ 230.00 (4) to (1) T417 34.50
4 33195 0 "ss" 0 # LOAD-DROP T417 34.50 LOAD==0.10(0.06)
3 33195 0 "1 " 0 # GEN-DROP T417 34.50 GEN==36.10(0.00)
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (309) L-1/G-1 OVERLAPPING OUTAGE
# Tidewater - Sobrante 230 kV Line and DEC
1 30535 30540 "1 " 0 # line from TIDEWATR 230.00 BRKR to BRKR SOBRANTE 230.00
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (310) L-1/G-1 OVERLAPPING OUTAGE
# Tesoro - Sobrante 230 kV Line and DEC
1 30536 30540 "1 " 0 # line from TESORO 230.00 BRKR to BRKR SOBRANTE 230.00
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (311) L-1/G-1 OVERLAPPING OUTAGE
# Moraga - Castro Valley 230 kV Line and DEC
1 30550 30554 "1 " 0 # line from MORAGA 230.00 BRKR to BRKR CASTROVL 230.00
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (312) L-1/G-1 OVERLAPPING OUTAGE
# Moraga - San Ramon 230 kV Line and DEC
1 30550 30555 "1 " 0 # line from MORAGA 230.00 BRKR to BRKR SANRAMON 230.00
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (313) L-1/G-1 OVERLAPPING OUTAGE
# Pittsburg - East Shore 230 kV Line and DEC
1 30560 30527 "1 " 0 # line from E. SHORE 230.00 BRKR to BRKR PITSBG E 230.00
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (314) L-1/G-1 OVERLAPPING OUTAGE
# Tassajara - Newark 230 kV Line and DEC
1 30561 30562 "1 " 0 # line from TASSAJAR 230.00 BRKR to (3) TES JCT 230.00
1 30562 30563 "1 " 0 # line from TES JCT 230.00 (3) to BRKR RESEARCH 230.00
1 30562 30631 "1 " 0 # line from TES JCT 230.00 (3) to BRKR NEWARK E 230.00
4 30563 0 "1 " 0 # LOAD-DROP RESEARCH 230.00 LOAD==37.05(8.44)
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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#
#
# (315) L-1/G-1 OVERLAPPING OUTAGE
# Brentwood - Kelso 230 kV Line and DEC
1 30565 30569 "1 " 0 # line from BRENTWOD 230.00 BRKR to BRKR KELSO 230.00
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (316) L-1/G-1 OVERLAPPING OUTAGE
# Lonetree - Cayetano 230 kV Line and DEC
1 30567 30590 "1 " 0 # line from LONETREE 230.00 BRKR to (3) USWP-JRW 230.00
1 30590 30530 "1 " 0 # line from USWP-JRW 230.00 (3) to BRKR CAYETANO 230.00
2 30590 33838 "1 " 0 # TRAN from USWP-JRW 230.00 (3) to (1) USWP #3 9.11
4 33838 0 "SG" 0 # LOAD-DROP USWP_#3 9.11 LOAD==0.50(0.20)
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (317) L-1/G-1 OVERLAPPING OUTAGE
# Pittsburg - San Mateo 230 kV Line and DEC
1 30700 30527 "1 " 0 # line from SANMATEO 230.00 BRKR to BRKR PITSBG E 230.00
#
3 33107 0 "1" 0 # DEC STG1 24.00 PGEN=280.00 QGEN=81.62
3 33108 0 "1" 0 # DEC CTG1 18.00 PGEN=200.00 QGEN=58.29
3 33109 0 "1" 0 # DEC CTG2 18.00 PGEN=200.00 QGEN=58.29
3 33110 0 "1" 0 # DEC CTG3 18.00 PGEN=200.00 QGEN=58.29
0
#
#
# (318) L-1/G-1 OVERLAPPING OUTAGE
# Lakeville - Sobrante #2 230 kV Line and Gateway PP pre-project outage
1 30435 30540 "2 " 0 # line from LAKEVILLE 230.00 BRKR to BRKR SOBRANTE 230.00
#
3 33118 0 "1" 0 # GATEWAY1 18.00 PGEN=200.00 QGEN=-7.87
3 33119 0 "1" 0 # GATEWAY2 18.00 PGEN=195.00 QGEN=-6.21
3 33120 0 "1" 0 # GATEWAY3 18.00 PGEN=195.00 QGEN=-6.21
0
#
#
# (319) L-1/G-1 OVERLAPPING OUTAGE
# Ignacio - Sobrante 230 kV Line and Gateway PP pre-project outage
1 30437 30445 "1 " 0 # line from CROCKETT 230.00 (3) to BRKR IGNACIO 230.00
1 30437 30438 "1 " 0 # line from CROCKETT 230.00 (3) to (2) C&H 230.00
1 30437 30540 "1 " 0 # line from CROCKETT 230.00 (3) to BRKR SOBRANTE 230.00
2 30438 32900 "1 " 0 # TRAN from C&H 230.00 BRKR to (1) CRCKTCOG 18.00
4 30438 0 "1 " 0 # LOAD-DROP C&H 230.00 LOAD==3.32(0.76)
3 32900 0 "1 " 0 # GEN-DROP CRCKTCOG 18.00 GEN==240.00(40.82)
#
3 33118 0 "1" 0 # GATEWAY1 18.00 PGEN=200.00 QGEN=-7.87
3 33119 0 "1" 0 # GATEWAY2 18.00 PGEN=195.00 QGEN=-6.21
3 33120 0 "1" 0 # GATEWAY3 18.00 PGEN=195.00 QGEN=-6.21
0
#
#
# (320) L-1/G-1 OVERLAPPING OUTAGE
# Lakeville - T257 230 kV Line and Gateway PP post-project outage
1 30435 30446 "1 " 0 # line from LAKEVILLE 230.00 BRKR to BRKR T257SWST 230.00
#
3 33118 0 "1" 0 # GATEWAY1 18.00 PGEN=200.00 QGEN=-7.87
3 33119 0 "1" 0 # GATEWAY2 18.00 PGEN=195.00 QGEN=-6.21
3 33120 0 "1" 0 # GATEWAY3 18.00 PGEN=195.00 QGEN=-6.21
0
#
#
# (321) L-1/G-1 OVERLAPPING OUTAGE
# Ignacio - T257 230 kV Line and Gateway PP post-project outage
1 30445 30446 "1 " 0 # line from IGNACIO 230.00 BRKR to BRKR T257SWST 230.00
#
3 33118 0 "1" 0 # GATEWAY1 18.00 PGEN=200.00 QGEN=-7.87

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3 33119      0 "1"      0      # GATEWAY2 18.00      PGEN=195.00 QGEN=-6.21
3 33120      0 "1"      0      # GATEWAY3 18.00      PGEN=195.00 QGEN=-6.21
0
#
#
# (322) L-1/G-1 OVERLAPPING OUTAGE
# T257 - Sobrante #1 230 kV Line and Gateway PP post-project outage
1 30446 30437 "1 "      0      # line from T257SWST 230.00 BRKR to (3) CROCKETT 230.00
1 30437 30438 "1 "      0      # line from CROCKETT 230.00 (3) to (2) C&H 230.00
1 30437 30540 "1 "      0      # line from CROCKETT 230.00 (3) to BRKR SOBRANTE 230.00
2 30438 32900 "1 "      0      # TRAN from C&H 230.00 BRKR to (1) CRCKTCOG 18.00
4 30438      0 "1 "      0      # LOAD-DROP C&H 230.00 LOAD==3.32(0.76)
3 32900      0 "1 "      0      # GEN-DROP CRCKTCOG 18.00 GEN==240.00(54.42)
#
3 33118      0 "1"      0      # GATEWAY1 18.00      PGEN=200.00 QGEN=-7.87
3 33119      0 "1"      0      # GATEWAY2 18.00      PGEN=195.00 QGEN=-6.21
3 33120      0 "1"      0      # GATEWAY3 18.00      PGEN=195.00 QGEN=-6.21
0
#
#
# (323) L-1/G-1 OVERLAPPING OUTAGE
# T257 - Sobrante #2 230 kV Line and Gateway PP post-project outage
1 30446 30540 "2 "      0      # line from T257SWST 230.00 BRKR to BRKR SOBRANTE 230.00
#
3 33118      0 "1"      0      # GATEWAY1 18.00      PGEN=200.00 QGEN=-7.87
3 33119      0 "1"      0      # GATEWAY2 18.00      PGEN=195.00 QGEN=-6.21
3 33120      0 "1"      0      # GATEWAY3 18.00      PGEN=195.00 QGEN=-6.21
0
#
#
# (324) L-1/G-1 OVERLAPPING OUTAGE
# Q177 - Moraga 230 kV Line and Gateway PP
1 30466 30550 "1 "      0      # line from Q177 230.00 BRKR to BRKR MORAGA 230.00
#
3 33118      0 "1"      0      # GATEWAY1 18.00      PGEN=200.00 QGEN=-7.87
3 33119      0 "1"      0      # GATEWAY2 18.00      PGEN=195.00 QGEN=-6.21
3 33120      0 "1"      0      # GATEWAY3 18.00      PGEN=195.00 QGEN=-6.21
0
#
#
# (325) L-1/G-1 OVERLAPPING OUTAGE
# Parkway - Moraga 230 kV Line and Gateway PP
1 30467 30550 "1 "      0      # line from PARKWAY 230.00 BRKR to BRKR MORAGA 230.00
#
3 33118      0 "1"      0      # GATEWAY1 18.00      PGEN=200.00 QGEN=-7.87
3 33119      0 "1"      0      # GATEWAY2 18.00      PGEN=195.00 QGEN=-6.21
3 33120      0 "1"      0      # GATEWAY3 18.00      PGEN=195.00 QGEN=-6.21
0
#
#
# (326) L-1/G-1 OVERLAPPING OUTAGE
# Birds Landing - Contra Costa Sub 230 kV Line and Gateway PP
1 30479 30523 "1 "      0      # line from BDLWSTA 230.00 BRKR to BRKR CC SUB 230.00
#
3 33118      0 "1"      0      # GATEWAY1 18.00      PGEN=200.00 QGEN=-7.87
3 33119      0 "1"      0      # GATEWAY2 18.00      PGEN=195.00 QGEN=-6.21
3 33120      0 "1"      0      # GATEWAY3 18.00      PGEN=195.00 QGEN=-6.21
0
#
#
# (327) L-1/G-1 OVERLAPPING OUTAGE
# Contra Costa - Contra Costa Sub 230 kV Line and Gateway PP
1 30523 30525 "1 "      0      # line from CC SUB 230.00 BRKR to BRKR C.COSTA 230.00
#
3 33118      0 "1"      0      # GATEWAY1 18.00      PGEN=200.00 QGEN=-7.87
3 33119      0 "1"      0      # GATEWAY2 18.00      PGEN=195.00 QGEN=-6.21
3 33120      0 "1"      0      # GATEWAY3 18.00      PGEN=195.00 QGEN=-6.21
0
#
#
# (328) L-1/G-1 OVERLAPPING OUTAGE
# Birds Landing - Contra Costa 230 kV Line and Gateway PP
1 30525 30479 "1 "      0      # line from C.COSTA 230.00 BRKR to BRKR BDLWSTA 230.00
#
3 33118      0 "1"      0      # GATEWAY1 18.00      PGEN=200.00 QGEN=-7.87
3 33119      0 "1"      0      # GATEWAY2 18.00      PGEN=195.00 QGEN=-6.21
3 33120      0 "1"      0      # GATEWAY3 18.00      PGEN=195.00 QGEN=-6.21
0

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

```

#
#
# (329) L-1/G-1 OVERLAPPING OUTAGE
# Contra Costa - Moraga #1 230 kV Line and Gateway PP
1 30525 30543 "1 " 0 # line from C.COSTA 230.00 BRKR to (3) ROSSTAP1 230.00
1 30543 30545 "1 " 0 # line from ROSSTAP1 230.00 (3) to BRKR ROSSMOOR 230.00
1 30543 30550 "1 " 0 # line from ROSSTAP1 230.00 (3) to BRKR MORAGA 230.00
4 30545 0 "1 " 0 # LOAD-DROP ROSSMOOR 230.00 LOAD==36.95(8.42)
4 30545 0 "2 " 0 # LOAD-DROP ROSSMOOR 230.00 LOAD==32.85(7.49)
1 30544 30545 "2 " 1 # LINE-TRANSFER ROSSTAP1 230.00 TO ROSSTAP2 230.00
4 30545 0 "3 " 1 # RESTORE ROSSMOOR load
#
3 33118 0 "1" 0 # GATEWAY1 18.00 PGEN=200.00 QGEN=-7.87
3 33119 0 "1" 0 # GATEWAY2 18.00 PGEN=195.00 QGEN=-6.21
3 33120 0 "1" 0 # GATEWAY3 18.00 PGEN=195.00 QGEN=-6.21
0
#
#
# (330) L-1/G-1 OVERLAPPING OUTAGE
# Contra Costa - Moraga #2 230 kV Line and Gateway PP
1 30525 30544 "2 " 0 # line from C.COSTA 230.00 BRKR to (2) ROSSTAP2 230.00
1 30544 30550 "2 " 0 # line from ROSSTAP2 230.00 (2) to BRKR MORAGA 230.00
#
3 33118 0 "1" 0 # GATEWAY1 18.00 PGEN=200.00 QGEN=-7.87
3 33119 0 "1" 0 # GATEWAY2 18.00 PGEN=195.00 QGEN=-6.21
3 33120 0 "1" 0 # GATEWAY3 18.00 PGEN=195.00 QGEN=-6.21
0
#
#
# (331) L-1/G-1 OVERLAPPING OUTAGE
# Contra Costa - Brentwood 230 kV Line and Gateway PP
1 30525 30565 "1 " 0 # line from C.COSTA 230.00 BRKR to BRKR BRENTWOD 230.00
#
3 33118 0 "1" 0 # GATEWAY1 18.00 PGEN=200.00 QGEN=-7.87
3 33119 0 "1" 0 # GATEWAY2 18.00 PGEN=195.00 QGEN=-6.21
3 33120 0 "1" 0 # GATEWAY3 18.00 PGEN=195.00 QGEN=-6.21
0
#
#
# (332) L-1/G-1 OVERLAPPING OUTAGE
# Contra Costa - Lonetree 230 kV Line and Gateway PP
1 30525 30567 "1 " 0 # line from C.COSTA 230.00 BRKR to BRKR LONETREE 230.00
#
3 33118 0 "1" 0 # GATEWAY1 18.00 PGEN=200.00 QGEN=-7.87
3 33119 0 "1" 0 # GATEWAY2 18.00 PGEN=195.00 QGEN=-6.21
3 33120 0 "1" 0 # GATEWAY3 18.00 PGEN=195.00 QGEN=-6.21
0
#
#
# (333) L-1/G-1 OVERLAPPING OUTAGE
# Contra Costa - Delta Pumps 230 kV Line and Gateway PP
1 30525 30575 "1 " 0 # line from C.COSTA 230.00 BRKR to (3) WND MSTR 230.00
1 30575 38610 "1 " 0 # line from WND MSTR 230.00 (3) to BRKR DELTAPMP 230.00
2 30575 33170 "1 " 0 # TRAN from WND MSTR 230.00 (3) to (1) WINDMSTR 9.11
#
3 33118 0 "1" 0 # GATEWAY1 18.00 PGEN=200.00 QGEN=-7.87
3 33119 0 "1" 0 # GATEWAY2 18.00 PGEN=195.00 QGEN=-6.21
3 33120 0 "1" 0 # GATEWAY3 18.00 PGEN=195.00 QGEN=-6.21
0
#
#
# (334) L-1/G-1 OVERLAPPING OUTAGE
# Contra Costa - Las Positas 230 kV Line and Gateway PP
1 30525 30585 "1 " 0 # line from C.COSTA 230.00 BRKR to BRKR LS PSTAS 230.00
#
3 33118 0 "1" 0 # GATEWAY1 18.00 PGEN=200.00 QGEN=-7.87
3 33119 0 "1" 0 # GATEWAY2 18.00 PGEN=195.00 QGEN=-6.21
3 33120 0 "1" 0 # GATEWAY3 18.00 PGEN=195.00 QGEN=-6.21
0
#
#
# (335) L-1/G-1 OVERLAPPING OUTAGE
# Pittsburg - San Ramon 230 kV Line and Gateway PP
1 30526 30555 "1 " 0 # line from PITSBG D 230.00 BRKR to BRKR SANRAMON 230.00
#
3 33118 0 "1" 0 # GATEWAY1 18.00 PGEN=200.00 QGEN=-7.87
3 33119 0 "1" 0 # GATEWAY2 18.00 PGEN=195.00 QGEN=-6.21
3 33120 0 "1" 0 # GATEWAY3 18.00 PGEN=195.00 QGEN=-6.21

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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0
#
#
# (336) L-1/G-1 OVERLAPPING OUTAGE
# Pittsburg - Tassajara 230 kV Line and Gateway PP
1 30526 30561 "1 " 0 # line from PITSBG D 230.00 BRKR to BRKR TASSAJAR 230.00
#
3 33118 0 "1" 0 # GATEWAY1 18.00 PGEN=200.00 QGEN=-7.87
3 33119 0 "1" 0 # GATEWAY2 18.00 PGEN=195.00 QGEN=-6.21
3 33120 0 "1" 0 # GATEWAY3 18.00 PGEN=195.00 QGEN=-6.21
0
#
#
# (337) L-1/G-1 OVERLAPPING OUTAGE
# Pittsburg - Tidewater 230 kV Line and Gateway PP
1 30527 30535 "1 " 0 # line from PITSBG E 230.00 BRKR to BRKR TIDEWATR 230.00
#
3 33118 0 "1" 0 # GATEWAY1 18.00 PGEN=200.00 QGEN=-7.87
3 33119 0 "1" 0 # GATEWAY2 18.00 PGEN=195.00 QGEN=-6.21
3 33120 0 "1" 0 # GATEWAY3 18.00 PGEN=195.00 QGEN=-6.21
0
#
#
# (338) L-1/G-1 OVERLAPPING OUTAGE
# Pittsburg - Tesoro 230 kV Line and Gateway PP
1 30527 30536 "1 " 0 # line from PITSBG E 230.00 BRKR to BRKR TESORO 230.00
#
3 33118 0 "1" 0 # GATEWAY1 18.00 PGEN=200.00 QGEN=-7.87
3 33119 0 "1" 0 # GATEWAY2 18.00 PGEN=195.00 QGEN=-6.21
3 33120 0 "1" 0 # GATEWAY3 18.00 PGEN=195.00 QGEN=-6.21
0
#
#
# (339) L-1/G-1 OVERLAPPING OUTAGE
# Pittsburg - Tesla #1 230 kV Line and Gateway PP
1 30527 30595 "1 " 0 # line from PITSBG E 230.00 BRKR to (3) FLOWIND2 230.00
1 30595 30640 "1 " 0 # line from FLOWIND2 230.00 (3) to BRKR TESLA C 230.00
2 30595 33840 "1 " 0 # TRAN from FLOWIND2 230.00 (3) to (1) FLOWD3-6 9.11
4 33840 0 "SG" 0 # LOAD-DROP FLOWD3-6 9.11 LOAD==0.70(0.34)
3 33840 0 "1 " 0 # GEN-DROP FLOWD3-6 9.11 GEN==1.30(0.00)
3 33840 0 "4 " 0 # GEN-DROP FLOWD3-6 9.11 GEN==1.10(0.00)
#
3 33118 0 "1" 0 # GATEWAY1 18.00 PGEN=200.00 QGEN=-7.87
3 33119 0 "1" 0 # GATEWAY2 18.00 PGEN=195.00 QGEN=-6.21
3 33120 0 "1" 0 # GATEWAY3 18.00 PGEN=195.00 QGEN=-6.21
0
#
#
# (340) L-1/G-1 OVERLAPPING OUTAGE
# Pittsburg - Tesla #2 230 kV Line and Gateway PP pre and post-project outage
1 30527 30600 "2 " 0 # line from PITSBG E 230.00 BRKR to (4) TRES VAQ 230.00
1 30600 30640 "2 " 0 # line from TRES VAQ 230.00 (4) to BRKR TESLA C 230.00
2 30600 33171 "1 " 0 # TRAN from TRES VAQ 230.00 (4) to (1) TRSVQ+NW 9.11
2 30600 33195 "1 " 0 # TRAN from TRES VAQ 230.00 (4) to (1) T417 34.50
4 33195 0 "ss" 0 # LOAD-DROP T417 34.50 LOAD==0.10(0.06)
3 33195 0 "1 " 0 # GEN-DROP T417 34.50 GEN==36.10(0.00)
#
3 33118 0 "1" 0 # GATEWAY1 18.00 PGEN=200.00 QGEN=-7.87
3 33119 0 "1" 0 # GATEWAY2 18.00 PGEN=195.00 QGEN=-6.21
3 33120 0 "1" 0 # GATEWAY3 18.00 PGEN=195.00 QGEN=-6.21
0
#
#
# (341) L-1/G-1 OVERLAPPING OUTAGE
# Tidewater - Sobrante 230 kV Line and Gateway PP
1 30535 30540 "1 " 0 # line from TIDEWATR 230.00 BRKR to BRKR SOBRANTE 230.00
#
3 33118 0 "1" 0 # GATEWAY1 18.00 PGEN=200.00 QGEN=-7.87
3 33119 0 "1" 0 # GATEWAY2 18.00 PGEN=195.00 QGEN=-6.21
3 33120 0 "1" 0 # GATEWAY3 18.00 PGEN=195.00 QGEN=-6.21
0
#
#
# (342) L-1/G-1 OVERLAPPING OUTAGE
# Tesoro - Sobrante 230 kV Line and Gateway PP
1 30536 30540 "1 " 0 # line from TESORO 230.00 BRKR to BRKR SOBRANTE 230.00
#
3 33118 0 "1" 0 # GATEWAY1 18.00 PGEN=200.00 QGEN=-7.87

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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3 33119      0 "1"      0      # GATEWAY2 18.00      PGEN=195.00 QGEN=-6.21
3 33120      0 "1"      0      # GATEWAY3 18.00      PGEN=195.00 QGEN=-6.21
0
#
#
# (343) L-1/G-1 OVERLAPPING OUTAGE
# Moraga - Castro Valley 230 kV Line and Gateway PP
1 30550 30554 "1 "      0      # line from MORAGA 230.00 BRKR to BRKR CASTROVL 230.00
#
3 33118      0 "1"      0      # GATEWAY1 18.00      PGEN=200.00 QGEN=-7.87
3 33119      0 "1"      0      # GATEWAY2 18.00      PGEN=195.00 QGEN=-6.21
3 33120      0 "1"      0      # GATEWAY3 18.00      PGEN=195.00 QGEN=-6.21
0
#
#
# (344) L-1/G-1 OVERLAPPING OUTAGE
# Moraga - San Ramon 230 kV Line and Gateway PP
1 30550 30555 "1 "      0      # line from MORAGA 230.00 BRKR to BRKR SANRAMON 230.00
#
3 33118      0 "1"      0      # GATEWAY1 18.00      PGEN=200.00 QGEN=-7.87
3 33119      0 "1"      0      # GATEWAY2 18.00      PGEN=195.00 QGEN=-6.21
3 33120      0 "1"      0      # GATEWAY3 18.00      PGEN=195.00 QGEN=-6.21
0
#
#
# (345) L-1/G-1 OVERLAPPING OUTAGE
# Pittsburg - East Shore 230 kV Line and Gateway PP
1 30560 30527 "1 "      0      # line from E. SHORE 230.00 BRKR to BRKR PITSBG E 230.00
#
3 33118      0 "1"      0      # GATEWAY1 18.00      PGEN=200.00 QGEN=-7.87
3 33119      0 "1"      0      # GATEWAY2 18.00      PGEN=195.00 QGEN=-6.21
3 33120      0 "1"      0      # GATEWAY3 18.00      PGEN=195.00 QGEN=-6.21
0
#
#
# (346) L-1/G-1 OVERLAPPING OUTAGE
# Tassajara - Newark 230 kV Line and Gateway PP
1 30561 30562 "1 "      0      # line from TASSAJAR 230.00 BRKR to (3) TES JCT 230.00
1 30562 30563 "1 "      0      # line from TES JCT 230.00 (3) to BRKR RESEARCH 230.00
1 30562 30631 "1 "      0      # line from TES JCT 230.00 (3) to BRKR NEWARK E 230.00
4 30563      0 "1 "      0      # LOAD-DROP RESEARCH 230.00 LOAD==37.05(8.44)
#
3 33118      0 "1"      0      # GATEWAY1 18.00      PGEN=200.00 QGEN=-7.87
3 33119      0 "1"      0      # GATEWAY2 18.00      PGEN=195.00 QGEN=-6.21
3 33120      0 "1"      0      # GATEWAY3 18.00      PGEN=195.00 QGEN=-6.21
0
#
#
# (347) L-1/G-1 OVERLAPPING OUTAGE
# Brentwood - Kelso 230 kV Line and Gateway PP
1 30565 30569 "1 "      0      # line from BRENTWOD 230.00 BRKR to BRKR KELSO 230.00
#
3 33118      0 "1"      0      # GATEWAY1 18.00      PGEN=200.00 QGEN=-7.87
3 33119      0 "1"      0      # GATEWAY2 18.00      PGEN=195.00 QGEN=-6.21
3 33120      0 "1"      0      # GATEWAY3 18.00      PGEN=195.00 QGEN=-6.21
0
#
#
# (348) L-1/G-1 OVERLAPPING OUTAGE
# Lonetree - Cayetano 230 kV Line and Gateway PP
1 30567 30590 "1 "      0      # line from LONETREE 230.00 BRKR to (3) USWP-JRW 230.00
1 30590 30530 "1 "      0      # line from USWP-JRW 230.00 (3) to BRKR CAYETANO 230.00
2 30590 33838 "1 "      0      # TRAN from USWP-JRW 230.00 (3) to (1) USWP_#3 9.11
4 33838      0 "SG"      0      # LOAD-DROP USWP_#3 9.11 LOAD==0.50(0.20)
#
3 33118      0 "1"      0      # GATEWAY1 18.00      PGEN=200.00 QGEN=-7.87
3 33119      0 "1"      0      # GATEWAY2 18.00      PGEN=195.00 QGEN=-6.21
3 33120      0 "1"      0      # GATEWAY3 18.00      PGEN=195.00 QGEN=-6.21
0
#
#
# (349) L-1/G-1 OVERLAPPING OUTAGE
# Pittsburg - San Mateo 230 kV Line and Gateway PP
1 30700 30527 "1 "      0      # line from SANMATEO 230.00 BRKR to BRKR PITSBG E 230.00
#
3 33118      0 "1"      0      # GATEWAY1 18.00      PGEN=200.00 QGEN=-7.87
3 33119      0 "1"      0      # GATEWAY2 18.00      PGEN=195.00 QGEN=-6.21
3 33120      0 "1"      0      # GATEWAY3 18.00      PGEN=195.00 QGEN=-6.21

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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0
#
#
# 2013 category b contingency list
# San Francisco Division Zone 309
#
#
# (350) L-1/G-1 OVERLAPPING OUTAGE
#
1 30695 30685 "2 " 0 # line from MARTIN C 230.00 BRKR to BRKR EMBRCDRD 230.00
4 30685 0 "1 " 0 # LOAD-DROP EMBRCDRD 230.00 LOAD==64.01(11.21)
4 30685 0 "2 " 0 # LOAD-DROP EMBRCDRD 230.00 LOAD==71.45(12.52)
1 30685 30690 "1 " 1 # LINE-TRANSFER MARTIN C to EMBRCDRE
4 30685 0 "***" 1 # RESTORE EMBRCDRD load
0
#
#
# (351) L-1/G-1 OVERLAPPING OUTAGE
#
1 30695 30690 "1 " 0 # line from MARTIN C 230.00 BRKR to BRKR EMBRCDRE 230.00
4 30690 0 "3 " 0 # LOAD-DROP EMBRCDRE 230.00 LOAD==71.45(12.52)
4 30690 0 "5 " 0 # LOAD-DROP EMBRCDRE 230.00 LOAD==64.01(11.21)
1 30690 30685 "1 " 1 # LINE-TRANSFER MARTIN C to EMBRCDRD
4 30690 0 "***" 1 # RESTORE EMBRCDRE load
0
#
#
# (352) L-1/G-1 OVERLAPPING OUTAGE
#
1 30696 30695 "1 " 0 # line from MRT RCTR 230.00 (2) to BRKR MARTIN C 230.00
1 30696 30717 "1 " 0 # line from MRT RCTR 230.00 (2) to (2) TRAN230B 230.00
1 30717 30716 "1 " 0 # line from TRAN230B 230.00 (2) to (2) TRAN230A 230.00
1 30716 30714 "1 " 0 # line from TRAN230A 230.00 (2) to (2) JMDAMCX2 230.00
1 30714 30713 "1 " 0 # line from JMDAMCX2 230.00 (2) to (2) JMDAMCX1 230.00
1 30713 30715 "1 " 0 # line from JMDAMCX1 230.00 (2) to BRKR JEFFERSN 230.00
0
#
#
# (353) L-1/G-1 OVERLAPPING OUTAGE
#
1 30700 30695 "1 " 0 # line from SANMATEO 230.00 BRKR to BRKR MARTIN C 230.00
0
#
#
# (354) L-1/G-1 OVERLAPPING OUTAGE
#
1 33200 33204 "1 " 0 # line from LARKIN D 115.00 (3) to BRKR POTRERO 115.00
2 33200 33218 "1 " 0 # TRAN from LARKIN D 115.00 (3) to BRKR LARKIN 1 12.00
2 33200 33219 "2 " 0 # TRAN from LARKIN D 115.00 (3) to BRKR LARKIN 2 12.00
0
#
#
# (355) L-1/G-1 OVERLAPPING OUTAGE
#
1 33201 33203 "1 " 0 # line from LARKIN E 115.00 (4) to BRKR MISSON 115.00
0
#
#
# (356) L-1/G-1 OVERLAPPING OUTAGE
#
1 33201 33204 "2 " 0 # line from LARKIN E 115.00 BRKR to BRKR POTRERO 115.00
0
#
#
# (357) L-1/G-1 OVERLAPPING OUTAGE
#
1 33203 33204 "1 " 0 # line from MISSON 115.00 BRKR to BRKR POTRERO 115.00
0
#
#
# (358) L-1/G-1 OVERLAPPING OUTAGE
#
1 33203 33205 "1 " 0 # line from MISSON 115.00 BRKR to BRKR HNTRS PT 115.00
0
#
#
# (359) L-1/G-1 OVERLAPPING OUTAGE
#

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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1 33203 33205 "2 " 0 # line from MISSION 115.00 BRKR to BRKR HNTRS PT 115.00
0
#
#
# (360) L-1/G-1 OVERLAPPING OUTAGE
#
1 33204 33205 "1 " 0 # line from POTRERO 115.00 BRKR to BRKR HNTRS PT 115.00
0
#
#
# (361) L-1/G-1 OVERLAPPING OUTAGE
#
1 33204 33213 "1 " 0 # line from POTRERO 115.00 BRKR to BRKR CCSF1 115.00
0
#
#
# (362) L-1/G-1 OVERLAPPING OUTAGE
#
1 33204 33213 "2 " 0 # line from POTRERO 115.00 BRKR to BRKR CCSF1 115.00
0
#
#
# (363) L-1/G-1 OVERLAPPING OUTAGE
#
1 33206 33204 "1 " 0 # line from BAYSHOR1 115.00 (2) to BRKR POTRERO 115.00
1 33206 33208 "1 " 0 # line from BAYSHOR1 115.00 (2) to BRKR MARTIN C 115.00
4 33206 0 "1 " 0 # LOAD-DROP BAYSHOR1 115.00 LOAD==4.75(0.68)
0
#
#
# (364) L-1/G-1 OVERLAPPING OUTAGE
#
1 33207 33204 "2 " 0 # line from BAYSHOR2 115.00 (2) to BRKR POTRERO 115.00
1 33207 33208 "2 " 0 # line from BAYSHOR2 115.00 (2) to BRKR MARTIN C 115.00
4 33207 0 "2 " 0 # LOAD-DROP BAYSHOR2 115.00 LOAD==6.65(0.95)
0
#
#
# (365) L-1/G-1 OVERLAPPING OUTAGE
#
1 33208 33202 "1 " 0 # line from MARTIN C 115.00 BRKR to (3) LARKIN F 115.00
2 33202 33218 "5 " 0 # TRAN from LARKIN F 115.00 (3) to BRKR LARKIN 1 12.00
2 33202 33219 "6 " 0 # TRAN from LARKIN F 115.00 (3) to BRKR LARKIN 2 12.00
0
#
#
# (366) L-1/G-1 OVERLAPPING OUTAGE
#
1 33208 33205 "1 " 0 # line from MARTIN C 115.00 BRKR to BRKR HNTRS PT 115.00
0
#
#
# (367) L-1/G-1 OVERLAPPING OUTAGE
#
1 33208 33205 "3 " 0 # line from MARTIN C 115.00 BRKR to BRKR HNTRS PT 115.00
0
#
#
# (368) L-1/G-1 OVERLAPPING OUTAGE
#
1 33208 33205 "4 " 0 # line from MARTIN C 115.00 BRKR to BRKR HNTRS PT 115.00
0
#
#
# (369) L-1/G-1 OVERLAPPING OUTAGE
#
1 33208 33300 "1 " 0 # line from MARTIN C 115.00 BRKR to BRKR DALY CTY 115.00
0
#
#
# (370) L-1/G-1 OVERLAPPING OUTAGE
#
1 33208 33301 "2 " 0 # line from MARTIN C 115.00 BRKR to (3) DLY CTYP 115.00
1 33301 33300 "2 " 0 # line from DLY CTYP 115.00 (3) to BRKR DALY CTY 115.00
1 33301 33302 "1 " 0 # line from DLY CTYP 115.00 (3) to BRKR SERRMNTE 115.00
4 33302 0 "1 " 0 # LOAD-DROP SERRMNTE 115.00 LOAD==11.42(2.60)
0
#

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

```

#
# (371) L-1/G-1 OVERLAPPING OUTAGE
#
1 33208 33303 "2 " 0 # line from MARTIN C 115.00 BRKR to BRKR EST GRND 115.00
0
#
#
# (372) L-1/G-1 OVERLAPPING OUTAGE
#
1 33208 33307 "1 " 0 # line from MARTIN C 115.00 BRKR to BRKR MILLBRAE 115.00
0
#
#
# (373) L-1/G-1 OVERLAPPING OUTAGE
#
1 33208 33310 "3 " 0 # line from MARTIN C 115.00 BRKR to BRKR SANMATEO 115.00
0
#
#
# (374) L-1/G-1 OVERLAPPING OUTAGE
#
1 33208 33322 "5 " 0 # line from MARTIN C 115.00 BRKR to (3) UAL TAP 115.00
1 33322 33306 "5 " 0 # line from UAL TAP 115.00 (3) to BRKR SFIA 115.00
1 33322 33323 "1 " 0 # line from UAL TAP 115.00 (3) to (3) SFASWSTA 115.00
1 33323 33304 "1 " 0 # line from SFASWSTA 115.00 (3) to (2) UAL COGN 115.00
1 33323 33324 "1 " 0 # line from SFASWSTA 115.00 (3) to (2) SFAERP11 115.00
2 33304 33466 "1 " 0 # TRAN from UAL COGN 115.00 BRKR to (1) UNTED CO 9.11
2 33324 33467 "1 " 0 # TRAN from SFAERP11 115.00 (2) to (1) SFAERP 13.80
4 33467 0 "ss" 0 # LOAD-DROP SFAERP 13.80 LOAD==1.80(1.12)
3 33466 0 "1 " 0 # GEN-DROP UNTED CO 9.11 GEN==28.20(11.16)
3 33467 0 "1 " 0 # GEN-DROP SFAERP 13.80 GEN==48.00(10.34)
0
#
#
# (375) L-1/G-1 OVERLAPPING OUTAGE
#
1 33209 33347 "1 " 0 # line from MARTIN 60.00 BRKR to (2) SNTH JCT 60.00
1 33347 33346 "1 " 0 # line from SNTH JCT 60.00 (2) to (3) SNTH TP2 60.00
1 33346 33389 "1 " 0 # line from SNTH TP2 60.00 (3) to (1) PACIFJCT 60.00
1 33346 33350 "1 " 0 # line from SNTH TP2 60.00 (3) to BRKR SNTH LNE 60.00
4 33350 0 "1 " 0 # LOAD-DROP SNTH LNE 60.00 LOAD==7.61(1.73)
4 33350 0 "2 " 0 # LOAD-DROP SNTH LNE 60.00 LOAD==9.62(2.19)
1 33350 33345 "1 " 1 # LINE-TRANSFER SNTH LNE 60.00 TO SNTH TP 60.00
4 33350 0 "***" 1 # RESTORE SNEATH LANE LOAD
0
#
#
# (376) L-1/G-1 OVERLAPPING OUTAGE
#
1 33210 33204 "1 " 0 # line from POT_SVC 115.00 (1) to BRKR POTRERO 115.00
0
#
#
# (377) L-1/G-1 OVERLAPPING OUTAGE
#
1 33305 33208 "6 " 0 # line from SHAWROAD 115.00 (2) to BRKR MARTIN C 115.00
1 33305 33310 "6 " 0 # line from SHAWROAD 115.00 (2) to BRKR SANMATEO 115.00
4 33305 33309 "1 " 1 # LOAD-TRANSFER SHAWROAD 115.00 TO SANPAULA 115.00 LOAD==9.00(1.83)
0
#
#
# (378) L-1/G-1 OVERLAPPING OUTAGE
#
1 33356 33208 "4 " 0 # line from BURLNGME 115.00 BRKR to BRKR MARTIN C 115.00
0
#
#
# (379) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 33208 30695 "7 " 0 # TRAN from MARTIN C 115.00 BRKR to BRKR MARTIN C 230.00
0
#
#
# (380) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 33208 30695 "8 " 0 # TRAN from MARTIN C 115.00 BRKR to BRKR MARTIN C 230.00
0
#

```


APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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#
# (381) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 33209 33208 "6 " 0 # TRAN from MARTIN 60.00 BRKR to BRKR MARTIN C 115.00
0
#
#
# (382) B1 GENERATOR OUTAGE
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (383) B1 GENERATOR OUTAGE
#
3 33282 0 "1" 0 # CCSFCT2 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (384) B1 GENERATOR OUTAGE
#
3 33283 0 "1" 0 # CCSFCT3 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (385) L-1/G-1 OVERLAPPING OUTAGE
# Jefferson - Martin 230 kV Line and CCSF CT1
1 30696 30695 "1 " 0 # line from MRT RCTR 230.00 (2) to BRKR MARTIN C 230.00
1 30696 30717 "1 " 0 # line from MRT RCTR 230.00 (2) to (2) TRAN230B 230.00
1 30717 30716 "1 " 0 # line from TRAN230B 230.00 (2) to (2) TRAN230A 230.00
1 30716 30714 "1 " 0 # line from TRAN230A 230.00 (2) to (2) JMDAMCX2 230.00
1 30714 30713 "1 " 0 # line from JMDAMCX2 230.00 (2) to (2) JMDAMCX1 230.00
1 30713 30715 "1 " 0 # line from JMDAMCX1 230.00 (2) to BRKR JEFFERSN 230.00
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (386) L-1/G-1 OVERLAPPING OUTAGE
# San Mateo - Martin 230 kV Line and CCSF CT1
1 30700 30695 "1 " 0 # line from SANMATEO 230.00 BRKR to BRKR MARTIN C 230.00
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (387) L-1/G-1 OVERLAPPING OUTAGE
# Larkin - Potrero #1 115 kV Line and CCSF CT1
1 33200 33204 "1 " 0 # line from LARKIN D 115.00 (3) to BRKR POTRERO 115.00
2 33200 33218 "1 " 0 # TRAN from LARKIN D 115.00 (3) to BRKR LARKIN 1 12.00
2 33200 33219 "2 " 0 # TRAN from LARKIN D 115.00 (3) to BRKR LARKIN 2 12.00
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (388) L-1/G-1 OVERLAPPING OUTAGE
# Larkin - Mission 115 kV Line and CCSF CT1
1 33201 33203 "1 " 0 # line from LARKIN E 115.00 (4) to BRKR MISSON 115.00
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (389) L-1/G-1 OVERLAPPING OUTAGE
# Larkin - Potrero #2 115 kV Line and CCSF CT1
1 33201 33204 "2 " 0 # line from LARKIN E 115.00 BRKR to BRKR POTRERO 115.00
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (390) L-1/G-1 OVERLAPPING OUTAGE
# Mission - Potrero 115 kV Line and CCSF CT1
1 33203 33204 "1 " 0 # line from MISSON 115.00 BRKR to BRKR POTRERO 115.00
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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#
#
# (391) L-1/G-1 OVERLAPPING OUTAGE
# Mission - Hunters Point #1 115 kV Line and CCSF CT1
1 33203 33205 "1 " 0 # line from MISSON 115.00 BRKR to BRKR HNTRS PT 115.00
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (392) L-1/G-1 OVERLAPPING OUTAGE
# Mission - Hunters Point #2 115 kV Line and CCSF CT1
1 33203 33205 "2 " 0 # line from MISSON 115.00 BRKR to BRKR HNTRS PT 115.00
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (393) L-1/G-1 OVERLAPPING OUTAGE
# Potrero - Hunters Point #1 115 kV Line and CCSF CT1
1 33204 33205 "1 " 0 # line from POTRERO 115.00 BRKR to BRKR HNTRS PT 115.00
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (394) L-1/G-1 OVERLAPPING OUTAGE
# Potrero - Martin #1 115 kV Line and CCSF CT1
1 33206 33204 "1 " 0 # line from BAYSHOR1 115.00 (2) to BRKR POTRERO 115.00
1 33206 33208 "1 " 0 # line from BAYSHOR1 115.00 (2) to BRKR MARTIN C 115.00
4 33206 0 "1 " 0 # LOAD-DROP BAYSHOR1 115.00 LOAD==4.75(0.68)
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (395) L-1/G-1 OVERLAPPING OUTAGE
# Potrero - Martin #2 115 kV Line and CCSF CT1
1 33207 33204 "2 " 0 # line from BAYSHOR2 115.00 (2) to BRKR POTRERO 115.00
1 33207 33208 "2 " 0 # line from BAYSHOR2 115.00 (2) to BRKR MARTIN C 115.00
4 33207 0 "2 " 0 # LOAD-DROP BAYSHOR2 115.00 LOAD==6.65(0.95)
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (396) L-1/G-1 OVERLAPPING OUTAGE
# Larkin - Martin 115 kV Line and CCSF CT1
1 33208 33202 "1 " 0 # line from MARTIN C 115.00 BRKR to (3) LARKIN F 115.00
2 33202 33218 "5 " 0 # TRAN from LARKIN F 115.00 (3) to BRKR LARKIN 1 12.00
2 33202 33219 "6 " 0 # TRAN from LARKIN F 115.00 (3) to BRKR LARKIN 2 12.00
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (397) L-1/G-1 OVERLAPPING OUTAGE
# Hunters Point - Martin #1 115 kV Line and CCSF CT1
1 33208 33205 "1 " 0 # line from MARTIN C 115.00 BRKR to BRKR HNTRS PT 115.00
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (398) L-1/G-1 OVERLAPPING OUTAGE
# Hunters Point - Martin #3 115 kV Line and CCSF CT1
1 33208 33205 "3 " 0 # line from MARTIN C 115.00 BRKR to BRKR HNTRS PT 115.00
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (399) L-1/G-1 OVERLAPPING OUTAGE
# Hunters Point - Martin #4 115 kV Line and CCSF CT1
1 33208 33205 "4 " 0 # line from MARTIN C 115.00 BRKR to BRKR HNTRS PT 115.00
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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#
#
# (400) L-1/G-1 OVERLAPPING OUTAGE
# Martin - East Grand 115 kV Line and CCSF CT1
1 33208 33303 "2 " 0 # line from MARTIN C 115.00 BRKR to BRKR EST GRND 115.00
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (401) L-1/G-1 OVERLAPPING OUTAGE
# Martin - Millbrae 115 kV Line and CCSF CT1
1 33208 33307 "1 " 0 # line from MARTIN C 115.00 BRKR to BRKR MILLBRAE 115.00
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (402) L-1/G-1 OVERLAPPING OUTAGE
# Martin - San Mateo #3 115 kV Line and CCSF CT1
1 33208 33310 "3 " 0 # line from MARTIN C 115.00 BRKR to BRKR SANMATEO 115.00
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (403) L-1/G-1 OVERLAPPING OUTAGE
# Martin - SF Airport 115 kV Line and CCSF CT1
1 33208 33322 "5 " 0 # line from MARTIN C 115.00 BRKR to (3) UAL TAP 115.00
1 33322 33306 "5 " 0 # line from UAL TAP 115.00 (3) to BRKR SFIA 115.00
1 33322 33323 "1 " 0 # line from UAL TAP 115.00 (3) to (3) SFASWSTA 115.00
1 33323 33304 "1 " 0 # line from SFASWSTA 115.00 (3) to (2) UAL COGN 115.00
1 33323 33324 "1 " 0 # line from SFASWSTA 115.00 (3) to (2) SFAERP11 115.00
2 33304 33466 "1 " 0 # TRAN from UAL COGN 115.00 BRKR to (1) UNTED CO 9.11
2 33324 33467 "1 " 0 # TRAN from SFAERP11 115.00 (2) to (1) SFAERP 13.80
4 33467 0 "ss" 0 # LOAD-DROP SFAERP 13.80 LOAD==1.80(1.12)
3 33466 0 "1 " 0 # GEN-DROP UNTED CO 9.11 GEN==28.20(11.16)
3 33467 0 "1 " 0 # GEN-DROP SFAERP 13.80 GEN==48.00(10.34)
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (404) L-1/G-1 OVERLAPPING OUTAGE
# Martin - San Mateo #6 115 kV Line and CCSF CT1
1 33305 33208 "6 " 0 # line from SHAWROAD 115.00 (2) to BRKR MARTIN C 115.00
1 33305 33310 "6 " 0 # line from SHAWROAD 115.00 (2) to BRKR SANMATEO 115.00
4 33305 33309 "1 " 1 # LOAD-TRANSFER SHAWROAD 115.00 TO SANPAULA 115.00 LOAD==9.00(1.83)
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (405) L-1/G-1 OVERLAPPING OUTAGE
# Martin - Burlingame 115 kV Line and CCSF CT1
1 33356 33208 "4 " 0 # line from BURLNGME 115.00 BRKR to BRKR MARTIN C 115.00
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# (406) L-1/G-1 OVERLAPPING OUTAGE
# Trans Bay HVDC Cable and CCSF CT1
2 38950 30526 "1 " 0 # TRAN from VSC PTSB 180.50 (1) to BRKR PITSBG D 230.00
3 38950 0 "1 " 0 # GEN-DROP VSC_PTSB 180.50 GEN==413.00(-91.10)
3 38951 0 "1 " 0 # GEN-DROP VSC_POTR 180.50 GEN==401.40(155.40)
#
3 33281 0 "1" 0 # CCSFCT1 13.80 PGEN=48.00 QGEN=8.46
0
#
#
# 2013 category b contingency list
# Peninsula Division Zone 310
#
#
# (407) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30560 30700 "1 " 0 # line from E. SHORE 230.00 BRKR to BRKR SANMATEO 230.00

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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0
#
#
# (408) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30630 30703 "1 " 0 # line from NEWARK D 230.00 BRKR to BRKR RAVENSWD 230.00
0
#
#
# (409) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30703 30700 "1 " 0 # line from RAVENSWD 230.00 BRKR to BRKR SANMATEO 230.00
0
#
#
# (410) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30703 30700 "2 " 0 # line from RAVENSWD 230.00 BRKR to BRKR SANMATEO 230.00
0
#
#
# (411) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30705 30710 "1 " 0 # line from MONTAVIS 230.00 BRKR to (3) SLACTAP1 230.00
1 30710 30711 "1 " 0 # line from SLACTAP1 230.00 (3) to BRKR S.L.A.C. 230.00
1 30710 30715 "1 " 0 # line from SLACTAP1 230.00 (3) to BRKR JEFFERSN 230.00
4 30711 0 "1 " 0 # LOAD-DROP S.L.A.C. 230.00 LOAD==58.00(11.78)
1 30711 30712 "1 " 1 # LINE-TRANSFER SLACTAP1 to SLACTAP2
4 30711 0 "***" 1 # RESTORE S.L.A.C. load
0
#
#
# (412) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30705 30712 "2 " 0 # line from MONTAVIS 230.00 BRKR to (2) SLACTAP2 230.00
1 30712 30715 "2 " 0 # line from SLACTAP2 230.00 (2) to BRKR JEFFERSN 230.00
0
#
#
# (413) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33306 33310 "5 " 0 # line from SFIA 115.00 BRKR to BRKR SANMATEO 115.00
0
#
#
# (414) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33307 33310 "1 " 0 # line from MILLBRAE 115.00 BRKR to BRKR SANMATEO 115.00
0
#
#
# (415) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33308 33303 "2 " 0 # line from SFIA-MA 115.00 (2) to BRKR EST GRND 115.00
1 33308 33310 "2 " 0 # line from SFIA-MA 115.00 (2) to BRKR SANMATEO 115.00
4 33308 33306 "1 " 1 # LOAD-TRANSFER SFIA-MA 115.00 TO SFIA 115.00 LOAD==20.20(4.10)
0
#
#
# (416) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33309 33307 "1 " 0 # line from SANPAULA 115.00 (1) to BRKR MILLBRAE 115.00
4 33309 33305 "1 " 1 # LOAD-TRANSFER SANPAULA 115.00 TO SHAWROAD 115.00 LOAD==8.00(1.62)
0
#
#
# (417) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33310 33311 "1 " 0 # line from SANMATEO 115.00 BRKR to BRKR BAY MDWS 115.00
0
#
#
# (418) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33310 33311 "2 " 0 # line from SANMATEO 115.00 BRKR to BRKR BAY MDWS 115.00
0
#
#

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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# (419) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33310 33312 "1 " 0 # line from SANMATEO 115.00 BRKR to BRKR BELMONT 115.00
0
#
#
# (420) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33310 33321 "1 " 0 # line from SANMATEO 115.00 BRKR to BRKR RVNSWD D 115.00
0
#
#
# (421) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33310 33356 "4 " 0 # line from SANMATEO 115.00 BRKR to BRKR BURLNGME 115.00
0
#
#
# (422) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33312 33313 "1 " 0 # line from BELMONT 115.00 BRKR to BRKR BAIR 115.00
0
#
#
# (423) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33313 33319 "2 " 0 # line from BAIR 115.00 BRKR to (3) SHREDJCT 115.00
1 33319 33314 "1 " 0 # line from SHREDJCT 115.00 (3) to (2) SHREDDER 115.00
1 33319 33321 "2 " 0 # line from SHREDJCT 115.00 (3) to BRKR RVNSWD D 115.00
1 33314 33320 "1 " 0 # line from SHREDDER 115.00 (2) to (1) LONESTAR 115.00
4 33314 0 "1 " 0 # LOAD-DROP SHREDDER 115.00 LOAD==4.77 (5.43)
4 33320 0 "1 " 0 # LOAD-DROP LONESTAR 115.00 LOAD==2.57 (3.43)
0
#
#
# (424) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33315 33316 "2 " 0 # line from RVNSWD E 115.00 BRKR to BRKR CLY LND2 115.00
0
#
#
# (425) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33315 35350 "1 " 0 # line from RVNSWD E 115.00 BRKR to BRKR AMES BS1 115.00
0
#
#
# (426) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33315 35351 "2 " 0 # line from RVNSWD E 115.00 BRKR to BRKR AMES BS2 115.00
0
#
#
# (427) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33315 38028 "1 " 0 # line from RVNSWD E 115.00 BRKR to BRKR PLO ALTO 115.00
0
#
#
# (428) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33315 38028 "2 " 0 # line from RVNSWD E 115.00 BRKR to BRKR PLO ALTO 115.00
0
#
#
# (429) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33316 38028 "1 " 0 # line from CLY LND2 115.00 BRKR to BRKR PLO ALTO 115.00
0
#
#
# (430) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33321 33313 "1 " 0 # line from RVNSWD D 115.00 BRKR to BRKR BAIR 115.00
0
#
#
# (431) B2 LINE OUTAGE (BREAKER-TO-BREAKER)

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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#
1 33321 33317 "1 " 0 # line from RVNSWD D 115.00 BRKR to BRKR CLY LND 115.00
0
#
#
# (432) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33348 33359 "1 " 0 # line from CAROLD1 60.00 (3) to BRKR CAROLNDS 60.00
1 33348 33391 "1 " 0 # line from CAROLD1 60.00 (3) to (2) TRAN-60 60.00
1 33348 33396 "1 " 0 # line from CAROLD1 60.00 (3) to (3) HILDAL49 60.00
1 33391 33392 "1 " 0 # line from TRAN-60 60.00 (2) to (1) MLLBTP97 60.00
1 33396 33361 "1 " 0 # line from HILDAL49 60.00 (3) to (3) HLLSDLJT 60.00
1 33396 33397 "1 " 0 # line from HILDAL49 60.00 (3) to (2) RLSTN35 60.00
1 33361 33360 "1 " 0 # line from HLLSDLJT 60.00 BRKR to BRKR HILLSdle 60.00
1 33361 33394 "1 " 0 # line from HLLSDLJT 60.00 (3) to BRKR OXMTN TP 60.00
1 33397 33378 "1 " 0 # line from RLSTN35 60.00 (2) to (3) WTRSHDTP 60.00
1 33378 33379 "1 " 0 # line from WTRSHDTP 60.00 (3) to (1) WATRSHEd 60.00
1 33378 33400 "1 " 0 # line from WTRSHDTP 60.00 (3) to BRKR JEFrsN_E 60.00
4 33359 0 "1 " 0 # LOAD-DROP CAROLNDS 60.00 LOAD==2.65(0.60)
4 33359 0 "2 " 0 # LOAD-DROP CAROLNDS 60.00 LOAD==4.88(1.11)
4 33379 33363 "1 " 1 # LOAD-TRANSFER WATRSHEd 60.00 TO RALSTON 60.00 LOAD==0.70(0.32)
1 33349 33359 "1 " 1 # LINE-TRANSFER CAROLNDS 60.00 TO CAROLD2 60.00
4 33359 0 "3" 1 # RESTORE CAROLANDS load
0
#
#
# (433) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33349 33362 "1 " 0 # line from CAROLD2 60.00 (1) to (2) CRYSTLSG 60.00
1 33362 33399 "1 " 0 # line from CRYSTLSG 60.00 (2) to (2) HILDAL47 60.00
1 33399 33398 "1 " 0 # line from HILDAL47 60.00 (2) to (3) RLSTN45 60.00
1 33398 33363 "1 " 0 # line from RLSTN45 60.00 (3) to BRKR RALSTON 60.00
1 33398 33400 "1 " 0 # line from RLSTN45 60.00 (3) to BRKR JEFrsN_E 60.00
4 33362 0 "1 " 0 # LOAD-DROP CRYSTLSG 60.00 LOAD==3.00(0.61)
1 33397 33363 "1 " 1 # LINE-TRANSFER RLSTN35 60.00 TO RALSTON 60.00
4 33363 0 "3" 1 # RESTORE RALSTON LOAD
0
#
#
# (434) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33351 33345 "1 " 0 # line from SN BRNOT 60.00 (2) to (2) SNTH TP1 60.00
1 33351 33352 "1 " 0 # line from SN BRNOT 60.00 (2) to (2) SNANDRES 60.00
1 33345 33355 "1 " 0 # line from SNTH TP1 60.00 (2) to BRKR PACIFICA 60.00
1 33352 33354 "1 " 0 # line from SNANDRES 60.00 (2) to (2) MLLBRETP 60.00
1 33354 33353 "1 " 0 # line from MLLBRETP 60.00 (2) to BRKR MILLBRAE 60.00
4 33351 0 "1 " 0 # LOAD-DROP SN BRNOT 60.00 LOAD==3.36(0.77)
4 33352 0 "1 " 0 # LOAD-DROP SNANDRES 60.00 LOAD==1.80(0.37)
4 33355 0 "1 " 0 # LOAD-DROP PACIFICA 60.00 LOAD==9.92(2.26)
4 33355 0 "2 " 0 # LOAD-DROP PACIFICA 60.00 LOAD==5.61(1.28)
1 33355 33389 "1 " 1 # LINE-TRANSFER PACIFICA 60.00 TO PACIFJCT 60.00
4 33355 0 "3" 1 # RESTORE PACIFICA LOAD
0
#
#
# (435) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33357 33358 "1 " 0 # line from SAN MATO 60.00 BRKR to BRKR BERESFRD 60.00
0
#
#
# (436) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33357 33364 "1 " 0 # line from SAN MATO 60.00 BRKR to (2) ORACLE60 60.00
1 33364 33365 "1 " 0 # line from ORACLE60 60.00 (2) to BRKR SAN CRLS 60.00
4 33364 0 "1 " 0 # LOAD-DROP ORACLE60 60.00 LOAD==11.86(5.40)
0
#
#
# (437) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33358 33360 "1 " 0 # line from BERESFRD 60.00 BRKR to BRKR HILLSdle 60.00
0
#
#
# (438) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33360 33361 "1 " 0 # line from HILLSdle 60.00 BRKR to BRKR HLLSDLJT 60.00

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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0
#
#
# (439)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33365 33367 "1 " 0 # line from SAN CRLS 60.00 BRKR to BRKR BAIR 60.00
0
#
#
# (440)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33367 33368 "1 " 0 # line from BAIR 60.00 BRKR to (2) REDWDTP1 60.00
1 33368 33373 "1 " 0 # line from REDWDTP1 60.00 (2) to (3) BLHVNT1 60.00
1 33373 33372 "1 " 0 # line from BLHVNT1 60.00 (3) to (1) BLLE HVN 60.00
1 33373 33375 "1 " 0 # line from BLHVNT1 60.00 (3) to BRKR CLY LNDG 60.00
4 33372 0 "1 " 0 # LOAD-DROP BLLE HVN 60.00 LOAD==7.52(1.71)
4 33372 0 "2 " 0 # LOAD-DROP BLLE HVN 60.00 LOAD==8.46(1.93)
4 33372 0 "3 " 0 # LOAD-DROP BLLE HVN 60.00 LOAD==15.39(3.51)
4 33372 0 "4 " 0 # LOAD-DROP BLLE HVN 60.00 LOAD==14.12(3.21)
4 33372 0 "5 " 0 # LOAD-DROP BLLE HVN 60.00 LOAD==29.05(6.62)
1 33372 33374 "2 " 1 # LINE-TRANSFER BLHVNT1 60.00 TO BLHVNT2 60.00
4 33372 0 "***" 1 # RESTORE BELLE HAVEN load
0
#
#
# (441)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33367 33369 "2 " 0 # line from BAIR 60.00 BRKR to (3) REDWDTP2 60.00
1 33369 33370 "2 " 0 # line from REDWDTP2 60.00 (3) to BRKR REDWOOD 60.00
1 33369 33374 "2 " 0 # line from REDWDTP2 60.00 (3) to (2) BLHVNT2 60.00
1 33374 33371 "2 " 0 # line from BLHVNT2 60.00 (2) to (2) RAYCHEM 60.00
1 33371 33375 "2 " 0 # line from RAYCHEM 60.00 (2) to BRKR CLY LNDG 60.00
4 33370 0 "1 " 0 # LOAD-DROP REDWOOD 60.00 LOAD==11.80(2.69)
4 33370 0 "2 " 0 # LOAD-DROP REDWOOD 60.00 LOAD==5.12(1.17)
4 33370 0 "3 " 0 # LOAD-DROP REDWOOD 60.00 LOAD==8.98(2.05)
4 33370 0 "4 " 0 # LOAD-DROP REDWOOD 60.00 LOAD==8.44(1.93)
4 33370 0 "5 " 0 # LOAD-DROP REDWOOD 60.00 LOAD==30.43(6.94)
4 33371 0 "1 " 0 # LOAD-DROP RAYCHEM 60.00 LOAD==7.48(5.22)
1 33368 33370 "1 " 1 # LINE-TRANSFER REDWDTP2 60.00 TO REDWDTP1 60.00
4 33370 0 "***" 1 # RESTORE REDWOOD CITY load
0
#
#
# (442)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33375 33382 "1 " 0 # line from CLY LNDG 60.00 BRKR to (3) S.R.I. 60.00
1 33382 33381 "1 " 0 # line from S.R.I. 60.00 (3) to BRKR GLENWOOD 60.00
2 33382 33468 "1 " 0 # TRAN from S.R.I. 60.00 (3) to (1) SRI INTL 9.11
4 33468 0 "1 " 0 # LOAD-DROP SRI INTL 9.11 LOAD==4.12(0.84)
3 33468 0 "1 " 0 # GEN-DROP SRI INTL 9.11 GEN==4.30(3.00)
3 33463 0 "1 " 0 # GEN-DROP CARDINAL 12.97
3 33463 0 "2 " 0 # GEN-DROP CARDINAL 12.97
4 33386 0 "***" 0 # LOAD-DROP STANFORD 60.00
0
#
#
# (443)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33375 35454 "1 " 0 # line from CLY LNDG 60.00 BRKR to (3) WSTNG JT 60.00
1 35454 35451 "1 " 0 # line from WSTNG JT 60.00 (3) to (1) L.ALTS J 60.00
1 35454 35453 "1 " 0 # line from WSTNG JT 60.00 (3) to (1) NRTHGRUM 60.00
4 35453 0 "1 " 0 # LOAD-DROP NRTHGRUM 60.00 LOAD==5.99(4.18)
0
#
#
# (444)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33376 33387 "1 " 0 # line from LAS PLGS 60.00 BRKR to BRKR WOODSIDE 60.00
4 33376 0 "1 " 0 # LOAD-DROP LAS PLGS 60.00 LOAD==3.30(0.75)
4 33376 0 "2 " 0 # LOAD-DROP LAS PLGS 60.00 LOAD==3.30(0.75)
1 33376 33393 "1 " 1 # LOAD-TRANSFER LAS PLGS 60.00 TO LSPLGSJT 60.00
4 33376 0 "***" 1 # RESTORE LAS PULGAS load
0
#
#
# (445)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33377 33380 "1 " 0 # line from EMRLD LE 60.00 (2) to BRKR JEFNSN_D 60.00

```

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1 33377 33393 "1 " 0 # line from EMRLD LE 60.00 (2) to (2) LSPLGSJT 60.00
1 33393 33385 "1 " 0 # line from LSPLGSJT 60.00 (2) to (3) MNLOJCT2 60.00
1 33385 33383 "1 " 0 # line from MNLOJCT2 60.00 (3) to BRKR MENLO 60.00
1 33385 33388 "1 " 0 # line from MNLOJCT2 60.00 (3) to (1) S.L.A.C. 60.00
4 33377 0 "1 " 0 # LOAD-DROP EMRLD LE 60.00 LOAD==5.54 (1.26)
0
#
#
# (446) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33380 33387 "1 " 0 # line from JEFRSN_D 60.00 BRKR to BRKR WOODSIDE 60.00
1 33376 33393 "1 " 1 # LINE-TRANSFER LAS PLGS 60.00 TO LSPLGSJT 60.00
1 33376 33387 "1 " 1 # LINE-TRANSFER LAS PLGS 60.00 TO WOODSIDE 60.00
4 33387 0 "****" 1 # RESTORE WOODSIDE load
4 33376 0 "****" 1 # RESTORE LAS PLGS load
0
#
#
# (447) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33380 33400 "1 " 0 # line from JEFRSN_D 60.00 BRKR to BRKR JEFRSN_E 60.00
0
#
#
# (448) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33381 33384 "1 " 0 # line from GLENWOOD 60.00 BRKR to (3) MNLO JCT 60.00
1 33384 33386 "1 " 0 # line from MNLO JCT 60.00 (3) to BRKR STANFORD 60.00
1 33384 33390 "1 " 0 # line from MNLO JCT 60.00 (3) to BRKR MENLO G 60.00
3 33463 0 "****" 0 # GEN-DROP CARDINAL 12.97
1 33388 33386 "1 " 1 # LINE-TRANSFER MNLO JCT 60.00 TO S.L.A.C. 60.00
4 33386 0 "****" 1 # RESTORE STANFORD load
0
#
#
# (449) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33394 33366 "1 " 0 # line from OXMTN_TP 60.00 BRKR to BRKR HLF MNBY 60.00
4 33366 0 "1 " 0 # LOAD-DROP HLF MNBY 60.00 LOAD==8.02 (1.82)
4 33366 0 "2 " 0 # LOAD-DROP HLF MNBY 60.00 LOAD==8.73 (1.99)
4 33366 0 "3 " 0 # LOAD-DROP HLF MNBY 60.00 LOAD==9.64 (2.19)
1 33366 33389 "1 " 1 # LINE-TRANSFER HLLSDLJT 60.00 TO PACIFJCT 60.00
4 33366 0 "****" 1 # RESTORE HALF MOON BAY load
0
#
#
# (450) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 33394 33395 "1 " 0 # line from OXMTN_TP 60.00 BRKR to (2) OX_MTN60 60.00
2 33395 33469 "1 " 0 # TRAN from OX_MTN60 60.00 (2) to (1) OX_MTN 4.16
3 33469 0 "1 " 0 # GEN-DROP OX_MTN 4.16 GEN==1.90 (0.85)
3 33469 0 "2 " 0 # GEN-DROP OX_MTN 4.16 GEN==1.90 (0.85)
3 33469 0 "3 " 0 # GEN-DROP OX_MTN 4.16 GEN==1.90 (0.85)
3 33469 0 "4 " 0 # GEN-DROP OX_MTN 4.16 GEN==1.90 (0.85)
3 33469 0 "5 " 0 # GEN-DROP OX_MTN 4.16 GEN==1.90 (0.85)
3 33469 0 "6 " 0 # GEN-DROP OX_MTN 4.16 GEN==1.90 (0.85)
3 33469 0 "7 " 0 # GEN-DROP OX_MTN 4.16 GEN==1.90 (0.85)
0
#
#
# (451) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 33307 33353 "5 " 0 # TRAN from MILLBRAE 115.00 BRKR to BRKR MILLBRAE 60.00
0
#
#
# (452) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
# ***** 3-WINDING TRANSFORMER 33310 (30701) 30700 33460 :
2 33310 30700 "5 " 0 # TRAN from SANMATEO 115.00 BRKR to (1) SANMATEO 230.00
0
#
#
# (453) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
# ***** 3-WINDING TRANSFORMER 33310 (30702) 30700 33461 :
2 33310 30700 "6 " 0 # TRAN from SANMATEO 115.00 BRKR to (1) SANMATEO 230.00
0

```


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#
#
# (454) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
# **** 3-WINDING TRANSFORMER 33310 (30704) 30700 33462 :
2 33310 30700 "7 " 0 # TRAN from SANMATEO 115.00 BRKR to (1) SANMATEO 230.00
0
#
#
# (455) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 33310 33318 "3 " 0 # TRAN from SANMATEO 115.00 BRKR to (2) SMATEO3M 115.00
2 33318 33357 "3 " 0 # TRAN from SMATEO3M 115.00 (2) to BRKR SAN MATO 60.00
0
#
#
# (456) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 33315 30703 "1 " 0 # TRAN from RVNSWD E 115.00 BRKR to BRKR RAVENSWD 230.00
0
#
#
# (457) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 33321 30703 "2 " 0 # TRAN from RVNSWD D 115.00 BRKR to BRKR RAVENSWD 230.00
0
#
#
# (458) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 33357 33310 "8 " 0 # TRAN from SAN MATO 60.00 BRKR to BRKR SANMATEO 115.00
0
#
#
# (459) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 33367 33313 "1 " 0 # TRAN from BAIR 60.00 BRKR to BRKR BAIR 115.00
0
#
#
# (460) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 33375 33316 "2 " 0 # TRAN from CLY LNDG 60.00 BRKR to BRKR CLY LND2 115.00
0
#
#
# (461) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 33375 33317 "1 " 0 # TRAN from CLY LNDG 60.00 BRKR to BRKR CLY LND 115.00
0
#
#
# (462) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 33400 30715 "2 " 0 # TRAN from JEFERSN_E 60.00 BRKR to BRKR JEFFERSN 230.00
0
#
#
# (463) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 33463 33386 "1 " 0 # TRAN from CARDINAL 12.47 (1) to BRKR STANFORD 60.00
3 33463 0 "1 " 0 # GEN-DROP CARDINAL 12.47 GEN==31.00(12.13)
3 33463 0 "2 " 0 # GEN-DROP CARDINAL 12.47 GEN==10.00(3.91)
0
#
#
# (464) B1 GENERATOR OUTAGE
#
3 33467 0 "1" 0 # SFAERP 13.80 PGEN=48.00 QGEN=10.35
0
#
#
# (465) B1 GENERATOR OUTAGE
#
3 33469 0 "1" 0 # OX_MTN 4.16 PGEN=1.90 QGEN=0.85
0
#
#

```

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```

# (466) B1 GENERATOR OUTAGE
#
3 33460      0  "1"      0      # SMATO2SC  13.20      PGEN=0.00  QGEN=22.88
0
#
#
# (467) B1 GENERATOR OUTAGE
#
3 33461      0  "1"      0      # SMATO3SC  13.20      PGEN=0.00  QGEN=23.33
0
#
#
# (468) B1 GENERATOR OUTAGE
#
3 33462      0  "1"      0      # SMATO1SC  13.20      PGEN=0.00  QGEN=25.00
0
#
#
# (469) B1 GENERATOR OUTAGE
#
3 33466      0  "1"      0      # UNITED CO   9.11      PGEN=28.20  QGEN=11.18
0
#
#
# (470) B1 GENERATOR OUTAGE
#
3 33468      0  "1"      0      # SRI INTL    9.11      PGEN=4.30  QGEN=3.00
0
#
#
# (471) B1 GENERATOR OUTAGE
#
3 33463      0  "1"      0      # CARDINAL   12.47      PGEN=31.00  QGEN=12.01
0
#
#
# (472) B1 GENERATOR OUTAGE
#
3 33463      0  "2"      0      # CARDINAL   12.47      PGEN=10.00  QGEN=3.43
0
#
#
# (473) L-1/G-1 OVERLAPPING OUTAGE
# East Shore - San Mateo 230 kV Line and SFAERP
1 30560 30700 "1 "      0      # line from E. SHORE 230.00 BRKR to BRKR  SANMATEO 230.00
#
3 33467      0  "1"      0      # SFAERP      13.80      PGEN=48.00  QGEN=10.35
0
#
#
# (474) L-1/G-1 OVERLAPPING OUTAGE
# Newark - Ravenswood 230 kV Line and SFAERP
1 30630 30703 "1 "      0      # line from NEWARK D 230.00 BRKR to BRKR  RAVENSWD 230.00
#
3 33467      0  "1"      0      # SFAERP      13.80      PGEN=48.00  QGEN=10.35
0
#
#
# (475) L-1/G-1 OVERLAPPING OUTAGE
# Tesla - Ravenswood 230 kV Line and SFAERP
1 30640 30703 "1 "      0      # line from TESLA C  230.00 BRKR to BRKR  RAVENSWD 230.00
#
3 33467      0  "1"      0      # SFAERP      13.80      PGEN=48.00  QGEN=10.35
0
#
#
# (476) L-1/G-1 OVERLAPPING OUTAGE
# Pittsburg - San Mateo 230 kV Line and SFAERP
1 30700 30527 "1 "      0      # line from SANMATEO 230.00 BRKR to BRKR  PITSBG E 230.00
#
3 33467      0  "1"      0      # SFAERP      13.80      PGEN=48.00  QGEN=10.35
0
#
#
# (477) L-1/G-1 OVERLAPPING OUTAGE
# Martin - San Mateo 230 kV Line and SFAERP
1 30700 30695 "1 "      0      # line from SANMATEO 230.00 BRKR to BRKR  MARTIN C 230.00
#

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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3 33467      0 "1"      0      # SFAERP      13.80      PGEN=48.00  QGEN=10.35
0
#
#
# (478) L-1/G-1 OVERLAPPING OUTAGE
# San Mateo - Ravenswood #1 230 kV Line and SFAERP
1 30703 30700 "1 "      0      # line from  RAVENSWD 230.00  BRKR to BRKR  SANMATEO 230.00
#
3 33467      0 "1"      0      # SFAERP      13.80      PGEN=48.00  QGEN=10.35
0
#
#
# (479) L-1/G-1 OVERLAPPING OUTAGE
# San Mateo - Ravenswood #2 230 kV Line and SFAERP
1 30703 30700 "2 "      0      # line from  RAVENSWD 230.00  BRKR to BRKR  SANMATEO 230.00
#
3 33467      0 "1"      0      # SFAERP      13.80      PGEN=48.00  QGEN=10.35
0
#
#
# (480) L-1/G-1 OVERLAPPING OUTAGE
# Monta Vista - Jefferson #1 230 kV Line and SFAERP
1 30705 30710 "1 "      0      # line from  MONTAVIS 230.00  BRKR to (3)  SLACTAP1 230.00
1 30710 30711 "1 "      0      # line from  SLACTAP1 230.00  (3) to BRKR  S.L.A.C. 230.00
1 30710 30715 "1 "      0      # line from  SLACTAP1 230.00  (3) to BRKR  JEFFERSN 230.00
4 30711      0 "1 "      0      # LOAD-DROP    S.L.A.C. 230.00  LOAD==58.00(11.78)
1 30711 30712 "1 "      1      # LINE-TRANSFER SLACTAP1 to SLACTAP2
4 30711      0 "***"    1      # RESTORE S.L.A.C. load
#
3 33467      0 "1"      0      # SFAERP      13.80      PGEN=48.00  QGEN=10.35
0
#
#
# (481) L-1/G-1 OVERLAPPING OUTAGE
# Monta Vista - Jefferson #2 230 kV Line and SFAERP
1 30705 30712 "2 "      0      # line from  MONTAVIS 230.00  BRKR to (2)  SLACTAP2 230.00
1 30712 30715 "2 "      0      # line from  SLACTAP2 230.00  (2) to BRKR  JEFFERSN 230.00
#
3 33467      0 "1"      0      # SFAERP      13.80      PGEN=48.00  QGEN=10.35
0
#
#
# (482) L-1/G-1 OVERLAPPING OUTAGE
# Martin - Jefferson 230 kV Line and SFAERP
1 30713 30714 "1 "      0      # line from  JMDAMCX1 230.00  (2) to (2)  JMDAMCX2 230.00
1 30713 30715 "1 "      0      # line from  JMDAMCX1 230.00  (2) to BRKR  JEFFERSN 230.00
1 30714 30716 "1 "      0      # line from  JMDAMCX2 230.00  (2) to (2)  TRAN230A 230.00
1 30716 30717 "1 "      0      # line from  TRAN230A 230.00  (2) to (2)  TRAN230B 230.00
1 30717 30696 "1 "      0      # line from  TRAN230B 230.00  (2) to (2)  MRT RCTR 230.00
1 30696 30695 "1 "      0      # line from  MRT RCTR 230.00  (2) to BRKR  MARTIN C 230.00
#
3 33467      0 "1"      0      # SFAERP      13.80      PGEN=48.00  QGEN=10.35
0
#
#
# (483) L-1/G-1 OVERLAPPING OUTAGE
# Martin - East Grand 115 kV Line and SFAERP
1 33208 33303 "2 "      0      # line from  MARTIN C 115.00  BRKR to BRKR  EST GRND 115.00
#
3 33467      0 "1"      0      # SFAERP      13.80      PGEN=48.00  QGEN=10.35
0
#
#
# (484) L-1/G-1 OVERLAPPING OUTAGE
# Martin - Millbrae 115 kV Line and SFAERP
1 33208 33307 "1 "      0      # line from  MARTIN C 115.00  BRKR to BRKR  MILLBRAE 115.00
#
3 33467      0 "1"      0      # SFAERP      13.80      PGEN=48.00  QGEN=10.35
0
#
#
# (485) L-1/G-1 OVERLAPPING OUTAGE
# Martin - San Mateo #3 115 kV Line and SFAERP
1 33208 33310 "3 "      0      # line from  MARTIN C 115.00  BRKR to BRKR  SANMATEO 115.00
#
3 33467      0 "1"      0      # SFAERP      13.80      PGEN=48.00  QGEN=10.35
0
#

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#
# (486) L-1/G-1 OVERLAPPING OUTAGE
# Martin - San Mateo #6 115 kV Line and SFAERP
1 33305 33208 "6 " 0 # line from SHAWROAD 115.00 (2) to BRKR MARTIN C 115.00
1 33305 33310 "6 " 0 # line from SHAWROAD 115.00 (2) to BRKR SANMATEO 115.00
4 33305 33309 "1 " 1 # LOAD-TRANSFER SHAWROAD 115.00 TO SANPAULA 115.00 LOAD==9.00(1.83)
#
3 33467 0 "1" 0 # SFAERP 13.80 PGEN=48.00 QGEN=10.35
0
#
#
# (487) L-1/G-1 OVERLAPPING OUTAGE
# SF Airport - San Mateo 115 kV Line and SFAERP
1 33306 33310 "5 " 0 # line from SFIA 115.00 BRKR to BRKR SANMATEO 115.00
#
3 33467 0 "1" 0 # SFAERP 13.80 PGEN=48.00 QGEN=10.35
0
#
#
# (488) L-1/G-1 OVERLAPPING OUTAGE
# Millbrae - San Mateo 115 kV Line and SFAERP
1 33307 33310 "1 " 0 # line from MILLBRAE 115.00 BRKR to BRKR SANMATEO 115.00
#
3 33467 0 "1" 0 # SFAERP 13.80 PGEN=48.00 QGEN=10.35
0
#
#
# (489) L-1/G-1 OVERLAPPING OUTAGE
# East Grand - San Mateo 115 kV Line and SFAERP
1 33308 33303 "2 " 0 # line from SFIA-MA 115.00 (2) to BRKR EST GRND 115.00
1 33308 33310 "2 " 0 # line from SFIA-MA 115.00 (2) to BRKR SANMATEO 115.00
4 33308 33306 "1 " 1 # LOAD-TRANSFER SFIA-MA 115.00 TO SFIA 115.00 LOAD==20.20(4.10)
#
3 33467 0 "1" 0 # SFAERP 13.80 PGEN=48.00 QGEN=10.35
0
#
#
# (490) L-1/G-1 OVERLAPPING OUTAGE
# Millbrae - Santa Paula 115 kV Line and SFAERP
1 33309 33307 "1 " 0 # line from SANPAULA 115.00 (1) to BRKR MILLBRAE 115.00
4 33309 33305 "1 " 1 # LOAD-TRANSFER SANPAULA 115.00 TO SHAWROAD 115.00 LOAD==8.00(1.62)
#
3 33467 0 "1" 0 # SFAERP 13.80 PGEN=48.00 QGEN=10.35
0
#
#
# (491) L-1/G-1 OVERLAPPING OUTAGE
# Belmont - San Mateo 115 kV Line and SFAERP
1 33310 33312 "1 " 0 # line from SANMATEO 115.00 BRKR to BRKR BELMONT 115.00
#
3 33467 0 "1" 0 # SFAERP 13.80 PGEN=48.00 QGEN=10.35
0
#
#
# (492) L-1/G-1 OVERLAPPING OUTAGE
# Ravenswood - San Mateo 115 kV Line and SFAERP
1 33310 33321 "1 " 0 # line from SANMATEO 115.00 BRKR to BRKR RVNSWD D 115.00
#
3 33467 0 "1" 0 # SFAERP 13.80 PGEN=48.00 QGEN=10.35
0
#
#
# (493) L-1/G-1 OVERLAPPING OUTAGE
# Burlingame - San Mateo 115 kV Line and SFAERP
1 33310 33356 "4 " 0 # line from SANMATEO 115.00 BRKR to BRKR BURLNGME 115.00
#
3 33467 0 "1" 0 # SFAERP 13.80 PGEN=48.00 QGEN=10.35
0
#
#
# (494) L-1/G-1 OVERLAPPING OUTAGE
# Belmont - Bair 115 kV Line and SFAERP
1 33312 33313 "1 " 0 # line from BELMONT 115.00 BRKR to BRKR BAIR 115.00
#
3 33467 0 "1" 0 # SFAERP 13.80 PGEN=48.00 QGEN=10.35
0
#
#

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# (495) L-1/G-1 OVERLAPPING OUTAGE
# Ravenswood - Bair 115 kV Line and SFAERP
1 33313 33319 "2 " 0 # line from BAIR 115.00 BRKR to (3) SHREDJCT 115.00
1 33319 33314 "1 " 0 # line from SHREDJCT 115.00 (3) to (2) SHREDDER 115.00
1 33319 33321 "2 " 0 # line from SHREDJCT 115.00 (3) to BRKR RVNSWD D 115.00
1 33314 33320 "1 " 0 # line from SHREDDER 115.00 (2) to (1) LONESTAR 115.00
4 33314 0 "1 " 0 # LOAD-DROP SHREDDER 115.00 LOAD==4.77 (5.43)
4 33320 0 "1 " 0 # LOAD-DROP LONESTAR 115.00 LOAD==2.57 (3.43)
#
3 33467 0 "1" 0 # SFAERP 13.80 PGEN=48.00 QGEN=10.35
0
#
#
# (496) L-1/G-1 OVERLAPPING OUTAGE
# Ravenswood - Cooley Landing #2 115 kV Line and SFAERP
1 33315 33316 "2 " 0 # line from RVNSWD E 115.00 BRKR to BRKR CLY LND2 115.00
#
3 33467 0 "1" 0 # SFAERP 13.80 PGEN=48.00 QGEN=10.35
0
#
#
# (497) L-1/G-1 OVERLAPPING OUTAGE
# Ravenswood - Ames #1 115 kV Line and SFAERP
1 33315 35350 "1 " 0 # line from RVNSWD E 115.00 BRKR to BRKR AMES BS1 115.00
#
3 33467 0 "1" 0 # SFAERP 13.80 PGEN=48.00 QGEN=10.35
0
#
#
# (498) L-1/G-1 OVERLAPPING OUTAGE
# Ravenswood - Ames #2 115 kV Line and SFAERP
1 33315 35351 "2 " 0 # line from RVNSWD E 115.00 BRKR to BRKR AMES BS2 115.00
#
3 33467 0 "1" 0 # SFAERP 13.80 PGEN=48.00 QGEN=10.35
0
#
#
# (499) L-1/G-1 OVERLAPPING OUTAGE
# Ravenswood - Palo Alto #1 115 kV Line and SFAERP
1 33315 38028 "1 " 0 # line from RVNSWD E 115.00 BRKR to BRKR PLO ALTO 115.00
#
3 33467 0 "1" 0 # SFAERP 13.80 PGEN=48.00 QGEN=10.35
0
#
#
# (500) L-1/G-1 OVERLAPPING OUTAGE
# Ravenswood - Palo Alto #2 115 kV Line and SFAERP
1 33315 38028 "2 " 0 # line from RVNSWD E 115.00 BRKR to BRKR PLO ALTO 115.00
#
3 33467 0 "1" 0 # SFAERP 13.80 PGEN=48.00 QGEN=10.35
0
#
#
# (501) L-1/G-1 OVERLAPPING OUTAGE
# Cooley Landing - Palo Alto 115 kV Line and SFAERP
1 33316 38028 "1 " 0 # line from CLY LND2 115.00 BRKR to BRKR PLO ALTO 115.00
#
3 33467 0 "1" 0 # SFAERP 13.80 PGEN=48.00 QGEN=10.35
0
#
#
# (502) L-1/G-1 OVERLAPPING OUTAGE
# Ravenswood - Bair 115 kV Line and SFAERP
1 33321 33313 "1 " 0 # line from RVNSWD D 115.00 BRKR to BRKR BAIR 115.00
#
3 33467 0 "1" 0 # SFAERP 13.80 PGEN=48.00 QGEN=10.35
0
#
#
# (503) L-1/G-1 OVERLAPPING OUTAGE
# Ravenswood - Cooley Landing #1 115 kV Line and SFAERP
1 33321 33317 "1 " 0 # line from RVNSWD D 115.00 BRKR to BRKR CLY LND 115.00
#
3 33467 0 "1" 0 # SFAERP 13.80 PGEN=48.00 QGEN=10.35
0
#
#
# 2013 category b contingency list

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

```

# Mission Division Zone 316
#
#
# (504) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30530 30537 "1 " 0 # line from CAYETANO 230.00 BRKR to BRKR NDUUBLIN 230.00
0
#
#
# (505) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30537 35224 "1 " 0 # line from NDUUBLIN 230.00 BRKR to BRKR VINEYD_D 230.00
0
#
#
# (506) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30554 30631 "1 " 0 # line from CASTROVL 230.00 BRKR to BRKR NEWARK E 230.00
0
#
#
# (507) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30560 30559 "1 " 0 # line from E. SHORE 230.00 BRKR to BRKR RCEC 230.00
0
#
#
# (508) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30560 30559 "2 " 0 # line from E. SHORE 230.00 BRKR to BRKR RCEC 230.00
0
#
#
# (509) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30585 30630 "1 " 0 # line from LS PSTAS 230.00 BRKR to BRKR NEWARK D 230.00
0
#
#
# (510) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30631 30635 "1 " 0 # line from NEWARK E 230.00 BRKR to BRKR NWK DIST 230.00
0
#
#
# (511) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30635 30731 "1 " 0 # line from NWK DIST 230.00 BRKR to BRKR LS ESTRS 230.00
0
#
#
# (512) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35104 35105 "1 " 0 # line from GRANT 115.00 BRKR to BRKR EASTSHRE 115.00
0
#
#
# (513) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35104 35105 "2 " 0 # line from GRANT 115.00 BRKR to BRKR EASTSHRE 115.00
0
#
#
# (514) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35105 35106 "1 " 0 # line from EASTSHRE 115.00 BRKR to BRKR MT EDEN 115.00
0
#
#
# (515) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35105 35106 "2 " 0 # line from EASTSHRE 115.00 BRKR to BRKR MT EDEN 115.00
0
#
#
# (516) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35105 35107 "1 " 0 # line from EASTSHRE 115.00 BRKR to BRKR DUMBARTN 115.00

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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0
#
#
# (517)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35105 35108 "1 " 0 # line from EASTSHRE 115.00 BRKR to (2) ESEC115 115.00
2 35108 35302 "1 " 0 # TRAN from ESEC115 115.00 (2) to (1) ESEC 13.80
4 35302 0 "SG" 0 # LOAD-DROP ESEC 13.80 LOAD==3.00(1.66)
3 35302 0 "1 " 0 # GEN-DROP ESEC 13.80 GEN==8.43(3.60)
3 35302 0 "10" 0 # GEN-DROP ESEC 13.80 GEN==8.43(3.60)
3 35302 0 "11" 0 # GEN-DROP ESEC 13.80 GEN==8.43(3.60)
3 35302 0 "12" 0 # GEN-DROP ESEC 13.80 GEN==8.43(3.60)
3 35302 0 "13" 0 # GEN-DROP ESEC 13.80 GEN==8.43(3.60)
3 35302 0 "14" 0 # GEN-DROP ESEC 13.80 GEN==8.43(3.60)
3 35302 0 "2 " 0 # GEN-DROP ESEC 13.80 GEN==8.43(3.60)
3 35302 0 "3 " 0 # GEN-DROP ESEC 13.80 GEN==8.43(3.60)
3 35302 0 "4 " 0 # GEN-DROP ESEC 13.80 GEN==8.43(3.60)
3 35302 0 "5 " 0 # GEN-DROP ESEC 13.80 GEN==8.43(3.60)
3 35302 0 "6 " 0 # GEN-DROP ESEC 13.80 GEN==8.43(3.60)
3 35302 0 "7 " 0 # GEN-DROP ESEC 13.80 GEN==8.43(3.60)
3 35302 0 "8 " 0 # GEN-DROP ESEC 13.80 GEN==8.43(3.60)
3 35302 0 "9 " 0 # GEN-DROP ESEC 13.80 GEN==8.43(3.60)
0
#
#
# (518)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35107 35120 "1 " 0 # line from DUMBARTN 115.00 BRKR to BRKR NEWARK D 115.00
0
#
#
# (519)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35120 35111 "1 " 0 # line from NEWARK D 115.00 BRKR to BRKR JARVIS 115.00
0
#
#
# (520)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35120 35124 "2 " 0 # line from NEWARK D 115.00 BRKR to (2) NUMI JCT 115.00
1 35124 35111 "2 " 0 # line from NUMI JCT 115.00 (2) to BRKR JARVIS 115.00
0
#
#
# (521)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35120 36851 "1 " 0 # line from NEWARK D 115.00 BRKR to BRKR NRS 400 115.00
0
#
#
# (522)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35120 38446 "3 " 0 # line from NEWARK D 115.00 BRKR to (3) OAK-TAP1 115.00
1 38446 38432 "1 " 0 # line from OAK-TAP1 115.00 (3) to (4) OAKDLTID 115.00
1 38446 36962 "3 " 0 # line from OAK-TAP1 115.00 (3) to BRKR MOCCASIN 115.00
1 38432 38420 "1 " 0 # line from OAKDLTID 115.00 (4) to BRKR TUOLUMN 115.00
1 38432 38420 "2 " 0 # line from OAKDLTID 115.00 (4) to BRKR TUOLUMN 115.00
1 38432 38448 "2 " 0 # line from OAKDLTID 115.00 (4) to (3) OAK-TAP2 115.00
1 38448 35120 "4 " 0 # line from OAK-TAP2 115.00 (3) to BRKR NEWARK D 115.00
1 38448 36962 "4 " 0 # line from OAK-TAP2 115.00 (3) to BRKR MOCCASIN 115.00
0
#
#
# (523)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35121 35110 "1 " 0 # line from NEWARK E 115.00 BRKR to BRKR FREMNT 115.00
0
#
#
# (524)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35121 35110 "2 " 0 # line from NEWARK E 115.00 BRKR to BRKR FREMNT 115.00
0
#
#
# (525)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35121 35350 "1 " 0 # line from NEWARK E 115.00 BRKR to BRKR AMES BS1 115.00

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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0
#
#
# (526)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35121 35350 "3 " 0 # line from NEWARK E 115.00 BRKR to BRKR AMES BS1 115.00
0
#
#
# (527)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35121 35351 "2 " 0 # line from NEWARK E 115.00 BRKR to BRKR AMES BS2 115.00
0
#
#
# (528)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35122 35126 "1 " 0 # line from NEWARK F 115.00 BRKR to (2) NUMI TAP 115.00
1 35126 35127 "1 " 0 # line from NUMI TAP 115.00 (2) to (2) WESTRN_D 115.00
1 35127 35112 "1 " 0 # line from WESTRN_D 115.00 (2) to BRKR NUMMI 115.00
4 35127 0 "1 " 0 # LOAD-DROP WESTRN_D 115.00 LOAD==6.80(4.25)
4 35112 0 "1 " 0 # LOAD-DROP NUMMI 115.00 LOAD==30.88(8.14)
0
#
#
# (529)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35122 35357 "1 " 0 # line from NEWARK F 115.00 BRKR to (3) LCKHD J1 115.00
1 35357 35358 "1 " 0 # line from LCKHD J1 115.00 (3) to (3) MFT.FD J 115.00
1 35357 35363 "1 " 0 # line from LCKHD J1 115.00 (3) to BRKR LAWRENCE 115.00
1 35358 35359 "1 " 0 # line from MFT.FD J 115.00 (3) to (1) MOFT.FLD 115.00
1 35358 35361 "1 " 0 # line from MFT.FD J 115.00 (3) to BRKR LOCKHD 1 115.00
4 35359 0 "1 " 0 # LOAD-DROP MOFT.FLD 115.00 LOAD==4.46(1.12)
4 35361 0 "3 " 0 # LOAD-DROP LOCKHD 1 115.00 LOAD==17.45(14.46)
1 35361 35362 "1 " 1 # close LOCKHD 1 115.00 LOCKHD 2 115.00
4 35361 0 "***" 1 # restore all loads to LOCKHD 1
0
#
#
# (530)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35122 35360 "1 " 0 # line from NEWARK F 115.00 BRKR to (3) LCKHD J2 115.00
1 35360 35362 "1 " 0 # line from LCKHD J2 115.00 (3) to BRKR LOCKHD 2 115.00
1 35360 35365 "1 " 0 # line from LCKHD J2 115.00 (3) to (3) AMD JCT 115.00
1 35365 35364 "1 " 0 # line from AMD JCT 115.00 (3) to BRKR A.M.D 115.00
1 35365 35369 "1 " 0 # line from AMD JCT 115.00 (3) to BRKR APP MAT 115.00
4 35362 0 "1 " 0 # LOAD-DROP LOCKHD 2 115.00 LOAD==7.56(1.72)
4 35362 0 "2 " 0 # LOAD-DROP LOCKHD 2 115.00 LOAD==3.42(0.78)
4 35362 0 "4 " 0 # LOAD-DROP LOCKHD 2 115.00 LOAD==16.21(12.58)
4 35364 0 "1 " 0 # LOAD-DROP A.M.D 115.00 LOAD==1.67(1.17)
1 35361 35362 "1 " 1 # close LOCKHD 1 115.00 LOCKHD 2 115.00
4 35362 0 "***" 1 # restore all loads to LOCKHD 2
0
#
#
# (531)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35122 35600 "1 " 0 # line from NEWARK F 115.00 BRKR to BRKR DIXON LD 115.00
0
#
#
# (532)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35122 35602 "1 " 0 # line from NEWARK F 115.00 BRKR to (3) ZNKER J2 115.00
1 35602 35604 "1 " 0 # line from ZNKER J2 115.00 (3) to (3) ZANKER 115.00
1 35602 36850 "1 " 0 # line from ZNKER J2 115.00 (3) to BRKR KRS 115.00
2 35604 35861 "1 " 0 # TRAN from ZANKER 115.00 (3) to (2) SJ-SCL W 9.11
2 35604 35861 "2 " 0 # TRAN from ZANKER 115.00 (3) to (2) SJ-SCL W 9.11
4 35861 0 "SG" 0 # LOAD-DROP SJ-SCL W 9.11 LOAD==6.17(2.09)
3 35861 0 "1 " 0 # GEN-DROP SJ-SCL W 9.11 GEN==5.00(0.00)
0
#
#
# (533)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35122 35603 "1 " 0 # line from NEWARK F 115.00 BRKR to (3) ZNKER J1 115.00
1 35603 35605 "1 " 0 # line from ZNKER J1 115.00 (3) to (1) AGNEW J 115.00
1 35603 35612 "1 " 0 # line from ZNKER J1 115.00 (3) to BRKR TRIMBLE 115.00

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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0
#
#
# (534) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35122 35624 "1 " 0 # line from NEWARK F 115.00 BRKR to BRKR MILPITAS 115.00
0
#
#
# (535) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35122 35624 "2 " 0 # line from NEWARK F 115.00 BRKR to BRKR MILPITAS 115.00
0
#
#
# (536) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35122 36853 "2 " 0 # line from NEWARK F 115.00 BRKR to BRKR NRS 300 115.00
0
#
#
# (537) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35200 35204 "1 " 0 # line from SEAWEST 60.00 (3) to (3) ZONDWD 60.00
1 35200 35218 "1 " 0 # line from SEAWEST 60.00 (3) to (2) FLOWIND1 60.00
2 35200 35312 "1 " 0 # TRAN from SEAWEST 60.00 (3) to (1) SEAWESTF 9.11
1 35204 35208 "1 " 0 # line from ZONDWD 60.00 (3) to (3) USWP-FRK 60.00
2 35204 35316 "1 " 0 # TRAN from ZONDWD 60.00 (3) to (1) ZOND SYS 9.11
2 35218 35318 "1 " 0 # TRAN from FLOWIND1 60.00 (2) to (1) FLOWDPTR 9.11
1 35208 35210 "1 " 0 # line from USWP-FRK 60.00 (3) to (3) VASCJCT. 60.00
2 35208 35320 "1 " 0 # TRAN from USWP-FRK 60.00 (3) to (1) USW FRIC 12.00
1 35210 35201 "1 " 0 # line from VASCJCT. 60.00 (3) to BRKR VASCO 60.00
1 35210 35220 "1 " 0 # line from VASCJCT. 60.00 (3) to BRKR LPOSTAS 60.00
4 35201 0 "1 " 0 # LOAD-DROP VASCO 60.00 LOAD==6.00(1.37)
4 35201 0 "2 " 0 # LOAD-DROP VASCO 60.00 LOAD==8.78(2.00)
3 35312 0 "1 " 0 # GEN-DROP SEAWESTF 9.11 GEN==0.10(0.00)
3 35320 0 "1 " 0 # GEN-DROP USW FRIC 12.00 GEN==2.60(0.00)
1 35211 35201 "1 " 1 # LINE-TRANSFER VASCJCT. 60.00 TO ALTAMONT 60.00
4 35201 0 "***" 1 # RESTORE VASCO load
0
#
#
# (538) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35202 33776 "1 " 0 # line from USWP-WKR 60.00 (3) to (2) SOUTH BY 60.00
1 35202 35211 "1 " 0 # line from USWP-WKR 60.00 (3) to (1) ALTAMONT 60.00
2 35202 35314 "1 " 0 # TRAN from USWP-WKR 60.00 (3) to (1) WALKER+ 9.11
1 33776 33775 "1 " 0 # line from SOUTH BY 60.00 (2) to (2) TOSCO-PP 60.00
1 33775 33773 "1 " 0 # line from TOSCO-PP 60.00 (2) to (2) ALTA-CGE 60.00
1 33773 33772 "1 " 0 # line from ALTA-CGE 60.00 (2) to (2) B.BTHNY- 60.00
1 33772 33770 "1 " 0 # line from B.BTHNY- 60.00 (2) to BRKR HERDLYN 60.00
4 33776 0 "1 " 0 # LOAD-DROP SOUTH BY 60.00 LOAD==23.00(0.00)
4 33775 0 "1 " 0 # LOAD-DROP TOSCO-PP 60.00 LOAD==0.98(0.89)
4 33772 0 "1 " 0 # LOAD-DROP B.BTHNY- 60.00 LOAD==1.94(0.44)
3 33773 0 "1 " 0 # GEN-DROP ALTA-CGE 60.00 GEN==4.00(-1.00)
0
#
#
# (539) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35203 35220 "1 " 0 # line from LIVERMRE 60.00 BRKR to BRKR LPOSTAS 60.00
0
#
#
# (540) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35203 35222 "1 " 0 # line from LIVERMRE 60.00 BRKR to (2) CALMAT60 60.00
1 35222 35206 "1 " 0 # line from CALMAT60 60.00 (2) to (2) KAISER 60.00
1 35206 35205 "1 " 0 # line from KAISER 60.00 (2) to BRKR RADUM 60.00
4 35222 0 "1 " 0 # LOAD-DROP CALMAT60 60.00 LOAD==6.62(4.10)
4 35206 0 "1 " 0 # LOAD-DROP KAISER 60.00 LOAD==1.09(2.16)
0
#
#
# (541) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35205 35227 "1 " 0 # line from RADUM 60.00 BRKR to (2) VINEYARD 60.00
1 35227 35212 "1 " 0 # line from VINEYARD 60.00 (2) to (2) IUKA 60.00

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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1 35212 35213 "1 " 0 # line from IUKA 60.00 (2) to BRKR VALLECTS 60.00
4 35212 0 "1 " 0 # LOAD-DROP IUKA 60.00 LOAD==3.34 (2.95)
0
#
#
# (542) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35209 35221 "1 " 0 # line from SAN RAMN 60.00 BRKR to (2) E DUBLIN 60.00
1 35221 35223 "1 " 0 # line from E DUBLIN 60.00 (2) to (3) PARKS TP 60.00
1 35223 35205 "1 " 0 # line from PARKS TP 60.00 (3) to BRKR RADUM 60.00
1 35223 35207 "1 " 0 # line from PARKS TP 60.00 (3) to (1) PARKS 60.00
4 35221 0 "1 " 0 # LOAD-DROP E DUBLIN 60.00 LOAD==2.20 (0.45)
0
#
#
# (543) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35213 35214 "1 " 0 # line from VALLECTS 60.00 BRKR to (2) SUNOL 60.00
1 35214 35216 "1 " 0 # line from SUNOL 60.00 (2) to (2) DCTO JCT 60.00
1 35216 35217 "1 " 0 # line from DCTO JCT 60.00 (2) to BRKR NEWARK 60.00
4 35214 0 "1 " 0 # LOAD-DROP SUNOL 60.00 LOAD==6.87 (1.57)
0
#
#
# (544) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35219 30630 "1 " 0 # line from VINEYARD 230.00 BRKR to BRKR NEWARK D 230.00
0
#
#
# (545) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35225 35217 "1 " 0 # line from LIVRMR_2 60.00 BRKR to BRKR NEWARK 60.00
0
#
#
# (546) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35349 35121 "1 " 0 # line from AMES DST 115.00 BRKR to BRKR NEWARK E 115.00
0
#
#
# (547) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 35105 30560 "1 " 0 # TRAN from EASTSHRE 115.00 BRKR to BRKR E. SHORE 230.00
0
#
#
# (548) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 35105 30560 "2 " 0 # TRAN from EASTSHRE 115.00 BRKR to BRKR E. SHORE 230.00
0
#
#
# (549) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
# **** 3-WINDING TRANSFORMER 35120 (30627) 30630 35301 :
2 35120 30630 "9 " 0 # TRAN from NEWARK D 115.00 BRKR to (1) NEWARK D 230.00
0
#
#
# (550) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 35120 35109 "1 " 0 # TRAN from NEWARK D 115.00 BRKR to (2) NWRK 2 M 115.00
2 35109 35217 "1 " 0 # TRAN from NWRK 2 M 115.00 (2) to BRKR NEWARK 60.00
0
#
#
# (551) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
# **** 3-WINDING TRANSFORMER 35121 (30626) 30630 35303 :
2 35121 30630 "7 " 0 # TRAN from NEWARK E 115.00 BRKR to (1) NEWARK D 230.00
0
#
#
# (552) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
# **** 3-WINDING TRANSFORMER 35122 (30628) 30631 35300 :

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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2 35122 30631 "11" 0 # TRAN from NEWARK F 115.00 BRKR to (1) NEWARK E 230.00
0
#
#
# (553) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 35209 30555 "1 " 0 # TRAN from SAN RAMN 60.00 BRKR to BRKR SANRAMON 230.00
0
#
#
# (554) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 35220 30585 "4 " 0 # TRAN from LPOSTAS 60.00 BRKR to BRKR LS PSTAS 230.00
0
#
#
# (555) B1 GENERATOR OUTAGE
#
3 35312 0 "1" 0 # SEAWESTF 9.11 PGEN=0.10 QGEN=0.00
0
#
#
# (556) B1 GENERATOR OUTAGE
#
3 35320 0 "1" 0 # USW FRIC 12.00 PGEN=2.60 QGEN=0.00
0
#
#
# (557) B1 GENERATOR OUTAGE
#
3 35302 0 "1" 0 # ESEC 13.80 PGEN=8.43 QGEN=3.60
0
#
#
# (558) B1 GENERATOR OUTAGE
#
3 35304 0 "1" 0 # RCECCTG1 15.00 PGEN=180.00 QGEN=24.99
0
#
#
# (559) B1 GENERATOR OUTAGE
#
3 35305 0 "2" 0 # RCECCTG2 15.00 PGEN=180.00 QGEN=24.99
0
#
#
# (560) B1 GENERATOR OUTAGE
#
3 35306 0 "3" 0 # RCECSTG1 18.00 PGEN=254.00 QGEN=36.45
0
#
#
# (561) L-1/G-1 OVERLAPPING OUTAGE
# Contra Costa - Las Positas 230 kV Line and RCEC STG1
1 30525 30585 "1 " 0 # line from C.COSTA 230.00 BRKR to BRKR LS PSTAS 230.00
#
3 35306 0 "3" 0 # RCECSTG1 18.00 PGEN=254.00 QGEN=36.45
0
#
#
# (562) L-1/G-1 OVERLAPPING OUTAGE
# Pittsburg - San Ramon 230 kV Line and RCEC STG1
1 30526 30555 "1 " 0 # line from PITSBG D 230.00 BRKR to BRKR SANRAMON 230.00
#
3 35306 0 "3" 0 # RCECSTG1 18.00 PGEN=254.00 QGEN=36.45
0
#
#
# (563) L-1/G-1 OVERLAPPING OUTAGE
# Cayetano - North Dublin 230 kV Line and RCEC STG1
1 30530 30537 "1 " 0 # line from CAYETANO 230.00 BRKR to BRKR NDUBLIN 230.00
#
3 35306 0 "3" 0 # RCECSTG1 18.00 PGEN=254.00 QGEN=36.45
0
#
#
# (564) L-1/G-1 OVERLAPPING OUTAGE
# North Dublin - Vineyard 230 kV Line and RCEC STG1

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

```

1 30537 35224 "1 " 0 # line from NDUBLIN 230.00 BRKR to BRKR VINEYD_D 230.00
#
3 35306 0 "3" 0 # RCECSTG1 18.00 PGEN=254.00 QGEN=36.45
0
#
#
# (565) L-1/G-1 OVERLAPPING OUTAGE
# Moraga - Castro Valley 230 kV Line and RCEC STG1
1 30550 30554 "1 " 0 # line from MORAGA 230.00 BRKR to BRKR CASTROVL 230.00
#
3 35306 0 "3" 0 # RCECSTG1 18.00 PGEN=254.00 QGEN=36.45
0
#
#
# (566) L-1/G-1 OVERLAPPING OUTAGE
# Moraga - San Ramon 230 kV Line and RCEC STG1
1 30550 30555 "1 " 0 # line from MORAGA 230.00 BRKR to BRKR SANRAMON 230.00
#
3 35306 0 "3" 0 # RCECSTG1 18.00 PGEN=254.00 QGEN=36.45
0
#
#
# (567) L-1/G-1 OVERLAPPING OUTAGE
# Castro Valley - Newark 230 kV Line and RCEC STG1
1 30554 30631 "1 " 0 # line from CASTROVL 230.00 BRKR to BRKR NEWARK E 230.00
#
3 35306 0 "3" 0 # RCECSTG1 18.00 PGEN=254.00 QGEN=36.45
0
#
#
# (568) L-1/G-1 OVERLAPPING OUTAGE
# Pittsburg - East Shore 230 kV Line and RCEC STG1
1 30560 30527 "1 " 0 # line from E. SHORE 230.00 BRKR to BRKR PITSBG E 230.00
#
3 35306 0 "3" 0 # RCECSTG1 18.00 PGEN=254.00 QGEN=36.45
0
#
#
# (569) L-1/G-1 OVERLAPPING OUTAGE
# East Shore - San Mateo 230 kV Line and RCEC STG1
1 30560 30700 "1 " 0 # line from E. SHORE 230.00 BRKR to BRKR SANMATEO 230.00
#
3 35306 0 "3" 0 # RCECSTG1 18.00 PGEN=254.00 QGEN=36.45
0
#
#
# (570) L-1/G-1 OVERLAPPING OUTAGE
# Tassajara - Newark 230 kV Line and RCEC STG1
1 30562 30631 "1 " 0 # line from TES JCT 230.00 (3) to BRKR NEWARK E 230.00
1 30562 30561 "1 " 0 # line from TES JCT 230.00 (3) to BRKR TASSAJAR 230.00
1 30562 30563 "1 " 0 # line from TES JCT 230.00 (3) to BRKR RESEARCH 230.00
4 30563 0 "1 " 0 # LOAD-DROP RESEARCH 230.00 LOAD==37.05(8.44)
#
3 35306 0 "3" 0 # RCECSTG1 18.00 PGEN=254.00 QGEN=36.45
0
#
#
# (571) L-1/G-1 OVERLAPPING OUTAGE
# Lonetree - Cayetano 230 kV Line and RCEC STG1
1 30567 30590 "1 " 0 # line from LONETREE 230.00 BRKR to (3) USWP-JRW 230.00
1 30590 30530 "1 " 0 # line from USWP-JRW 230.00 (3) to BRKR CAYETANO 230.00
2 30590 33838 "1 " 0 # TRAN from USWP-JRW 230.00 (3) to (1) USWP_#3 9.11
4 33838 0 "SG" 0 # LOAD-DROP USWP_#3 9.11 LOAD==0.50(0.20)
#
3 35306 0 "3" 0 # RCECSTG1 18.00 PGEN=254.00 QGEN=36.45
0
#
#
# (572) L-1/G-1 OVERLAPPING OUTAGE
# Las Positas - Newark 230 kV Line and RCEC STG1
1 30585 30630 "1 " 0 # line from LS PSTAS 230.00 BRKR to BRKR NEWARK D 230.00
#
3 35306 0 "3" 0 # RCECSTG1 18.00 PGEN=254.00 QGEN=36.45
0
#
#
# (573) L-1/G-1 OVERLAPPING OUTAGE
# Tesla - Newark #1 230 kV Line and RCEC STG1

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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1 30624 30630 "1 " 0 # line from TESLA E 230.00 BRKR to BRKR NEWARK D 230.00
#
3 35306 0 "3" 0 # RCECSTG1 18.00 PGEN=254.00 QGEN=36.45
0
#
#
# (574) L-1/G-1 OVERLAPPING OUTAGE
# Newark - Ravenswood 230 kV Line and RCEC STG1
1 30630 30703 "1 " 0 # line from NEWARK D 230.00 BRKR to BRKR RAVENSWD 230.00
#
3 35306 0 "3" 0 # RCECSTG1 18.00 PGEN=254.00 QGEN=36.45
0
#
#
# (575) L-1/G-1 OVERLAPPING OUTAGE
# Newark Distribution 230 kV Line and RCEC STG1
1 30631 30635 "1 " 0 # line from NEWARK E 230.00 BRKR to BRKR NWK DIST 230.00
#
3 35306 0 "3" 0 # RCECSTG1 18.00 PGEN=254.00 QGEN=36.45
0
#
#
# (576) L-1/G-1 OVERLAPPING OUTAGE
# Newark Distribution - Los Esteros 230 kV Line and RCEC STG1
1 30635 30731 "1 " 0 # line from NWK DIST 230.00 BRKR to BRKR LS ESTRS 230.00
#
3 35306 0 "3" 0 # RCECSTG1 18.00 PGEN=254.00 QGEN=36.45
0
#
#
# (577) L-1/G-1 OVERLAPPING OUTAGE
# Tesla - Newark #2 230 kV Line and RCEC STG1
1 30655 30631 "2 " 0 # line from ADCC 230.00 (3) to BRKR NEWARK E 230.00
1 30655 30640 "2 " 0 # line from ADCC 230.00 (3) to BRKR TESLA C 230.00
2 30655 35310 "1 " 0 # TRAN from ADCC 230.00 (3) to (1) LFC FIN+ 9.11
#
3 35306 0 "3" 0 # RCECSTG1 18.00 PGEN=254.00 QGEN=36.45
0
#
#
# (578) L-1/G-1 OVERLAPPING OUTAGE
# Vineyard - Newark 230 kV Line and RCEC STG1
1 35219 30630 "1 " 0 # line from VINEYARD 230.00 BRKR to BRKR NEWARK D 230.00
#
3 35306 0 "3" 0 # RCECSTG1 18.00 PGEN=254.00 QGEN=36.45
0
#
#
# 2013 category b contingency list
# DeAnza Division Zone 317
#
#
# (579) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
1 30705 30720 "1 " 0 # line from MONTAVIS 230.00 BRKR to BRKR SARATOGA 230.00
0
#
#
# (580) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
1 30705 30730 "1 " 0 # line from MONTAVIS 230.00 BRKR to BRKR HICKS 230.00
0
#
#
# (581) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
1 30720 30733 "1 " 0 # line from SARATOGA 230.00 BRKR to BRKR VASONA 230.00
0
#
#
# (582) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
1 30733 30735 "1 " 0 # line from VASONA 230.00 BRKR to BRKR METCALF 230.00
0
#
#
# (583) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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1 30735 30705 "3 " 0 # line from METCALF 230.00 BRKR to BRKR MONTAVIS 230.00
0
#
#
# (584) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30741 30705 "4 " 0 # line from CAL MEC 230.00 BRKR to BRKR MONTAVIS 230.00
0
#
#
# (585) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35351 35349 "1 " 0 # line from AMES BS2 115.00 BRKR to BRKR AMES DST 115.00
0
#
#
# (586) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35352 35356 "1 " 0 # line from WHISMAN 115.00 BRKR to BRKR MNTA VSA 115.00
0
#
#
# (587) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35353 35356 "1 " 0 # line from MT VIEW 115.00 BRKR to BRKR MNTA VSA 115.00
0
#
#
# (588) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35354 35355 "1 " 0 # line from STELLING 115.00 BRKR to BRKR WOLFE 115.00
0
#
#
# (589) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35354 35356 "1 " 0 # line from STELLING 115.00 BRKR to BRKR MNTA VSA 115.00
0
#
#
# (590) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35355 35356 "1 " 0 # line from WOLFE 115.00 BRKR to BRKR MNTA VSA 115.00
0
#
#
# (591) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35356 35367 "1 " 0 # line from MNTA VSA 115.00 BRKR to (3) PHLPS_JT 115.00
1 35367 35363 "1 " 0 # line from PHLPS_JT 115.00 (3) to BRKR LAWRENCE 115.00
1 35367 35366 "1 " 0 # line from PHLPS_JT 115.00 (3) to BRKR PHILLIPS 115.00
4 35366 0 "1 " 0 # LOAD-DROP PHILLIPS 115.00 LOAD==1.25(0.00)
0
#
#
# (592) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35356 35368 "1 " 0 # line from MNTA VSA 115.00 BRKR to BRKR BRITTN 115.00
0
#
#
# (593) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35368 35369 "1 " 0 # line from BRITTN 115.00 BRKR to BRKR APP MAT 115.00
0
#
#
# (594) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35370 35353 "1 " 0 # line from AMES J1A 115.00 (2) to BRKR MT VIEW 115.00
1 35370 35371 "1 " 0 # line from AMES J1A 115.00 (2) to (2) AMES J1B 115.00
1 35371 35352 "1 " 0 # line from AMES J1B 115.00 (2) to BRKR WHISMAN 115.00
0
#
#
# (595) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35450 35452 "1 " 0 # line from LOS ALTS 60.00 (1) to BRKR LOYOLA 60.00

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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4 35450      0 "1 " 0 # LOAD-DROP LOS ALTS 60.00 LOAD==1.89(0.43)
4 35450      0 "2 " 0 # LOAD-DROP LOS ALTS 60.00 LOAD==9.73(2.22)
4 35450      0 "3 " 0 # LOAD-DROP LOS ALTS 60.00 LOAD==11.00(2.51)
1 35450 35451 "1 " 1 # close Line from LOS ALTS 60.00 to L.ALTS J (Los Altos - Loyola)
4 35450 0     "***" 1 # restore all loads to LOS ALTS 60.00 (Monta Vista - Loyola)
0
#
#
# (596) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35452 35455 "1 " 0 # line from LOYOLA 60.00 BRKR to BRKR MNTA VSA 60.00
1 35450 35451 "1 " 1 # close Line from LOS ALTS to L.ALTS J (Monta Vista - Loyola)
0
#
#
# (597) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35455 35456 "1 " 0 # line from MNTA VSA 60.00 BRKR to (2) PRMNT J3 60.00
1 35456 36000 "1 " 0 # line from PRMNT J3 60.00 (2) to (2) BIG BASN 60.00
1 36000 36001 "1 " 0 # line from BIG BASN 60.00 (2) to (3) BURNS J1 60.00
1 36001 36002 "1 " 0 # line from BURNS J1 60.00 (3) to BRKR BURNS 60.00
1 36001 36003 "1 " 0 # line from BURNS J1 60.00 (3) to BRKR BURNS J2 60.00
4 36000      0 "1 " 0 # LOAD-DROP BIG BASN 60.00 LOAD==6.71(0.96)
0
#
#
# (598) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35455 35458 "1 " 0 # line from MNTA VSA 60.00 BRKR to (2) PRMNT J1 60.00
1 35458 35459 "1 " 0 # line from PRMNT J1 60.00 (2) to (2) PRMNT J2 60.00
1 35459 35457 "1 " 0 # line from PRMNT J2 60.00 (2) to BRKR PERMNNTE 60.00
4 35457      0 "1 " 0 # LOAD-DROP PERMNNTE 60.00 LOAD==29.94(20.90)
0
#
#
# (599) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35455 35460 "1 " 0 # line from MNTA VSA 60.00 BRKR to (2) LOS GATS 60.00
1 35460 35757 "1 " 0 # line from LOS GATS 60.00 (2) to BRKR ALMADEN 60.00
4 35460      0 "1 " 0 # LOAD-DROP LOS GATS 60.00 LOAD==20.79(4.74)
4 35460      0 "2 " 0 # LOAD-DROP LOS GATS 60.00 LOAD==17.01(3.88)
1 35757 35460 "1 " 1 # close Los Gatos to Almaden (Monta Vista - Los Gatos 60 kV)
4 35460 0     "***" 1 # restore all loads to LOS GATS (Monta Vista - Los Gatos 60 kV)
0
#
#
# (600) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 35356 30705 "2 " 0 # TRAN from MNTA VSA 115.00 BRKR to BRKR MONTAVIS 230.00
0
#
#
# (601) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 35356 30705 "3 " 0 # TRAN from MNTA VSA 115.00 BRKR to BRKR MONTAVIS 230.00
0
#
#
# (602) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 35356 30705 "4 " 0 # TRAN from MNTA VSA 115.00 BRKR to BRKR MONTAVIS 230.00
0
#
#
# (603) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 35455 30705 "5 " 0 # TRAN from MNTA VSA 60.00 BRKR to BRKR MONTAVIS 230.00
0
#
#
# (604) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 35455 35356 "6 " 0 # TRAN from MNTA VSA 60.00 BRKR to BRKR MNTA VSA 115.00
0
#
#
# (605) L-1/G-1 OVERLAPPING OUTAGE
# Monta Vista - Jefferson #1 230 kV Line and MEC

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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1 30705 30710 "1 " 0 # line from MONTAVIS 230.00 BRKR to (3) SLACTAP1 230.00
1 30710 30711 "1 " 0 # line from SLACTAP1 230.00 (3) to BRKR S.L.A.C. 230.00
1 30710 30715 "1 " 0 # line from SLACTAP1 230.00 (3) to BRKR JEFFERSN 230.00
4 30711 0 "1 " 0 # LOAD-DROP S.L.A.C. 230.00 LOAD==58.00(11.78)
1 30711 30712 "1 " 1 # LINE-TRANSFER SLACTAP1 to SLACTAP2
4 30711 0 "***" 1 # RESTORE S.L.A.C. load
#
3 35881 0 "1" 0 # MEC CTG1 18.00 PGEN=180.00 QGEN=61.41
3 35882 0 "1" 0 # MEC CTG2 18.00 PGEN=180.00 QGEN=61.41
3 35883 0 "1" 0 # MEC STG1 18.00 PGEN=200.00 QGEN=62.96
0
#
#
# (606) L-1/G-1 OVERLAPPING OUTAGE
# Monta Vista - Jefferson #2 230 kV Line and MEC
1 30705 30712 "2 " 0 # line from MONTAVIS 230.00 BRKR to (2) SLACTAP2 230.00
1 30712 30715 "2 " 0 # line from SLACTAP2 230.00 (2) to BRKR JEFFERSN 230.00
#
3 35881 0 "1" 0 # MEC CTG1 18.00 PGEN=180.00 QGEN=61.41
3 35882 0 "1" 0 # MEC CTG2 18.00 PGEN=180.00 QGEN=61.41
3 35883 0 "1" 0 # MEC STG1 18.00 PGEN=200.00 QGEN=62.96
0
#
#
# (607) L-1/G-1 OVERLAPPING OUTAGE
# Monta Vista - Jefferson #2 230 kV Line and MEC
1 30705 30720 "1 " 0 # line from MONTAVIS 230.00 BRKR to BRKR SARATOGA 230.00
#
3 35881 0 "1" 0 # MEC CTG1 18.00 PGEN=180.00 QGEN=61.41
3 35882 0 "1" 0 # MEC CTG2 18.00 PGEN=180.00 QGEN=61.41
3 35883 0 "1" 0 # MEC STG1 18.00 PGEN=200.00 QGEN=62.96
0
#
#
# (608) L-1/G-1 OVERLAPPING OUTAGE
# Monta Vista - Hicks 230 kV Line and MEC
1 30705 30730 "1 " 0 # line from MONTAVIS 230.00 BRKR to BRKR HICKS 230.00
#
3 35881 0 "1" 0 # MEC CTG1 18.00 PGEN=180.00 QGEN=61.41
3 35882 0 "1" 0 # MEC CTG2 18.00 PGEN=180.00 QGEN=61.41
3 35883 0 "1" 0 # MEC STG1 18.00 PGEN=200.00 QGEN=62.96
0
#
#
# (609) L-1/G-1 OVERLAPPING OUTAGE
# Saratoga - Vasona 230 kV Line and MEC
1 30720 30733 "1 " 0 # line from SARATOGA 230.00 BRKR to BRKR VASONA 230.00
#
3 35881 0 "1" 0 # MEC CTG1 18.00 PGEN=180.00 QGEN=61.41
3 35882 0 "1" 0 # MEC CTG2 18.00 PGEN=180.00 QGEN=61.41
3 35883 0 "1" 0 # MEC STG1 18.00 PGEN=200.00 QGEN=62.96
0
#
#
# (610) L-1/G-1 OVERLAPPING OUTAGE
# Vasona - Metcalf 230 kV Line and MEC
1 30733 30735 "1 " 0 # line from VASONA 230.00 BRKR to BRKR METCALF 230.00
#
3 35881 0 "1" 0 # MEC CTG1 18.00 PGEN=180.00 QGEN=61.41
3 35882 0 "1" 0 # MEC CTG2 18.00 PGEN=180.00 QGEN=61.41
3 35883 0 "1" 0 # MEC STG1 18.00 PGEN=200.00 QGEN=62.96
0
#
#
# (611) L-1/G-1 OVERLAPPING OUTAGE
# Monta Vista - Metcalf #3 230 kV Line and MEC
1 30735 30705 "3 " 0 # line from METCALF 230.00 BRKR to BRKR MONTAVIS 230.00
#
3 35881 0 "1" 0 # MEC CTG1 18.00 PGEN=180.00 QGEN=61.41
3 35882 0 "1" 0 # MEC CTG2 18.00 PGEN=180.00 QGEN=61.41
3 35883 0 "1" 0 # MEC STG1 18.00 PGEN=200.00 QGEN=62.96
0
#
#
# (612) L-1/G-1 OVERLAPPING OUTAGE
# Monta Vista - Coyote Sw Sta 230 kV Line and MEC
1 30741 30705 "4 " 0 # line from CAL MEC 230.00 BRKR to BRKR MONTAVIS 230.00
#

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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3 35881      0 "1"      0      # MEC CTG1 18.00      PGEN=180.00 QGEN=61.41
3 35882      0 "1"      0      # MEC CTG2 18.00      PGEN=180.00 QGEN=61.41
3 35883      0 "1"      0      # MEC STG1 18.00      PGEN=200.00 QGEN=62.96
0
#
#
# 2013 category b contingency list
# San Jose Division Zone 318
#
#
# (613) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30731 38901 "1 "      0      # line from LS ESTRS 230.00 BRKR to (2) SSS 230.00
1 38901 36893 "1 "      0      # line from SSS 230.00 (2) to (3) NRSriser 230.00
1 36893 38900 "1 "      0      # line from NRSriser 230.00 (3) to (3) NRS 230.00
1 36893 38900 "2 "      0      # line from NRSriser 230.00 (3) to (3) NRS 230.00
2 38900 36851 "1 "      0      # TRAN from NRS 230.00 (3) to BRKR NRS 400 115.00
0
#
#
# (614) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30735 30730 "1 "      0      # line from METCALF 230.00 BRKR to BRKR HICKS 230.00
0
#
#
# (615) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30735 30731 "1 "      0      # line from METCALF 230.00 BRKR to BRKR LS ESTRS 230.00
0
#
#
# (616) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30735 30741 "4 "      0      # line from METCALF 230.00 BRKR to BRKR CAL MEC 230.00
0
#
#
# (617) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30735 30750 "1 "      0      # line from METCALF 230.00 BRKR to BRKR MOSSLND2 230.00
0
#
#
# (618) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 30735 30755 "1 "      0      # line from METCALF 230.00 BRKR to BRKR MOSSLND1 230.00
0
#
#
# (619) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35600 35629 "1 "      0      # line from DIXON LD 115.00 BRKR to (3) MABURY J 115.00
1 35629 35626 "1 "      0      # line from MABURY J 115.00 (3) to BRKR MCKEE 115.00
1 35629 35630 "1 "      0      # line from MABURY J 115.00 (3) to BRKR MABURY 115.00
4 35630      0 "2 "      0      # LOAD-DROP MABURY 115.00 LOAD==19.00(4.33)
0
#
#
# (620) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35612 35610 "1 "      0      # line from TRIMBLE 115.00 BRKR to BRKR MONTAGUE 115.00
0
#
#
# (621) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35612 35616 "1 "      0      # line from TRIMBLE 115.00 BRKR to BRKR SJ B E 115.00
0
#
#
# (622) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35613 35614 "1 "      0      # line from ELPT_SJ1 115.00 (3) to (3) ELPT_SJ2 115.00
1 35613 35614 "2 "      0      # line from ELPT_SJ1 115.00 (3) to (3) ELPT_SJ2 115.00
1 35613 35618 "1 "      0      # line from ELPT_SJ1 115.00 (3) to BRKR SN JSE A 115.00
1 35614 35620 "1 "      0      # line from ELPT_SJ2 115.00 (3) to BRKR EL PATIO 115.00
0

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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#
#
# (623)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35615 35616 "1 " 0 # line from FMC 115.00 BRKR to BRKR SJ B E 115.00
0
#
#
# (624)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35615 35617 "1 " 0 # line from FMC 115.00 BRKR to (2) FMC JCT 115.00
1 35617 36850 "1 " 0 # line from FMC JCT 115.00 (2) to BRKR KRS 115.00
0
#
#
# (625)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35618 35619 "1 " 0 # line from SN JSE A 115.00 BRKR to BRKR SJ B F 115.00
0
#
#
# (626)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35619 35631 "1 " 0 # line from SJ B F 115.00 BRKR to (3) MARKHM J 115.00
1 35631 35632 "1 " 0 # line from MARKHM J 115.00 (3) to (2) MARKHAM 115.00
1 35631 35636 "1 " 0 # line from MARKHM J 115.00 (3) to BRKR EVRGRN 1 115.00
2 35632 35863 "1 " 0 # TRAN from MARKHAM 115.00 BRKR to (1) CATALYST 9.11
4 35863 0 "1 " 0 # LOAD-DROP CATALYST 9.11 LOAD==9.12(3.09)
3 35863 0 "1 " 0 # GEN-DROP CATALYST 9.11 GEN==2.30(0.00)
1 35632 36420 "1 " 1 # close Markham to Stone
2 35632 35863 "1 " 1 # restore TRAN from MARKHAM 115.00 to CATALYST 9.11
4 35863 0 "1 " 1 # restore all loads to CATALYST
0
#
#
# (627)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35620 35621 "1 " 0 # line from EL PATIO 115.00 BRKR to (2) IBM-HR J 115.00
1 35621 35642 "1 " 0 # line from IBM-HR J 115.00 (2) to BRKR MTCALF D 115.00
0
#
#
# (628)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35620 35651 "2 " 0 # line from EL PATIO 115.00 BRKR to (2) BAILY J3 115.00
1 35651 35642 "2 " 0 # line from BAILY J3 115.00 (2) to BRKR MTCALF D 115.00
0
#
#
# (629)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35622 35624 "1 " 0 # line from SWIFT 115.00 BRKR to BRKR MILPITAS 115.00
0
#
#
# (630)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35622 35643 "1 " 0 # line from SWIFT 115.00 BRKR to BRKR MTCALF E 115.00
0
#
#
# (631)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35625 35645 "1 " 0 # line from MARKH MJ2 115.00 (2) to (3) EVRGRN J 115.00
1 35625 35634 "1 " 0 # line from MARKH MJ2 115.00 (2) to (2) STONE J 115.00
1 35645 35633 "2 " 0 # line from EVRGRN J 115.00 (3) to BRKR EVRGRN 2 115.00
1 35645 35643 "2 " 0 # line from EVRGRN J 115.00 (3) to BRKR MTCALF E 115.00
1 35634 36420 "1 " 0 # line from STONE J 115.00 (2) to BRKR STONE 115.00
4 36420 0 "1 " 0 # LOAD-DROP STONE 115.00 LOAD==35.69(8.13)
4 36420 0 "2 " 0 # LOAD-DROP STONE 115.00 LOAD==14.87(3.39)
0
#
#
# (632)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35626 35656 "1 " 0 # line from MCKEE 115.00 BRKR to BRKR PIERCY 115.00
0
#

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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#
# (633)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35636 35643 "1 " 0 # line from EVRGRN 1 115.00 BRKR to BRKR MTCALF E 115.00
0
#
#
# (634)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35637 35649 "1 " 0 # line from IBM-CTLE 115.00 (1) to (3) EDNVL J3 115.00
1 35649 35638 "1 " 0 # line from EDNVL J3 115.00 (3) to BRKR EDENVALE 115.00
1 35649 35641 "1 " 0 # line from EDNVL J3 115.00 BRKR to (1) EDNVL J1 115.00
4 35637 0 "1 " 0 # LOAD-DROP IBM-CTLE 115.00 LOAD==28.58(22.18)
0
#
#
# (635)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35638 35653 "1 " 0 # line from EDENVALE 115.00 BRKR to (3) BAILY J2 115.00
1 35653 35642 "1 " 0 # line from BAILY J2 115.00 (3) to BRKR MTCALF D 115.00
1 35653 35652 "1 " 0 # line from BAILY J2 115.00 (3) to (2) BAILY J1 115.00
1 35652 35640 "1 " 0 # line from BAILY J1 115.00 (2) to BRKR IBM-BALY 115.00
4 35640 0 "1 " 0 # LOAD-DROP IBM-BALY 115.00 LOAD==5.63(3.04)
0
#
#
# (636)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35639 35641 "1 " 0 # line from IBM-HRRS 115.00 BRKR to (3) EDNVL J1 115.00
1 35641 35642 "1 " 0 # line from EDNVL J1 115.00 (3) to BRKR MTCALF D 115.00
1 35641 35649 "1 " 0 # line from EDNVL J1 115.00 (3) to BRKR EDNVL J3 115.00
4 35639 0 "1 " 0 # LOAD-DROP IBM-HRRS 115.00 LOAD==2.43(1.63)
4 35639 0 "2 " 0 # LOAD-DROP IBM-HRRS 115.00 LOAD==2.43(1.63)
1 35621 35639 "1 " 1 # close IBM Harry to Metcalf-El Patio
4 35639 0 "***" 1 # restore all loads to IBM HRRS
0
#
#
# (637)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35642 35646 "1 " 0 # line from MTCALF D 115.00 BRKR to BRKR MRGN HIL 115.00
0
#
#
# (638)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35642 35654 "1 " 0 # line from MTCALF D 115.00 BRKR to (2) MORGN J1 115.00
1 35654 35655 "1 " 0 # line from MORGN J1 115.00 (2) to (2) MORGN J2 115.00
1 35655 35648 "1 " 0 # line from MORGN J2 115.00 (2) to BRKR LLAGAS 115.00
0
#
#
# (639)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35643 35644 "1 " 0 # line from MTCALF E 115.00 BRKR to BRKR CYTE PMP 115.00
4 35644 0 "1 " 0 # LOAD-DROP CYTE PMP 115.00 LOAD==4.90(1.12)
0
#
#
# (640)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35646 35648 "1 " 0 # line from MRGN HIL 115.00 BRKR to BRKR LLAGAS 115.00
0
#
#
# (641)  B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35648 35660 "1 " 0 # line from LLAGAS 115.00 BRKR to (4) GILROYTP 115.00
1 35660 35647 "1 " 0 # line from GILROYTP 115.00 (4) to BRKR GILROY 115.00
1 35660 35650 "1 " 0 # line from GILROYTP 115.00 (4) to (1) GILROY F 115.00
1 35660 35661 "1 " 0 # line from GILROYTP 115.00 (4) to (4) GILROYPK 115.00
2 35661 35851 "1 " 0 # TRAN from GILROYPK 115.00 (4) to (1) GROYPKR1 13.80
2 35661 35852 "1 " 0 # TRAN from GILROYPK 115.00 (4) to (1) GROYPKR2 13.80
2 35661 35853 "1 " 0 # TRAN from GILROYPK 115.00 (4) to (1) GROYPKR3 13.80
4 35650 0 "1 " 0 # LOAD-DROP GILROY F 115.00 LOAD==8.88(7.83)
3 35851 0 "1 " 0 # GEN-DROP GROYPKR1 13.80 GEN==48.70(-6.28)
3 35852 0 "1 " 0 # GEN-DROP GROYPKR2 13.80 GEN==48.70(-6.28)
3 35853 0 "1 " 0 # GEN-DROP GROYPKR3 13.80 GEN==48.70(-6.28)

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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0
#
#
# (642) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35656 35643 "1 " 0 # line from PIERCY 115.00 BRKR to BRKR MTCALF E 115.00
0
#
#
# (643) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
# post-project outage
1 35657 35658 "1 " 0 # line from CP LECEF 115.00 BRKR to BRKR LS ESTRS 115.00
0
#
#
# (644) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
# post-project outage
1 35657 35658 "2 " 0 # line from CP LECEF 115.00 BRKR to BRKR LS ESTRS 115.00
0
#
#
# (645) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35658 35606 "1 " 0 # line from LS ESTRS 115.00 BRKR to BRKR AGNEW 115.00
0
#
#
# (646) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35658 35610 "1 " 0 # line from LS ESTRS 115.00 BRKR to BRKR MONTAGUE 115.00
0
#
#
# (647) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35658 35612 "1 " 0 # line from LS ESTRS 115.00 BRKR to BRKR TRIMBLE 115.00
0
#
#
# (648) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
# pre-project outage
1 35659 35666 "1 " 0 # line from NORTECH 115.00 BRKR to (3) LECEFTAP 115.00
1 35666 35657 "1 " 0 # line from LECEFTAP 115.00 (3) to BRKR CP LECEF 115.00
1 35666 35658 "1 " 0 # line from LECEFTAP 115.00 (3) to BRKR LS ESTRS 115.00
0
#
#
# (649) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
# post-project outage
1 35658 35659 "1 " 0 # line from LS ESTRS 115.00 BRKR to BRKR NORTECH 115.00
0
#
#
# (650) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35659 36853 "1 " 0 # line from NORTECH 115.00 BRKR to BRKR NRS 300 115.00
0
#
#
# (651) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35750 35752 "1 " 0 # line from MABURY 60.00 BRKR to (3) JENING J 60.00
1 35752 35751 "1 " 0 # line from JENING J 60.00 (3) to BRKR JENNINGS 60.00
1 35752 35754 "1 " 0 # line from JENING J 60.00 (3) to (3) EVRGRN J 60.00
1 35754 35753 "1 " 0 # line from EVRGRN J 60.00 (3) to BRKR EVERGREN 60.00
1 35754 35755 "1 " 0 # line from EVRGRN J 60.00 (3) to BRKR SENTER 60.00
4 35750 0 "1 " 0 # LOAD-DROP MABURY 60.00 LOAD==17.10(3.90)
4 35751 0 "1 " 0 # LOAD-DROP JENNINGS 60.00 LOAD==0.71(0.77)
1 35755 35756 "1 " 1 # close Senter to Almaden (Evergreen - Mabury 60 kV)
4 35755 0 "***" 1 # restore all loads to SENTER (Evergreen - Mabury 60 kV)
0
#
#
# (652) B2 LINE OUTAGE (BREAKER-TO-BREAKER)
#
1 35753 35756 "1 " 0 # line from EVERGREN 60.00 BRKR to (2) SENTER J 60.00
1 35756 35757 "1 " 0 # line from SENTER J 60.00 (2) to BRKR ALMADEN 60.00
1 35757 35460 "1 " 1 # close Almaden to Los Gatos (Evergreen - Los Gatos 60 kV)

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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4 35757 0      "***"    1      # restore all loads to ALMADEN (Evergreen - Los Gatos 60 kV)
0
#
#
# (653) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 30735 30042 "11"     0      # TRAN from METCALF 230.00 BRKR to BRKR METCALF 500.00
0
#
#
# (654) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 30735 30042 "12"     0      # TRAN from METCALF 230.00 BRKR to BRKR METCALF 500.00
0
#
#
# (655) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 30735 30042 "13"     0      # TRAN from METCALF 230.00 BRKR to BRKR METCALF 500.00
0
#
#
# (656) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 35642 30735 "1 "     0      # TRAN from MTALF D 115.00 BRKR to BRKR METCALF 230.00
0
#
#
# (657) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 35642 30735 "4 "     0      # TRAN from MTALF D 115.00 BRKR to BRKR METCALF 230.00
0
#
#
# (658) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 35643 30735 "2 "     0      # TRAN from MTALF E 115.00 BRKR to BRKR METCALF 230.00
0
#
#
# (659) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 35643 30735 "3 "     0      # TRAN from MTALF E 115.00 BRKR to BRKR METCALF 230.00
0
#
#
# (660) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 35658 30731 "3 "     0      # TRAN from LS ESTRS 115.00 BRKR to BRKR LS ESTRS 230.00
0
#
#
# (661) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 35658 30731 "4 "     0      # TRAN from LS ESTRS 115.00 BRKR to BRKR LS ESTRS 230.00
0
#
#
# (662) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 35753 35633 "1 "     0      # TRAN from EVERGREN 60.00 BRKR to BRKR EVRGRN 2 115.00
1 35756 35757 "1 "     0      # open ALMADEN to SENTER J (Evergreen 115/60 kV Bank)
1 35757 35460 "1 "     1      # close Almaden to Los Gatos (Evergreen 115/60 kV Bank)
0
#
#
# (663) B3 TRANSFORMER OUTAGE (BREAKER-TO-BREAKER)
#
2 35850 35647 "1 "     0      # TRAN from GLRY COG 13.80 (1) to BRKR GILROY 115.00
4 35850      0 "SG"     0      # LOAD-DROP GLRY COG 13.80 LOAD==1.73(1.43)
3 35850      0 "1 "     0      # GEN-DROP GLRY COG 13.80 GEN==80.50(20.69)
3 35850      0 "2 "     0      # GEN-DROP GLRY COG 13.80 GEN==41.50(10.67)
0
#
#
# (664) B1 GENERATOR OUTAGE
#
3 35850      0 "1"      0      # GLRY COG 13.80 PGEN=80.50 QGEN=15.86

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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0
#
#
# (665) B1 GENERATOR OUTAGE
#
3 35850      0 "1"      0      # GLRY COG  13.80      PGEN=41.50  QGEN=15.86
0
#
#
# (666) B1 GENERATOR OUTAGE
#
3 35851      0 "1"      0      # GROYPKR1  13.80      PGEN=48.70  QGEN=-6.01
0
#
#
# (667) B1 GENERATOR OUTAGE
#
3 35852      0 "1"      0      # GROYPKR2  13.80      PGEN=48.70  QGEN=-6.01
0
#
#
# (668) B1 GENERATOR OUTAGE
#
3 35853      0 "1"      0      # GROYPKR3  13.80      PGEN=48.70  QGEN=-6.01
0
#
#
# (669) B1 GENERATOR OUTAGE
#
3 35854      0 "1"      0      # LECEFGT1  13.80      PGEN=50.00  QGEN=29.91
0
#
#
# (670) B1 GENERATOR OUTAGE
#
3 35855      0 "1"      0      # LECEFGT2  13.80      PGEN=50.00  QGEN=29.91
0
#
#
# (671) B1 GENERATOR OUTAGE
#
3 35856      0 "1"      0      # LECEFGT3  13.80      PGEN=50.00  QGEN=29.91
0
#
#
# (672) B1 GENERATOR OUTAGE
#
3 35857      0 "1"      0      # LECEFGT4  13.80      PGEN=50.00  QGEN=29.91
0
#
#
# (673) B1 GENERATOR OUTAGE
#
3 35860      0 "1"      0      # OLS-AGNE   9.11      PGEN=29.60  QGEN=6.64
0
#
#
# (674) B1 GENERATOR OUTAGE
#
3 35861      0 "1"      0      # SJ-SCL W   9.11      PGEN=5.00   QGEN=0.00
0
#
#
# (675) B1 GENERATOR OUTAGE
#
3 35863      0 "1"      0      # CATALYST   9.11      PGEN=2.30   QGEN=0.00
0
#
#
# (676) B1 GENERATOR OUTAGE
#
3 35881      0 "1"      0      # MEC CTG1   18.00      PGEN=180.00 QGEN=61.41
3 35882      0 "1"      0      # MEC CTG2   18.00      PGEN=180.00 QGEN=61.41
3 35883      0 "1"      0      # MEC STG1   18.00      PGEN=200.00 QGEN=62.96
0
#
#
# (677) B1 GENERATOR OUTAGE

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

```

#
3 35858      0 "1"      0      # T378ST1   13.80      PGEN=120.00  QGEN=-2.05
0
#
#
# (678) L-1/G-1 OVERLAPPING OUTAGE
# Newark Distribution - Los Esteros 230 kV Line and MEC
1 30635 30731 "1 "      0      # line from  NWK DIST 230.00  BRKR to BRKR  LS ESTRS 230.00
#
3 35881      0 "1"      0      # MEC CTG1   18.00      PGEN=180.00  QGEN=61.41
3 35882      0 "1"      0      # MEC CTG2   18.00      PGEN=180.00  QGEN=61.41
3 35883      0 "1"      0      # MEC STG1   18.00      PGEN=200.00  QGEN=62.96
0
#
#
# (679) L-1/G-1 OVERLAPPING OUTAGE
# Los Esteros - NRS 230 kV Line and MEC
1 30731 38901 "1 "      0      # line from  LS ESTRS 230.00  BRKR to (2)  SSS          230.00
1 38901 36893 "1 "      0      # line from  SSS          230.00  (2) to (3)  NRSriser 230.00
1 36893 38900 "1 "      0      # line from  NRSriser 230.00  (3) to (3)  NRS          230.00
1 36893 38900 "2 "      0      # line from  NRSriser 230.00  (3) to (3)  NRS          230.00
2 38900 36851 "1 "      0      # TRAN from  NRS          230.00  (3) to BRKR  NRS 400  115.00
#
3 35881      0 "1"      0      # MEC CTG1   18.00      PGEN=180.00  QGEN=61.41
3 35882      0 "1"      0      # MEC CTG2   18.00      PGEN=180.00  QGEN=61.41
3 35883      0 "1"      0      # MEC STG1   18.00      PGEN=200.00  QGEN=62.96
0
#
#
# (680) L-1/G-1 OVERLAPPING OUTAGE
# Los Esteros - Metcalf 230 kV Line and MEC
1 30735 30731 "1 "      0      # line from  METCALF  230.00  BRKR to BRKR  LS ESTRS 230.00
#
3 35881      0 "1"      0      # MEC CTG1   18.00      PGEN=180.00  QGEN=61.41
3 35882      0 "1"      0      # MEC CTG2   18.00      PGEN=180.00  QGEN=61.41
3 35883      0 "1"      0      # MEC STG1   18.00      PGEN=200.00  QGEN=62.96
0
#
#
# (681) L-1/G-1 OVERLAPPING OUTAGE
# Coyote Sw Sta - Metcalf 230 kV Line and MEC
1 30735 30741 "4 "      0      # line from  METCALF  230.00  BRKR to BRKR  CAL MEC  230.00
#
3 35881      0 "1"      0      # MEC CTG1   18.00      PGEN=180.00  QGEN=61.41
3 35882      0 "1"      0      # MEC CTG2   18.00      PGEN=180.00  QGEN=61.41
3 35883      0 "1"      0      # MEC STG1   18.00      PGEN=200.00  QGEN=62.96
0
#
#
# (682) L-1/G-1 OVERLAPPING OUTAGE
# Metcalf - Moss Landing #2 230 kV Line and MEC
1 30735 30750 "1 "      0      # line from  METCALF  230.00  BRKR to BRKR  MOSSLND2 230.00
#
3 35881      0 "1"      0      # MEC CTG1   18.00      PGEN=180.00  QGEN=61.41
3 35882      0 "1"      0      # MEC CTG2   18.00      PGEN=180.00  QGEN=61.41
3 35883      0 "1"      0      # MEC STG1   18.00      PGEN=200.00  QGEN=62.96
0
#
#
# (683) L-1/G-1 OVERLAPPING OUTAGE
# Metcalf - Moss Landing #1 230 kV Line and MEC
1 30735 30755 "1 "      0      # line from  METCALF  230.00  BRKR to BRKR  MOSSLND1 230.00
#
3 35881      0 "1"      0      # MEC CTG1   18.00      PGEN=180.00  QGEN=61.41
3 35882      0 "1"      0      # MEC CTG2   18.00      PGEN=180.00  QGEN=61.41
3 35883      0 "1"      0      # MEC STG1   18.00      PGEN=200.00  QGEN=62.96
0
#
#
# (684) L-1/G-1 OVERLAPPING OUTAGE
# Newark Distribution - Los Esteros 230 kV Line and LECEF GT1
1 30635 30731 "1 "      0      # line from  NWK DIST 230.00  BRKR to BRKR  LS ESTRS 230.00
#
3 35854      0 "1"      0      # LECEFGT1   13.80      PGEN=50.00   QGEN=29.91
0
#
#
# (685) L-1/G-1 OVERLAPPING OUTAGE

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APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

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# Los Esteros - NRS 230 kV Line and LECEF GT1
1 30731 38901 "1 " 0 # line from LS ESTRS 230.00 BRKR to (2) SSS 230.00
1 38901 36893 "1 " 0 # line from SSS 230.00 (2) to (3) NRSriser 230.00
1 36893 38900 "1 " 0 # line from NRSriser 230.00 (3) to (3) NRS 230.00
1 36893 38900 "2 " 0 # line from NRSriser 230.00 (3) to (3) NRS 230.00
2 38900 36851 "1 " 0 # TRAN from NRS 230.00 (3) to BRKR NRS 400 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (686) L-1/G-1 OVERLAPPING OUTAGE
# Los Esteros - Metcalf 230 kV Line and LECEF GT1
1 30735 30731 "1 " 0 # line from METCALF 230.00 BRKR to BRKR LS ESTRS 230.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (687) L-1/G-1 OVERLAPPING OUTAGE
# Newark - Dixon Landing 115 kV Line and LECEF GT1
1 35122 35600 "1 " 0 # line from NEWARK F 115.00 BRKR to BRKR DIXON LD 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (688) L-1/G-1 OVERLAPPING OUTAGE
# Newark - Kifer 115 kV Line and LECEF GT1
1 35122 35602 "1 " 0 # line from NEWARK F 115.00 BRKR to (3) ZNKER J2 115.00
1 35602 35604 "1 " 0 # line from ZNKER J2 115.00 (3) to (3) ZANKER 115.00
1 35602 36850 "1 " 0 # line from ZNKER J2 115.00 (3) to BRKR KRS 115.00
2 35604 35861 "1 " 0 # TRAN from ZANKER 115.00 (3) to (2) SJ-SCL W 9.11
2 35604 35861 "2 " 0 # TRAN from ZANKER 115.00 (3) to (2) SJ-SCL W 9.11
4 35861 0 "SG" 0 # LOAD-DROP SJ-SCL W 9.11 LOAD==6.17(2.09)
3 35861 0 "1 " 0 # GEN-DROP SJ-SCL W 9.11 GEN==5.00(0.00)
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (689) L-1/G-1 OVERLAPPING OUTAGE
# Newark - Trimble 115 kV Line and LECEF GT1
1 35122 35603 "1 " 0 # line from NEWARK F 115.00 BRKR to (3) ZNKER J1 115.00
1 35603 35605 "1 " 0 # line from ZNKER J1 115.00 (3) to (1) AGNEW J 115.00
1 35603 35612 "1 " 0 # line from ZNKER J1 115.00 (3) to BRKR TRIMBLE 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (690) L-1/G-1 OVERLAPPING OUTAGE
# Newark - Milpitas #1 115 kV Line and LECEF GT1
1 35122 35624 "1 " 0 # line from NEWARK F 115.00 BRKR to BRKR MILPITAS 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (691) L-1/G-1 OVERLAPPING OUTAGE
# Newark - Milpitas #2 115 kV Line and LECEF GT1
1 35122 35624 "2 " 0 # line from NEWARK F 115.00 BRKR to BRKR MILPITAS 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (692) L-1/G-1 OVERLAPPING OUTAGE
# Dixon Landing - McKee 115 kV Line and LECEF GT1
1 35600 35629 "1 " 0 # line from DIXON LD 115.00 BRKR to (3) MABURY J 115.00
1 35629 35626 "1 " 0 # line from MABURY J 115.00 (3) to BRKR MCKEE 115.00
1 35629 35630 "1 " 0 # line from MABURY J 115.00 (3) to BRKR MABURY 115.00
4 35630 0 "2 " 0 # LOAD-DROP MABURY 115.00 LOAD==19.00(4.33)
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#

```


APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

```

# (693) L-1/G-1 OVERLAPPING OUTAGE
# Montague - Trimble 115 kV Line and LECEF GT1
1 35612 35610 "1 " 0 # line from TRIMBLE 115.00 BRKR to BRKR MONTAGUE 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (694) L-1/G-1 OVERLAPPING OUTAGE
# Trimble - San Jose B 115 kV Line and LECEF GT1
1 35612 35616 "1 " 0 # line from TRIMBLE 115.00 BRKR to BRKR SJ B E 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (695) L-1/G-1 OVERLAPPING OUTAGE
# El Patio - San Jose A 115 kV Line and LECEF GT1
1 35613 35614 "1 " 0 # line from ELPT_SJ1 115.00 (3) to (3) ELPT_SJ2 115.00
1 35613 35614 "2 " 0 # line from ELPT_SJ1 115.00 (3) to (3) ELPT_SJ2 115.00
1 35613 35618 "1 " 0 # line from ELPT_SJ1 115.00 (3) to BRKR SN JSE A 115.00
1 35614 35620 "1 " 0 # line from ELPT_SJ2 115.00 (3) to BRKR EL PATIO 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (696) L-1/G-1 OVERLAPPING OUTAGE
# FMC - San Jose B 115 kV Line and LECEF GT1
1 35615 35616 "1 " 0 # line from FMC 115.00 BRKR to BRKR SJ B E 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (697) L-1/G-1 OVERLAPPING OUTAGE
# Kifer - FMC 115 kV Line and LECEF GT1
1 35615 35617 "1 " 0 # line from FMC 115.00 BRKR to (2) FMC JCT 115.00
1 35617 36850 "1 " 0 # line from FMC JCT 115.00 (2) to BRKR KRS 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (698) L-1/G-1 OVERLAPPING OUTAGE
# San Jose B - San Jose A 115 kV Line and LECEF GT1
1 35618 35619 "1 " 0 # line from SN JSE A 115.00 BRKR to BRKR SJ B F 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (699) L-1/G-1 OVERLAPPING OUTAGE
# Evergreen - San Jose A 115 kV Line and LECEF GT1
1 35619 35631 "1 " 0 # line from SJ B F 115.00 BRKR to (3) MARKHM J 115.00
1 35631 35632 "1 " 0 # line from MARKHM J 115.00 (3) to (2) MARKHAM 115.00
1 35631 35636 "1 " 0 # line from MARKHM J 115.00 (3) to BRKR EVRGRN 1 115.00
2 35632 35863 "1 " 0 # TRAN from MARKHAM 115.00 BRKR to (1) CATALYST 9.11
4 35863 0 "1 " 0 # LOAD-DROP CATALYST 9.11 LOAD==9.12(3.09)
3 35863 0 "1 " 0 # GEN-DROP CATALYST 9.11 GEN==2.30(0.00)
1 35632 36420 "1 " 1 # close Markham to Stone
2 35632 35863 "1 " 1 # restore TRAN from MARKHAM 115.00 to CATALYST 9.11
4 35863 0 "1 " 1 # restore all loads to CATALYST
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (700) L-1/G-1 OVERLAPPING OUTAGE
# Metcalf - El Patio #1 115 kV Line and LECEF GT1
1 35620 35621 "1 " 0 # line from EL PATIO 115.00 BRKR to (2) IBM-HR J 115.00
1 35621 35642 "1 " 0 # line from IBM-HR J 115.00 (2) to BRKR MTCALF D 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (701) L-1/G-1 OVERLAPPING OUTAGE

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

```

# Metcalf - El Patio #2 115 kV Line and LECEF GT1
1 35620 35651 "2 " 0 # line from EL PATIO 115.00 BRKR to (2) BAILY J3 115.00
1 35651 35642 "2 " 0 # line from BAILY J3 115.00 (2) to BRKR MTCALF D 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (702) L-1/G-1 OVERLAPPING OUTAGE
# Milpitas - Swift 115 kV Line and LECEF GT1
1 35622 35624 "1 " 0 # line from SWIFT 115.00 BRKR to BRKR MILPITAS 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (703) L-1/G-1 OVERLAPPING OUTAGE
# Swift - Metcalf 115 kV Line and LECEF GT1
1 35622 35643 "1 " 0 # line from SWIFT 115.00 BRKR to BRKR MTCALF E 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (704) L-1/G-1 OVERLAPPING OUTAGE
# Metcalf - Evergreen #2 115 kV Line and LECEF GT1
1 35625 35645 "1 " 0 # line from MARKHJM2 115.00 (2) to (3) EVRGRN J 115.00
1 35625 35634 "1 " 0 # line from MARKHJM2 115.00 (2) to (2) STONE J 115.00
1 35645 35633 "2 " 0 # line from EVRGRN J 115.00 (3) to BRKR EVRGRN 2 115.00
1 35645 35643 "2 " 0 # line from EVRGRN J 115.00 (3) to BRKR MTCALF E 115.00
1 35634 36420 "1 " 0 # line from STONE J 115.00 (2) to BRKR STONE 115.00
4 36420 0 "1 " 0 # LOAD-DROP STONE 115.00 LOAD==35.69(8.13)
4 36420 0 "2 " 0 # LOAD-DROP STONE 115.00 LOAD==14.87(3.39)
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (705) L-1/G-1 OVERLAPPING OUTAGE
# Mc Kee - Piercy 115 kV Line and LECEF GT1
1 35626 35656 "1 " 0 # line from MCKEE 115.00 BRKR to BRKR PIERCY 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (706) L-1/G-1 OVERLAPPING OUTAGE
# Metcalf - Evergreen #1 115 kV Line and LECEF GT1
1 35636 35643 "1 " 0 # line from EVRGRN 1 115.00 BRKR to BRKR MTCALF E 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (707) L-1/G-1 OVERLAPPING OUTAGE
# Piercy - Metcalf 115 kV Line and LECEF GT1
1 35656 35643 "1 " 0 # line from PIERCY 115.00 BRKR to BRKR MTCALF E 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (708) L-1/G-1 OVERLAPPING OUTAGE
# Los Esteros - Agnew 115 kV Line and LECEF GT1
1 35658 35606 "1 " 0 # line from LS ESTRS 115.00 BRKR to BRKR AGNEW 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (709) L-1/G-1 OVERLAPPING OUTAGE
# Los Esteros - Montague 115 kV Line and LECEF GT1
1 35658 35610 "1 " 0 # line from LS ESTRS 115.00 BRKR to BRKR MONTAGUE 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#

```

APPENDIX C – CAISO CATEGORY B AUTOCON INPUT FILE

```

# (710) L-1/G-1 OVERLAPPING OUTAGE
# Los Esteros - Trimble 115 kV Line and LECEF GT1
1 35658 35612 "1 " 0 # line from LS ESTRS 115.00 BRKR to BRKR TRIMBLE 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (711) L-1/G-1 OVERLAPPING OUTAGE
# Los Esteros - Nortech 115 kV Line and LECEF GT1 post-project outage
1 35658 35659 "1 " 0 # line from LS ESTRS 115.00 BRKR to BRKR NORTECH 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (712) L-1/G-1 OVERLAPPING OUTAGE
# Nortech - NRS 115 kV Line and LECEF GT1
1 35659 36853 "1 " 0 # line from NORTECH 115.00 BRKR to BRKR NRS 300 115.00
#
3 35854 0 "1" 0 # LECEFGT1 13.80 PGEN=50.00 QGEN=29.91
0
#
#
# (713) L-1/G-1 OVERLAPPING OUTAGE
# Metcalf - Morgan Hill 115 kV Line and Gilroy Energy 1
1 35642 35646 "1 " 0 # line from MTCALF D 115.00 BRKR to BRKR MRGN HIL 115.00
#
3 35850 0 "1" 0 # GLRY COG 13.80 PGEN=80.50 QGEN=15.86
0
#
#
# (714) L-1/G-1 OVERLAPPING OUTAGE
# Metcalf - Llagas 115 kV Line and Gilroy Energy 1
1 35642 35654 "1 " 0 # line from MTCALF D 115.00 BRKR to (2) MORGN J1 115.00
1 35654 35655 "1 " 0 # line from MORGN J1 115.00 (2) to (2) MORGN J2 115.00
1 35655 35648 "1 " 0 # line from MORGN J2 115.00 (2) to BRKR LLAGAS 115.00
#
3 35850 0 "1" 0 # GLRY COG 13.80 PGEN=80.50 QGEN=15.86
0
#
#
# (715) L-1/G-1 OVERLAPPING OUTAGE
# Morgan Hill - Llagas 115 kV Line and Gilroy Energy 1
1 35646 35648 "1 " 0 # line from MRGN HIL 115.00 BRKR to BRKR LLAGAS 115.00
#
3 35850 0 "1" 0 # GLRY COG 13.80 PGEN=80.50 QGEN=15.86
0
#
#
-1
# EOF

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```
# PG&E TCP1 Group 5 Greater Bay Area 2013 category c contingency list (dctl and bus outages)
# North Bay, East Bay, Diablo, San Francisco, Peninsula, Mission, DeAnza and San Jose Divisions
# Zones 306, 307, 308, 309, 310, 316, 317, 318 and selected outages from Sacramento/Sierra 304/311
#
# 2013 category c contingency list (dctl and bus outages)
# selected Sacramento/Sierra outages
#
#
# (1) C5 DCTL OUTAGE
# Vaca-Dixon - Lambie and Vaca-Dixon - Peabody 230 kV Lines pre-project outage
1 30460 30472 "1 " 0 # line from VACA-DIX 230.00 BRKR to BRKR PEABODY 230.00
#
1 30460 30478 "1 " 0 # line from VACA-DIX 230.00 BRKR to BRKR LAMBIE 230.00
0
#
#
# (2) C5 DCTL OUTAGE
# Lambie - Birds Landing and Peabody - Birds Landing 230 kV Lines pre-project outage
1 30478 30479 "1 " 0 # line from LAMBIE 230.00 BRKR to BRKR BDLSWSTA 230.00
#
1 30472 30479 "1 " 0 # line from PEABODY 230.00 BRKR to BRKR BDLSWSTA 230.00
0
#
#
# (3) C5 DCTL OUTAGE
# Vaca-Dixon - T257 #1 and #2 230 kV Lines post-project outage
1 30460 30452 "1 " 0 # line from VACA-DIX 230.00 BRKR to BRKR T275SWST 230.00
#
1 30460 30452 "2 " 0 # line from VACA-DIX 230.00 BRKR to BRKR T275SWST 230.00
0
#
#
# (4) C5 DCTL OUTAGE
# T257 - Lambie and T257 - Peabody 230 kV Lines pre-project outage
1 30452 30478 "1 " 0 # line from T275SWST 230.00 BRKR to BRKR LAMBIE 230.00
#
1 30452 30472 "1 " 0 # line from T275SWST 230.00 BRKR to BRKR PEABODY 230.00
0
#
#
# (5) C5 DCTL OUTAGE
# Vaca-Dixon - Tesla 500 kV and Peabody - Birds Landing 230 kV Lines pre-project outage
1 30030 30040 "1 " 0 # line from VACA-DIX 500.00 BRKR to BRKR TESLA 500.00
#
1 30472 30479 "1 " 0 # line from PEABODY 230.00 BRKR to BRKR BDLSWSTA 230.00
0
#
#
# (6) C5 DCTL OUTAGE
# Vaca-Dixon - T171 500 kV and Peabody - Birds Landing 230 kV Lines post-project outage
1 30030 30070 "1 " 0 # line from VACA-DIX 500.00 BRKR to BRKR T171 500.00
#
1 30472 30479 "1 " 0 # line from PEABODY 230.00 BRKR to BRKR BDLSWSTA 230.00
0
#
#
# (7) C5 DCTL OUTAGE
# T171 - Tesla 500 kV and Peabody - Birds Landing 230 kV Lines post-project outage
1 30070 30040 "1 " 0 # line from T171 500.00 BRKR to BRKR TESLA 500.00
#
1 30472 30479 "1 " 0 # line from PEABODY 230.00 BRKR to BRKR BDLSWSTA 230.00
0
#
#
# 2013 category c contingency list (dctl and bus outages)
# North Bay Division Zone 306
#
#
# (8) C5 DCTL OUTAGE
# Lakeville - Ignacio #1 and Lakeville - Sobrante #2 230 kV Lines pre-project outage
1 30435 30445 "1 " 0 # line from LAKEVILLE 230.00 BRKR to BRKR IGNACIO 230.00
#
1 30435 30540 "2 " 0 # line from LAKEVILLE 230.00 BRKR to BRKR SOBRANTE 230.00
0
#
#
```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

# (9) C5 DCTL OUTAGE
# Lakeville - Ignacio #1 and Lakeville - T257 230 kV Lines post-project outage
1 30435 30445 "1 " 0 # line from LAKEVILLE 230.00 BRKR to BRKR IGNACIO 230.00
#
1 30435 30446 "1 " 0 # line from LAKEVILLE 230.00 BRKR to BRKR T257SWST 230.00
0
#
#
# (10) C5 DCTL OUTAGE
# Lakeville - Ignacio #1 and T257 - Sobrante #2 230 kV Lines post-project outage
1 30435 30445 "1 " 0 # line from LAKEVILLE 230.00 BRKR to BRKR IGNACIO 230.00
#
1 30446 30540 "2 " 0 # line from T257SWST 230.00 BRKR to BRKR SOBRANTE 230.00
0
#
#
# (11) C5 DCTL OUTAGE
# Lakeville - Ignacio #1 and Ignacio - Sobrante 230 kV Lines pre-project outage
1 30435 30445 "1 " 0 # line from LAKEVILLE 230.00 BRKR to BRKR IGNACIO 230.00
#
1 30437 30445 "1 " 0 # line from CROCKETT 230.00 (3) to BRKR IGNACIO 230.00
1 30437 30438 "1 " 0 # line from CROCKETT 230.00 (3) to (2) C&H 230.00
1 30437 30540 "1 " 0 # line from CROCKETT 230.00 (3) to BRKR SOBRANTE 230.00
2 30438 32900 "1 " 0 # TRAN from C&H 230.00 BRKR to (1) CRCKTCOG 18.00
4 30438 0 "1 " 0 # LOAD-DROP C&H 230.00 LOAD==3.32 (0.76)
3 32900 0 "1 " 0 # GEN-DROP CRCKTCOG 18.00 GEN==240.00 (40.82)
0
#
#
# (12) C5 DCTL OUTAGE
# Lakeville - Ignacio #1 and Ignacio - T257 230 kV Lines post-project outage
1 30435 30445 "1 " 0 # line from LAKEVILLE 230.00 BRKR to BRKR IGNACIO 230.00
#
1 30445 30446 "1 " 0 # line from IGNACIO 230.00 BRKR to BRKR T257SWST 230.00
0
#
#
# (13) C5 DCTL OUTAGE
# Lakeville - Ignacio #1 and T257 - Sobrante #1 230 kV Lines post-project outage
1 30435 30445 "1 " 0 # line from LAKEVILLE 230.00 BRKR to BRKR IGNACIO 230.00
#
1 30446 30437 "1 " 0 # line from T257SWST 230.00 BRKR to (3) CROCKETT 230.00
1 30437 30438 "1 " 0 # line from CROCKETT 230.00 (3) to (2) C&H 230.00
1 30437 30540 "1 " 0 # line from CROCKETT 230.00 (3) to BRKR SOBRANTE 230.00
2 30438 32900 "1 " 0 # TRAN from C&H 230.00 BRKR to (1) CRCKTCOG 18.00
4 30438 0 "1 " 0 # LOAD-DROP C&H 230.00 LOAD==3.32 (0.76)
3 32900 0 "1 " 0 # GEN-DROP CRCKTCOG 18.00 GEN==240.00 (54.42)
0
#
#
# (14) C5 DCTL OUTAGE
# Lakeville - Ignacio #2 and Ignacio - Sobrante 230 kV Lines pre-project outage
1 30433 30445 "2 " 0 # line from T22_93B 230.00 (2) to BRKR IGNACIO 230.00
1 30433 30435 "2 " 0 # line from T22_93B 230.00 (2) to BRKR LAKEVILLE 230.00
#
1 30437 30445 "1 " 0 # line from CROCKETT 230.00 (3) to BRKR IGNACIO 230.00
1 30437 30438 "1 " 0 # line from CROCKETT 230.00 (3) to (2) C&H 230.00
1 30437 30540 "1 " 0 # line from CROCKETT 230.00 (3) to BRKR SOBRANTE 230.00
2 30438 32900 "1 " 0 # TRAN from C&H 230.00 BRKR to (1) CRCKTCOG 18.00
4 30438 0 "1 " 0 # LOAD-DROP C&H 230.00 LOAD==3.32 (0.76)
3 32900 0 "1 " 0 # GEN-DROP CRCKTCOG 18.00 GEN==240.00 (40.82)
0
#
#
# (15) C5 DCTL OUTAGE
# Lakeville - Ignacio #2 and Ignacio - T257 230 kV Lines post-project outage
1 30433 30445 "2 " 0 # line from T22_93B 230.00 (2) to BRKR IGNACIO 230.00
1 30433 30435 "2 " 0 # line from T22_93B 230.00 (2) to BRKR LAKEVILLE 230.00
#
1 30445 30446 "1 " 0 # line from IGNACIO 230.00 BRKR to BRKR T257SWST 230.00
0
#
#
# (16) C5 DCTL OUTAGE
# Lakeville - Ignacio #2 and T257 - Sobrante #1 230 kV Lines post-project outage
1 30433 30445 "2 " 0 # line from T22_93B 230.00 (2) to BRKR IGNACIO 230.00
1 30433 30435 "2 " 0 # line from T22_93B 230.00 (2) to BRKR LAKEVILLE 230.00
#

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APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

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1 30446 30437 "1 " 0 # line from T257SWST 230.00 BRKR to (3) CROCKETT 230.00
1 30437 30438 "1 " 0 # line from CROCKETT 230.00 (3) to (2) C&H 230.00
1 30437 30540 "1 " 0 # line from CROCKETT 230.00 (3) to BRKR SOBRANTE 230.00
2 30438 32900 "1 " 0 # TRAN from C&H 230.00 BRKR to (1) CRCKTCOG 18.00
4 30438 0 "1 " 0 # LOAD-DROP C&H 230.00 LOAD==3.32(0.76)
3 32900 0 "1 " 0 # GEN-DROP CRCKTCOG 18.00 GEN==240.00(54.42)
0
#
#
# (17) C5 DCTL OUTAGE
# Lakeville - Ignacio #2 and Fulton - Ignacio 230 kV Lines
1 30433 30445 "2 " 0 # line from T22_93B 230.00 (2) to BRKR IGNACIO 230.00
1 30433 30435 "2 " 0 # line from T22_93B 230.00 (2) to BRKR LAKEVILLE 230.00
#
1 30430 30445 "1 " 0 # line from FULTON 230.00 BRKR to BRKR IGNACIO 230.00
0
#
#
# (18) C5 DCTL OUTAGE
# Vaca-Dixon - Bahia and Vaca-Dixon - Parkway 230 kV Lines
1 30460 30465 "1 " 0 # line from VACA-DIX 230.00 BRKR to BRKR BAHIA 230.00
#
1 30460 30467 "1 " 0 # line from VACA-DIX 230.00 BRKR to BRKR PARKWAY 230.00
0
#
#
# (19) C5 DCTL OUTAGE
# Vaca-Dixon - Bahia and Parkway - Moraga 230 kV Lines
1 30460 30465 "1 " 0 # line from VACA-DIX 230.00 BRKR to BRKR BAHIA 230.00
#
1 30467 30550 "1 " 0 # line from PARKWAY 230.00 BRKR to BRKR MORAGA 230.00
0
#
#
# (20) C5 DCTL OUTAGE
# Bahia - Q177 and Parkway - Moraga 230 kV Lines
1 30465 30466 "1 " 0 # line from BAHIA 230.00 BRKR to BRKR Q177 230.00
#
1 30467 30550 "1 " 0 # line from PARKWAY 230.00 BRKR to BRKR MORAGA 230.00
0
#
#
# (21) C5 DCTL OUTAGE
# Q177 - Moraga and Parkway - Moraga 230 kV Lines
1 30466 30550 "1 " 0 # line from Q177 230.00 BRKR to BRKR MORAGA 230.00
#
1 30467 30550 "1 " 0 # line from PARKWAY 230.00 BRKR to BRKR MORAGA 230.00
0
#
#
# (22) C5 DCTL OUTAGE
# Ignacio - San Rafael #1 and Ignacio - Las Gallinas #3 115 kV Lines
1 32568 32574 "1 " 0 # line from IGNACIO 115.00 BRKR to BRKR SAN RAFL 115.00
#
1 32568 32570 "3 " 0 # line from IGNACIO 115.00 BRKR to BRKR LS GLLNS 115.00
0
#
#
# (23) C5 DCTL OUTAGE
# Ignacio - San Rafael #1 and Las Gallinas - San Rafael #3 115 kV Lines
1 32568 32574 "1 " 0 # line from IGNACIO 115.00 BRKR to BRKR SAN RAFL 115.00
#
1 32570 32574 "3 " 0 # line from LS GLLNS 115.00 BRKR to BRKR SAN RAFL 115.00
0
#
#
# (24) C5 DCTL OUTAGE
# Ignacio - Mare Island #1 and #2 115 kV Lines
1 32568 32576 "1 " 0 # line from IGNACIO 115.00 BRKR to (3) SKGGS J1 115.00
1 32576 32580 "1 " 0 # line from SKGGS J1 115.00 (3) to (1) SKAGGS 115.00
1 32576 32588 "1 " 0 # line from SKGGS J1 115.00 (3) to (2) HGHWY J1 115.00
1 32588 32593 "1 " 0 # line from HGHWY J1 115.00 (2) to (3) JCPMPJCT 115.00
1 32593 32595 "1 " 0 # line from JCPMPJCT 115.00 (3) to (1) JMSCNPMP 115.00
1 32593 32604 "1 " 0 # line from JCPMPJCT 115.00 (3) to (2) MREIS JC 115.00
1 32604 32612 "1 " 0 # line from MREIS JC 115.00 (2) to (3) CRQNZTP1 115.00
1 32612 32610 "1 " 0 # line from CRQNZTP1 115.00 (3) to BRKR MRE IS-Q 115.00
1 32612 32614 "1 " 0 # line from CRQNZTP1 115.00 (3) to (3) MEYERTP1 115.00
1 32614 32600 "1 " 0 # line from MEYERTP1 115.00 (3) to BRKR MEYERS 115.00

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APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

1 32614 32606 "1 " 0 # line from MEYERTP1 115.00 (3) to BRKR CARQUINZ 115.00
4 32610 0 "1 " 0 # LOAD-DROP MRE IS-Q 115.00 LOAD==4.25(0.86)
4 32600 0 "1 " 0 # LOAD-DROP MEYERS 115.00 LOAD==0.24(0.05)
4 32606 0 "1 " 0 # LOAD-DROP CARQUINZ 115.00 LOAD==13.23(1.89)
4 32606 0 "2 " 0 # LOAD-DROP CARQUINZ 115.00 LOAD==11.26(1.60)
1 32616 32606 "1 " 1 # LINE-TRANSFER MEYERTP1 115.00 to MEYERTP2 115.00
4 32606 0 "***" 1 # RESTORE CARQUINEZ load
#
1 32568 32569 "1 " 0 # line from IGNACIO 115.00 BRKR to (2) HMLT WET 115.00
1 32569 32578 "1 " 0 # line from HMLT WET 115.00 (2) to (2) SKGGS J2 115.00
1 32578 32586 "1 " 0 # line from SKGGS J2 115.00 (2) to (3) HGHWY J2 115.00
1 32586 31956 "1 " 0 # line from HGHWY J2 115.00 (3) to (2) CORDELLT 115.00
1 32586 32590 "1 " 0 # line from HGHWY J2 115.00 (3) to BRKR HIGHWAY 115.00
1 31956 32598 "1 " 0 # line from CORDELLT 115.00 (2) to (2) NTWR ALT 115.00
1 32598 32608 "1 " 0 # line from NTWR ALT 115.00 (2) to (2) CRQNZTP2 115.00
1 32608 32616 "1 " 0 # line from CRQNZTP2 115.00 (2) to (1) MEYERTP2 115.00
4 32569 0 "1 " 0 # LOAD-DROP HMLT WET 115.00 LOAD==15.00(9.30)
4 32590 0 "1 " 0 # LOAD-DROP HIGHWAY 115.00 LOAD==20.67(2.94)
4 32590 0 "2 " 0 # LOAD-DROP HIGHWAY 115.00 LOAD==25.37(3.61)
1 32588 32590 "1 " 1 # LINE-TRANSFER HGHWY J2 115.00 to HGHWY J1 115.00
4 32590 0 "***" 1 # RESTORE HIGHWAY load
#
#
# (25) C5 DCTL OUTAGE
# Vaca-Vacaville-Jameson-North Tower and Ignacio - Mare Island #2 115 kV Lines
1 32618 32020 "1 " 0 # line from NTWRJCT1 115.00 (1) to (3) JMSN JCT 115.00
1 32020 31996 "1 " 0 # line from JMSN JCT 115.00 (3) to (3) HALE J1 115.00
1 32020 32010 "1 " 0 # line from JMSN JCT 115.00 (3) to BRKR JAMESON 115.00
1 31996 31995 "1 " 0 # line from HALE J1 115.00 (3) to (2) HALE 115.00
1 31996 32006 "1 " 0 # line from HALE J1 115.00 (3) to (3) VCVLLE1J 115.00
1 31995 32013 "1 " 0 # line from HALE 115.00 (2) to (1) HALE2 115.00
1 32006 31998 "1 " 0 # line from VCVLLE1J 115.00 (3) to BRKR VACA-DIX 115.00
1 32006 32000 "1 " 0 # line from VCVLLE1J 115.00 (3) to BRKR VACAVLL1 115.00
4 32010 0 "1 " 0 # LOAD-DROP JAMESON 115.00 LOAD==35.07(1.57)
4 31995 0 "1 " 0 # LOAD-DROP HALE 115.00 LOAD==2.36(1.40)
4 32000 0 "1 " 0 # LOAD-DROP VACAVLL1 115.00 LOAD==27.49(1.23)
1 32002 32000 "1" 1 #Line transfer VACAVLL1 115kV TO VACAVLL2 115kV
4 32000 0 "***" 1 #Restore VACAVLL1 load
1 32012 32013 "1" 1 #Transfer load to HALE alternate
4 31995 0 "***" 1 #Restore load at HALE
1 32010 32009 "1 " 1 # LINE-TRANSFER JMSN JCT 115.00 to JAMESN-A 115.00
4 32010 0 "***" 1 # RESTORE JAMESON load
#
1 32568 32569 "1 " 0 # line from IGNACIO 115.00 BRKR to (2) HMLT WET 115.00
1 32569 32578 "1 " 0 # line from HMLT WET 115.00 (2) to (2) SKGGS J2 115.00
1 32578 32586 "1 " 0 # line from SKGGS J2 115.00 (2) to (3) HGHWY J2 115.00
1 32586 31956 "1 " 0 # line from HGHWY J2 115.00 (3) to (2) CORDELLT 115.00
1 32586 32590 "1 " 0 # line from HGHWY J2 115.00 (3) to BRKR HIGHWAY 115.00
1 31956 32598 "1 " 0 # line from CORDELLT 115.00 (2) to (2) NTWR ALT 115.00
1 32598 32608 "1 " 0 # line from NTWR ALT 115.00 (2) to (2) CRQNZTP2 115.00
1 32608 32616 "1 " 0 # line from CRQNZTP2 115.00 (2) to (1) MEYERTP2 115.00
4 32569 0 "1 " 0 # LOAD-DROP HMLT WET 115.00 LOAD==15.00(9.30)
4 32590 0 "1 " 0 # LOAD-DROP HIGHWAY 115.00 LOAD==20.67(2.94)
4 32590 0 "2 " 0 # LOAD-DROP HIGHWAY 115.00 LOAD==25.37(3.61)
1 32588 32590 "1 " 1 # LINE-TRANSFER HGHWY J2 115.00 to HGHWY J1 115.00
4 32590 0 "***" 1 # RESTORE HIGHWAY load
#
#
# (26) C5 DCTL OUTAGE
# Ignacio - San Rafael #1 115 kV and Ignacio - Alto 60 kV Lines
1 32568 32574 "1 " 0 # line from IGNACIO 115.00 BRKR to BRKR SAN RAFL 115.00
#
1 32664 32667 "1 " 0 # line from IGNACO A 60.00 BRKR to (3) IG JCT 60.00
1 32667 32678 "1 " 0 # line from IG JCT 60.00 (3) to (2) SAN RFLJ 60.00
1 32667 32668 "1 " 0 # line from IG JCT 60.00 (3) to BRKR NOVATO 60.00
1 32678 32680 "1 " 0 # line from SAN RFLJ 60.00 (2) to BRKR GREENBRE 60.00
#
#
# (27) C5 DCTL OUTAGE
# Ignacio - Alto - Sausalito #1 and #2 60 kV Lines
1 32664 32676 "1 " 0 # line from IGNACO A 60.00 BRKR to (2) HMLTN FD 60.00
1 32676 32686 "1 " 0 # line from HMLTN FD 60.00 (2) to (2) ALTOJT2 60.00
1 32686 32682 "1 " 0 # line from ALTOJT2 60.00 (2) to BRKR ALTO 60.00
1 32676 32677 "1 " 1 # LINE-TRANSFER HMLTN FD 60.00 to HMLTNBFD 60.00
4 32676 0 "***" 1 # RESTORE HMLTN FD load

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APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

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#
1 32664 32677 "1 " 0 # line from IGNACO A 60.00 BRKR to (2) HMLTNBFD 60.00
1 32677 32684 "1 " 0 # line from HMLTNBFD 60.00 (2) to (3) ALTOJT1 60.00
1 32684 32682 "1 " 0 # line from ALTOJT1 60.00 (3) to BRKR ALTO 60.00
1 32684 32688 "1 " 0 # line from ALTOJT1 60.00 (3) to BRKR SAUSALTO 60.00
4 32688 0 "2 " 0 # LOAD-DROP SAUSALTO 60.00 LOAD==10.92(1.56)
1 32688 32686 "1 " 1 # LINE-TRANSFER SAUSALTO 60.00 to ALTOJT2 60.00
4 32688 0 "***" 1 # RESTORE SAUSALTO load
0
#
#
# (28) BUS FAULT 30445 "IGNACIO" Ignacio 230 kV Bus Section 1
#
1 30445 30430 "1" 0 # LINE from IGNACIO 230.00 to FULTON 230.00
2 30445 32568 "6" 0 # TRAN from IGNACIO 230.00 to IGNACIO 115.00
0
#
#
# (29) BUS FAULT 30445 "IGNACIO" Ignacio 230 kV Bus Section 2
# pre and post-project outage
1 30445 30433 "2" 0 # LINE from IGNACIO 230.00 to T22_93B 230.00
1 30445 30435 "1" 0 # LINE from IGNACIO 230.00 to LAKEVILLE 230.00
1 30445 30437 "1" 0 # LINE from IGNACIO 230.00 to CROCKETT 230.00 pre-project
1 30445 30446 "1" 0 # LINE from IGNACIO 230.00 to T257SWST 230.00 post-project
2 30445 32568 "4" 0 # TRAN from IGNACIO 230.00 to IGNACIO 115.00
0
#
#
# (30) BUS FAULT 30465 "BAHIA"
#
1 30465 30460 "1" 0 # LINE from BAHIA 230.00 to VACA-DIX 230.00
1 30465 30466 "1" 0 # LINE from BAHIA 230.00 to Q177 230.00
2 30465 30464 "1" 0 # TRAN from BAHIA 230.00 to EXXON_BH 12.47
2 30465 30464 "2" 0 # TRAN from BAHIA 230.00 to EXXON_BH 12.47
2 30465 30464 "3" 0 # TRAN from BAHIA 230.00 to EXXON_BH 12.47
4 30465 0 "1 " 0 # LOAD-DROP BAHIA 230.00 LOAD==30.11(4.29)
4 30465 0 "2 " 0 # LOAD-DROP BAHIA 230.00 LOAD==19.06(2.72)
0
#
#
# (31) BUS FAULT 30466 "Q177"
#
1 30466 30465 "1" 0 # LINE from Q177 230.00 to BAHIA 230.00
1 30466 30550 "1" 0 # LINE from Q177 230.00 to MORAGA 230.00
2 30466 32701 "1" 0 # TRAN from Q177 230.00 to Q177CL1 34.50
0
#
#
# (32) BUS FAULT 30467 "PARKWAY"
#
1 30467 30460 "1" 0 # LINE from PARKWAY 230.00 to VACA-DIX 230.00
1 30467 30550 "1" 0 # LINE from PARKWAY 230.00 to MORAGA 230.00
4 30467 0 "1 " 0 # LOAD-DROP PARKWAY 230.00 LOAD==32.48(4.63)
0
#
#
# (33) BUS FAULT 32564 "PUEBLO"
#
1 32564 31258 "1" 0 # LINE from PUEBLO 115.00 to SONOMA 115.00
1 32564 32562 "1" 0 # LINE from PUEBLO 115.00 to PUEBLOJT 115.00
4 32564 0 "1 " 0 # LOAD-DROP PUEBLO 115.00 LOAD==48.17(6.86)
4 32564 0 "2 " 0 # LOAD-DROP PUEBLO 115.00 LOAD==38.82(5.53)
0
#
#
# (34) BUS FAULT 32568 "IGNACIO" Ignacio 115 kV Bus Section D
#
1 32568 32574 "1" 0 # LINE from IGNACIO 115.00 to SAN RAFL 115.00
1 32568 32576 "1" 0 # LINE from IGNACIO 115.00 to SKGGS J1 115.00
2 32568 30445 "4" 0 # TRAN from IGNACIO 115.00 to IGNACIO 230.00
2 32568 32666 "3" 0 # TRAN from IGNACIO 115.00 to IGNACO B 60.00
0
#
#
# (35) BUS FAULT 32568 "IGNACIO" Ignacio 115 kV Bus Section E
#
1 32568 32569 "1" 0 # LINE from IGNACIO 115.00 to HMLT_WET 115.00
1 32568 32570 "3" 0 # LINE from IGNACIO 115.00 to LS GLNS 115.00

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APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

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2 32568 30445 "6" 0 # TRAN from IGNACIO 115.00 to IGNACIO 230.00
2 32568 32666 "1" 0 # TRAN from IGNACIO 115.00 to IGNACO B 60.00
4 32568 0 "2 " 0 # LOAD-DROP IGNACIO 115.00 LOAD==15.92(2.27)
4 32568 0 "5 " 0 # LOAD-DROP IGNACIO 115.00 LOAD==16.10(2.29)
0
#
#
# (36) BUS FAULT 32570 "LS GLLNS"
#
1 32570 32568 "3" 0 # LINE from LS GLLNS 115.00 to IGNACIO 115.00
1 32570 32574 "3" 0 # LINE from LS GLLNS 115.00 to SAN RAFL 115.00
4 32570 0 "1 " 0 # LOAD-DROP LS GLLNS 115.00 LOAD==14.53(2.07)
4 32570 0 "2 " 0 # LOAD-DROP LS GLLNS 115.00 LOAD==9.81(1.40)
4 32570 0 "3 " 0 # LOAD-DROP LS GLLNS 115.00 LOAD==10.97(1.56)
0
#
#
# (37) BUS FAULT 32574 "SAN RAFL"
#
1 32574 32568 "1" 0 # LINE from SAN RAFL 115.00 to IGNACIO 115.00
1 32574 32570 "3" 0 # LINE from SAN RAFL 115.00 to LS GLLNS 115.00
4 32574 0 "1 " 0 # LOAD-DROP SAN RAFL 115.00 LOAD==26.66(3.80)
4 32574 0 "2 " 0 # LOAD-DROP SAN RAFL 115.00 LOAD==25.42(3.62)
4 32574 0 "3 " 0 # LOAD-DROP SAN RAFL 115.00 LOAD==17.66(2.52)
0
#
#
# (38) BUS FAULT 32590 "HIGHWAY"
#
1 32590 32586 "1" 0 # LINE from HIGHWAY 115.00 to HGHWY J2 115.00
1 32590 32588 "1" 0 # LINE from HIGHWAY 115.00 to HGHWY J1 115.00
4 32590 0 "1 " 0 # LOAD-DROP HIGHWAY 115.00 LOAD==20.67(2.94)
4 32590 0 "2 " 0 # LOAD-DROP HIGHWAY 115.00 LOAD==25.37(3.61)
0
#
#
# (39) BUS FAULT 32600 "MEYERS"
#
1 32600 32614 "1" 0 # LINE from MEYERS 115.00 to MEYERTP1 115.00
1 32600 32616 "1" 0 # LINE from MEYERS 115.00 to MEYERTP2 115.00
4 32600 0 "1 " 0 # LOAD-DROP MEYERS 115.00 LOAD==0.24(0.05)
0
#
#
# (40) BUS FAULT 32602 "NRTH TWR"
#
1 32602 32618 "1" 0 # LINE from NRTH TWR 115.00 to NTRWJCT1 115.00
1 32602 32620 "1" 0 # LINE from NRTH TWR 115.00 to NTRWJCT2 115.00
4 32602 0 "1 " 0 # LOAD-DROP NRTH TWR 115.00 LOAD==14.43(2.06)
4 32602 0 "2 " 0 # LOAD-DROP NRTH TWR 115.00 LOAD==9.58(1.37)
4 32602 0 "3 " 0 # LOAD-DROP NRTH TWR 115.00 LOAD==6.08(0.87)
4 32602 0 "4 " 0 # LOAD-DROP NRTH TWR 115.00 LOAD==2.85(0.41)
0
#
#
# (41) BUS FAULT 32606 "CARQUINZ"
#
1 32606 32614 "1" 0 # LINE from CARQUINZ 115.00 to MEYERTP1 115.00
1 32606 32616 "1" 0 # LINE from CARQUINZ 115.00 to MEYERTP2 115.00
4 32606 0 "1 " 0 # LOAD-DROP CARQUINZ 115.00 LOAD==13.23(1.89)
4 32606 0 "2 " 0 # LOAD-DROP CARQUINZ 115.00 LOAD==11.26(1.60)
0
#
#
# (42) BUS FAULT 32652 "CALISTGA"
#
1 32652 31342 "1" 0 # LINE from CALISTGA 60.00 to MIDDLETWN 60.00
1 32652 32650 "1" 0 # LINE from CALISTGA 60.00 to ST.HELNA 60.00
4 32652 0 "1 " 0 # LOAD-DROP CALISTGA 60.00 LOAD==18.46(2.63)
0
#
#
# (43) BUS FAULT 32654 "TULUCAY"
#
1 32654 32655 "1" 0 # LINE from TULUCAY 60.00 to TULCAY1 60.00
1 32654 32660 "1" 0 # LINE from TULUCAY 60.00 to BSLT TAP 60.00
2 32654 30440 "1" 0 # TRAN from TULUCAY 60.00 to TULUCAY 230.00
2 32654 30440 "3" 0 # TRAN from TULUCAY 60.00 to TULUCAY 230.00

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APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

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4 32654      0 "2 "    0      # LOAD-DROP    TULUCAY    60.00  LOAD==11.77(1.68)
0
#
#
# (44) BUS FAULT  32656  "NAPA"
#
1 32656 32660 "1"    0      # LINE from  NAPA      60.00  to  BSLT TAP  60.00
1 32656 32662 "1"    0      # LINE from  NAPA      60.00  to  TULCY JT   60.00
4 32656      0 "1 "    0      # LOAD-DROP    NAPA      60.00  LOAD==19.68(2.80)
4 32656      0 "2 "    0      # LOAD-DROP    NAPA      60.00  LOAD==16.99(2.42)
0
#
#
# (45) BUS FAULT  32664  "IGNACO A"
#
1 32664 32666 "1"    0      # LINE from  IGNACO A  60.00  to  IGNACO B  60.00
1 32664 32667 "1"    0      # LINE from  IGNACO A  60.00  to  IG JCT    60.00
1 32664 32676 "1"    0      # LINE from  IGNACO A  60.00  to  HMLTN FD   60.00
1 32664 32677 "1"    0      # LINE from  IGNACO A  60.00  to  HMLTNBFD   60.00
0
#
#
# (46) BUS FAULT  32666  "IGNACO B"
#
1 32666 32664 "1"    0      # LINE from  IGNACO B  60.00  to  IGNACO A  60.00
1 32666 32669 "1"    0      # LINE from  IGNACO B  60.00  to  STAF_JCT   60.00
1 32666 32674 "1"    0      # LINE from  IGNACO B  60.00  to  WOODACRE   60.00
2 32666 32568 "1"    0      # TRAN from  IGNACO B  60.00  to  IGNACIO   115.00
2 32666 32568 "3"    0      # TRAN from  IGNACO B  60.00  to  IGNACIO   115.00
0
#
#
# (47) BUS FAULT  32668  "NOVATO"
#
1 32668 32665 "1"    0      # LINE from  NOVATO    60.00  to  NVTO JCT   60.00
1 32668 32667 "1"    0      # LINE from  NOVATO    60.00  to  IG JCT    60.00
4 32668      0 "1 "    0      # LOAD-DROP    NOVATO    60.00  LOAD==5.04(0.72)
4 32668      0 "2 "    0      # LOAD-DROP    NOVATO    60.00  LOAD==15.47(2.20)
0
#
#
# (48) BUS FAULT  32670  "STAFFORD"
#
1 32670 32665 "1"    0      # LINE from  STAFFORD  60.00  to  NVTO JCT   60.00
1 32670 32669 "1"    0      # LINE from  STAFFORD  60.00  to  STAF_JCT   60.00
4 32670      0 "1 "    0      # LOAD-DROP    STAFFORD  60.00  LOAD==10.16(1.45)
4 32670      0 "2 "    0      # LOAD-DROP    STAFFORD  60.00  LOAD==10.61(1.51)
0
#
#
# (49) BUS FAULT  32671  "BOLINAS"
#
1 32671 32674 "1"    0      # LINE from  BOLINAS   60.00  to  WOODACRE   60.00
1 32671 32672 "1"    0      # LINE from  BOLINAS   60.00  to  OLEMA      60.00
4 32671      0 "1 "    0      # LOAD-DROP    BOLINAS   60.00  LOAD==1.48(0.21)
0
#
#
# (50) BUS FAULT  32672  "OLEMA"
#
1 32672 32671 "1"    0      # LINE from  OLEMA     60.00  to  BOLINAS   60.00
1 32672 32673 "1"    0      # LINE from  OLEMA     60.00  to  TOCA JCT   60.00
4 32672      0 "1 "    0      # LOAD-DROP    OLEMA     60.00  LOAD==3.24(0.46)
0
#
#
# (51) BUS FAULT  32680  "GREENBRE"
#
1 32680 32678 "1"    0      # LINE from  GREENBRE  60.00  to  SAN RFLJ   60.00
1 32680 32682 "1"    0      # LINE from  GREENBRE  60.00  to  ALTO       60.00
4 32680      0 "1 "    0      # LOAD-DROP    GREENBRE  60.00  LOAD==10.09(1.44)
4 32680      0 "2 "    0      # LOAD-DROP    GREENBRE  60.00  LOAD==13.05(1.86)
0
#
#
# (52) BUS FAULT  32682  "ALTO"
#
1 32682 32680 "1"    0      # LINE from  ALTO      60.00  to  GREENBRE   60.00

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APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

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1 32682 32684 "1" 0 # LINE from ALTO 60.00 to ALTOJT1 60.00
1 32682 32686 "1" 0 # LINE from ALTO 60.00 to ALTOJT2 60.00
4 32682 0 "1 " 0 # LOAD-DROP ALTO 60.00 LOAD==17.21(2.45)
4 32682 0 "3 " 0 # LOAD-DROP ALTO 60.00 LOAD==18.42(2.62)
0
#
#
# (53) BUS FAULT 32688 "SAUSALTO"
#
1 32688 32684 "1" 0 # LINE from SAUSALTO 60.00 to ALTOJT1 60.00
1 32688 32686 "1" 0 # LINE from SAUSALTO 60.00 to ALTOJT2 60.00
4 32688 0 "2 " 0 # LOAD-DROP SAUSALTO 60.00 LOAD==10.92(1.56)
0
#
#
# 2013 category c contingency list (dctl and bus outages)
# East Bay Division Zone 307
#
#
# (54) C5 DCTL OUTAGE
# Ignacio - Sobrante and Lakeville - Sobrante 230 kV Lines pre-project outage
1 30437 30445 "1 " 0 # line from CROCKETT 230.00 (3) to BRKR IGNACIO 230.00
1 30437 30438 "1 " 0 # line from CROCKETT 230.00 (3) to (2) C&H 230.00
1 30437 30540 "1 " 0 # line from CROCKETT 230.00 (3) to BRKR SOBRANTE 230.00
2 30438 32900 "1 " 0 # TRAN from C&H 230.00 BRKR to (1) CRCKTCOG 18.00
4 30438 0 "1 " 0 # LOAD-DROP C&H 230.00 LOAD==3.32(0.76)
3 32900 0 "1 " 0 # GEN-DROP CRCKTCOG 18.00 GEN==240.00(40.82)
#
1 30435 30540 "2 " 0 # line from LAKEVILLE 230.00 BRKR to BRKR SOBRANTE 230.00
0
#
#
# (55) C5 DCTL OUTAGE
# T257 - Sobrante #1 and #2 230 kV Lines post-project outage
1 30446 30437 "1 " 0 # line from T257SWST 230.00 BRKR to (3) CROCKETT 230.00
1 30437 30438 "1 " 0 # line from CROCKETT 230.00 (3) to (2) C&H 230.00
1 30437 30540 "1 " 0 # line from CROCKETT 230.00 (3) to BRKR SOBRANTE 230.00
2 30438 32900 "1 " 0 # TRAN from C&H 230.00 BRKR to (1) CRCKTCOG 18.00
4 30438 0 "1 " 0 # LOAD-DROP C&H 230.00 LOAD==3.32(0.76)
3 32900 0 "1 " 0 # GEN-DROP CRCKTCOG 18.00 GEN==240.00(54.42)
#
1 30446 30540 "2 " 0 # line from T257SWST 230.00 BRKR to BRKR SOBRANTE 230.00
0
#
#
# (56) C5 DCTL OUTAGE
# Christie - Sobrante and Martinez - Sobrante 115 kV Lines
1 32756 33010 "1 " 0 # line from CHRISTIE 115.00 BRKR to BRKR SOBRANTE 115.00
#
1 32990 33014 "1 " 0 # line from MARTNZ D 115.00 BRKR to (3) ALHAMTP1 115.00
1 33014 33010 "1 " 0 # line from ALHAMTP1 115.00 (3) to BRKR SOBRANTE 115.00
1 33014 33011 "1 " 0 # line from ALHAMTP1 115.00 (3) to BRKR ALHAMBRA 115.00
4 33011 0 "1 " 0 # LOAD-DROP ALHAMBRA 115.00 LOAD==10.29(2.34)
4 33011 0 "2 " 0 # LOAD-DROP ALHAMBRA 115.00 LOAD==9.17(2.09)
1 33016 33011 "1 " 1 # LINE-TRANSFER ALHAMTP1 115.00 TO ALHAMTP2 115.00
4 33011 0 "3 " 1 # RESTORE ALHAMBRA load
0
#
#
# (57) C5 DCTL OUTAGE
# Sobrante - El Cerrito #1 and #2 115 kV Lines
1 32765 33010 "1 " 0 # line from ELCRTJ1 115.00 (2) to BRKR SOBRANTE 115.00
1 32765 32766 "1 " 0 # line from ELCRTJ1 115.00 (2) to BRKR EL CRRTO 115.00
#
1 32766 33010 "2 " 0 # line from EL CRRTO 115.00 BRKR to BRKR SOBRANTE 115.00
0
#
#
# (58) C5 DCTL OUTAGE
# Sobrante - Richmond #1 and #2 115 kV Lines
1 32767 33010 "1 " 0 # line from ELCRTJ2 115.00 (2) to BRKR SOBRANTE 115.00
1 32767 32768 "1 " 0 # line from ELCRTJ2 115.00 (2) to BRKR RICHMOND 115.00
#
1 32768 33010 "2 " 0 # line from RICHMOND 115.00 BRKR to BRKR SOBRANTE 115.00
0
#
#
# (59) C5 DCTL OUTAGE

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APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

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# Sobrante - Standard Oil #1 and #2 115 kV Lines
1 32748 32750 "1 " 0 # line from PP STEEL 115.00 BRKR to (3) PPSTLTAP 115.00
1 32750 32774 "1 " 0 # line from PPSTLTAP 115.00 (3) to (3) PTPNLTAP 115.00
1 32750 32760 "1 " 0 # line from PPSTLTAP 115.00 (3) to (1) PT PINLE 115.00
1 32774 32762 "1 " 0 # line from PTPNLTAP 115.00 (3) to BRKR STD. OIL 115.00
1 32774 32808 "1 " 0 # line from PTPNLTAP 115.00 (3) to (2) SNPBLTP2 115.00
1 32808 33010 "1 " 0 # line from SNPBLTP2 115.00 (2) to BRKR SOBRANTE 115.00
4 32748 0 "1 " 0 # LOAD-DROP PP STEEL 115.00 LOAD==0.19(0.25)
4 32760 0 "1 " 0 # LOAD-DROP PT PINLE 115.00 LOAD==14.78(3.36)
#
1 32806 32758 "1 " 0 # line from SNPBLTP1 115.00 (3) to BRKR SAN PBLO 115.00
1 32806 32762 "2 " 0 # line from SNPBLTP1 115.00 (3) to BRKR STD. OIL 115.00
1 32806 33010 "2 " 0 # line from SNPBLTP1 115.00 (3) to BRKR SOBRANTE 115.00
4 32758 0 "1 " 0 # LOAD-DROP SAN PBLO 115.00 LOAD==19.98(4.55)
1 32758 32808 "2 " 1 # LINE-TRANSFER SNPBLTP1 to SNPBLTP2
4 32758 0 "***" 1 # RESTORE SAN PABLO load
0
#
#
# (60) C5 DCTL OUTAGE
# Oleum - North Tower - Christie and Martinez - Sobrante 115 kV Lines
1 32620 32778 "1 " 0 # line from NTRWJCT2 115.00 (2) to (3) MRTNZJCT 115.00
1 32620 32602 "1 " 0 # line from NTRWJCT2 115.00 (2) to BRKR NRTH TWR 115.00
1 32778 32754 "1 " 0 # line from MRTNZJCT 115.00 (3) to BRKR OLEUM 115.00
1 32778 32756 "1 " 0 # line from MRTNZJCT 115.00 (3) to BRKR CHRISTIE 115.00
4 32602 0 "1 " 0 # LOAD-DROP NRTH TWR 115.00 LOAD==14.43(2.06)
4 32602 0 "2 " 0 # LOAD-DROP NRTH TWR 115.00 LOAD==9.58(1.37)
4 32602 0 "3 " 0 # LOAD-DROP NRTH TWR 115.00 LOAD==6.08(0.87)
4 32602 0 "4 " 0 # LOAD-DROP NRTH TWR 115.00 LOAD==2.85(0.41)
1 32602 32618 "1 " 1 # LINE-TRANSFER NTRWJCT2 115.00 to NTRWJCT1 115.00
4 32602 0 "***" 1 # RESTORE NORTH TOWER load
#
1 32990 33014 "1 " 0 # line from MARTNZ D 115.00 BRKR to (3) ALHAMTP1 115.00
1 33014 33010 "1 " 0 # line from ALHAMTP1 115.00 (3) to BRKR SOBRANTE 115.00
1 33014 33011 "1 " 0 # line from ALHAMTP1 115.00 (3) to BRKR ALHAMBRA 115.00
4 33011 0 "1 " 0 # LOAD-DROP ALHAMBRA 115.00 LOAD==10.29(2.34)
4 33011 0 "2 " 0 # LOAD-DROP ALHAMBRA 115.00 LOAD==9.17(2.09)
1 33016 33011 "1 " 1 # LINE-TRANSFER ALHAMTP1 115.00 TO ALHAMTP2 115.00
4 33011 0 "***" 1 # RESTORE ALHAMBRA load
0
#
#
# (61) C5 DCTL OUTAGE
# Oleum - Martinez and Martinez - Sobrante 115 kV Lines
1 33016 32754 "1 " 0 # line from ALHAMTP2 115.00 (2) to BRKR OLEUM 115.00
1 33016 32990 "1 " 0 # line from ALHAMTP2 115.00 (2) to BRKR MARTNZ D 115.00
#
1 32990 33014 "1 " 0 # line from MARTNZ D 115.00 BRKR to (3) ALHAMTP1 115.00
1 33014 33010 "1 " 0 # line from ALHAMTP1 115.00 (3) to BRKR SOBRANTE 115.00
1 33014 33011 "1 " 0 # line from ALHAMTP1 115.00 (3) to BRKR ALHAMBRA 115.00
4 33011 0 "1 " 0 # LOAD-DROP ALHAMBRA 115.00 LOAD==10.29(2.34)
4 33011 0 "2 " 0 # LOAD-DROP ALHAMBRA 115.00 LOAD==9.17(2.09)
1 33016 33011 "1 " 1 # LINE-TRANSFER ALHAMTP1 115.00 TO ALHAMTP2 115.00
4 33011 0 "***" 1 # RESTORE ALHAMBRA load
0
#
#
# (62) C5 DCTL OUTAGE
# Oleum - North Tower - Christie and Oleum - Martinez 115 kV Lines
1 32620 32778 "1 " 0 # line from NTRWJCT2 115.00 (2) to (3) MRTNZJCT 115.00
1 32620 32602 "1 " 0 # line from NTRWJCT2 115.00 (2) to BRKR NRTH TWR 115.00
1 32778 32754 "1 " 0 # line from MRTNZJCT 115.00 (3) to BRKR OLEUM 115.00
1 32778 32756 "1 " 0 # line from MRTNZJCT 115.00 (3) to BRKR CHRISTIE 115.00
4 32602 0 "1 " 0 # LOAD-DROP NRTH TWR 115.00 LOAD==14.43(2.06)
4 32602 0 "2 " 0 # LOAD-DROP NRTH TWR 115.00 LOAD==9.58(1.37)
4 32602 0 "3 " 0 # LOAD-DROP NRTH TWR 115.00 LOAD==6.08(0.87)
4 32602 0 "4 " 0 # LOAD-DROP NRTH TWR 115.00 LOAD==2.85(0.41)
1 32602 32618 "1 " 1 # LINE-TRANSFER NTRWJCT2 115.00 to NTRWJCT1 115.00
4 32602 0 "***" 1 # RESTORE NORTH TOWER load
#
1 33016 32754 "1 " 0 # line from ALHAMTP2 115.00 (2) to BRKR OLEUM 115.00
1 33016 32990 "1 " 0 # line from ALHAMTP2 115.00 (2) to BRKR MARTNZ D 115.00
0
#
#
# (63) C5 DCTL OUTAGE
# Oleum - El Cerrito #1 and #2 115 kV Lines
1 32754 32802 "1 " 0 # line from OLEUM 115.00 BRKR to (3) VLYVWTP1 115.00

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APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

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1 32802 32764 "1 " 0 # line from VLYVWTP1 115.00 (3) to BRKR VALLY VW 115.00
1 32802 32766 "1 " 0 # line from VLYVWTP1 115.00 (3) to BRKR EL CRRTO 115.00
4 32764 0 "1 " 0 # LOAD-DROP VALLY VW 115.00 LOAD==7.65(1.74)
4 32764 0 "2 " 0 # LOAD-DROP VALLY VW 115.00 LOAD==15.69(3.58)
1 32764 32804 "2 " 1 # LINE-TRANSFER VLYVWTP1 to VLYVWTP2
4 32764 0 "***" 1 # RESTORE VALLEY VIEW load
#
1 32754 32804 "2 " 0 # line from OLEUM 115.00 BRKR to (2) VLYVWTP2 115.00
1 32804 32766 "2 " 0 # line from VLYVWTP2 115.00 (2) to BRKR EL CRRTO 115.00
0
#
#
# (64) C5 DCTL OUTAGE
# Moraga - Claremont #1 and #2 115 kV Lines
1 33020 32780 "1 " 0 # line from MORAGA 115.00 BRKR to BRKR CLARMNT 115.00
#
1 33020 32780 "2 " 0 # line from MORAGA 115.00 BRKR to BRKR CLARMNT 115.00
0
#
#
# (65) C5 DCTL OUTAGE
# Moraga - Oakland X #1 and #2 115 kV Lines
1 33020 32790 "1 " 0 # line from MORAGA 115.00 BRKR to BRKR STATIN X 115.00
#
1 33020 32790 "2 " 0 # line from MORAGA 115.00 BRKR to BRKR STATIN X 115.00
0
#
#
# (66) C5 DCTL OUTAGE
# Moraga - Oakland X #3 and #4 115 kV Lines
1 33020 32790 "3 " 0 # line from MORAGA 115.00 BRKR to BRKR STATIN X 115.00
#
1 33020 32790 "4 " 0 # line from MORAGA 115.00 BRKR to BRKR STATIN X 115.00
0
#
#
# (67) C5 DCTL OUTAGE
# Moraga - Oakland J and Moraga - San Leandro #3 115 kV Lines
1 33020 32792 "1 " 0 # line from MORAGA 115.00 BRKR to BRKR STATIN J 115.00
#
1 33020 35101 "3 " 0 # line from MORAGA 115.00 BRKR to BRKR SN LNDRO 115.00
0
#
#
# (68) C5 DCTL OUTAGE
# Moraga - Oakland J and San Leandro - Oakland J 115 kV Lines
1 33020 32792 "1 " 0 # line from MORAGA 115.00 BRKR to BRKR STATIN J 115.00
#
1 32792 32814 "1 " 0 # line from STATIN J 115.00 BRKR to (3) EDESTAP1 115.00
1 32814 32810 "1 " 0 # line from EDESTAP1 115.00 (3) to BRKR EDES 115.00
1 32814 35113 "1 " 0 # line from EDESTAP1 115.00 (3) to (2) DMTAR SL 115.00
1 35113 35101 "1 " 0 # line from DMTAR SL 115.00 (2) to BRKR SN LNDRO 115.00
4 32810 0 "2 " 0 # LOAD-DROP EDES 115.00 LOAD==18.85(4.29)
4 32810 0 "3 " 0 # LOAD-DROP EDES 115.00 LOAD==29.45(6.71)
4 35113 0 "1 " 0 # LOAD-DROP DMTAR SL 115.00 LOAD==3.61(2.24)
1 32810 32812 "1 " 1 # LINE-TRANSFER EDESTAP1 to EDS GRNT
4 32810 0 "***" 1 # RESTORE EDES load
0
#
#
# (69) BUS FAULT 32740 "HILLSIDE"
#
1 32740 33006 "1" 0 # LINE from HILLSIDE 115.00 to GRIZLYJ1 115.00
1 32740 33008 "2" 0 # LINE from HILLSIDE 115.00 to GRIZLYJ2 115.00
1 32740 32770 "1" 0 # LINE from HILLSIDE 115.00 to GRIZZLY2 115.00
1 32740 32770 "2" 0 # LINE from HILLSIDE 115.00 to GRIZZLY2 115.00
4 32740 0 "SG" 0 # LOAD-DROP HILLSIDE 115.00 LOAD==30.51(18.91)
3 32740 0 "1 " 0 # GEN-DROP HILLSIDE 115.00 GEN==26.00(-8.70)
0
#
#
# (70) BUS FAULT 32748 "PP STEEL"
#
1 32748 32750 "1" 0 # LINE from PP STEEL 115.00 to PPSTLTAP 115.00
4 32748 0 "1 " 0 # LOAD-DROP PP STEEL 115.00 LOAD==0.19(0.25)
0
#
#

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

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# (71) BUS FAULT 32754 "OLEUM" Oleum 115 kV Bus Section E
#
1 32754 32778 "1" 0 # LINE from OLEUM 115.00 to MRTNZJCT 115.00
1 32754 32849 "2" 0 # LINE from OLEUM 115.00 to CON25 115.00
1 32754 32911 "2" 0 # LINE from OLEUM 115.00 to UNOCAL2 115.00
1 32754 33016 "1" 0 # LINE from OLEUM 115.00 to ALHAMTP2 115.00
0
#
#
# (72) BUS FAULT 32754 "OLEUM" Oleum 115 kV Bus Section F
#
1 32754 32802 "1" 0 # LINE from OLEUM 115.00 to VLYVWTP1 115.00
1 32754 32804 "2" 0 # LINE from OLEUM 115.00 to VLYVWTP2 115.00
1 32754 32849 "1" 0 # LINE from OLEUM 115.00 to CON25 115.00
1 32754 32911 "1" 0 # LINE from OLEUM 115.00 to UNOCAL2 115.00
0
#
#
# (73) BUS FAULT 32756 "CHRISTIE"
#
1 32756 32778 "1" 0 # LINE from CHRISTIE 115.00 to MRTNZJCT 115.00
1 32756 33010 "1" 0 # LINE from CHRISTIE 115.00 to SOBRANTE 115.00
2 32756 32852 "1" 0 # TRAN from CHRISTIE 115.00 to CHRISTIE 60.00
0
#
#
# (74) BUS FAULT 32758 "SAN PBLO"
#
1 32758 32806 "1" 0 # LINE from SAN PBLO 115.00 to SNPBLTP1 115.00
1 32758 32808 "2" 0 # LINE from SAN PBLO 115.00 to SNPBLTP2 115.00
4 32758 0 "1 " 0 # LOAD-DROP SAN PBLO 115.00 LOAD==19.98(4.55)
0
#
#
# (75) BUS FAULT 32764 "VALLY VW"
#
1 32764 32802 "1" 0 # LINE from VALLY VW 115.00 to VLYVWTP1 115.00
1 32764 32804 "2" 0 # LINE from VALLY VW 115.00 to VLYVWTP2 115.00
4 32764 0 "1 " 0 # LOAD-DROP VALLY VW 115.00 LOAD==7.65(1.74)
4 32764 0 "2 " 0 # LOAD-DROP VALLY VW 115.00 LOAD==15.69(3.58)
0
#
#
# (76) BUS FAULT 32766 "EL CRRTO" El Cerrito 115 kV Bus Section D
#
1 32766 32765 "1" 0 # LINE from EL CRRTO 115.00 to ELCRTJ1 115.00
1 32766 32802 "1" 0 # LINE from EL CRRTO 115.00 to VLYVWTP1 115.00
4 32766 0 "5 " 0 # LOAD-DROP EL CRRTO 115.00 LOAD==7.10(1.44)
0
#
#
# (77) BUS FAULT 32766 "EL CRRTO" El Cerrito 115 kV Bus Section E
#
1 32766 33010 "2" 0 # LINE from EL CRRTO 115.00 to SOBRANTE 115.00
1 32766 32804 "2" 0 # LINE from EL CRRTO 115.00 to VLYVWTP2 115.00
4 32766 0 "6 " 0 # LOAD-DROP EL CRRTO 115.00 LOAD==6.90(1.40)
0
#
#
# (78) BUS FAULT 32766 "EL CRRTO" El Cerrito 115 kV Bus Section Loads 1 & 2
#
4 32766 0 "1 " 0 # LOAD-DROP EL CRRTO 115.00 LOAD==25.48(5.81)
4 32766 0 "2 " 0 # LOAD-DROP EL CRRTO 115.00 LOAD==31.69(7.22)
0
#
#
# (79) BUS FAULT 32766 "EL CRRTO" El Cerrito 115 kV Bus Section Load 4
#
4 32766 0 "4 " 0 # LOAD-DROP EL CRRTO 115.00 LOAD==55.53(12.65)
0
#
#
# (80) BUS FAULT 32768 "RICHMOND" Richmond 115 kV Bus Section 1
#
1 32768 32767 "1" 0 # LINE from RICHMOND 115.00 to ELCRTJ2 115.00
4 32768 0 "2 " 0 # LOAD-DROP RICHMOND 115.00 LOAD==18.34(4.18)
0
#

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

#
# (81) BUS FAULT 32768 "RICHMOND" Richmond 115 kV Bus Section 2
#
1 32768 33010 "2" 0 # LINE from RICHMOND 115.00 to SOBRANTE 115.00
4 32768 0 "1" 0 # LOAD-DROP RICHMOND 115.00 LOAD==37.70(8.59)
0
#
#
# (82) BUS FAULT 32770 "GRIZZLY2"
#
1 32770 32740 "1" 0 # LINE from GRIZZLY2 115.00 to HILLSIDE 115.00
1 32770 32740 "2" 0 # LINE from GRIZZLY2 115.00 to HILLSIDE 115.00
4 32770 0 "1" 0 # LOAD-DROP GRIZZLY2 115.00 LOAD==4.37(0.77)
0
#
#
# (83) BUS FAULT 32780 "CLARMNT" Claremont 115 kV Bus Section 1
#
1 32780 32782 "1" 0 # LINE from CLARMNT 115.00 to STATIN D 115.00
1 32780 33012 "1" 0 # LINE from CLARMNT 115.00 to EST PRTL 115.00
1 32780 33020 "1" 0 # LINE from CLARMNT 115.00 to MORAGA 115.00
0
#
#
# (84) BUS FAULT 32780 "CLARMNT" Claremont 115 kV Bus Section 2
#
1 32780 32782 "2" 0 # LINE from CLARMNT 115.00 to STATIN D 115.00
1 32780 33008 "2" 0 # LINE from CLARMNT 115.00 to GRIZZLY2 115.00
1 32780 33020 "2" 0 # LINE from CLARMNT 115.00 to MORAGA 115.00
4 32780 0 "2" 0 # LOAD-DROP CLARMNT 115.00 LOAD==19.48(4.44)
0
#
#
# (85) BUS FAULT 32782 "STATIN D"
#
1 32782 32780 "1" 0 # LINE from STATIN D 115.00 to CLARMNT 115.00
1 32782 32780 "2" 0 # LINE from STATIN D 115.00 to CLARMNT 115.00
1 32782 32788 "1" 0 # LINE from STATIN D 115.00 to STATIN L 115.00
4 32782 0 "3" 0 # LOAD-DROP STATIN D 115.00 LOAD==26.13(5.95)
4 32782 0 "4" 0 # LOAD-DROP STATIN D 115.00 LOAD==39.73(9.05)
4 32782 0 "5" 0 # LOAD-DROP STATIN D 115.00 LOAD==43.68(9.96)
0
#
#
# (86) BUS FAULT 32786 "OAK C115" Oakland C 115 kV Bus Section D
#
1 32786 32788 "1" 0 # LINE from OAK C115 115.00 to STATIN L 115.00
2 32786 32908 "3" 0 # TRAN from OAK C115 115.00 to OAK C12 12.00
4 32786 0 "5" 0 # LOAD-DROP OAK C115 115.00 LOAD==10.40(2.11)
0
#
#
# (87) BUS FAULT 32786 "OAK C115" Oakland C 115 kV Bus Section E
#
1 32786 32787 "1" 0 # LINE from OAK C115 115.00 to Q155 115.00
1 32786 32790 "2" 0 # LINE from OAK C115 115.00 to STATIN X 115.00
1 32786 32790 "3" 0 # LINE from OAK C115 115.00 to STATIN X 115.00
1 32786 32793 "1" 0 # LINE from OAK C115 115.00 to SCHNITZ 115.00
1 32786 38026 "1" 0 # LINE from OAK C115 115.00 to ALAMEDCT 115.00
2 32786 32908 "1" 0 # TRAN from OAK C115 115.00 to OAK C12 12.00
2 32786 32908 "2" 0 # TRAN from OAK C115 115.00 to OAK C12 12.00
4 32786 0 "6" 0 # LOAD-DROP OAK C115 115.00 LOAD==4.23(0.86)
0
#
#
# (88) BUS FAULT 32788 "STATIN L"
#
1 32788 32782 "1" 0 # LINE from STATIN L 115.00 to STATIN D 115.00
1 32788 32786 "1" 0 # LINE from STATIN L 115.00 to OAK C115 115.00
4 32788 0 "1" 0 # LOAD-DROP STATIN L 115.00 LOAD==18.05(4.11)
4 32788 0 "3" 0 # LOAD-DROP STATIN L 115.00 LOAD==18.05(4.11)
4 32788 0 "5" 0 # LOAD-DROP STATIN L 115.00 LOAD==18.05(4.11)
0
#
#
# (89) BUS FAULT 32790 "STATIN X" Oakland X 115 kV Bus Section 1
#
1 32790 32786 "3" 0 # LINE from STATIN X 115.00 to OAK C115 115.00

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APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

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1 32790 33020 "2" 0 # LINE from STATIN X 115.00 to MORAGA 115.00
1 32790 33020 "3" 0 # LINE from STATIN X 115.00 to MORAGA 115.00
4 32790 0 "2 " 0 # LOAD-DROP STATIN X 115.00 LOAD==21.01(4.79)
0
#
#
# (90) BUS FAULT 32790 "STATIN X" Oakland X 115 kV Bus Section 1
#
1 32790 32786 "2" 0 # LINE from STATIN X 115.00 to OAK C115 115.00
1 32790 33020 "1" 0 # LINE from STATIN X 115.00 to MORAGA 115.00
1 32790 33020 "4" 0 # LINE from STATIN X 115.00 to MORAGA 115.00
4 32790 0 "3 " 0 # LOAD-DROP STATIN X 115.00 LOAD==17.34(3.95)
4 32790 0 "4 " 0 # LOAD-DROP STATIN X 115.00 LOAD==16.12(3.67)
0
#
#
# (91) BUS FAULT 32792 "STATIN J" Oakland J 115 kV Bus Section D
#
1 32792 32798 "1" 0 # LINE from STATIN J 115.00 to OWENSTAP 115.00
1 32792 38024 "1" 0 # LINE from STATIN J 115.00 to JENNY 115.00
4 32792 0 "1 " 0 # LOAD-DROP STATIN J 115.00 LOAD==38.21(8.71)
0
#
#
# (92) BUS FAULT 32792 "STATIN J" Oakland J 115 kV Bus Section E
#
1 32792 32814 "1" 0 # LINE from STATIN J 115.00 to EDESTAP1 115.00
1 32792 33020 "1" 0 # LINE from STATIN J 115.00 to MORAGA 115.00
4 32792 0 "2 " 0 # LOAD-DROP STATIN J 115.00 LOAD==17.16(3.91)
4 32792 0 "5 " 0 # LOAD-DROP STATIN J 115.00 LOAD==28.89(6.58)
0
#
#
# (93) BUS FAULT 32794 "MARITIME"
#
1 32794 32793 "1" 0 # LINE from MARITIME 115.00 to SCHNITZ 115.00
4 32794 0 "1 " 0 # LOAD-DROP MARITIME 115.00 LOAD==0.95(1.11)
0
#
#
# (94) BUS FAULT 32800 "OWNBRKWY"
#
1 32800 32798 "1" 0 # LINE from OWNBRKWY 115.00 to OWENSTAP 115.00
4 32800 0 "1 " 0 # LOAD-DROP OWNBRKWY 115.00 LOAD==9.29(5.51)
0
#
#
# (95) BUS FAULT 32810 "EDES" Edes 115 kV Bus Section E
#
1 32810 32812 "1" 0 # LINE from EDES 115.00 to EDS GRNT 115.00
4 32810 0 "2 " 0 # LOAD-DROP EDES 115.00 LOAD==18.85(4.29)
0
#
#
# (96) BUS FAULT 32810 "EDES" Edes 115 kV Bus Section H
#
1 32810 32814 "1" 0 # LINE from EDES 115.00 to EDESTAP1 115.00
4 32810 0 "3 " 0 # LOAD-DROP EDES 115.00 LOAD==29.45(6.71)
0
#
#
# (97) BUS FAULT 32852 "CHRISTIE"
#
1 32852 32850 "1" 0 # LINE from CHRISTIE 60.00 to UNIN CHM 60.00
1 32852 32856 "2" 0 # LINE from CHRISTIE 60.00 to FRANKLIN 60.00
1 32852 33067 "1" 0 # LINE from CHRISTIE 60.00 to PCBRICK 60.00
2 32852 32756 "1" 0 # TRAN from CHRISTIE 60.00 to CHRISTIE 115.00
0
#
#
# (98) BUS FAULT 32860 "FRKLNALT"
#
1 32860 32850 "1" 0 # LINE from FRKLNALT 60.00 to UNIN CHM 60.00
1 32860 32856 "1" 0 # LINE from FRKLNALT 60.00 to FRANKLIN 60.00
0
#
#
# 2013 category c contingency list (dctl and bus outages)

```


APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```
# Diablo Division Zone 308
#
#
# (99) C5 DCTL OUTAGE
# Contra Costa #1 and #2 115 kV Lines
1 33000 33047 "1 " 0 # line from CC SUB 115.00 BRKR to (2) CC JCT 115.00
1 33047 33045 "1 " 0 # line from CC JCT 115.00 (2) to (2) FIBRJCT1 115.00
1 33045 33048 "1 " 0 # line from FIBRJCT1 115.00 (2) to (2) RVECTP 115.00
1 33048 33049 "1 " 0 # line from RVECTP 115.00 (2) to BRKR RVEC 115.00
#
1 33000 33046 "1 " 0 # line from CC SUB 115.00 BRKR to (3) FIBRJCT2 115.00
1 33046 33001 "1 " 0 # line from FIBRJCT2 115.00 (3) to BRKR DOMTAR 115.00
1 33046 33044 "1 " 0 # line from FIBRJCT2 115.00 (3) to (2) FIBRBJCT 115.00
1 33044 33002 "1 " 0 # line from FIBRBJCT 115.00 (2) to (2) CROWN Z 115.00
2 33002 33133 "1 " 0 # TRAN from CROWN Z 115.00 (2) to (1) GWF #3 13.80
4 33001 0 "1 " 0 # LOAD-DROP DOMTAR 115.00 LOAD==2.40(2.12)
4 33133 0 "SG" 0 # LOAD-DROP GWF #3 13.80 LOAD==2.84(0.65)
3 33133 0 "1 " 0 # GEN-DROP GWF #3 13.80 GEN==19.00(4.33)
0
#
#
# (100) C5 DCTL OUTAGE
# Contra Costa - DuPont and Contra Costa - Balfour 60 kV Lines
1 33050 33080 "1 " 0 # line from CC SUB 60.00 BRKR to (3) WILBRTAP 60.00
1 33080 33051 "1 " 0 # line from WILBRTAP 60.00 (3) to BRKR DU PONT 60.00
2 33080 33134 "1 " 0 # TRAN from WILBRTAP 60.00 (3) to (1) GWF #4 13.80
4 33051 0 "1 " 0 # LOAD-DROP DU PONT 60.00 LOAD==2.00(2.16)
4 33134 0 "SG" 0 # LOAD-DROP GWF #4 13.80 LOAD==2.88(0.66)
3 33134 0 "1 " 0 # GEN-DROP GWF #4 13.80 GEN==18.60(3.34)
1 33051 33081 "1 " 1 # LINE-TRANSFER WILBRTAP 60.00 TO DUPNTJCT 60.00
4 33051 0 "***" 1 # RESTORE DU PONT load
#
1 33050 33081 "1 " 0 # line from CC SUB 60.00 BRKR to (2) DUPNTJCT 60.00
1 33081 33082 "1 " 0 # line from DUPNTJCT 60.00 (2) to (3) BALFRJCT 60.00
1 33082 33052 "1 " 0 # line from BALFRJCT 60.00 (3) to (2) MARSH 60.00
1 33082 33054 "1 " 0 # line from BALFRJCT 60.00 (3) to BRKR BALFOUR 60.00
1 33052 33053 "1 " 0 # line from MARSH 60.00 (2) to (1) BRIONES 60.00
4 33054 0 "1 " 0 # LOAD-DROP BALFOUR 60.00 LOAD==4.00(0.81)
4 33053 0 "1 " 0 # LOAD-DROP BRIONES 60.00 LOAD==3.90(1.84)
1 33083 33054 "1 " 1 # LINE-TRANSFER BALFRJCT 60.00 TO MDLRVRJT 60.00
4 33054 0 "***" 1 # RESTORE BALFOUR load
0
#
#
# (101) C5 DCTL OUTAGE
# Pittsburg - Martinez #1 and #2 115 kV Lines
1 32950 32993 "1 " 0 # line from PITSBURG 115.00 BRKR to (2) W.P.BART 115.00
1 32993 33040 "1 " 0 # line from W.P.BART 115.00 (2) to (3) BOLLMAN1 115.00
1 33040 32994 "1 " 0 # line from BOLLMAN1 115.00 (3) to (1) BOLLMAN 115.00
1 33040 33042 "1 " 0 # line from BOLLMAN1 115.00 (3) to (2) IMHOFF_1 115.00
1 33042 32991 "1 " 0 # line from IMHOFF_1 115.00 (2) to BRKR MARTNZ E 115.00
4 32993 0 "1 " 0 # LOAD-DROP W.P.BART 115.00 LOAD==7.29(1.48)
4 32993 0 "3 " 0 # LOAD-DROP W.P.BART 115.00 LOAD==13.49(3.07)
4 32994 0 "1 " 0 # LOAD-DROP BOLLMAN 115.00 LOAD==2.59(1.36)
4 32994 0 "2 " 0 # LOAD-DROP BOLLMAN 115.00 LOAD==2.59(1.36)
#
1 32950 32992 "2 " 0 # line from PITSBURG 115.00 BRKR to (2) BOLLMAN2 115.00
1 32992 33043 "2 " 0 # line from BOLLMAN2 115.00 (2) to (3) IMHOFF_2 115.00
1 33043 32991 "2 " 0 # line from IMHOFF_2 115.00 (3) to BRKR MARTNZ E 115.00
1 33043 33041 "2 " 0 # line from IMHOFF_2 115.00 (3) to (2) IMHOFF 115.00
2 33041 33136 "1 " 0 # TRAN from IMHOFF 115.00 (2) to (1) CCCSD 12.47
4 33136 0 "SG" 0 # LOAD-DROP CCCSD 12.47 LOAD==3.37(0.77)
3 33136 0 "1 " 0 # GEN-DROP CCCSD 12.47 GEN==4.40(0.53)
0
#
#
# (102) C5 DCTL OUTAGE
# Pittsburg - Clayton #3 and #4 115 kV Lines
1 32950 33032 "3 " 0 # line from PITSBURG 115.00 BRKR to (2) KIRKTAP1 115.00
1 33032 32970 "3 " 0 # line from KIRKTAP1 115.00 (2) to BRKR CLAYTN 115.00
#
1 32950 32970 "4 " 0 # line from PITSBURG 115.00 BRKR to BRKR CLAYTN 115.00
0
#
#
# (103) C5 DCTL OUTAGE
# Pittsburg - Columbia Steel and Pittsburg - Kirker - Columbia Steel 115 kV Lines
1 32950 33030 "1 " 0 # line from PITSBURG 115.00 BRKR to (2) COLSTJTT1 115.00
```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

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1 33030 33036 "1 " 0 # line from COLSTJT1 115.00 (2) to (3) LINDETP1 115.00
1 33036 32954 "1 " 0 # line from LINDETP1 115.00 (3) to (2) DOW TAP1 115.00
1 33036 32961 "1 " 0 # line from LINDETP1 115.00 (3) to (3) GWF2 TAP 115.00
1 32954 32956 "1 " 0 # line from DOW TAP1 115.00 (2) to (2) DOW MTR 115.00
2 32956 33160 "1 " 0 # TRAN from DOW MTR 115.00 (2) to (4) DOW CHEM 13.80
1 33160 33161 "1 " 0 # line from DOW CHEM 13.80 (4) to (1) DOWCHEM1 13.80
1 33160 33162 "1 " 0 # line from DOW CHEM 13.80 (4) to (1) DOWCHEM2 13.80
1 33160 33163 "1 " 0 # line from DOW CHEM 13.80 (4) to (1) DOWCHEM3 13.80
1 32961 32960 "1 " 0 # line from GWF2 TAP 115.00 (3) to (2) GWF#2 HS 115.00
1 32961 33038 "1 " 0 # line from GWF2 TAP 115.00 (3) to (2) LINDEJCT 115.00
2 32960 33132 "1 " 0 # TRAN from GWF#2 HS 115.00 (2) to (1) GWF #2 13.80
1 33038 32957 "1 " 0 # line from LINDEJCT 115.00 (2) to BRKR PRAXAIR 115.00
4 33160 0 "SG" 0 # LOAD-DROP DOW CHEM 13.80 LOAD==15.00(9.30)
4 33132 0 "SG" 0 # LOAD-DROP GWF #2 13.80 LOAD==2.81(0.64)
4 32957 0 "1 " 0 # LOAD-DROP PRAXAIR 115.00 LOAD==20.67(4.61)
3 33161 0 "1 " 0 # GEN-DROP DOWCHEM1 13.80 GEN==15.30(6.00)
3 33162 0 "1 " 0 # GEN-DROP DOWCHEM2 13.80 GEN==22.00(5.29)
3 33163 0 "1 " 0 # GEN-DROP DOWCHEM3 13.80 GEN==22.00(5.29)
3 33132 0 "1 " 0 # GEN-DROP GWF #2 13.80 GEN==12.30(3.13)
#
1 32950 33033 "1 " 0 # line from PITTSBURG 115.00 BRKR to (3) KIRKTAP2 115.00
1 33033 32951 "1 " 0 # line from KIRKTAP2 115.00 (3) to BRKR KIRKER 115.00
1 33033 33031 "1 " 0 # line from KIRKTAP2 115.00 (3) to (2) COLSTJT2 115.00
1 33031 33037 "1 " 0 # line from COLSTJT2 115.00 (2) to (2) LINDETP2 115.00
1 33037 32955 "1 " 0 # line from LINDETP2 115.00 (2) to (1) DOW TAP2 115.00
4 32951 0 "1 " 0 # LOAD-DROP KIRKER 115.00 LOAD==38.02(7.72)
4 32951 0 "2 " 0 # LOAD-DROP KIRKER 115.00 LOAD==44.19(8.97)
4 32951 0 "3 " 0 # LOAD-DROP KIRKER 115.00 LOAD==53.77(10.92)
1 33032 32951 "1 " 1 # LINE-TRANSFER KIRKTAP2 115.00 TO KIRKTAP1
4 32951 0 "***" 1 # RESTORE KIRKER load
0
#
#
# (104) C5 DCTL OUTAGE
# Sobrante - Grizzly - East Portal and Sobrante - Grizzly - Claremont #2 115 kV Lines
1 32740 33006 "1 " 0 # line from HILLSIDE 115.00 BRKR to (3) GRIZLYJ1 115.00
1 33006 33010 "1 " 0 # line from GRIZLYJ1 115.00 (3) to BRKR SOBRANTE 115.00
1 33006 33012 "1 " 0 # line from GRIZLYJ1 115.00 (3) to BRKR EST PRTL 115.00
1 32770 32740 "1 " 0 # include GRIZZLY2 115.00 BRKR to HILLSIDE 115.00 ckt 1
#
1 32740 33008 "2 " 0 # line from HILLSIDE 115.00 BRKR to (3) GRIZLYJ2 115.00
1 33008 32780 "2 " 0 # line from GRIZLYJ2 115.00 (3) to BRKR CLARMNT 115.00
1 33008 33010 "2 " 0 # line from GRIZLYJ2 115.00 (3) to BRKR SOBRANTE 115.00
1 32770 32740 "2 " 0 # include GRIZZLY2 115.00 BRKR to HILLSIDE 115.00 ckt 2
0
#
#
# (105) C5 DCTL OUTAGE
# East Portal - Claremont and Sobrante - Grizzly - Claremont #2 115 kV Lines
1 33012 32780 "1 " 0 # line from EST PRTL 115.00 BRKR to BRKR CLARMNT 115.00
#
1 32740 33008 "2 " 0 # line from HILLSIDE 115.00 BRKR to (3) GRIZLYJ2 115.00
1 33008 32780 "2 " 0 # line from GRIZLYJ2 115.00 (3) to BRKR CLARMNT 115.00
1 33008 33010 "2 " 0 # line from GRIZLYJ2 115.00 (3) to BRKR SOBRANTE 115.00
1 32770 32740 "2 " 0 # include GRIZZLY2 115.00 BRKR to HILLSIDE 115.00 ckt 2
0
#
#
# (106) C5 DCTL OUTAGE
# Lakewood - Clayton #2 and Lakewood - Meadow Lane - Clayton 115 kV Lines
1 32970 32974 "2 " 0 # line from CLAYTN 115.00 BRKR to BRKR LAKEWD-M 115.00
#
1 32970 33035 "1 " 0 # line from CLAYTN 115.00 BRKR to (3) LKWD_JCT 115.00
1 33035 32972 "1 " 0 # line from LKWD_JCT 115.00 (3) to (2) EBMUDGRY 115.00
1 33035 32973 "1 " 0 # line from LKWD_JCT 115.00 (3) to BRKR LAKEWD-C 115.00
1 32972 32971 "1 " 0 # line from EBMUDGRY 115.00 (2) to BRKR MEDW LNE 115.00
4 32972 0 "1 " 0 # LOAD-DROP EBMUDGRY 115.00 LOAD==5.67(1.86)
0
#
#
# (107) C5 DCTL OUTAGE
# Birds Landing - Contra Costa Sub and Birds Landing - Contra Costa 230 kV Lines
1 30479 30523 "1 " 0 # line from BDLSWSTA 230.00 BRKR to BRKR CC SUB 230.00
#
1 30525 30479 "1 " 0 # line from C.COSTA 230.00 BRKR to BRKR BDLSWSTA 230.00
0
#
#

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APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

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# (108) C5 DCTL OUTAGE
# Contra Costa Sub - Contra Costa and Birds Landing - Contra Costa 230 kV Lines
1 30523 30525 "1 " 0 # line from CC SUB 230.00 BRKR to BRKR C.COSTA 230.00
#
1 30525 30479 "1 " 0 # line from C.COSTA 230.00 BRKR to BRKR BDLSWSTA 230.00
0
#
#
# (109) C5 DCTL OUTAGE
# Contra Costa - Moraga #1 and #2 230 kV Lines
1 30525 30543 "1 " 0 # line from C.COSTA 230.00 BRKR to (3) ROSSTAP1 230.00
1 30543 30545 "1 " 0 # line from ROSSTAP1 230.00 (3) to BRKR ROSSMOOR 230.00
1 30543 30550 "1 " 0 # line from ROSSTAP1 230.00 (3) to BRKR MORAGA 230.00
4 30545 0 "1 " 0 # LOAD-DROP ROSSMOOR 230.00 LOAD==36.95(8.42)
4 30545 0 "2 " 0 # LOAD-DROP ROSSMOOR 230.00 LOAD==32.85(7.49)
1 30544 30545 "2 " 1 # LINE-TRANSFER ROSSTAP1 230.00 TO ROSSTAP2 230.00
4 30545 0 "***" 1 # RESTORE ROSSMOOR load
#
1 30525 30544 "2 " 0 # line from C.COSTA 230.00 BRKR to (2) ROSSTAP2 230.00
1 30544 30550 "2 " 0 # line from ROSSTAP2 230.00 (2) to BRKR MORAGA 230.00
0
#
#
# (110) C5 DCTL OUTAGE
# Contra Costa - Brentwood and Contra Costa - Delta Pumps 230 kV Lines
1 30525 30565 "1 " 0 # line from C.COSTA 230.00 BRKR to BRKR BRENTWOD 230.00
#
1 30525 30575 "1 " 0 # line from C.COSTA 230.00 BRKR to (3) WND MSTR 230.00
1 30575 38610 "1 " 0 # line from WND MSTR 230.00 (3) to BRKR DELTAPMP 230.00
2 30575 33170 "1 " 0 # TRAN from WND MSTR 230.00 (3) to (1) WINDMSTR 9.11
0
#
#
# (111) C5 DCTL OUTAGE
# Brentwood - Kelso and Contra Costa - Delta Pumps 230 kV Lines
1 30565 30569 "1 " 0 # line from BRENTWOD 230.00 BRKR to BRKR KELSO 230.00
#
1 30525 30575 "1 " 0 # line from C.COSTA 230.00 BRKR to (3) WND MSTR 230.00
1 30575 38610 "1 " 0 # line from WND MSTR 230.00 (3) to BRKR DELTAPMP 230.00
2 30575 33170 "1 " 0 # TRAN from WND MSTR 230.00 (3) to (1) WINDMSTR 9.11
0
#
#
# (112) C5 DCTL OUTAGE
# Contra Costa - Las Positas and Contra Costa - Lonetree 230 kV Lines
1 30525 30585 "1 " 0 # line from C.COSTA 230.00 BRKR to BRKR LS PSTAS 230.00
#
1 30525 30567 "1 " 0 # line from C.COSTA 230.00 BRKR to BRKR LONETREE 230.00
0
#
#
# (113) C5 DCTL OUTAGE
# Contra Costa - Las Positas and Lonetree - Cayetano 230 kV Lines
1 30525 30585 "1 " 0 # line from C.COSTA 230.00 BRKR to BRKR LS PSTAS 230.00
#
1 30567 30590 "1 " 0 # line from LONETREE 230.00 BRKR to (3) USWP-JRW 230.00
1 30590 30530 "1 " 0 # line from USWP-JRW 230.00 (3) to BRKR CAYETANO 230.00
2 30590 33838 "1 " 0 # TRAN from USWP-JRW 230.00 (3) to (1) USWP_#3 9.11
4 33838 0 "SG" 0 # LOAD-DROP USWP_#3 9.11 LOAD==0.50(0.20)
0
#
#
# (114) C5 DCTL OUTAGE
# Contra Costa - Las Positas and North Dublin - Vineyard 230 kV Lines
1 30525 30585 "1 " 0 # line from C.COSTA 230.00 BRKR to BRKR LS PSTAS 230.00
#
1 30537 35224 "1 " 0 # line from NDUUBLIN 230.00 BRKR to BRKR VINEYD_D 230.00
0
#
#
# (115) C5 DCTL OUTAGE
# Cayetano - North Dublin and Lonetree - Cayetano 230 kV Lines
1 30530 30537 "1 " 0 # line from CAYETANO 230.00 BRKR to BRKR NDUUBLIN 230.00
#
1 30567 30590 "1 " 0 # line from LONETREE 230.00 BRKR to (3) USWP-JRW 230.00
1 30590 30530 "1 " 0 # line from USWP-JRW 230.00 (3) to BRKR CAYETANO 230.00
2 30590 33838 "1 " 0 # TRAN from USWP-JRW 230.00 (3) to (1) USWP_#3 9.11
4 33838 0 "SG" 0 # LOAD-DROP USWP_#3 9.11 LOAD==0.50(0.20)

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APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

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0
#
#
# (116) C5 DCTL OUTAGE
# Pittsburg - Tidewater and Pittsburg - Tesoro 230 kV Lines
1 30527 30535 "1 " 0 # line from PITSBG E 230.00 BRKR to BRKR TIDEWATR 230.00
#
1 30527 30536 "1 " 0 # line from PITSBG E 230.00 BRKR to BRKR TESORO 230.00
0
#
#
# (117) C5 DCTL OUTAGE
# Tidewater - Sobrante and Tesoro - Sobrante 230 kV Lines
1 30535 30540 "1 " 0 # line from TIDEWATR 230.00 BRKR to BRKR SOBRANTE 230.00
#
1 30536 30540 "1 " 0 # line from TESORO 230.00 BRKR to BRKR SOBRANTE 230.00
0
#
#
# (118) C5 DCTL OUTAGE
# Pittsburg - San Mateo and Pittsburg - East Shore 230 kV Lines
1 30700 30527 "1 " 0 # line from SANMATEO 230.00 BRKR to BRKR PITSBG E 230.00
#
1 30560 30527 "1 " 0 # line from E. SHORE 230.00 BRKR to BRKR PITSBG E 230.00
0
#
#
# (119) C5 DCTL OUTAGE
# Pittsburg - Tesla #1 and #2 230 kV Lines pre and post-project outage
1 30527 30595 "1 " 0 # line from PITSBG E 230.00 BRKR to (3) FLOWIND2 230.00
1 30595 30640 "1 " 0 # line from FLOWIND2 230.00 (3) to BRKR TESLA C 230.00
2 30595 33840 "1 " 0 # TRAN from FLOWIND2 230.00 (3) to (1) FLOWD3-6 9.11
4 33840 0 "SG" 0 # LOAD-DROP FLOWD3-6 9.11 LOAD==0.70(0.34)
3 33840 0 "1 " 0 # GEN-DROP FLOWD3-6 9.11 GEN==1.30(0.00)
3 33840 0 "4 " 0 # GEN-DROP FLOWD3-6 9.11 GEN==1.10(0.00)
#
1 30527 30600 "2 " 0 # line from PITSBG E 230.00 BRKR to (4) TRES VAQ 230.00
1 30600 30640 "2 " 0 # line from TRES VAQ 230.00 (4) to BRKR TESLA C 230.00
2 30600 33171 "1 " 0 # TRAN from TRES VAQ 230.00 (4) to (1) TRSVQ+NW 9.11
2 30600 33195 "1 " 0 # TRAN from TRES VAQ 230.00 (4) to (1) T417 34.50
4 33195 0 "ss" 0 # LOAD-DROP T417 34.50 LOAD==0.10(0.06)
3 33195 0 "1 " 0 # GEN-DROP T417 34.50 GEN==36.10(0.00)
0
#
#
# (120) C5 DCTL OUTAGE
# Pittsburg - San Ramon and Pittsburg - Tassajara 230 kV Lines
1 30526 30555 "1 " 0 # line from PITSBG D 230.00 BRKR to BRKR SANRAMON 230.00
#
1 30526 30561 "1 " 0 # line from PITSBG D 230.00 BRKR to BRKR TASSAJAR 230.00
0
#
#
# (121) C5 DCTL OUTAGE
# Moraga - Castro Valley and San Ramon - Moraga 230 kV Lines
1 30550 30554 "1 " 0 # line from MORAGA 230.00 BRKR to BRKR CASTROVL 230.00
#
1 30550 30555 "1 " 0 # line from MORAGA 230.00 BRKR to BRKR SANRAMON 230.00
0
#
#
# (122) C5 DCTL OUTAGE
# Castro Valley - Newark and San Ramon - Moraga 230 kV Lines
1 30554 30631 "1 " 0 # line from CASTROVL 230.00 BRKR to BRKR NEWARK E 230.00
#
1 30550 30555 "1 " 0 # line from MORAGA 230.00 BRKR to BRKR SANRAMON 230.00
0
#
#
# (123) C5 DCTL OUTAGE
# Ignacio - T257 and Lakeville - T257 230 kV Lines post-project outage
1 30445 30446 "1 " 0 # line from IGNACIO 230.00 BRKR to BRKR T257SWST 230.00
#
1 30435 30446 "1 " 0 # line from LAKEVILLE 230.00 BRKR to BRKR T257SWST 230.00
0
#
#
# (124) C5 DCTL OUTAGE

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APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

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# T257 - Sobrante #1 and #2 230 kV Lines post-project outage
1 30446 30437 "1 " 0 # line from T257SWST 230.00 BRKR to (3) CROCKETT 230.00
1 30437 30438 "1 " 0 # line from CROCKETT 230.00 (3) to (2) C&H 230.00
1 30437 30540 "1 " 0 # line from CROCKETT 230.00 (3) to BRKR SOBRANTE 230.00
2 30438 32900 "1 " 0 # TRAN from C&H 230.00 BRKR to (1) CRCKTCOG 18.00
4 30438 0 "1 " 0 # LOAD-DROP C&H 230.00 LOAD==3.32(0.76)
3 32900 0 "1 " 0 # GEN-DROP CRCKTCOG 18.00 GEN==240.00(54.42)
#
1 30435 30446 "1 " 0 # line from LAKEVILE 230.00 BRKR to BRKR T257SWST 230.00
0
#
#
# (125) BUS FAULT 30523 "CC SUB" Contra Costa Sub 230 kV Bus Section 1
#
1 30523 30479 "1" 0 # LINE from CC SUB 230.00 to BDLSWSTA 230.00
2 30523 33000 "3" 0 # TRAN from CC SUB 230.00 to CC SUB 115.00
4 30523 0 "9 " 0 # LOAD-DROP CC SUB 230.00 LOAD==77.62(15.76)
0
#
#
# (126) BUS FAULT 30523 "CC SUB" Contra Costa Sub 230 kV Bus Section 2
#
1 30523 30525 "1" 0 # LINE from CC SUB 230.00 to C.COSTA 230.00
4 30523 0 "8 " 0 # LOAD-DROP CC SUB 230.00 LOAD==71.78(14.58)
0
#
#
# (127) BUS FAULT 30525 "C.COSTA" Contra Costa 230 kV Bus Section 1D
#
1 30525 30523 "1" 0 # LINE from C.COSTA 230.00 to CC SUB 230.00
0
#
#
# (128) BUS FAULT 30525 "C.COSTA" Contra Costa 230 kV Bus Section 2D
#
1 30525 30479 "1" 0 # LINE from C.COSTA 230.00 to BDLSWSTA 230.00
0
#
#
# (129) BUS FAULT 30525 "C.COSTA" Contra Costa 230 kV Bus Section 1E
#
1 30525 30585 "1" 0 # LINE from C.COSTA 230.00 to LS PSTAS 230.00
0
#
#
# (130) BUS FAULT 30525 "C.COSTA" Contra Costa 230 kV Bus Section 2E
#
1 30525 30567 "1" 0 # LINE from C.COSTA 230.00 to LONETREE 230.00
0
#
#
# (131) BUS FAULT 30525 "C.COSTA" Contra Costa 230 kV Bus Section 1F
#
1 30525 30543 "1" 0 # LINE from C.COSTA 230.00 to ROSSTAP1 230.00
1 30525 30565 "1" 0 # LINE from C.COSTA 230.00 to BRENTWOD 230.00
2 30525 33116 "1" 0 # TRAN from C.COSTA 230.00 to C.COS 6 18.00
0
#
#
# (132) BUS FAULT 30525 "C.COSTA" Contra Costa 230 kV Bus Section 2F
#
1 30525 30544 "2" 0 # LINE from C.COSTA 230.00 to ROSSTAP2 230.00
1 30525 30575 "1" 0 # LINE from C.COSTA 230.00 to WND MSTR 230.00
2 30525 33117 "1" 0 # TRAN from C.COSTA 230.00 to C.COS 7 18.00
0
#
#
# (133) BUS FAULT 30526 "PITSBG D" Pittsburg 230 kV Bus Section 1D
#
1 30526 30561 "1" 0 # LINE from PITSBG D 230.00 to TASSAJAR 230.00
1 30526 30528 "1" 0 # LINE from PITSBG D 230.00 to DEC PTSG 230.00
1 30526 30531 "1" 0 # LINE from PITSBG D 230.00 to T322BUS1 230.00
2 30526 32950 "13" 0 # TRAN from PITSBG D 230.00 to PITSBURG 115.00
0
#
#
# (134) BUS FAULT 30526 "PITSBG D" Pittsburg 230 kV Bus Section 2D
#

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APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

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1 30526 30555 "1" 0 # LINE from PITSBG D 230.00 to SANRAMON 230.00
1 30526 30528 "2" 0 # LINE from PITSBG D 230.00 to DEC PTSG 230.00
1 30526 30532 "1" 0 # LINE from PITSBG D 230.00 to T322BUS2 230.00
2 30526 32950 "12" 0 # TRAN from PITSBG D 230.00 to PITSBURG 115.00
0
#
#
# (135) BUS FAULT 30527 "PITSBG E" Pittsburg 230 kV Bus Section 1E
#
1 30527 30535 "1" 0 # LINE from PITSBG E 230.00 to TIDEWATR 230.00
1 30527 30560 "1" 0 # LINE from PITSBG E 230.00 to E. SHORE 230.00
1 30527 30595 "1" 0 # LINE from PITSBG E 230.00 to FLOWIND2 230.00
2 30527 33105 "1" 0 # TRAN from PITSBG E 230.00 to PTSB 5 18.00
2 30527 33105 "2" 0 # TRAN from PITSBG E 230.00 to PTSB 5 18.00
0
#
#
# (136) BUS FAULT 30527 "PITSBG E" Pittsburg 230 kV Bus Section 2E
#
1 30527 30536 "1" 0 # LINE from PITSBG E 230.00 to TESORO 230.00
1 30527 30600 "2" 0 # LINE from PITSBG E 230.00 to TRES VAQ 230.00
1 30527 30700 "1" 0 # LINE from PITSBG E 230.00 to SANMATEO 230.00
0
#
#
# (137) BUS FAULT 30535 "TIDEWATR"
#
1 30535 30527 "1" 0 # LINE from TIDEWATR 230.00 to PITSBG E 230.00
1 30535 30540 "1" 0 # LINE from TIDEWATR 230.00 to SOBRANTE 230.00
2 30535 33151 "1" 0 # TRAN from TIDEWATR 230.00 to FOSTER W 12.47
2 30535 33151 "2" 0 # TRAN from TIDEWATR 230.00 to FOSTER W 12.47
4 30535 0 "1 " 0 # LOAD-DROP TIDEWATR 230.00 LOAD==72.24(16.46)
4 30535 0 "2 " 0 # LOAD-DROP TIDEWATR 230.00 LOAD==59.79(13.63)
0
#
#
# (138) BUS FAULT 30536 "TESORO"
#
1 30536 30527 "1" 0 # LINE from TESORO 230.00 to PITSBG E 230.00
1 30536 30540 "1" 0 # LINE from TESORO 230.00 to SOBRANTE 230.00
4 30536 0 "1 " 0 # LOAD-DROP TESORO 230.00 LOAD==9.01(5.35)
0
#
#
# (139) BUS FAULT 30540 "SOBRANTE" Sobrante 230 kV Bus Section 1
#
1 30540 30437 "1" 0 # LINE from SOBRANTE 230.00 to CROCKETT 230.00
1 30540 30535 "1" 0 # LINE from SOBRANTE 230.00 to TIDEWATR 230.00
2 30540 33010 "1" 0 # TRAN from SOBRANTE 230.00 to SOBRANTE 115.00
0
#
#
# (140) BUS FAULT 30540 "SOBRANTE" Sobrante 230 kV Bus Section 2
# pre and post-project outage
1 30540 30435 "2" 0 # LINE from SOBRANTE 230.00 to LAKEVILLE 230.00
1 30540 30446 "2" 0 # LINE from SOBRANTE 230.00 to T257SWST 230.00
1 30540 30536 "1" 0 # LINE from SOBRANTE 230.00 to TESORO 230.00
2 30540 33010 "2" 0 # TRAN from SOBRANTE 230.00 to SOBRANTE 115.00
0
#
#
# (141) BUS FAULT 30545 "ROSSMOOR"
#
1 30545 30543 "1" 0 # LINE from ROSSMOOR 230.00 to ROSSTAP1 230.00
1 30545 30544 "2" 0 # LINE from ROSSMOOR 230.00 to ROSSTAP2 230.00
4 30545 0 "1 " 0 # LOAD-DROP ROSSMOOR 230.00 LOAD==36.95(8.42)
4 30545 0 "2 " 0 # LOAD-DROP ROSSMOOR 230.00 LOAD==32.85(7.49)
0
#
#
# (142) BUS FAULT 30550 "MORAGA" Moraga 230 kV Bus Section 1
#
1 30550 30467 "1" 0 # LINE from MORAGA 230.00 to PARKWAY 230.00
1 30550 30543 "1" 0 # LINE from MORAGA 230.00 to ROSSTAP1 230.00
1 30550 30555 "1" 0 # LINE from MORAGA 230.00 to SANRAMON 230.00
2 30550 30553 "3" 0 # TRAN from MORAGA 230.00 to MRAGA_3M 13.20
0
#

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APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

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#
# (143) BUS FAULT 30550 "MORAGA" Moraga 230 kV Bus Section 2
#
1 30550 30466 "1" 0 # LINE from MORAGA 230.00 to Q177 230.00
1 30550 30544 "2" 0 # LINE from MORAGA 230.00 to ROSSTAP2 230.00
1 30550 30554 "1" 0 # LINE from MORAGA 230.00 to CASTROVL 230.00
2 30550 30551 "1" 0 # TRAN from MORAGA 230.00 to MRAGA_1M 13.20
2 30550 30552 "2" 0 # TRAN from MORAGA 230.00 to MRAGA_2M 13.20
0
#
#
# (144) BUS FAULT 30561 "TASSAJAR"
#
1 30561 30526 "1" 0 # LINE from TASSAJAR 230.00 to PITSBG D 230.00
1 30561 30562 "1" 0 # LINE from TASSAJAR 230.00 to TES JCT 230.00
4 30561 0 "1 " 0 # LOAD-DROP TASSAJAR 230.00 LOAD==53.13(12.11)
4 30561 0 "2 " 0 # LOAD-DROP TASSAJAR 230.00 LOAD==82.91(18.90)
0
#
#
# (145) BUS FAULT 30563 "RESEARCH"
#
1 30563 30562 "1" 0 # LINE from RESEARCH 230.00 to TES JCT 230.00
4 30563 0 "1 " 0 # LOAD-DROP RESEARCH 230.00 LOAD==37.05(8.44)
0
#
#
# (146) BUS FAULT 30565 "BRENTWOD"
#
1 30565 30525 "1" 0 # LINE from BRENTWOD 230.00 to C.COSTA 230.00
1 30565 30569 "1" 0 # LINE from BRENTWOD 230.00 to KELSO 230.00
4 30565 0 "1 " 0 # LOAD-DROP BRENTWOD 230.00 LOAD==41.07(8.34)
4 30565 0 "2 " 0 # LOAD-DROP BRENTWOD 230.00 LOAD==38.95(7.91)
4 30565 0 "3 " 0 # LOAD-DROP BRENTWOD 230.00 LOAD==42.75(8.68)
0
#
#
# (147) BUS FAULT 30567 "LONETREE"
#
1 30567 30525 "1" 0 # LINE from LONETREE 230.00 to C.COSTA 230.00
1 30567 30590 "1" 0 # LINE from LONETREE 230.00 to USWP-JRW 230.00
4 30567 0 "1 " 0 # LOAD-DROP LONETREE 230.00 LOAD==23.91(5.44)
4 30567 0 "2 " 0 # LOAD-DROP LONETREE 230.00 LOAD==23.91(5.44)
4 30567 0 "3 " 0 # LOAD-DROP LONETREE 230.00 LOAD==23.91(5.44)
0
#
#
# (148) BUS FAULT 32950 "PITSBURG" Pittsburg 115 kV Bus Section 1D
#
1 32950 33032 "3" 0 # LINE from PITSBURG 115.00 to KIRKTAP1 115.00
1 32950 32970 "4" 0 # LINE from PITSBURG 115.00 to CLAYTN 115.00
1 32950 33030 "1" 0 # LINE from PITSBURG 115.00 to COLSTJT1 115.00
0
#
#
# (149) BUS FAULT 32950 "PITSBURG" Pittsburg 115 kV Bus Section 2D
#
1 32950 33033 "1" 0 # LINE from PITSBURG 115.00 to KIRKTAP2 115.00
0
#
#
# (150) BUS FAULT 32950 "PITSBURG" Pittsburg 115 kV Bus Section 1E
#
1 32950 32993 "1" 0 # LINE from PITSBURG 115.00 to W.P.BART 115.00
0
#
#
# (151) BUS FAULT 32950 "PITSBURG" Pittsburg 115 kV Bus Section 2E
#
1 32950 32970 "1" 0 # LINE from PITSBURG 115.00 to CLAYTN 115.00
1 32950 32992 "2" 0 # LINE from PITSBURG 115.00 to BOLLMAN2 115.00
2 32950 30526 "12" 0 # TRAN from PITSBURG 115.00 to PITSBG D 230.00
0
#
#
# (152) BUS FAULT 32951 "KIRKER"
#
1 32951 33032 "1" 0 # LINE from KIRKER 115.00 to KIRKTAP1 115.00

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

1 32951 33033 "1" 0 # LINE from KIRKER 115.00 to KIRKTAP2 115.00
4 32951 0 "1 " 0 # LOAD-DROP KIRKER 115.00 LOAD==38.02(7.72)
4 32951 0 "2 " 0 # LOAD-DROP KIRKER 115.00 LOAD==44.19(8.97)
4 32951 0 "3 " 0 # LOAD-DROP KIRKER 115.00 LOAD==53.77(10.92)
0
#
#
# (153) BUS FAULT 32953 "CLMBA_ST"
#
1 32953 32954 "1" 0 # LINE from CLMBA_ST 115.00 to DOW TAP1 115.00
1 32953 32955 "1" 0 # LINE from CLMBA_ST 115.00 to DOW TAP2 115.00
0
#
#
# (154) BUS FAULT 32957 "PRAXAIR"
#
1 32957 33038 "1" 0 # LINE from PRAXAIR 115.00 to LINDEJCT 115.00
4 32957 0 "1 " 0 # LOAD-DROP PRAXAIR 115.00 LOAD==20.67(4.61)
0
#
#
# (155) BUS FAULT 32970 "CLAYTN" Clayton 115 kV Bus Section 1
#
1 32970 32971 "1" 0 # LINE from CLAYTN 115.00 to MEDW LNE 115.00
1 32970 32974 "2" 0 # LINE from CLAYTN 115.00 to LAKEWD-M 115.00
1 32970 33032 "3" 0 # LINE from CLAYTN 115.00 to KIRKTAP1 115.00
0
#
#
# (156) BUS FAULT 32970 "CLAYTN" Clayton 115 kV Bus Section 2
#
1 32970 32950 "1" 0 # LINE from CLAYTN 115.00 to PITTSBURG 115.00
1 32970 32950 "4" 0 # LINE from CLAYTN 115.00 to PITTSBURG 115.00
1 32970 33035 "1" 0 # LINE from CLAYTN 115.00 to LKWD_JCT 115.00
0
#
#
# (157) BUS FAULT 32971 "MEDW LNE"
#
1 32971 32970 "1" 0 # LINE from MEDW LNE 115.00 to CLAYTN 115.00
1 32971 32972 "1" 0 # LINE from MEDW LNE 115.00 to EBMUDGRY 115.00
4 32971 0 "1 " 0 # LOAD-DROP MEDW LNE 115.00 LOAD==39.33(8.97)
4 32971 0 "2 " 0 # LOAD-DROP MEDW LNE 115.00 LOAD==46.84(10.68)
4 32971 0 "3 " 0 # LOAD-DROP MEDW LNE 115.00 LOAD==43.88(10.00)
0
#
#
# (158) BUS FAULT 32973 "LAKEWD-C"
#
1 32973 33035 "1" 0 # LINE from LAKEWD-C 115.00 to LKWD_JCT 115.00
1 32973 32974 "1" 0 # LINE from LAKEWD-C 115.00 to LAKEWD-M 115.00
4 32973 0 "5 " 0 # LOAD-DROP LAKEWD-C 115.00 LOAD==19.48(4.44)
4 32973 0 "6 " 0 # LOAD-DROP LAKEWD-C 115.00 LOAD==44.20(10.08)
0
#
#
# (159) BUS FAULT 32974 "LAKEWD-M"
#
1 32974 32970 "2" 0 # LINE from LAKEWD-M 115.00 to CLAYTN 115.00
1 32974 32973 "1" 0 # LINE from LAKEWD-M 115.00 to LAKEWD-C 115.00
1 32974 32976 "0" 0 # LINE from LAKEWD-M 115.00 to LK_REACT 115.00
1 32974 32976 "2" 0 # LINE from LAKEWD-M 115.00 to LK_REACT 115.00
1 32974 32976 "4" 0 # LINE from LAKEWD-M 115.00 to LK_REACT 115.00
1 32974 32976 "7" 0 # LINE from LAKEWD-M 115.00 to LK_REACT 115.00
1 32974 32976 "9" 0 # LINE from LAKEWD-M 115.00 to LK_REACT 115.00
4 32974 0 "1 " 0 # LOAD-DROP LAKEWD-M 115.00 LOAD==38.07(8.68)
4 32974 0 "2 " 0 # LOAD-DROP LAKEWD-M 115.00 LOAD==25.72(5.86)
4 32974 0 "4 " 0 # LOAD-DROP LAKEWD-M 115.00 LOAD==48.09(10.96)
4 32974 0 "LW" 0 # LOAD-DROP LAKEWD-M 115.00 LOAD==5.66(1.15)
0
#
#
# (160) BUS FAULT 32990 "MARTNZ D"
#
1 32990 33014 "1" 0 # LINE from MARTNZ D 115.00 to ALHAMTP1 115.00
1 32990 33016 "1" 0 # LINE from MARTNZ D 115.00 to ALHAMTP2 115.00
1 32990 32991 "1" 0 # LINE from MARTNZ D 115.00 to MARTNZ E 115.00
1 32990 32996 "1" 0 # LINE from MARTNZ D 115.00 to SHELLJ1 115.00

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APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

2 32990 33142 "2" 0 # TRAN from MARTNZ D 115.00 to SHELL 2 12.47
4 32990 0 "5 " 0 # LOAD-DROP MARTNZ D 115.00 LOAD==45.86(10.45)
0
#
#
# (161) BUS FAULT 32991 "MARTNZ E"
#
1 32991 32990 "1" 0 # LINE from MARTNZ E 115.00 to MARTNZ D 115.00
1 32991 33042 "1" 0 # LINE from MARTNZ E 115.00 to IMHOFF 1 115.00
1 32991 33043 "2" 0 # LINE from MARTNZ E 115.00 to IMHOFF 2 115.00
1 32991 32997 "2" 0 # LINE from MARTNZ E 115.00 to SHELLJ2 115.00
2 32991 33142 "1" 0 # TRAN from MARTNZ E 115.00 to SHELL 2 12.47
0
#
#
# (162) BUS FAULT 33000 "CC SUB" Contra Costa Sub 115 kV Bus Section 1
#
1 33000 33047 "1" 0 # LINE from CC SUB 115.00 to CC JCT 115.00
2 33000 30523 "3" 0 # TRAN from CC SUB 115.00 to CC SUB 230.00
2 33000 33050 "1" 0 # TRAN from CC SUB 115.00 to CC SUB 60.00
4 33000 0 "4 " 0 # LOAD-DROP CC SUB 115.00 LOAD==42.14(8.55)
0
#
#
# (163) BUS FAULT 33000 "CC SUB" Contra Costa Sub 115 kV Bus Section 2
#
1 33000 33046 "1" 0 # LINE from CC SUB 115.00 to FIBRJCT2 115.00
2 33000 33050 "2" 0 # TRAN from CC SUB 115.00 to CC SUB 60.00
0
#
#
# (164) BUS FAULT 33001 "DOMTAR"
#
1 33001 33046 "1" 0 # LINE from DOMTAR 115.00 to FIBRJCT2 115.00
4 33001 0 "1 " 0 # LOAD-DROP DOMTAR 115.00 LOAD==2.40(2.12)
0
#
#
# (165) BUS FAULT 33010 "SOBRANTE" Sobrante 115 kV Bus Section 1
#
1 33010 32756 "1" 0 # LINE from SOBRANTE 115.00 to CHRISTIE 115.00
1 33010 32765 "1" 0 # LINE from SOBRANTE 115.00 to ELCRTJ1 115.00
1 33010 32767 "1" 0 # LINE from SOBRANTE 115.00 to ELCRTJ2 115.00
1 33010 32808 "1" 0 # LINE from SOBRANTE 115.00 to SNPBLTP2 115.00
1 33010 33006 "1" 0 # LINE from SOBRANTE 115.00 to GRIZLYJ1 115.00
1 33010 33014 "1" 0 # LINE from SOBRANTE 115.00 to ALHAMTP1 115.00
1 33010 33020 "1" 0 # LINE from SOBRANTE 115.00 to MORAGA 115.00
0
#
#
# (166) BUS FAULT 33010 "SOBRANTE" Sobrante 115 kV Bus Section 2
#
1 33010 32766 "2" 0 # LINE from SOBRANTE 115.00 to EL CRRTO 115.00
1 33010 32768 "2" 0 # LINE from SOBRANTE 115.00 to RICHMOND 115.00
1 33010 32806 "2" 0 # LINE from SOBRANTE 115.00 to SNPBLTP1 115.00
1 33010 33008 "2" 0 # LINE from SOBRANTE 115.00 to GRIZLYJ2 115.00
2 33010 30540 "1" 0 # TRAN from SOBRANTE 115.00 to SOBRANTE 230.00
2 33010 30540 "2" 0 # TRAN from SOBRANTE 115.00 to SOBRANTE 230.00
0
#
#
# (167) BUS FAULT 33011 "ALHAMBRA"
#
1 33011 33014 "1" 0 # LINE from ALHAMBRA 115.00 to ALHAMTP1 115.00
1 33011 33016 "1" 0 # LINE from ALHAMBRA 115.00 to ALHAMTP2 115.00
4 33011 0 "1 " 0 # LOAD-DROP ALHAMBRA 115.00 LOAD==10.29(2.34)
4 33011 0 "2 " 0 # LOAD-DROP ALHAMBRA 115.00 LOAD==9.17(2.09)
0
#
#
# (168) BUS FAULT 33012 "EST PRTL"
#
1 33012 33006 "1" 0 # LINE from EST PRTL 115.00 to GRIZLYJ1 115.00
1 33012 32780 "1" 0 # LINE from EST PRTL 115.00 to CLARMNT 115.00
4 33012 0 "1 " 0 # LOAD-DROP EST PRTL 115.00 LOAD==7.66(1.55)
0
#
#

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

# (169) BUS FAULT 33020 "MORAGA" Moraga 115 kV Bus Section 1D
#
1 33020 32780 "1" 0 # LINE from MORAGA 115.00 to CLARMNT 115.00
1 33020 32790 "1" 0 # LINE from MORAGA 115.00 to STATIN X 115.00
1 33020 33010 "1" 0 # LINE from MORAGA 115.00 to SOBRANTE 115.00
2 33020 30551 "1" 0 # TRAN from MORAGA 115.00 to MRAGA_1M 13.20
0
#
#
# (170) BUS FAULT 33020 "MORAGA" Moraga 115 kV Bus Section 2D
#
1 33020 32780 "2" 0 # LINE from MORAGA 115.00 to CLARMNT 115.00
1 33020 32790 "2" 0 # LINE from MORAGA 115.00 to STATIN X 115.00
1 33020 32976 "1" 0 # LINE from MORAGA 115.00 to LK_REACT 115.00
2 33020 30552 "2" 0 # TRAN from MORAGA 115.00 to MRAGA_2M 13.20
0
#
#
# (171) BUS FAULT 33020 "MORAGA" Moraga 115 kV Bus Section 1E
#
1 33020 32790 "3" 0 # LINE from MORAGA 115.00 to STATIN X 115.00
1 33020 35101 "1" 0 # LINE from MORAGA 115.00 to SN LNDRO 115.00
1 33020 35101 "3" 0 # LINE from MORAGA 115.00 to SN LNDRO 115.00
0
#
#
# (172) BUS FAULT 33020 "MORAGA" Moraga 115 kV Bus Section 2E
#
1 33020 32790 "4" 0 # LINE from MORAGA 115.00 to STATIN X 115.00
1 33020 32792 "1" 0 # LINE from MORAGA 115.00 to STATIN J 115.00
1 33020 35101 "2" 0 # LINE from MORAGA 115.00 to SN LNDRO 115.00
0
#
#
# (173) BUS FAULT 33049 "RVEC"
#
1 33049 33048 "1" 0 # LINE from RVEC 115.00 to RVECTP 115.00
2 33049 33178 "1" 0 # TRAN from RVEC 115.00 to RVEC_GEN 13.80
0
#
#
# (174) BUS FAULT 33050 "CC SUB" Contra Costa Sub 60 kV Bus Section 1
#
1 33050 33081 "1" 0 # LINE from CC SUB 60.00 to DUPNTJCT 60.00
1 33050 33060 "1" 0 # LINE from CC SUB 60.00 to ANTIOCH 60.00
2 33050 33000 "1" 0 # TRAN from CC SUB 60.00 to CC SUB 115.00
0
#
#
# (175) BUS FAULT 33050 "CC SUB" Contra Costa Sub 60 kV Bus Section 2
#
1 33050 33080 "1" 0 # LINE from CC SUB 60.00 to WILBRTAP 60.00
1 33050 33090 "1" 0 # LINE from CC SUB 60.00 to SHLLCHMT 60.00
2 33050 33000 "2" 0 # TRAN from CC SUB 60.00 to CC SUB 115.00
0
#
#
# (176) BUS FAULT 33051 "DU PONT"
#
1 33051 33080 "1" 0 # LINE from DU PONT 60.00 to WILBRTAP 60.00
1 33051 33081 "1" 0 # LINE from DU PONT 60.00 to DUPNTJCT 60.00
4 33051 0 "1 " 0 # LOAD-DROP DU PONT 60.00 LOAD==2.00(2.16)
0
#
#
# (177) BUS FAULT 33054 "BALFOUR"
#
1 33054 33082 "1" 0 # LINE from BALFOUR 60.00 to BALFRJCT 60.00
1 33054 33083 "1" 0 # LINE from BALFOUR 60.00 to MDLRVRJT 60.00
4 33054 0 "1 " 0 # LOAD-DROP BALFOUR 60.00 LOAD==4.00(0.81)
0
#
#
# (178) BUS FAULT 33063 "WLLW PSS"
#
1 33063 33062 "1" 0 # LINE from WLLW PSS 60.00 to SHLL CHM 60.00
1 33063 33091 "1" 0 # LINE from WLLW PSS 60.00 to TAP GWF5 60.00
4 33063 0 "1 " 0 # LOAD-DROP WLLW PSS 60.00 LOAD==9.78(2.23)

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

0
#
#
# 2013 category c contingency list (dctl and bus outages)
# San Francisco Division Zone 309
#
#
# (179) C5 DCTL OUTAGE
# Martin - Daly City #1 and #2 115 kV Lines
1 33208 33300 "1 " 0 # line from MARTIN C 115.00 BRKR to BRKR DALY CTY 115.00
#
1 33208 33301 "2 " 0 # line from MARTIN C 115.00 BRKR to (3) DLY CTYP 115.00
1 33301 33300 "2 " 0 # line from DLY CTYP 115.00 (3) to BRKR DALY CTY 115.00
1 33301 33302 "1 " 0 # line from DLY CTYP 115.00 (3) to BRKR SERRMNT 115.00
4 33302 0 "1 " 0 # LOAD-DROP SERRMNT 115.00 LOAD==11.42(2.60)
0
#
#
# (180) C5 DCTL OUTAGE
# Martin - East Grand and Martin - San Mateo #3 115 kV Lines
1 33208 33303 "2 " 0 # line from MARTIN C 115.00 BRKR to BRKR EST GRND 115.00
#
1 33208 33310 "3 " 0 # line from MARTIN C 115.00 BRKR to BRKR SANMATEO 115.00
0
#
#
# (181) C5 DCTL OUTAGE
# Martin - Millbrae and Martin - San Mateo #6 115 kV Lines
1 33208 33307 "1 " 0 # line from MARTIN C 115.00 BRKR to BRKR MILLBRAE 115.00
#
1 33305 33208 "6 " 0 # line from SHAWROAD 115.00 (2) to BRKR MARTIN C 115.00
1 33305 33310 "6 " 0 # line from SHAWROAD 115.00 (2) to BRKR SANMATEO 115.00
4 33305 33309 "1 " 1 # LOAD-TRANSFER SHAWROAD 115.00 TO SANPAULA 115.00 LOAD==9.00(1.83)
0
#
#
# (182) C5 DCTL OUTAGE
# Burlingame - San Mateo and Martin - San Mateo #3 115 kV Lines
1 33310 33356 "4 " 0 # line from SANMATEO 115.00 BRKR to BRKR BURLINGME 115.00
#
1 33208 33310 "3 " 0 # line from MARTIN C 115.00 BRKR to BRKR SANMATEO 115.00
0
#
#
# (183) C5 DCTL OUTAGE
# Martin - Burlingame and Martin - San Mateo #3 115 kV Lines
1 33356 33208 "4 " 0 # line from BURLINGME 115.00 BRKR to BRKR MARTIN C 115.00
#
1 33208 33310 "3 " 0 # line from MARTIN C 115.00 BRKR to BRKR SANMATEO 115.00
0
#
#
# (184) C5 DCTL OUTAGE
# SF Airport - San Mateo and Martin - San Mateo #3 115 kV Lines
1 33306 33310 "5 " 0 # line from SFIA 115.00 BRKR to BRKR SANMATEO 115.00
#
1 33208 33310 "3 " 0 # line from MARTIN C 115.00 BRKR to BRKR SANMATEO 115.00
0
#
#
# (185) C5 DCTL OUTAGE
# Martin - SF Airport and Martin - San Mateo #6 115 kV Lines
1 33208 33322 "5 " 0 # line from MARTIN C 115.00 BRKR to (3) UAL TAP 115.00
1 33322 33306 "5 " 0 # line from UAL TAP 115.00 (3) to BRKR SFIA 115.00
1 33322 33323 "1 " 0 # line from UAL TAP 115.00 (3) to (3) SFASWSTA 115.00
1 33323 33304 "1 " 0 # line from SFASWSTA 115.00 (3) to (2) UAL COGN 115.00
1 33323 33324 "1 " 0 # line from SFASWSTA 115.00 (3) to (2) SFAERP11 115.00
2 33304 33466 "1 " 0 # TRAN from UAL COGN 115.00 BRKR to (1) UNTED CO 9.11
2 33324 33467 "1 " 0 # TRAN from SFAERP11 115.00 (2) to (1) SFAERP 13.80
4 33467 0 "ss" 0 # LOAD-DROP SFAERP 13.80 LOAD==1.80(1.12)
3 33466 0 "1 " 0 # GEN-DROP UNTED CO 9.11 GEN==28.20(11.16)
3 33467 0 "1 " 0 # GEN-DROP SFAERP 13.80 GEN==48.00(10.34)
#
1 33305 33208 "6 " 0 # line from SHAWROAD 115.00 (2) to BRKR MARTIN C 115.00
1 33305 33310 "6 " 0 # line from SHAWROAD 115.00 (2) to BRKR SANMATEO 115.00
4 33305 33309 "1 " 1 # LOAD-TRANSFER SHAWROAD 115.00 TO SANPAULA 115.00 LOAD==9.00(1.83)
0
#

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

#
# (186) BUS FAULT 33204 "POTRERO" Potrero 115 kV Bus Section 1D
#
1 33204 33200 "1" 0 # LINE from POTRERO 115.00 to LARKIN D 115.00
1 33204 33203 "1" 0 # LINE from POTRERO 115.00 to MISSON 115.00
1 33204 33206 "1" 0 # LINE from POTRERO 115.00 to BAYSHOR1 115.00
2 33204 33252 "1" 0 # TRAN from POTRERO 115.00 to POTRERO3 20.00
2 33204 33252 "2" 0 # TRAN from POTRERO 115.00 to POTRERO3 20.00
4 33204 0 "1 " 0 # LOAD-DROP POTRERO 115.00 LOAD==43.69(8.87)
4 33204 0 "2 " 0 # LOAD-DROP POTRERO 115.00 LOAD==43.69(3.92)
0
#
#
# (187) BUS FAULT 33204 "POTRERO" Potrero 115 kV Bus Section 2D
#
1 33204 33207 "2" 0 # LINE from POTRERO 115.00 to BAYSHOR2 115.00
2 33204 33253 "1" 0 # TRAN from POTRERO 115.00 to POTRERO4 13.80
2 33204 33254 "1" 0 # TRAN from POTRERO 115.00 to POTRERO5 13.80
2 33204 33255 "1" 0 # TRAN from POTRERO 115.00 to POTRERO6 13.80
4 33204 0 "10" 0 # LOAD-DROP POTRERO 115.00 LOAD==43.69(8.87)
0
#
#
# (188) BUS FAULT 33204 "POTRERO" Potrero 115 kV Bus Section 1E
#
1 33204 33205 "1" 0 # LINE from POTRERO 115.00 to HNTRS PT 115.00
1 33204 33210 "1" 0 # LINE from POTRERO 115.00 to POT_SVC 115.00
0
#
#
# (189) BUS FAULT 33204 "POTRERO" Potrero 115 kV Bus Section 2E
#
1 33204 33201 "2" 0 # LINE from POTRERO 115.00 to LARKIN E 115.00
6 33204 0 "v " 0 # SVD-DROP POTRERO 115.00
0
#
#
# (190) BUS FAULT 33208 "MARTIN C" Martin 115 kV Bus Section 1E
#
1 33208 33205 "1" 0 # LINE from MARTIN C 115.00 to HNTRS PT 115.00
1 33208 33300 "1" 0 # LINE from MARTIN C 115.00 to DALY CTY 115.00
1 33208 33303 "2" 0 # LINE from MARTIN C 115.00 to EST GRND 115.00
4 33208 0 "4 " 0 # LOAD-DROP MARTIN C 115.00 LOAD==32.54(2.06)
6 33208 0 "v " 0 # SVD-DROP MARTIN C 115.00
0
#
#
# (191) BUS FAULT 33208 "MARTIN C" Martin 115 kV Bus Section 2E
#
1 33208 33207 "2" 0 # LINE from MARTIN C 115.00 to BAYSHOR2 115.00
1 33208 33301 "2" 0 # LINE from MARTIN C 115.00 to DLY CTYP 115.00
1 33208 33310 "3" 0 # LINE from MARTIN C 115.00 to SANMATEO 115.00
0
#
#
# (192) BUS FAULT 33208 "MARTIN C" Martin 115 kV Bus Section 1D
#
1 33208 33206 "1" 0 # LINE from MARTIN C 115.00 to BAYSHOR1 115.00
1 33208 33305 "6" 0 # LINE from MARTIN C 115.00 to SHAWROAD 115.00
1 33208 33322 "5" 0 # LINE from MARTIN C 115.00 to UAL TAP 115.00
1 33208 33356 "4" 0 # LINE from MARTIN C 115.00 to BURLNGME 115.00
0
#
#
# (193) BUS FAULT 33208 "MARTIN C" Martin 115 kV Bus Section 2D
#
1 33208 33202 "1" 0 # LINE from MARTIN C 115.00 to LARKIN F 115.00
1 33208 33307 "1" 0 # LINE from MARTIN C 115.00 to MILLBRAE 115.00
1 33208 33205 "3" 0 # LINE from MARTIN C 115.00 to HNTRS PT 115.00
2 33208 33209 "6" 0 # TRAN from MARTIN C 115.00 to MARTIN 60.00
4 33208 0 "1B" 0 # LOAD-DROP MARTIN C 115.00 LOAD==32.54(2.06)
0
#
#
# (194) BUS FAULT 33209 "MARTIN"
#
1 33209 33347 "1" 0 # LINE from MARTIN 60.00 to SNTH JCT 60.00
2 33209 33208 "6" 0 # TRAN from MARTIN 60.00 to MARTIN C 115.00

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

0
#
#
# 2013 category c contingency list (dctl and bus outages)
# Peninsula Division Zone 310
#
#
# (195) C5 DCTL OUTAGE
# Pittsburg - San Mateo and East Shore - San Mateo 230 kV Lines
1 30700 30527 "1 " 0 # line from SANMATEO 230.00 BRKR to BRKR PITSBG E 230.00
#
1 30560 30700 "1 " 0 # line from E. SHORE 230.00 BRKR to BRKR SANMATEO 230.00
0
#
#
# (196) C5 DCTL OUTAGE
# Newark - Ravenswood and Tesla - Ravenswood 230 kV Lines
1 30630 30703 "1 " 0 # line from NEWARK D 230.00 BRKR to BRKR RAVENSWD 230.00
#
1 30640 30703 "1 " 0 # line from TESLA C 230.00 BRKR to BRKR RAVENSWD 230.00
0
#
#
# (197) C5 DCTL OUTAGE
# Ravenswood - San Mateo #1 and #2 230 kV Lines
1 30703 30700 "1 " 0 # line from RAVENSWD 230.00 BRKR to BRKR SANMATEO 230.00
#
1 30703 30700 "2 " 0 # line from RAVENSWD 230.00 BRKR to BRKR SANMATEO 230.00
0
#
#
# (198) C5 DCTL OUTAGE
# Monta Vista - Jefferson #1 and #2 230 kV Lines
1 30705 30710 "1 " 0 # line from MONTAVIS 230.00 BRKR to (3) SLACTAP1 230.00
1 30710 30711 "1 " 0 # line from SLACTAP1 230.00 (3) to BRKR S.L.A.C. 230.00
1 30710 30715 "1 " 0 # line from SLACTAP1 230.00 (3) to BRKR JEFFERSN 230.00
4 30711 0 "1 " 0 # LOAD-DROP S.L.A.C. 230.00 LOAD==58.00(11.78)
1 30711 30712 "1 " 1 # LINE-TRANSFER SLACTAP1 to SLACTAP2
4 30711 0 "***" 1 # RESTORE S.L.A.C. load
#
1 30705 30712 "2 " 0 # line from MONTAVIS 230.00 BRKR to (2) SLACTAP2 230.00
1 30712 30715 "2 " 0 # line from SLACTAP2 230.00 (2) to BRKR JEFFERSN 230.00
0
#
#
# (199) C5 DCTL OUTAGE
# Jefferson - Ralston and Millbrae - Pacifica 115 kV Lines
1 33349 33362 "1 " 0 # line from CAROLD2 60.00 (1) to (2) CRYSTLSG 60.00
1 33362 33399 "1 " 0 # line from CRYSTLSG 60.00 (2) to (2) HILDAL47 60.00
1 33399 33398 "1 " 0 # line from HILDAL47 60.00 (2) to (3) RLSTN45 60.00
1 33398 33363 "1 " 0 # line from RLSTN45 60.00 (3) to BRKR RALSTON 60.00
1 33398 33400 "1 " 0 # line from RLSTN45 60.00 (3) to BRKR JEFRSN_E 60.00
4 33362 0 "1 " 0 # LOAD-DROP CRYSTLSG 60.00 LOAD==3.00(0.61)
1 33397 33363 "1 " 1 # LINE-TRANSFER RLSTN35 60.00 TO RALSTON 60.00
4 33363 0 "***" 1 # RESTORE RALSTON LOAD
#
1 33351 33345 "1 " 0 # line from SN BRNOT 60.00 (2) to (2) SNTH TP1 60.00
1 33351 33352 "1 " 0 # line from SN BRNOT 60.00 (2) to (2) SNANDRES 60.00
1 33345 33355 "1 " 0 # line from SNTH TP1 60.00 (2) to BRKR PACIFICA 60.00
1 33352 33354 "1 " 0 # line from SNANDRES 60.00 (2) to (2) MLLBRETTP 60.00
1 33354 33353 "1 " 0 # line from MLLBRETTP 60.00 (2) to BRKR MILLBRAE 60.00
4 33351 0 "1 " 0 # LOAD-DROP SN BRNOT 60.00 LOAD==3.36(0.77)
4 33352 0 "1 " 0 # LOAD-DROP SNANDRES 60.00 LOAD==1.80(0.37)
4 33355 0 "1 " 0 # LOAD-DROP PACIFICA 60.00 LOAD==9.92(2.26)
4 33355 0 "2 " 0 # LOAD-DROP PACIFICA 60.00 LOAD==5.61(1.28)
1 33355 33389 "1 " 1 # LINE-TRANSFER PACIFICA 60.00 TO PACIFJCT 60.00
4 33355 0 "***" 1 # RESTORE PACIFICA LOAD
0
#
#
# (200) C5 DCTL OUTAGE
# Jefferson - Ralston and Jefferson - Hillsdale Jct 115 kV Lines
1 33349 33362 "1 " 0 # line from CAROLD2 60.00 (1) to (2) CRYSTLSG 60.00
1 33362 33399 "1 " 0 # line from CRYSTLSG 60.00 (2) to (2) HILDAL47 60.00
1 33399 33398 "1 " 0 # line from HILDAL47 60.00 (2) to (3) RLSTN45 60.00
1 33398 33363 "1 " 0 # line from RLSTN45 60.00 (3) to BRKR RALSTON 60.00
1 33398 33400 "1 " 0 # line from RLSTN45 60.00 (3) to BRKR JEFRSN_E 60.00
4 33362 0 "1 " 0 # LOAD-DROP CRYSTLSG 60.00 LOAD==3.00(0.61)

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APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

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1 33397 33363 "1 " 1 # LINE-TRANSFER RLSTN35 60.00 TO RALSTON 60.00
4 33363 0 "***" 1 # RESTORE RALSTON LOAD
#
1 33348 33359 "1 " 0 # line from CAROLD1 60.00 (3) to BRKR CAROLNDS 60.00
1 33348 33391 "1 " 0 # line from CAROLD1 60.00 (3) to (2) TRAN-60 60.00
1 33348 33396 "1 " 0 # line from CAROLD1 60.00 (3) to (3) HILDAL49 60.00
1 33391 33392 "1 " 0 # line from TRAN-60 60.00 (2) to (1) MLLBTP97 60.00
1 33396 33361 "1 " 0 # line from HILDAL49 60.00 (3) to (3) HLLSDLJT 60.00
1 33396 33397 "1 " 0 # line from HILDAL49 60.00 (3) to (2) RLSTN35 60.00
1 33361 33360 "1 " 0 # line from HLLSDLJT 60.00 BRKR to BRKR HILLSdle 60.00
1 33361 33394 "1 " 0 # line from HLLSDLJT 60.00 (3) to BRKR OXMTN_TP 60.00
1 33397 33378 "1 " 0 # line from RLSTN35 60.00 (2) to (3) WTRSHDTP 60.00
1 33378 33379 "1 " 0 # line from WTRSHDTP 60.00 (3) to (1) WATRSHED 60.00
1 33378 33400 "1 " 0 # line from WTRSHDTP 60.00 (3) to BRKR JEFERN_E 60.00
4 33359 0 "1 " 0 # LOAD-DROP CAROLNDS 60.00 LOAD==2.65(0.60)
4 33359 0 "2 " 0 # LOAD-DROP CAROLNDS 60.00 LOAD==4.88(1.11)
4 33379 33363 "1 " 1 # LOAD-TRANSFER WATRSHED 60.00 TO RALSTON 60.00 LOAD==0.70(0.32)
1 33349 33359 "1 " 1 # LINE-TRANSFER CAROLNDS 60.00 TO CAROLD2 60.00
4 33359 0 "***" 1 # RESTORE CAROLANDS load
0
#
#
# (201) C5 DCTL OUTAGE
# Millbrae - San Mateo and East Grand - San Mateo 115 kV Lines
1 33307 33310 "1 " 0 # line from MILLBRAE 115.00 BRKR to BRKR SANMATEO 115.00
#
1 33308 33303 "2 " 0 # line from SFIA-MA 115.00 (2) to BRKR EST GRND 115.00
1 33308 33310 "2 " 0 # line from SFIA-MA 115.00 (2) to BRKR SANMATEO 115.00
4 33308 33306 "1 " 1 # LOAD-TRANSFER SFIA-MA 115.00 TO SFIA 115.00 LOAD==20.20(4.10)
0
#
#
# (202) C5 DCTL OUTAGE
# San Mateo - Bay Meadows #1 and #2 115 kV Lines
1 33310 33311 "1 " 0 # line from SANMATEO 115.00 BRKR to BRKR BAY MDWS 115.00
#
1 33310 33311 "2 " 0 # line from SANMATEO 115.00 BRKR to BRKR BAY MDWS 115.00
0
#
#
# (203) C5 DCTL OUTAGE
# San Mateo - Belmont and Ravenswood - San Mateo 115 kV Lines
1 33310 33312 "1 " 0 # line from SANMATEO 115.00 BRKR to BRKR BELMONT 115.00
#
1 33310 33321 "1 " 0 # line from SANMATEO 115.00 BRKR to BRKR RVNSWD D 115.00
0
#
#
# (204) C5 DCTL OUTAGE
# San Mateo - Belmont 115 kV and San Mateo - San Carlos 60 kV Lines
1 33310 33312 "1 " 0 # line from SANMATEO 115.00 BRKR to BRKR BELMONT 115.00
#
1 33357 33364 "1 " 0 # line from SAN MATO 60.00 BRKR to (2) ORACLE60 60.00
1 33364 33365 "1 " 0 # line from ORACLE60 60.00 (2) to BRKR SAN CRLS 60.00
4 33364 0 "1 " 0 # LOAD-DROP ORACLE60 60.00 LOAD==11.86(5.40)
0
#
#
# (205) C5 DCTL OUTAGE
# Ravenswood - Bair #2 and Ravenswood - San Mateo 115 kV Lines
1 33313 33319 "2 " 0 # line from BAIR 115.00 BRKR to (3) SHREDJCT 115.00
1 33319 33314 "1 " 0 # line from SHREDJCT 115.00 (3) to (2) SHREDDER 115.00
1 33319 33321 "2 " 0 # line from SHREDJCT 115.00 (3) to BRKR RVNSWD D 115.00
1 33314 33320 "1 " 0 # line from SHREDDER 115.00 (2) to (1) LONESTAR 115.00
4 33314 0 "1 " 0 # LOAD-DROP SHREDDER 115.00 LOAD==4.77(5.43)
4 33320 0 "1 " 0 # LOAD-DROP LONESTAR 115.00 LOAD==2.57(3.43)
#
1 33310 33321 "1 " 0 # line from SANMATEO 115.00 BRKR to BRKR RVNSWD D 115.00
0
#
#
# (206) C5 DCTL OUTAGE
# Belmont - Bair 115 kV and San Carlos - Bair 60 kV Lines
1 33312 33313 "1 " 0 # line from BELMONT 115.00 BRKR to BRKR BAIR 115.00
#
1 33365 33367 "1 " 0 # line from SAN CRLS 60.00 BRKR to BRKR BAIR 60.00
0
#

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APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

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#
# (207) C5 DCTL OUTAGE
# Ravenswood - Bair #1 and #2 115 kV Lines
1 33321 33313 "1 " 0 # line from RVNSWD D 115.00 BRKR to BRKR BAIR 115.00
#
1 33313 33319 "2 " 0 # line from BAIR 115.00 BRKR to (3) SHREDJCT 115.00
1 33319 33314 "1 " 0 # line from SHREDJCT 115.00 (3) to (2) SHREDDER 115.00
1 33319 33321 "2 " 0 # line from SHREDJCT 115.00 (3) to BRKR RVNSWD D 115.00
1 33314 33320 "1 " 0 # line from SHREDDER 115.00 (2) to (1) LONESTAR 115.00
4 33314 0 "1 " 0 # LOAD-DROP SHREDDER 115.00 LOAD==4.77(5.43)
4 33320 0 "1 " 0 # LOAD-DROP LONESTAR 115.00 LOAD==2.57(3.43)
0
#
#
# (208) C5 DCTL OUTAGE
# Ravenswood - Cooley Landing #1 and #2 115 kV Lines
1 33321 33317 "1 " 0 # line from RVNSWD D 115.00 BRKR to BRKR CLY LND 115.00
#
1 33315 33316 "2 " 0 # line from RVNSWD E 115.00 BRKR to BRKR CLY LND2 115.00
0
#
#
# (209) C5 DCTL OUTAGE
# Ravenswood - Ames #1 and #2 115 kV Lines
1 33315 35350 "1 " 0 # line from RVNSWD E 115.00 BRKR to BRKR AMES BS1 115.00
#
1 33315 35351 "2 " 0 # line from RVNSWD E 115.00 BRKR to BRKR AMES BS2 115.00
0
#
#
# (210) C5 DCTL OUTAGE
# Ravenswood - Palo Alto #1 and #2 115 kV Lines
1 33315 38028 "1 " 0 # line from RVNSWD E 115.00 BRKR to BRKR PLO ALTO 115.00
#
1 33315 38028 "2 " 0 # line from RVNSWD E 115.00 BRKR to BRKR PLO ALTO 115.00
0
#
#
# (211) C5 DCTL OUTAGE
# Ravenswood - Palo Alto #1 and Cooley Landing - Palo Alto 115 kV Lines
1 33315 38028 "1 " 0 # line from RVNSWD E 115.00 BRKR to BRKR PLO ALTO 115.00
#
1 33316 38028 "1 " 0 # line from CLY LND2 115.00 BRKR to BRKR PLO ALTO 115.00
0
#
#
# (212) C5 DCTL OUTAGE
# Bair - Cooley Landing #1 and #2 60 kV Lines
1 33367 33368 "1 " 0 # line from BAIR 60.00 BRKR to (2) REDWDTP1 60.00
1 33368 33373 "1 " 0 # line from REDWDTP1 60.00 (2) to (3) BLHVNTTP1 60.00
1 33373 33372 "1 " 0 # line from BLHVNTTP1 60.00 (3) to (1) BLLE HVN 60.00
1 33373 33375 "1 " 0 # line from BLHVNTTP1 60.00 (3) to BRKR CLY LNDG 60.00
4 33372 0 "1 " 0 # LOAD-DROP BLLE HVN 60.00 LOAD==7.52(1.71)
4 33372 0 "2 " 0 # LOAD-DROP BLLE HVN 60.00 LOAD==8.46(1.93)
4 33372 0 "3 " 0 # LOAD-DROP BLLE HVN 60.00 LOAD==15.39(3.51)
4 33372 0 "4 " 0 # LOAD-DROP BLLE HVN 60.00 LOAD==14.12(3.21)
4 33372 0 "5 " 0 # LOAD-DROP BLLE HVN 60.00 LOAD==29.05(6.62)
1 33372 33374 "2 " 1 # LINE-TRANSFER BLHVNTTP1 60.00 TO BLHVNTTP2 60.00
4 33372 0 "3 " 1 # RESTORE BELLE HAVEN load
#
1 33367 33369 "2 " 0 # line from BAIR 60.00 BRKR to (3) REDWDTP2 60.00
1 33369 33370 "2 " 0 # line from REDWDTP2 60.00 (3) to BRKR REDWOOD 60.00
1 33369 33374 "2 " 0 # line from REDWDTP2 60.00 (3) to (2) BLHVNTTP2 60.00
1 33374 33371 "2 " 0 # line from BLHVNTTP2 60.00 (2) to (2) RAYCHEM 60.00
1 33371 33375 "2 " 0 # line from RAYCHEM 60.00 (2) to BRKR CLY LNDG 60.00
4 33370 0 "1 " 0 # LOAD-DROP REDWOOD 60.00 LOAD==11.80(2.69)
4 33370 0 "2 " 0 # LOAD-DROP REDWOOD 60.00 LOAD==5.12(1.17)
4 33370 0 "3 " 0 # LOAD-DROP REDWOOD 60.00 LOAD==8.98(2.05)
4 33370 0 "4 " 0 # LOAD-DROP REDWOOD 60.00 LOAD==8.44(1.93)
4 33370 0 "5 " 0 # LOAD-DROP REDWOOD 60.00 LOAD==30.43(6.94)
4 33371 0 "1 " 0 # LOAD-DROP RAYCHEM 60.00 LOAD==7.48(5.22)
1 33368 33370 "1 " 1 # LINE-TRANSFER REDWDTP2 60.00 TO REDWDTP1 60.00
4 33370 0 "3 " 1 # RESTORE REDWOOD CITY load
0
#
#
# (213) C5 DCTL OUTAGE
# Martin - Sneath Lane and Millbrae - Pacifica 60 kV Lines

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APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

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1 33209 33347 "1 " 0 # line from MARTIN 60.00 BRKR to (2) SNTH JCT 60.00
1 33347 33346 "1 " 0 # line from SNTH JCT 60.00 (2) to (3) SNTH TP2 60.00
1 33346 33389 "1 " 0 # line from SNTH TP2 60.00 (3) to (1) PACIFJCT 60.00
1 33346 33350 "1 " 0 # line from SNTH TP2 60.00 (3) to BRKR SNTH LNE 60.00
4 33350 0 "1 " 0 # LOAD-DROP SNTH LNE 60.00 LOAD==7.61(1.73)
4 33350 0 "2 " 0 # LOAD-DROP SNTH LNE 60.00 LOAD==9.62(2.19)
1 33350 33345 "1 " 1 # LINE-TRANSFER SNTH LNE 60.00 TO SNTH TP 60.00
4 33350 0 "***" 1 # RESTORE SNEATH LANE LOAD
#
#
# (214) C5 DCTL OUTAGE
# Martin - Sneath Lane and Jefferson - Hillsdale Jct 60 kV Lines
1 33209 33347 "1 " 0 # line from MARTIN 60.00 BRKR to (2) SNTH JCT 60.00
1 33347 33346 "1 " 0 # line from SNTH JCT 60.00 (2) to (3) SNTH TP2 60.00
1 33346 33389 "1 " 0 # line from SNTH TP2 60.00 (3) to (1) PACIFJCT 60.00
1 33346 33350 "1 " 0 # line from SNTH TP2 60.00 (3) to BRKR SNTH LNE 60.00
4 33350 0 "1 " 0 # LOAD-DROP SNTH LNE 60.00 LOAD==7.61(1.73)
4 33350 0 "2 " 0 # LOAD-DROP SNTH LNE 60.00 LOAD==9.62(2.19)
1 33350 33345 "1 " 1 # LINE-TRANSFER SNTH LNE 60.00 TO SNTH TP 60.00
4 33350 0 "***" 1 # RESTORE SNEATH LANE LOAD
#
#
1 33348 33359 "1 " 0 # line from CAROLD1 60.00 (3) to BRKR CAROLNDS 60.00
1 33348 33391 "1 " 0 # line from CAROLD1 60.00 (3) to (2) TRAN-60 60.00
1 33348 33396 "1 " 0 # line from CAROLD1 60.00 (3) to (3) HILDAL49 60.00
1 33391 33392 "1 " 0 # line from TRAN-60 60.00 (2) to (1) MLLBTP97 60.00
1 33396 33361 "1 " 0 # line from HILDAL49 60.00 (3) to (3) HLLSDLJT 60.00
1 33396 33397 "1 " 0 # line from HILDAL49 60.00 (3) to (2) RLSTN35 60.00
1 33361 33360 "1 " 0 # line from HLLSDLJT 60.00 BRKR to BRKR HILLSLDLE 60.00
1 33361 33394 "1 " 0 # line from HLLSDLJT 60.00 (3) to BRKR OXMTN_TP 60.00
1 33397 33378 "1 " 0 # line from RLSTN35 60.00 (2) to (3) WTRSHDTP 60.00
1 33378 33379 "1 " 0 # line from WTRSHDTP 60.00 (3) to (1) WATRSBED 60.00
1 33378 33400 "1 " 0 # line from WTRSHDTP 60.00 (3) to BRKR JEFERSN_E 60.00
4 33359 0 "1 " 0 # LOAD-DROP CAROLNDS 60.00 LOAD==2.65(0.60)
4 33359 0 "2 " 0 # LOAD-DROP CAROLNDS 60.00 LOAD==4.88(1.11)
4 33379 33363 "1 " 1 # LOAD-TRANSFER WATRSBED 60.00 TO RALSTON 60.00 LOAD==0.70(0.32)
1 33349 33359 "1 " 1 # LINE-TRANSFER CAROLNDS 60.00 TO CAROLD2 60.00
4 33359 0 "***" 1 # RESTORE CAROLANDS load
#
#
# (215) BUS FAULT 30700 "SANMATEO" San Mateo 230 kV Bus Section 1E
#
1 30700 30703 "2" 0 # LINE from SANMATEO 230.00 to RAVENSWD 230.00
4 30700 0 "v " 0 # SVD-DROP SANMATEO 230.00
#
#
# (216) BUS FAULT 30700 "SANMATEO" San Mateo 230 kV Bus Section 2E
#
1 30700 30703 "1" 0 # LINE from SANMATEO 230.00 to RAVENSWD 230.00
#
#
# (217) BUS FAULT 30700 "SANMATEO" San Mateo 230 kV Bus Section 1D
#
1 30700 30527 "1" 0 # LINE from SANMATEO 230.00 to PITSBG E 230.00
2 30700 30701 "5" 0 # TRAN from SANMATEO 230.00 to SMATEO5M 13.20
#
#
# (218) BUS FAULT 30700 "SANMATEO" San Mateo 230 kV Bus Section 2D
#
1 30700 30560 "1" 0 # LINE from SANMATEO 230.00 to E. SHORE 230.00
2 30700 30702 "6" 0 # TRAN from SANMATEO 230.00 to SMATEO6M 13.20
#

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APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

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#
#
# (219) BUS FAULT 30711 "S.L.A.C."
#
1 30711 30710 "1" 0 # LINE from S.L.A.C. 230.00 to SLACTAP1 230.00
1 30711 30712 "1" 0 # LINE from S.L.A.C. 230.00 to SLACTAP2 230.00
4 30711 0 "1 " 0 # LOAD-DROP S.L.A.C. 230.00 LOAD==58.00(11.78)
0
#
#
# (220) BUS FAULT 30715 "JEFFERSN"
#
1 30715 30710 "1" 0 # LINE from JEFFERSN 230.00 to SLACTAP1 230.00
1 30715 30712 "2" 0 # LINE from JEFFERSN 230.00 to SLACTAP2 230.00
1 30715 30713 "1" 0 # LINE from JEFFERSN 230.00 to JMDAMCX1 230.00
2 30715 33380 "1" 0 # TRAN from JEFFERSN 230.00 to JEFRSN_D 60.00
2 30715 33400 "2" 0 # TRAN from JEFFERSN 230.00 to JEFRSN_E 60.00
0
#
#
# (221) BUS FAULT 33300 "DALY CTY"
#
1 33300 33208 "1" 0 # LINE from DALY CTY 115.00 to MARTIN C 115.00
1 33300 33301 "2" 0 # LINE from DALY CTY 115.00 to DLY CTYP 115.00
4 33300 0 "1 " 0 # LOAD-DROP DALY CTY 115.00 LOAD==50.29(11.46)
4 33300 0 "2 " 0 # LOAD-DROP DALY CTY 115.00 LOAD==30.35(6.92)
0
#
#
# (222) BUS FAULT 33302 "SERRMNTTE"
#
1 33302 33301 "1" 0 # LINE from SERRMNTTE 115.00 to DLY CTYP 115.00
4 33302 0 "1 " 0 # LOAD-DROP SERRMNTTE 115.00 LOAD==11.42(2.60)
0
#
#
# (223) BUS FAULT 33303 "EST GRND"
#
1 33303 33208 "2" 0 # LINE from EST GRND 115.00 to MARTIN C 115.00
1 33303 33308 "2" 0 # LINE from EST GRND 115.00 to SFIA-MA 115.00
4 33303 0 "1 " 0 # LOAD-DROP EST GRND 115.00 LOAD==58.02(13.22)
4 33303 0 "4 " 0 # LOAD-DROP EST GRND 115.00 LOAD==38.34(8.74)
4 33303 0 "5 " 0 # LOAD-DROP EST GRND 115.00 LOAD==35.32(8.05)
0
#
#
# (224) BUS FAULT 33306 "SFIA"
#
1 33306 33310 "5" 0 # LINE from SFIA 115.00 to SANMATEO 115.00
1 33306 33322 "5" 0 # LINE from SFIA 115.00 to UAL TAP 115.00
4 33306 33308 "1 " 1 # LOAD-TRANSFER SFIA 115.00 TO SFIA-MA 115.00 LOAD==18.70(3.80)
4 33306 33308 "2 " 1 # LOAD-TRANSFER SFIA 115.00 TO SFIA-MA 115.00 LOAD==18.70(3.80)
0
#
#
# (225) BUS FAULT 33307 "MILLBRAE" Millbrae 115 kV Bus Section 1
#
1 33307 33208 "1" 0 # LINE from MILLBRAE 115.00 to MARTIN C 115.00
1 33307 33309 "1" 0 # LINE from MILLBRAE 115.00 to SANPAULA 115.00
4 33307 0 "4 " 0 # LOAD-DROP MILLBRAE 115.00 LOAD==22.69(5.18)
0
#
#
# (226) BUS FAULT 33307 "MILLBRAE" Millbrae 115 kV Bus Section 2
#
1 33307 33310 "1" 0 # LINE from MILLBRAE 115.00 to SANMATEO 115.00
2 33307 33353 "5" 0 # TRAN from MILLBRAE 115.00 to MILLBRAE 60.00
4 33307 0 "3 " 0 # LOAD-DROP MILLBRAE 115.00 LOAD==23.03(5.25)
0
#
#
# (227) BUS FAULT 33310 "SANMATEO" San Mateo 115 kV Bus Section 1E
#
1 33310 33208 "3" 0 # LINE from SANMATEO 115.00 to MARTIN C 115.00
1 33310 33306 "5" 0 # LINE from SANMATEO 115.00 to SFIA 115.00
2 33310 30702 "6" 0 # TRAN from SANMATEO 115.00 to SMATEO6M 13.20
2 33310 33357 "8" 0 # TRAN from SANMATEO 115.00 to SAN MATO 60.00
4 33310 0 "9 " 0 # LOAD-DROP SANMATEO 115.00 LOAD==18.54(4.22)

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APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

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0
#
#
# (228) BUS FAULT 33310 "SANMATEO" San Mateo 115 kV Bus Section 2E
#
1 33310 33305 "6" 0 # LINE from SANMATEO 115.00 to SHAWROAD 115.00
1 33310 33356 "4" 0 # LINE from SANMATEO 115.00 to BURLNGME 115.00
1 33310 33321 "1" 0 # LINE from SANMATEO 115.00 to RVNSWD D 115.00
1 33310 33311 "2" 0 # LINE from SANMATEO 115.00 to BAY MDWS 115.00
1 33310 33312 "1" 0 # LINE from SANMATEO 115.00 to BELMONT 115.00
0
#
#
# (229) BUS FAULT 33310 "SANMATEO" San Mateo 115 kV Bus Section 1D
#
1 33310 33307 "1" 0 # LINE from SANMATEO 115.00 to MILLBRAE 115.00
1 33310 33311 "1" 0 # LINE from SANMATEO 115.00 to BAY MDWS 115.00
0
#
#
# (230) BUS FAULT 33310 "SANMATEO" San Mateo 115 kV Bus Section 2D
#
1 33310 33308 "2" 0 # LINE from SANMATEO 115.00 to SFIA-MA 115.00
2 33310 30701 "5" 0 # TRAN from SANMATEO 115.00 to SMATEO5M 13.20
0
#
#
# (231) BUS FAULT 33311 "BAY MDWS"
#
1 33311 33310 "1" 0 # LINE from BAY MDWS 115.00 to SANMATEO 115.00
1 33311 33310 "2" 0 # LINE from BAY MDWS 115.00 to SANMATEO 115.00
4 33311 0 "1 " 0 # LOAD-DROP BAY MDWS 115.00 LOAD==43.91(10.01)
4 33311 0 "2 " 0 # LOAD-DROP BAY MDWS 115.00 LOAD==34.54(7.87)
4 33311 0 "3 " 0 # LOAD-DROP BAY MDWS 115.00 LOAD==20.42(4.66)
4 33311 0 "5 " 0 # LOAD-DROP BAY MDWS 115.00 LOAD==19.08(4.35)
0
#
#
# (232) BUS FAULT 33312 "BELMONT"
#
1 33312 33310 "1" 0 # LINE from BELMONT 115.00 to SANMATEO 115.00
1 33312 33313 "1" 0 # LINE from BELMONT 115.00 to BAIR 115.00
4 33312 0 "1 " 0 # LOAD-DROP BELMONT 115.00 LOAD==37.28(8.49)
4 33312 0 "2 " 0 # LOAD-DROP BELMONT 115.00 LOAD==9.80(2.23)
4 33312 0 "3 " 0 # LOAD-DROP BELMONT 115.00 LOAD==31.91(7.27)
0
#
#
# (233) BUS FAULT 33313 "BAIR"
#
1 33313 33312 "1" 0 # LINE from BAIR 115.00 to BELMONT 115.00
1 33313 33319 "2" 0 # LINE from BAIR 115.00 to SHREDJCT 115.00
1 33313 33321 "1" 0 # LINE from BAIR 115.00 to RVNSWD D 115.00
2 33313 33367 "1" 0 # TRAN from BAIR 115.00 to BAIR 60.00
4 33313 0 "2 " 0 # LOAD-DROP BAIR 115.00 LOAD==16.67(3.80)
0
#
#
# (234) BUS FAULT 33315 "RVNSWD E" Ravenswood 115 kV Bus Section 1E
#
1 33315 35350 "1" 0 # LINE from RVNSWD E 115.00 to AMES BS1 115.00
1 33315 38028 "1" 0 # LINE from RVNSWD E 115.00 to PLO ALTO 115.00
0
#
#
# (235) BUS FAULT 33315 "RVNSWD E" Ravenswood 115 kV Bus Section 2E
#
1 33315 33316 "2" 0 # LINE from RVNSWD E 115.00 to CLY LND2 115.00
1 33315 35351 "2" 0 # LINE from RVNSWD E 115.00 to AMES BS2 115.00
1 33315 38028 "2" 0 # LINE from RVNSWD E 115.00 to PLO ALTO 115.00
0
#
#
# (236) BUS FAULT 33316 "CLY LND2"
#
1 33316 33315 "2" 0 # LINE from CLY LND2 115.00 to RVNSWD E 115.00
1 33316 38028 "1" 0 # LINE from CLY LND2 115.00 to PLO ALTO 115.00
1 33316 33317 "1" 0 # LINE from CLY LND2 115.00 to CLY LND 115.00

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

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2 33316 33375 "2" 0 # TRAN from CLY LND2 115.00 to CLY LNDG 60.00
0
#
#
# (237) BUS FAULT 33317 "CLY LND"
#
1 33317 33316 "1" 0 # LINE from CLY LND 115.00 to CLY LND2 115.00
1 33317 33321 "1" 0 # LINE from CLY LND 115.00 to RVNSWD D 115.00
2 33317 33375 "1" 0 # TRAN from CLY LND 115.00 to CLY LNDG 60.00
0
#
#
# (238) BUS FAULT 33321 "RVNSWD D" Ravenswood 115 kV Bus Section 1D
#
1 33321 33313 "1" 0 # LINE from RVNSWD D 115.00 to BAIR 115.00
1 33321 33317 "1" 0 # LINE from RVNSWD D 115.00 to CLY LND 115.00
0
#
#
# (239) BUS FAULT 33321 "RVNSWD D" Ravenswood 115 kV Bus Section 1D
#
1 33321 33310 "1" 0 # LINE from RVNSWD D 115.00 to SANMATEO 115.00
1 33321 33319 "2" 0 # LINE from RVNSWD D 115.00 to SHREDJCT 115.00
0
#
#
# (240) BUS FAULT 33350 "SNTH LNE"
#
1 33350 33345 "1" 0 # LINE from SNTH LNE 60.00 to SNTH TP1 60.00
1 33350 33346 "1" 0 # LINE from SNTH LNE 60.00 to SNTH TP2 60.00
4 33350 0 "1 " 0 # LOAD-DROP SNTH LNE 60.00 LOAD==7.61(1.73)
4 33350 0 "2 " 0 # LOAD-DROP SNTH LNE 60.00 LOAD==9.62(2.19)
0
#
#
# (241) BUS FAULT 33353 "MILLBRAE"
#
1 33353 33354 "1" 0 # LINE from MILLBRAE 60.00 to MLLBRETP 60.00
2 33353 33307 "5" 0 # TRAN from MILLBRAE 60.00 to MILLBRAE 115.00
4 33353 0 "1 " 0 # LOAD-DROP MILLBRAE 60.00 LOAD==5.16(1.18)
0
#
#
# (242) BUS FAULT 33355 "PACIFICA"
#
1 33355 33345 "1" 0 # LINE from PACIFICA 60.00 to SNTH TP1 60.00
1 33355 33389 "1" 0 # LINE from PACIFICA 60.00 to PACIFJCT 60.00
4 33355 0 "1 " 0 # LOAD-DROP PACIFICA 60.00 LOAD==9.92(2.26)
4 33355 0 "2 " 0 # LOAD-DROP PACIFICA 60.00 LOAD==5.61(1.28)
0
#
#
# (243) BUS FAULT 33356 "BURLNGME"
#
1 33356 33310 "4" 0 # LINE from BURLNGME 115.00 to SANMATEO 115.00
1 33356 33208 "4" 0 # LINE from BURLNGME 115.00 to MARTIN C 115.00
4 33356 0 "1 " 0 # LOAD-DROP BURLNGME 115.00 LOAD==10.08(2.30)
0
#
#
# (244) BUS FAULT 33357 "SAN MATO" San Mateo 60 kV Bus Section 1
#
1 33357 33358 "1" 0 # LINE from SAN MATO 60.00 to BERESFRD 60.00
2 33357 33318 "3" 0 # TRAN from SAN MATO 60.00 to SMATEO3M 115.00
0
#
#
# (245) BUS FAULT 33357 "SAN MATO" San Mateo 60 kV Bus Section 2
#
1 33357 33364 "1" 0 # LINE from SAN MATO 60.00 to ORACLE60 60.00
2 33357 33310 "8" 0 # TRAN from SAN MATO 60.00 to SANMATEO 115.00
4 33357 0 "4 " 0 # LOAD-DROP SAN MATO 60.00 LOAD==8.55(1.94)
0
#
#
# (246) BUS FAULT 33358 "BERESFRD"
#
1 33358 33357 "1" 0 # LINE from BERESFRD 60.00 to SAN MATO 60.00

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

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1 33358 33360 "1" 0 # LINE from BERESFRD 60.00 to HILLSDL 60.00
4 33358 0 "1 " 0 # LOAD-DROP BERESFRD 60.00 LOAD==5.80(1.32)
4 33358 0 "2 " 0 # LOAD-DROP BERESFRD 60.00 LOAD==4.07(0.93)
0
#
#
# (247) BUS FAULT 33359 "CAROLNDS"
#
1 33359 33348 "1" 0 # LINE from CAROLNDS 60.00 to CAROLD1 60.00
1 33359 33349 "1" 0 # LINE from CAROLNDS 60.00 to CAROLD2 60.00
4 33359 0 "1 " 0 # LOAD-DROP CAROLNDS 60.00 LOAD==2.65(0.60)
4 33359 0 "2 " 0 # LOAD-DROP CAROLNDS 60.00 LOAD==4.88(1.11)
0
#
#
# (248) BUS FAULT 33360 "HILLSDL"
#
1 33360 33358 "1" 0 # LINE from HILLSDL 60.00 to BERESFRD 60.00
1 33360 33361 "1" 0 # LINE from HILLSDL 60.00 to HLLSDLJT 60.00
4 33360 0 "1 " 0 # LOAD-DROP HILLSDL 60.00 LOAD==7.32(1.67)
0
#
#
# (249) BUS FAULT 33363 "RALSTON"
#
1 33363 33397 "1" 0 # LINE from RALSTON 60.00 to RLSTN35 60.00
1 33363 33398 "1" 0 # LINE from RALSTON 60.00 to RLSTN45 60.00
4 33363 33379 "1 " 1 # LOAD-TRANSFER RALSTON 60.00 TO WATRSHED 60.00 LOAD==6.53(1.49)
4 33363 33379 "2 " 1 # LOAD-TRANSFER RALSTON 60.00 TO WATRSHED 60.00 LOAD==3.37(0.77)
0
#
#
# (250) BUS FAULT 33365 "SAN CRLS"
#
1 33365 33364 "1" 0 # LINE from SAN CRLS 60.00 to ORACLE60 60.00
1 33365 33367 "1" 0 # LINE from SAN CRLS 60.00 to BAIR 60.00
4 33365 0 "1 " 0 # LOAD-DROP SAN CRLS 60.00 LOAD==12.95(2.95)
4 33365 0 "2 " 0 # LOAD-DROP SAN CRLS 60.00 LOAD==19.09(4.35)
4 33365 0 "3 " 0 # LOAD-DROP SAN CRLS 60.00 LOAD==9.80(2.23)
0
#
#
# (251) BUS FAULT 33366 "HLF MNBY"
#
1 33366 33389 "1" 0 # LINE from HLF MNBY 60.00 to PACIFJCT 60.00
1 33366 33394 "1" 0 # LINE from HLF MNBY 60.00 to OXMTN TP 60.00
4 33366 0 "1 " 0 # LOAD-DROP HLF MNBY 60.00 LOAD==8.02(1.82)
4 33366 0 "2 " 0 # LOAD-DROP HLF MNBY 60.00 LOAD==8.73(1.99)
4 33366 0 "3 " 0 # LOAD-DROP HLF MNBY 60.00 LOAD==9.64(2.19)
0
#
#
# (252) BUS FAULT 33367 "BAIR"
#
1 33367 33365 "1" 0 # LINE from BAIR 60.00 to SAN CRLS 60.00
1 33367 33368 "1" 0 # LINE from BAIR 60.00 to REDWDTP1 60.00
1 33367 33369 "2" 0 # LINE from BAIR 60.00 to REDWDTP2 60.00
2 33367 33313 "1" 0 # TRAN from BAIR 60.00 to BAIR 115.00
0
#
#
# (253) BUS FAULT 33370 "REDWOOD"
#
1 33370 33368 "1" 0 # LINE from REDWOOD 60.00 to REDWDTP1 60.00
1 33370 33369 "2" 0 # LINE from REDWOOD 60.00 to REDWDTP2 60.00
4 33370 0 "1 " 0 # LOAD-DROP REDWOOD 60.00 LOAD==11.80(2.69)
4 33370 0 "2 " 0 # LOAD-DROP REDWOOD 60.00 LOAD==5.12(1.17)
4 33370 0 "3 " 0 # LOAD-DROP REDWOOD 60.00 LOAD==8.98(2.05)
4 33370 0 "4 " 0 # LOAD-DROP REDWOOD 60.00 LOAD==8.44(1.93)
4 33370 0 "5 " 0 # LOAD-DROP REDWOOD 60.00 LOAD==30.43(6.94)
0
#
#
# (254) BUS FAULT 33375 "CLY LNDG" Cooley Landing 60 kV Bus Section 1
#
1 33375 33373 "1" 0 # LINE from CLY LNDG 60.00 to BLHVNTP1 60.00
1 33375 33382 "1" 0 # LINE from CLY LNDG 60.00 to S.R.I. 60.00
2 33375 33317 "1" 0 # TRAN from CLY LNDG 60.00 to CLY LND 115.00

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APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

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0
#
#
# (255) BUS FAULT 33375 "CLY LNDG" Cooley Landing 60 kV Bus Section 1
#
1 33375 33371 "2" 0 # LINE from CLY LNDG 60.00 to RAYCHEM 60.00
1 33375 35454 "1" 0 # LINE from CLY LNDG 60.00 to WSTNG JT 60.00
2 33375 33316 "2" 0 # TRAN from CLY LNDG 60.00 to CLY LND2 115.00
0
#
#
# (256) BUS FAULT 33376 "LAS PLGS"
#
1 33376 33387 "1" 0 # LINE from LAS PLGS 60.00 to WOODSIDE 60.00
1 33376 33393 "1" 0 # LINE from LAS PLGS 60.00 to LSPLGSJT 60.00
4 33376 0 "1 " 0 # LOAD-DROP LAS PLGS 60.00 LOAD==3.30(0.75)
4 33376 0 "2 " 0 # LOAD-DROP LAS PLGS 60.00 LOAD==3.30(0.75)
0
#
#
# (257) BUS FAULT 33380 "JEFRSN_D" Jefferson 60 kV Bus Section 1D
#
1 33380 33377 "1" 0 # LINE from JEFRSN_D 60.00 to EMRLD LE 60.00
1 33380 33400 "1" 0 # LINE from JEFRSN_D 60.00 to JEFRSN_E 60.00
0
#
#
# (258) BUS FAULT 33380 "JEFRSN_D" Jefferson 60 kV Bus Section 2D and 2E
#
1 33380 33387 "1" 0 # LINE from JEFRSN_D 60.00 to WOODSIDE 60.00
2 33380 30715 "1" 0 # TRAN from JEFRSN_D 60.00 to JEFFERSN 230.00
1 33400 33378 "1" 0 # LINE from JEFRSN_E 60.00 to WTRSHDTP 60.00
0
#
#
# (259) BUS FAULT 33381 "GLENWOOD"
#
1 33381 33382 "1" 0 # LINE from GLENWOOD 60.00 to S.R.I. 60.00
1 33381 33384 "1" 0 # LINE from GLENWOOD 60.00 to MNLO JCT 60.00
4 33381 0 "1 " 0 # LOAD-DROP GLENWOOD 60.00 LOAD==10.42(2.37)
4 33381 0 "2 " 0 # LOAD-DROP GLENWOOD 60.00 LOAD==7.20(1.64)
4 33381 0 "3 " 0 # LOAD-DROP GLENWOOD 60.00 LOAD==9.03(2.06)
0
#
#
# (260) BUS FAULT 33383 "MENLO"
#
1 33383 33385 "1" 0 # LINE from MENLO 60.00 to MNLOJCT2 60.00
1 33383 33390 "1" 0 # LINE from MENLO 60.00 to MENLO G 60.00
4 33383 0 "1 " 0 # LOAD-DROP MENLO 60.00 LOAD==4.91(1.12)
4 33383 0 "3 " 0 # LOAD-DROP MENLO 60.00 LOAD==14.12(3.21)
0
#
#
# (261) BUS FAULT 33386 "STANFORD"
#
1 33386 33384 "1" 0 # LINE from STANFORD 60.00 to MNLO JCT 60.00
1 33386 33388 "1" 0 # LINE from STANFORD 60.00 to S.L.A.C. 60.00
2 33386 33463 "1" 0 # TRAN from STANFORD 60.00 to CARDINAL 12.47
4 33386 0 "SG" 0 # LOAD-DROP STANFORD 60.00 LOAD==30.83(6.26)
0
#
#
# (262) BUS FAULT 33387 "WOODSIDE"
#
1 33387 33376 "1" 0 # LINE from WOODSIDE 60.00 to LAS PLGS 60.00
1 33387 33380 "1" 0 # LINE from WOODSIDE 60.00 to JEFRSN_D 60.00
4 33387 0 "1 " 0 # LOAD-DROP WOODSIDE 60.00 LOAD==12.61(2.87)
4 33387 0 "2 " 0 # LOAD-DROP WOODSIDE 60.00 LOAD==10.53(2.40)
4 33387 0 "3 " 0 # LOAD-DROP WOODSIDE 60.00 LOAD==10.53(2.40)
0
#
#
# (263) BUS FAULT 33390 "MENLO G"
#
1 33390 33383 "1" 0 # LINE from MENLO G 60.00 to MENLO 60.00
1 33390 33384 "1" 0 # LINE from MENLO G 60.00 to MNLO JCT 60.00
4 33390 0 "2 " 0 # LOAD-DROP MENLO G 60.00 LOAD==5.32(1.21)

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

4 33390      0  "4 "    0      # LOAD-DROP    MENLO G    60.00  LOAD==14.35(3.27)
0
#
#
# (264) BUS FAULT  33394  "OXMTN_TP"
#
1 33394 33361 "1"    0      # LINE from  OXMTN_TP  60.00  to  HLLSDLJT  60.00
1 33394 33366 "1"    0      # LINE from  OXMTN_TP  60.00  to  HLF MNBY  60.00
1 33394 33395 "1"    0      # LINE from  OXMTN_TP  60.00  to  OX_MTN60  60.00
0
#
#
# (265) BUS FAULT  33400  "JEFRSN_E" Jefferson 60 kV Bus Section 1E
#
1 33400 33380 "1"    0      # LINE from  JEFRSN_E  60.00  to  JEFRSN_D  60.00
1 33400 33398 "1"    0      # LINE from  JEFRSN_E  60.00  to  RLSTN45  60.00
2 33400 30715 "2"    0      # TRAN from  JEFRSN_E  60.00  to  JEFFERSN  230.00
0
#
#
# 2013 category c contingency list (dctl and bus outages)
# Mission Division Zone 316
#
#
# (266) C5 DCTL OUTAGE
# Tassajara - Newark and San Ramon - Moraga 230 kV Lines
1 30562 30631 "1"    0      # line from  TES JCT  230.00  (3) to BRKR  NEWARK E  230.00
1 30562 30561 "1"    0      # line from  TES JCT  230.00  (3) to BRKR  TASSAJAR 230.00
1 30562 30563 "1"    0      # line from  TES JCT  230.00  (3) to BRKR  RESEARCH 230.00
4 30563      0  "1"    0      # LOAD-DROP    RESEARCH 230.00  LOAD==37.05(8.44)
#
1 30550 30555 "1"    0      # line from  MORAGA    230.00  BRKR to BRKR  SANRAMON 230.00
0
#
#
# (267) C5 DCTL OUTAGE
# Tassajara - Newark and Castro Valley - Newark 230 kV Lines
1 30562 30631 "1"    0      # line from  TES JCT  230.00  (3) to BRKR  NEWARK E  230.00
1 30562 30561 "1"    0      # line from  TES JCT  230.00  (3) to BRKR  TASSAJAR 230.00
1 30562 30563 "1"    0      # line from  TES JCT  230.00  (3) to BRKR  RESEARCH 230.00
4 30563      0  "1"    0      # LOAD-DROP    RESEARCH 230.00  LOAD==37.05(8.44)
#
1 30554 30631 "1"    0      # line from  CASTROVL 230.00  BRKR to BRKR  NEWARK E  230.00
0
#
#
# (268) C5 DCTL OUTAGE
# Moraga - San Leandro #1 and #2 115 kV Lines
1 33020 35101 "1"    0      # line from  MORAGA    115.00  BRKR to BRKR  SN LNDRO 115.00
#
1 33020 35101 "2"    0      # line from  MORAGA    115.00  BRKR to BRKR  SN LNDRO 115.00
0
#
#
# (269) C5 DCTL OUTAGE
# Grant - East Shore #1 and #2 115 kV Lines
1 35104 35105 "1"    0      # line from  GRANT     115.00  BRKR to BRKR  EASTSHRE 115.00
#
1 35104 35105 "2"    0      # line from  GRANT     115.00  BRKR to BRKR  EASTSHRE 115.00
0
#
#
# (270) C5 DCTL OUTAGE
# East Shore - Mt Eden #1 and #2 115 kV Lines
1 35105 35106 "1"    0      # line from  EASTSHRE 115.00  BRKR to BRKR  MT EDEN  115.00
#
1 35105 35106 "2"    0      # line from  EASTSHRE 115.00  BRKR to BRKR  MT EDEN  115.00
0
#
#
# (271) C5 DCTL OUTAGE
# Newark - Jarvis #1 and #2 115 kV Lines
1 35120 35111 "1"    0      # line from  NEWARK D 115.00  BRKR to BRKR  JARVIS   115.00
#
1 35120 35124 "2"    0      # line from  NEWARK D 115.00  BRKR to (2)  NUMI JCT 115.00
1 35124 35111 "2"    0      # line from  NUMI JCT 115.00  (2) to BRKR  JARVIS   115.00
0
#

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APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

#
# (272) C5 DCTL OUTAGE
# Newark - Northern #1 and #2 115 kV Lines
1 35120 36851 "1 " 0 # line from NEWARK D 115.00 BRKR to BRKR NRS 400 115.00
#
1 35122 36853 "2 " 0 # line from NEWARK F 115.00 BRKR to BRKR NRS 300 115.00
0
#
#
# (273) C5 DCTL OUTAGE
# Newark - Fremont #1 and #2 115 kV Lines
1 35121 35110 "1 " 0 # line from NEWARK E 115.00 BRKR to BRKR FREMNT 115.00
#
1 35121 35110 "2 " 0 # line from NEWARK E 115.00 BRKR to BRKR FREMNT 115.00
0
#
#
# (274) C5 DCTL OUTAGE
# Newark - Ames #1 and #2 115 kV Lines
1 35121 35350 "1 " 0 # line from NEWARK E 115.00 BRKR to BRKR AMES BS1 115.00
#
1 35121 35351 "2 " 0 # line from NEWARK E 115.00 BRKR to BRKR AMES BS2 115.00
0
#
#
# (275) C5 DCTL OUTAGE
# Newark - Ames #3 and Newark - Ames Distribution 115 kV Lines
1 35121 35350 "3 " 0 # line from NEWARK E 115.00 BRKR to BRKR AMES BS1 115.00
#
1 35349 35121 "1 " 0 # line from AMES DST 115.00 BRKR to BRKR NEWARK E 115.00
0
#
#
# (276) C5 DCTL OUTAGE
# Newark - Nummi 115 kV and Newark - Livermore 60 kV Lines
1 35122 35126 "1 " 0 # line from NEWARK F 115.00 BRKR to (2) NUMI TAP 115.00
1 35126 35127 "1 " 0 # line from NUMI TAP 115.00 (2) to (2) WESTRN_D 115.00
1 35127 35112 "1 " 0 # line from WESTRN_D 115.00 (2) to BRKR NUMMI 115.00
4 35127 0 "1 " 0 # LOAD-DROP WESTRN_D 115.00 LOAD==6.80(4.25)
4 35112 0 "1 " 0 # LOAD-DROP NUMMI 115.00 LOAD==30.88(8.14)
#
1 35225 35217 "1 " 0 # line from LIVRMR_2 60.00 BRKR to BRKR NEWARK 60.00
0
#
#
# (277) C5 DCTL OUTAGE
# Newark - Lawrence and Newark - Applied Materials 115 kV Lines
1 35122 35357 "1 " 0 # line from NEWARK F 115.00 BRKR to (3) LCKHD J1 115.00
1 35357 35358 "1 " 0 # line from LCKHD J1 115.00 (3) to (3) MFT.FD J 115.00
1 35357 35363 "1 " 0 # line from LCKHD J1 115.00 (3) to BRKR LAWRENCE 115.00
1 35358 35359 "1 " 0 # line from MFT.FD J 115.00 (3) to (1) MOFT.FLD 115.00
1 35358 35361 "1 " 0 # line from MFT.FD J 115.00 (3) to BRKR LOCKHD 1 115.00
4 35359 0 "1 " 0 # LOAD-DROP MOFT.FLD 115.00 LOAD==4.46(1.12)
4 35361 0 "3 " 0 # LOAD-DROP LOCKHD 1 115.00 LOAD==17.45(14.46)
1 35361 35362 "1 " 1 # close LOCKHD 1 115.00 LOCKHD 2 115.00
4 35361 0 "***" 1 # restore all loads to LOCKHD 1
#
1 35122 35360 "1 " 0 # line from NEWARK F 115.00 BRKR to (3) LCKHD J2 115.00
1 35360 35362 "1 " 0 # line from LCKHD J2 115.00 (3) to BRKR LOCKHD 2 115.00
1 35360 35365 "1 " 0 # line from LCKHD J2 115.00 (3) to (3) AMD JCT 115.00
1 35365 35364 "1 " 0 # line from AMD JCT 115.00 (3) to BRKR A.M.D 115.00
1 35365 35369 "1 " 0 # line from AMD JCT 115.00 (3) to BRKR APP MAT 115.00
4 35362 0 "1 " 0 # LOAD-DROP LOCKHD 2 115.00 LOAD==7.56(1.72)
4 35362 0 "2 " 0 # LOAD-DROP LOCKHD 2 115.00 LOAD==3.42(0.78)
4 35362 0 "4 " 0 # LOAD-DROP LOCKHD 2 115.00 LOAD==16.21(12.58)
4 35364 0 "1 " 0 # LOAD-DROP A.M.D 115.00 LOAD==1.67(1.17)
1 35361 35362 "1 " 1 # close LOCKHD 1 115.00 LOCKHD 2 115.00
4 35362 0 "***" 1 # restore all loads to LOCKHD 2
0
#
#
# (278) C5 DCTL OUTAGE
# Newark - Dixon Landing and Newark - Milpitas #1 115 kV Lines
1 35122 35600 "1 " 0 # line from NEWARK F 115.00 BRKR to BRKR DIXON LD 115.00
#
1 35122 35624 "1 " 0 # line from NEWARK F 115.00 BRKR to BRKR MILPITAS 115.00
0
#

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APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

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#
# (279) C5 DCTL OUTAGE
# Newark - Kifer and Newark - Trimble 115 kV Lines
1 35122 35602 "1 " 0 # line from NEWARK F 115.00 BRKR to (3) ZNKER J2 115.00
1 35602 35604 "1 " 0 # line from ZNKER J2 115.00 (3) to (3) ZANKER 115.00
1 35602 36850 "1 " 0 # line from ZNKER J2 115.00 (3) to BRKR KRS 115.00
2 35604 35861 "1 " 0 # TRAN from ZANKER 115.00 (3) to (2) SJ-SCL W 9.11
2 35604 35861 "2 " 0 # TRAN from ZANKER 115.00 (3) to (2) SJ-SCL W 9.11
4 35861 0 "SG" 0 # LOAD-DROP SJ-SCL W 9.11 LOAD==6.17(2.09)
3 35861 0 "1 " 0 # GEN-DROP SJ-SCL W 9.11 GEN==5.00(0.00)
#
1 35122 35603 "1 " 0 # line from NEWARK F 115.00 BRKR to (3) ZNKER J1 115.00
1 35603 35605 "1 " 0 # line from ZNKER J1 115.00 (3) to (1) AGNEW J 115.00
1 35603 35612 "1 " 0 # line from ZNKER J1 115.00 (3) to BRKR TRIMBLE 115.00
0
#
#
# (280) BUS FAULT 30537 "NDUBLIN"
#
#
1 30537 30530 "1" 0 # LINE from NDUBLIN 230.00 to CAYETANO 230.00
1 30537 35224 "1" 0 # LINE from NDUBLIN 230.00 to VINEYD_D 230.00
4 30537 0 "1 " 0 # LOAD-DROP NDUBLIN 230.00 LOAD==18.81(4.29)
0
#
#
# (281) BUS FAULT 30554 "CASTROVL"
#
1 30554 30550 "1" 0 # LINE from CASTROVL 230.00 to MORAGA 230.00
1 30554 30556 "1" 0 # LINE from CASTROVL 230.00 to CV BART 230.00
1 30554 30631 "1" 0 # LINE from CASTROVL 230.00 to NEWARK E 230.00
4 30554 0 "1 " 0 # LOAD-DROP CASTROVL 230.00 LOAD==38.34(8.74)
4 30554 0 "2 " 0 # LOAD-DROP CASTROVL 230.00 LOAD==34.68(7.90)
0
#
#
# (282) BUS FAULT 30555 "SANRAMON" San Ramon 230 kV Bus Section 1
#
1 30555 30526 "1" 0 # LINE from SANRAMON 230.00 to PITSBG D 230.00
2 30555 35209 "1" 0 # TRAN from SANRAMON 230.00 to SAN RAMN 60.00
0
#
#
# (283) BUS FAULT 30555 "SANRAMON" San Ramon 230 kV Bus Section 2
#
1 30555 30550 "1" 0 # LINE from SANRAMON 230.00 to MORAGA 230.00
0
#
#
# (284) BUS FAULT 30585 "LS PSTAS"
#
1 30585 30525 "1" 0 # LINE from LS PSTAS 230.00 to C.COSTA 230.00
1 30585 30630 "1" 0 # LINE from LS PSTAS 230.00 to NEWARK D 230.00
2 30585 35220 "4" 0 # TRAN from LS PSTAS 230.00 to LPOSTAS 60.00
4 30585 0 "1 " 0 # LOAD-DROP LS PSTAS 230.00 LOAD==22.20(5.06)
4 30585 0 "2 " 0 # LOAD-DROP LS PSTAS 230.00 LOAD==51.40(11.71)
4 30585 0 "3 " 0 # LOAD-DROP LS PSTAS 230.00 LOAD==33.99(7.75)
0
#
#
# (285) BUS FAULT 30630 "NEWARK D" Newark 230 kV Bus Section 1D
#
1 30630 30585 "1" 0 # LINE from NEWARK D 230.00 to LS PSTAS 230.00
1 30630 30624 "1" 0 # LINE from NEWARK D 230.00 to TESLA E 230.00
1 30630 30703 "1" 0 # LINE from NEWARK D 230.00 to RAVENSWD 230.00
2 30630 30626 "7" 0 # TRAN from NEWARK D 230.00 to NWRK_7M 13.20
0
#
#
# (286) BUS FAULT 30630 "NEWARK D" Newark 230 kV Bus Section 2D
#
1 30630 30631 "1" 0 # LINE from NEWARK D 230.00 to NEWARK E 230.00
1 30630 35219 "1" 0 # LINE from NEWARK D 230.00 to VINEYARD 230.00
6 30630 0 "v " 0 # SVD-DROP NEWARK D 230.00
0
#
#
# (287) BUS FAULT 30631 "NEWARK E" Newark 230 kV Bus Section 1E

```


APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

#
1 30631 30554 "1" 0 # LINE from NEWARK E 230.00 to CASTROVL 230.00
1 30631 30635 "1" 0 # LINE from NEWARK E 230.00 to NWK DIST 230.00
0
#
#
# (288) BUS FAULT 30631 "NEWARK E" Newark 230 kV Bus Section 2E
#
1 30631 30562 "1" 0 # LINE from NEWARK E 230.00 to TES JCT 230.00
1 30631 30655 "2" 0 # LINE from NEWARK E 230.00 to ADCC 230.00
2 30631 30628 "11" 0 # TRAN from NEWARK E 230.00 to NWRK_11M 13.20
6 30631 0 "v" 0 # SVD-DROP NEWARK E 230.00
0
#
#
# (289) BUS FAULT 35101 "SN LNDRO" San Leandro 115 kV Bus Section D
#
1 35101 33020 "2" 0 # LINE from SN LNDRO 115.00 to MORAGA 115.00
1 35101 33020 "3" 0 # LINE from SN LNDRO 115.00 to MORAGA 115.00
4 35101 0 "3 " 0 # LOAD-DROP SN LNDRO 115.00 LOAD==26.45(6.03)
4 35101 0 "SL" 0 # LOAD-DROP SN LNDRO 115.00 LOAD==7.80(1.58)
0
#
#
# (290) BUS FAULT 35101 "SN LNDRO" San Leandro 115 kV Bus Section E
#
1 35101 33020 "1" 0 # LINE from SN LNDRO 115.00 to MORAGA 115.00
1 35101 35113 "1" 0 # LINE from SN LNDRO 115.00 to DMTAR_SL 115.00
4 35101 0 "1 " 0 # LOAD-DROP SN LNDRO 115.00 LOAD==26.90(6.13)
4 35101 0 "2 " 0 # LOAD-DROP SN LNDRO 115.00 LOAD==37.54(8.55)
0
#
#
# (291) BUS FAULT 35104 "GRANT"
#
1 35104 32812 "1" 0 # LINE from GRANT 115.00 to EDS GRNT 115.00
1 35104 35105 "1" 0 # LINE from GRANT 115.00 to EASTSHRE 115.00
1 35104 35105 "2" 0 # LINE from GRANT 115.00 to EASTSHRE 115.00
4 35104 0 "1 " 0 # LOAD-DROP GRANT 115.00 LOAD==23.95(5.46)
4 35104 0 "2 " 0 # LOAD-DROP GRANT 115.00 LOAD==26.01(5.93)
0
#
#
# (292) BUS FAULT 35105 "EASTSHRE" East Shore 115 kV Bus Section D
#
1 35105 35104 "2" 0 # LINE from EASTSHRE 115.00 to GRANT 115.00
1 35105 35106 "1" 0 # LINE from EASTSHRE 115.00 to MT EDEN 115.00
2 35105 30560 "1" 0 # TRAN from EASTSHRE 115.00 to E. SHORE 230.00
0
#
#
# (293) BUS FAULT 35105 "EASTSHRE" East Shore 115 kV Bus Section E
#
1 35105 35104 "1" 0 # LINE from EASTSHRE 115.00 to GRANT 115.00
1 35105 35106 "2" 0 # LINE from EASTSHRE 115.00 to MT EDEN 115.00
1 35105 35107 "1" 0 # LINE from EASTSHRE 115.00 to DUMBARTN 115.00
2 35105 30560 "2" 0 # TRAN from EASTSHRE 115.00 to E. SHORE 230.00
0
#
#
# (294) BUS FAULT 35106 "MT EDEN"
#
1 35106 35105 "1" 0 # LINE from MT EDEN 115.00 to EASTSHRE 115.00
1 35106 35105 "2" 0 # LINE from MT EDEN 115.00 to EASTSHRE 115.00
4 35106 0 "1 " 0 # LOAD-DROP MT EDEN 115.00 LOAD==38.61(8.80)
4 35106 0 "2 " 0 # LOAD-DROP MT EDEN 115.00 LOAD==36.10(8.23)
4 35106 0 "3 " 0 # LOAD-DROP MT EDEN 115.00 LOAD==34.77(7.93)
0
#
#
# (295) BUS FAULT 35107 "DUMBARTN"
#
1 35107 35105 "1" 0 # LINE from DUMBARTN 115.00 to EASTSHRE 115.00
1 35107 35120 "1" 0 # LINE from DUMBARTN 115.00 to NEWARK D 115.00
4 35107 0 "1 " 0 # LOAD-DROP DUMBARTN 115.00 LOAD==24.42(5.57)
4 35107 0 "2 " 0 # LOAD-DROP DUMBARTN 115.00 LOAD==25.84(5.89)
4 35107 0 "3 " 0 # LOAD-DROP DUMBARTN 115.00 LOAD==31.54(7.19)
0

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

#
#
# (296) BUS FAULT 35110 "FREMNT"
#
1 35110 35121 "1" 0 # LINE from FREMNT 115.00 to NEWARK E 115.00
1 35110 35121 "2" 0 # LINE from FREMNT 115.00 to NEWARK E 115.00
4 35110 0 "1 " 0 # LOAD-DROP FREMNT 115.00 LOAD==31.72(7.23)
4 35110 0 "2 " 0 # LOAD-DROP FREMNT 115.00 LOAD==19.38(4.41)
4 35110 0 "3 " 0 # LOAD-DROP FREMNT 115.00 LOAD==27.52(6.27)
0
#
#
# (297) BUS FAULT 35111 "JARVIS"
#
1 35111 35115 "1" 0 # LINE from JARVIS 115.00 to JV BART 115.00
1 35111 35116 "1" 0 # LINE from JARVIS 115.00 to CRYOGEN 115.00
1 35111 35120 "1" 0 # LINE from JARVIS 115.00 to NEWARK D 115.00
1 35111 35124 "2" 0 # LINE from JARVIS 115.00 to NUMI JCT 115.00
4 35111 0 "1 " 0 # LOAD-DROP JARVIS 115.00 LOAD==17.70(4.03)
4 35111 0 "2 " 0 # LOAD-DROP JARVIS 115.00 LOAD==26.59(6.06)
4 35111 0 "3 " 0 # LOAD-DROP JARVIS 115.00 LOAD==34.15(7.78)
0
#
#
# (298) BUS FAULT 35112 "NUMMI"
#
1 35112 35127 "1" 0 # LINE from NUMMI 115.00 to WESTRN_D 115.00
4 35112 0 "1 " 0 # LOAD-DROP NUMMI 115.00 LOAD==30.88(8.14)
0
#
#
# (299) BUS FAULT 35120 "NEWARK D" Newark 115 kV Bus Section 1D
#
1 35120 35111 "1" 0 # LINE from NEWARK D 115.00 to JARVIS 115.00
1 35120 36851 "1" 0 # LINE from NEWARK D 115.00 to NRS 400 115.00
1 35120 38446 "3" 0 # LINE from NEWARK D 115.00 to OAK-TAP1 115.00
4 35120 0 "3 " 0 # LOAD-DROP NEWARK D 115.00 LOAD==25.84(5.89)
0
#
#
# (300) BUS FAULT 35120 "NEWARK D" Newark 115 kV Bus Section 2D
#
1 35120 35107 "1" 0 # LINE from NEWARK D 115.00 to DUMBARTN 115.00
1 35120 35124 "2" 0 # LINE from NEWARK D 115.00 to NUMI JCT 115.00
1 35120 38448 "4" 0 # LINE from NEWARK D 115.00 to OAK-TAP2 115.00
2 35120 35109 "1" 0 # TRAN from NEWARK D 115.00 to NWRK 2 M 115.00
4 35120 0 "4 " 0 # LOAD-DROP NEWARK D 115.00 LOAD==24.33(5.54)
6 35120 0 "v " 0 # SVD-DROP NEWARK D 115.00
0
#
#
# (301) BUS FAULT 35121 "NEWARK E" Newark 115 kV Bus Section 1E
#
1 35121 35110 "1" 0 # LINE from NEWARK E 115.00 to FREMNT 115.00
1 35121 35350 "1" 0 # LINE from NEWARK E 115.00 to AMES BS1 115.00
1 35121 35350 "3" 0 # LINE from NEWARK E 115.00 to AMES BS1 115.00
0
#
#
# (302) BUS FAULT 35121 "NEWARK E" Newark 115 kV Bus Section 2E
#
1 35121 35110 "2" 0 # LINE from NEWARK E 115.00 to FREMNT 115.00
1 35121 35351 "2" 0 # LINE from NEWARK E 115.00 to AMES BS2 115.00
1 35121 35349 "1" 0 # LINE from NEWARK E 115.00 to AMES DST 115.00
2 35121 30626 "7" 0 # TRAN from NEWARK E 115.00 to NWRK_7M 13.20
0
#
#
# (303) BUS FAULT 35122 "NEWARK F" Newark 115 kV Bus Section 1F
#
1 35122 35357 "1" 0 # LINE from NEWARK F 115.00 to LCKHD J1 115.00
1 35122 35603 "1" 0 # LINE from NEWARK F 115.00 to ZNKER J1 115.00
1 35122 35624 "1" 0 # LINE from NEWARK F 115.00 to MILPITAS 115.00
1 35122 35624 "2" 0 # LINE from NEWARK F 115.00 to MILPITAS 115.00
0
#
#

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

# (304) BUS FAULT 35122 "NEWARK F" Newark 115 kV Bus Section 1F
#
1 35122 35126 "1" 0 # LINE from NEWARK F 115.00 to NUMI TAP 115.00
1 35122 35360 "1" 0 # LINE from NEWARK F 115.00 to LCKHD J2 115.00
1 35122 35600 "1" 0 # LINE from NEWARK F 115.00 to DIXON LD 115.00
1 35122 35602 "1" 0 # LINE from NEWARK F 115.00 to ZNKER J2 115.00
1 35122 36853 "2" 0 # LINE from NEWARK F 115.00 to NRS 300 115.00
0
#
#
# (305) BUS FAULT 35201 "VASCO"
#
1 35201 35210 "1" 0 # LINE from VASCO 60.00 to VASCJCT. 60.00
1 35201 35211 "1" 0 # LINE from VASCO 60.00 to ALTAMONT 60.00
4 35201 0 "1 " 0 # LOAD-DROP VASCO 60.00 LOAD==6.00(1.37)
4 35201 0 "2 " 0 # LOAD-DROP VASCO 60.00 LOAD==8.78(2.00)
0
#
#
# (306) BUS FAULT 35203 "LIVERMRE"
#
1 35203 35220 "1" 0 # LINE from LIVERMRE 60.00 to LPOSTAS 60.00
1 35203 35222 "1" 0 # LINE from LIVERMRE 60.00 to CALMAT60 60.00
1 35203 35225 "1" 0 # LINE from LIVERMRE 60.00 to LIVRMR_2 60.00
4 35203 0 "1 " 0 # LOAD-DROP LIVERMRE 60.00 LOAD==10.62(2.42)
0
#
#
# (307) BUS FAULT 35205 "RADUM"
#
1 35205 35206 "1" 0 # LINE from RADUM 60.00 to KAISER 60.00
1 35205 35227 "1" 0 # LINE from RADUM 60.00 to VINEYARD 60.00
1 35205 35223 "1" 0 # LINE from RADUM 60.00 to PARKS TP 60.00
4 35205 0 "1 " 0 # LOAD-DROP RADUM 60.00 LOAD==9.13(2.08)
4 35205 0 "2 " 0 # LOAD-DROP RADUM 60.00 LOAD==10.18(2.32)
0
#
#
# (308) BUS FAULT 35209 "SAN RAMN"
#
1 35209 35221 "1" 0 # LINE from SAN RAMN 60.00 to E DUBLIN 60.00
2 35209 30555 "1" 0 # TRAN from SAN RAMN 60.00 to SANRAMON 230.00
0
#
#
# (309) BUS FAULT 35213 "VALLECTS"
#
1 35213 35212 "1" 0 # LINE from VALLECTS 60.00 to IUKA 60.00
1 35213 35214 "1" 0 # LINE from VALLECTS 60.00 to SUNOL 60.00
4 35213 0 "1 " 0 # LOAD-DROP VALLECTS 60.00 LOAD==1.16(0.20)
0
#
#
# (310) BUS FAULT 35217 "NEWARK"
#
1 35217 35216 "1" 0 # LINE from NEWARK 60.00 to DCTO JCT 60.00
1 35217 35225 "1" 0 # LINE from NEWARK 60.00 to LIVRMR_2 60.00
2 35217 35109 "1" 0 # TRAN from NEWARK 60.00 to NWRK 2 M 115.00
0
#
#
# (311) BUS FAULT 35220 "LPOSTAS"
#
1 35220 35203 "1" 0 # LINE from LPOSTAS 60.00 to LIVERMRE 60.00
1 35220 35210 "1" 0 # LINE from LPOSTAS 60.00 to VASCJCT. 60.00
2 35220 30585 "4" 0 # TRAN from LPOSTAS 60.00 to LS PSTAS 230.00
0
#
#
# (312) BUS FAULT 35224 "VINEYD_D"
#
1 35224 30537 "1" 0 # LINE from VINEYD_D 230.00 to NDUBLIN 230.00
1 35224 35219 "1" 0 # LINE from VINEYD_D 230.00 to VINEYARD 230.00
4 35224 0 "1 " 0 # LOAD-DROP VINEYD_D 230.00 LOAD==31.52(7.18)
0
#
#
# (313) BUS FAULT 35225 "LIVRMR_2"

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

#
1 35225 35203 "1" 0 # LINE from LIVRMR_2 60.00 to LIVERMRE 60.00
1 35225 35217 "1" 0 # LINE from LIVRMR_2 60.00 to NEWARK 60.00
4 35225 0 "2 " 0 # LOAD-DROP LIVRMR_2 60.00 LOAD==13.57(3.09)
0
#
#
# 2013 category c contingency list (dctl and bus outages)
# DeAnza Division Zone 317
#
#
# (314) C5 DCTL OUTAGE
# Monta Vista - Saratoga and Monta Vista - Hicks 230 kV Lines
1 30705 30720 "1 " 0 # line from MONTAVIS 230.00 BRKR to BRKR SARATOGA 230.00
#
1 30705 30730 "1 " 0 # line from MONTAVIS 230.00 BRKR to BRKR HICKS 230.00
0
#
#
# (315) C5 DCTL OUTAGE
# Saratoga - Vasona and Monta Vista - Hicks 230 kV Lines
1 30720 30733 "1 " 0 # line from SARATOGA 230.00 BRKR to BRKR VASONA 230.00
#
1 30705 30730 "1 " 0 # line from MONTAVIS 230.00 BRKR to BRKR HICKS 230.00
0
#
#
# (316) C5 DCTL OUTAGE
# Monta Vista - Metcalf and Monta Vista - Coyote Sw Sta 230 kV Lines
1 30735 30705 "3 " 0 # line from METCALF 230.00 BRKR to BRKR MONTAVIS 230.00
#
1 30741 30705 "4 " 0 # line from CAL MEC 230.00 BRKR to BRKR MONTAVIS 230.00
0
#
#
# (317) C5 DCTL OUTAGE
# Newark - Ames #3 and Ames - Ames Distribution 115 kV Lines
1 35121 35350 "3 " 0 # line from NEWARK E 115.00 BRKR to BRKR AMES BS1 115.00
#
1 35351 35349 "1 " 0 # line from AMES BS2 115.00 BRKR to BRKR AMES DST 115.00
0
#
#
# (318) C5 DCTL OUTAGE
# Whisman - Monta Vista and Moutain View - Monta Vista 115 kV Lines
1 35352 35356 "1 " 0 # line from WHISMAN 115.00 BRKR to BRKR MNTA VSA 115.00
#
1 35353 35356 "1 " 0 # line from MT VIEW 115.00 BRKR to BRKR MNTA VSA 115.00
0
#
#
# (319) C5 DCTL OUTAGE
# Whisman - Monta Vista and Moutain View - Whisman 115 kV Lines
1 35352 35356 "1 " 0 # line from WHISMAN 115.00 BRKR to BRKR MNTA VSA 115.00
#
1 35370 35353 "1 " 0 # line from AMES J1A 115.00 (2) to BRKR MT VIEW 115.00
1 35370 35371 "1 " 0 # line from AMES J1A 115.00 (2) to (2) AMES J1B 115.00
1 35371 35352 "1 " 0 # line from AMES J1B 115.00 (2) to BRKR WHISMAN 115.00
0
#
#
# (320) C5 DCTL OUTAGE
# Stelling - Monta Vista and Monta Vista - Wolfe 115 kV Lines
1 35354 35356 "1 " 0 # line from STELLING 115.00 BRKR to BRKR MNTA VSA 115.00
#
1 35355 35356 "1 " 0 # line from WOLFE 115.00 BRKR to BRKR MNTA VSA 115.00
0
#
#
# (321) C5 DCTL OUTAGE
# Stelling - Wolfe and Monta Vista - Wolfe 115 kV Lines
1 35354 35355 "1 " 0 # line from STELLING 115.00 BRKR to BRKR WOLFE 115.00
#
1 35355 35356 "1 " 0 # line from WOLFE 115.00 BRKR to BRKR MNTA VSA 115.00
0
#
#
# (322) C5 DCTL OUTAGE

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APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

# Lawrence - Monta Vista and Britton - Monta Vista 115 kV Lines
1 35356 35367 "1 " 0 # line from MNTA VSA 115.00 BRKR to (3) PHLPS_JT 115.00
1 35367 35363 "1 " 0 # line from PHLPS_JT 115.00 (3) to BRKR LAWRENCE 115.00
1 35367 35366 "1 " 0 # line from PHLPS_JT 115.00 (3) to BRKR PHILLIPS 115.00
4 35366 0 "1 " 0 # LOAD-DROP PHILLIPS 115.00 LOAD==1.25(0.00)
#
1 35356 35368 "1 " 0 # line from MNTA VSA 115.00 BRKR to BRKR BRITTN 115.00
0
#
#
# (323) C5 DCTL OUTAGE
# Lawrence - Monta Vista and Britton - Applied Materials 115 kV Lines
1 35356 35367 "1 " 0 # line from MNTA VSA 115.00 BRKR to (3) PHLPS_JT 115.00
1 35367 35363 "1 " 0 # line from PHLPS_JT 115.00 (3) to BRKR LAWRENCE 115.00
1 35367 35366 "1 " 0 # line from PHLPS_JT 115.00 (3) to BRKR PHILLIPS 115.00
4 35366 0 "1 " 0 # LOAD-DROP PHILLIPS 115.00 LOAD==1.25(0.00)
#
1 35368 35369 "1 " 0 # line from BRITTN 115.00 BRKR to BRKR APP MAT 115.00
0
#
#
# (324) C5 DCTL OUTAGE
# Lawrence - Monta Vista and Newark - Applied Materials 115 kV Lines
1 35356 35367 "1 " 0 # line from MNTA VSA 115.00 BRKR to (3) PHLPS_JT 115.00
1 35367 35363 "1 " 0 # line from PHLPS_JT 115.00 (3) to BRKR LAWRENCE 115.00
1 35367 35366 "1 " 0 # line from PHLPS_JT 115.00 (3) to BRKR PHILLIPS 115.00
4 35366 0 "1 " 0 # LOAD-DROP PHILLIPS 115.00 LOAD==1.25(0.00)
#
1 35122 35360 "1 " 0 # line from NEWARK F 115.00 BRKR to (3) LCKHD J2 115.00
1 35360 35362 "1 " 0 # line from LCKHD J2 115.00 (3) to BRKR LOCKHD 2 115.00
1 35360 35365 "1 " 0 # line from LCKHD J2 115.00 (3) to (3) AMD JCT 115.00
1 35365 35364 "1 " 0 # line from AMD JCT 115.00 (3) to BRKR A.M.D 115.00
1 35365 35369 "1 " 0 # line from AMD JCT 115.00 (3) to BRKR APP MAT 115.00
4 35362 0 "1 " 0 # LOAD-DROP LOCKHD 2 115.00 LOAD==7.56(1.72)
4 35362 0 "2 " 0 # LOAD-DROP LOCKHD 2 115.00 LOAD==3.42(0.78)
4 35362 0 "4 " 0 # LOAD-DROP LOCKHD 2 115.00 LOAD==16.21(12.58)
4 35364 0 "1 " 0 # LOAD-DROP A.M.D 115.00 LOAD==1.67(1.17)
1 35361 35362 "1 " 1 # close LOCKHD 1 115.00 LOCKHD 2 115.00
4 35362 0 "3 " 1 # restore all loads to LOCKHD 2
0
#
#
# (325) C5 DCTL OUTAGE
# Monta Vista - Burns and Monta Vista - Permanente 60 kV Lines
1 35455 35456 "1 " 0 # line from MNTA VSA 60.00 BRKR to (2) PRMNT J3 60.00
1 35456 36000 "1 " 0 # line from PRMNT J3 60.00 (2) to (2) BIG BASN 60.00
1 36000 36001 "1 " 0 # line from BIG BASN 60.00 (2) to (3) BURNS J1 60.00
1 36001 36002 "1 " 0 # line from BURNS J1 60.00 (3) to BRKR BURNS 60.00
1 36001 36003 "1 " 0 # line from BURNS J1 60.00 (3) to BRKR BURNS J2 60.00
4 36000 0 "1 " 0 # LOAD-DROP BIG BASN 60.00 LOAD==6.71(0.96)
#
1 35455 35458 "1 " 0 # line from MNTA VSA 60.00 BRKR to (2) PRMNT J1 60.00
1 35458 35459 "1 " 0 # line from PRMNT J1 60.00 (2) to (2) PRMNT J2 60.00
1 35459 35457 "1 " 0 # line from PRMNT J2 60.00 (2) to BRKR PERMNTE 60.00
4 35457 0 "1 " 0 # LOAD-DROP PERMNTE 60.00 LOAD==29.94(20.90)
0
#
#
# (326) BUS FAULT 30705 "MONTAVIS" Monta Vista 230 kV Bus Section 1
#
1 30705 30710 "1" 0 # LINE from MONTAVIS 230.00 to SLACTAP1 230.00
1 30705 30720 "1" 0 # LINE from MONTAVIS 230.00 to SARATOGA 230.00
1 30705 30735 "3" 0 # LINE from MONTAVIS 230.00 to METCALF 230.00
2 30705 35356 "2" 0 # TRAN from MONTAVIS 230.00 to MNTA VSA 115.00
6 30705 0 "v " 0 # SVD-DROP MONTAVIS 230.00
0
#
#
# (327) BUS FAULT 30705 "MONTAVIS" Monta Vista 230 kV Bus Section 2
#
1 30705 30712 "2" 0 # LINE from MONTAVIS 230.00 to SLACTAP2 230.00
1 30705 30730 "1" 0 # LINE from MONTAVIS 230.00 to HICKS 230.00
1 30705 30741 "4" 0 # LINE from MONTAVIS 230.00 to CAL MEC 230.00
2 30705 35356 "3" 0 # TRAN from MONTAVIS 230.00 to MNTA VSA 115.00
2 30705 35356 "4" 0 # TRAN from MONTAVIS 230.00 to MNTA VSA 115.00
2 30705 35455 "5" 0 # TRAN from MONTAVIS 230.00 to MNTA VSA 60.00
0
#

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

#
# (328) BUS FAULT 30720 "SARATOGA"
#
1 30720 30705 "1" 0 # LINE from SARATOGA 230.00 to MONTAVIS 230.00
1 30720 30733 "1" 0 # LINE from SARATOGA 230.00 to VASONA 230.00
4 30720 0 "1 " 0 # LOAD-DROP SARATOGA 230.00 LOAD==43.58(9.93)
4 30720 0 "2 " 0 # LOAD-DROP SARATOGA 230.00 LOAD==50.15(11.43)
4 30720 0 "3 " 0 # LOAD-DROP SARATOGA 230.00 LOAD==40.33(9.19)
0
#
#
# (329) BUS FAULT 30733 "VASONA"
#
1 30733 30720 "1" 0 # LINE from VASONA 230.00 to SARATOGA 230.00
1 30733 30735 "1" 0 # LINE from VASONA 230.00 to METCALF 230.00
4 30733 0 "1 " 0 # LOAD-DROP VASONA 230.00 LOAD==39.49(9.00)
4 30733 0 "2 " 0 # LOAD-DROP VASONA 230.00 LOAD==19.54(4.45)
0
#
#
# (330) BUS FAULT 35349 "AMES DST"
#
1 35349 35121 "1" 0 # LINE from AMES DST 115.00 to NEWARK E 115.00
1 35349 35351 "1" 0 # LINE from AMES DST 115.00 to AMES BS2 115.00
4 35349 0 "1 " 0 # LOAD-DROP AMES DST 115.00 LOAD==14.75(3.36)
0
#
#
# (331) BUS FAULT 35350 "AMES BS1"
#
1 35350 33315 "1" 0 # LINE from AMES BS1 115.00 to RVNSWD E 115.00
1 35350 35121 "1" 0 # LINE from AMES BS1 115.00 to NEWARK E 115.00
1 35350 35121 "3" 0 # LINE from AMES BS1 115.00 to NEWARK E 115.00
1 35350 35351 "1" 0 # LINE from AMES BS1 115.00 to AMES BS2 115.00
1 35350 35370 "1" 0 # LINE from AMES BS1 115.00 to AMES J1A 115.00
1 35350 35371 "1" 0 # LINE from AMES BS1 115.00 to AMES J1B 115.00
4 35350 0 "1 " 0 # LOAD-DROP AMES BS1 115.00 LOAD==43.14(0.00)
0
#
#
# (332) BUS FAULT 35351 "AMES BS2"
#
1 35351 33315 "2" 0 # LINE from AMES BS2 115.00 to RVNSWD E 115.00
1 35351 35121 "2" 0 # LINE from AMES BS2 115.00 to NEWARK E 115.00
1 35351 35350 "1" 0 # LINE from AMES BS2 115.00 to AMES BS1 115.00
1 35351 35349 "1" 0 # LINE from AMES BS2 115.00 to AMES DST 115.00
4 35351 0 "2 " 0 # LOAD-DROP AMES BS2 115.00 LOAD==43.14(0.00)
0
#
#
# (333) BUS FAULT 35352 "WHISMAN"
#
1 35352 35356 "1" 0 # LINE from WHISMAN 115.00 to MNTA VSA 115.00
1 35352 35371 "1" 0 # LINE from WHISMAN 115.00 to AMES J1B 115.00
4 35352 0 "1 " 0 # LOAD-DROP WHISMAN 115.00 LOAD==22.33(5.09)
4 35352 0 "2 " 0 # LOAD-DROP WHISMAN 115.00 LOAD==24.02(5.47)
4 35352 0 "3 " 0 # LOAD-DROP WHISMAN 115.00 LOAD==20.34(4.63)
0
#
#
# (334) BUS FAULT 35353 "MT VIEW"
#
1 35353 35356 "1" 0 # LINE from MT VIEW 115.00 to MNTA VSA 115.00
1 35353 35370 "1" 0 # LINE from MT VIEW 115.00 to AMES J1A 115.00
4 35353 0 "1 " 0 # LOAD-DROP MT VIEW 115.00 LOAD==30.30(6.90)
4 35353 0 "2 " 0 # LOAD-DROP MT VIEW 115.00 LOAD==32.19(7.34)
4 35353 0 "3 " 0 # LOAD-DROP MT VIEW 115.00 LOAD==29.11(6.63)
0
#
#
# (335) BUS FAULT 35354 "STELLING"
#
1 35354 35355 "1" 0 # LINE from STELLING 115.00 to WOLFE 115.00
1 35354 35356 "1" 0 # LINE from STELLING 115.00 to MNTA VSA 115.00
4 35354 0 "1 " 0 # LOAD-DROP STELLING 115.00 LOAD==31.51(7.18)
4 35354 0 "2 " 0 # LOAD-DROP STELLING 115.00 LOAD==32.14(7.32)
4 35354 0 "3 " 0 # LOAD-DROP STELLING 115.00 LOAD==32.89(7.50)
0

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

#
#
# (336) BUS FAULT 35355 "WOLFE"
#
1 35355 35354 "1" 0 # LINE from WOLFE 115.00 to STELLING 115.00
1 35355 35356 "1" 0 # LINE from WOLFE 115.00 to MNTA VSA 115.00
4 35355 0 "1 " 0 # LOAD-DROP WOLFE 115.00 LOAD==25.27(5.76)
4 35355 0 "2 " 0 # LOAD-DROP WOLFE 115.00 LOAD==31.85(7.26)
4 35355 0 "3 " 0 # LOAD-DROP WOLFE 115.00 LOAD==16.40(3.74)
0
#
#
# (337) BUS FAULT 35356 "MNTA VSA" Monta Vista 115 kV Bus Section 1
#
1 35356 35352 "1" 0 # LINE from MNTA VSA 115.00 to WHISMAN 115.00
1 35356 35354 "1" 0 # LINE from MNTA VSA 115.00 to STELLING 115.00
1 35356 35367 "1" 0 # LINE from MNTA VSA 115.00 to PHLPS_JT 115.00
2 35356 30705 "2" 0 # TRAN from MNTA VSA 115.00 to MONTAVIS 230.00
2 35356 30705 "3" 0 # TRAN from MNTA VSA 115.00 to MONTAVIS 230.00
0
#
#
# (338) BUS FAULT 35356 "MNTA VSA" Monta Vista 115 kV Bus Section 2
#
1 35356 35353 "1" 0 # LINE from MNTA VSA 115.00 to MT VIEW 115.00
1 35356 35355 "1" 0 # LINE from MNTA VSA 115.00 to WOLFE 115.00
1 35356 35368 "1" 0 # LINE from MNTA VSA 115.00 to BRITTN 115.00
2 35356 30705 "4" 0 # TRAN from MNTA VSA 115.00 to MONTAVIS 230.00
2 35356 35455 "6" 0 # TRAN from MNTA VSA 115.00 to MNTA VSA 60.00
0
#
#
# (339) BUS FAULT 35361 "LOCKHD 1"
#
1 35361 35358 "1" 0 # LINE from LOCKHD 1 115.00 to MFT.FD J 115.00
1 35361 35362 "1" 0 # LINE from LOCKHD 1 115.00 to LOCKHD 2 115.00
4 35361 0 "3 " 0 # LOAD-DROP LOCKHD 1 115.00 LOAD==17.45(14.46)
0
#
#
# (340) BUS FAULT 35362 "LOCKHD 2"
#
1 35362 35360 "1" 0 # LINE from LOCKHD 2 115.00 to LCKHD J2 115.00
1 35362 35361 "1" 0 # LINE from LOCKHD 2 115.00 to LOCKHD 1 115.00
4 35362 0 "1 " 0 # LOAD-DROP LOCKHD 2 115.00 LOAD==7.56(1.72)
4 35362 0 "2 " 0 # LOAD-DROP LOCKHD 2 115.00 LOAD==3.42(0.78)
4 35362 0 "4 " 0 # LOAD-DROP LOCKHD 2 115.00 LOAD==16.21(12.58)
0
#
#
# (341) BUS FAULT 35363 "LAWRENCE"
#
1 35363 35357 "1" 0 # LINE from LAWRENCE 115.00 to LCKHD J1 115.00
1 35363 35367 "1" 0 # LINE from LAWRENCE 115.00 to PHLPS_JT 115.00
4 35363 0 "1 " 0 # LOAD-DROP LAWRENCE 115.00 LOAD==50.73(11.56)
4 35363 0 "2 " 0 # LOAD-DROP LAWRENCE 115.00 LOAD==20.08(4.58)
4 35363 0 "3 " 0 # LOAD-DROP LAWRENCE 115.00 LOAD==35.41(8.07)
0
#
#
# (342) BUS FAULT 35364 "A.M.D"
#
1 35364 35365 "1" 0 # LINE from A.M.D 115.00 to AMD JCT 115.00
4 35364 0 "1 " 0 # LOAD-DROP A.M.D 115.00 LOAD==1.67(1.17)
0
#
#
# (343) BUS FAULT 35366 "PHILLIPS"
#
1 35366 35367 "1" 0 # LINE from PHILLIPS 115.00 to PHLPS_JT 115.00
4 35366 0 "1 " 0 # LOAD-DROP PHILLIPS 115.00 LOAD==1.25(0.00)
0
#
#
# (344) BUS FAULT 35368 "BRITTN"
#
1 35368 35356 "1" 0 # LINE from BRITTN 115.00 to MNTA VSA 115.00
1 35368 35369 "1" 0 # LINE from BRITTN 115.00 to APP MAT 115.00

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

4 35368      0 "1 " 0      # LOAD-DROP BRITTN 115.00 LOAD==27.96(6.37)
4 35368      0 "2 " 0      # LOAD-DROP BRITTN 115.00 LOAD==47.94(10.93)
4 35368      0 "3 " 0      # LOAD-DROP BRITTN 115.00 LOAD==23.61(5.38)
0
#
#
# (345) BUS FAULT 35369 "APP MAT"
#
1 35369 35368 "1" 0      # LINE from APP MAT 115.00 to BRITTN 115.00
1 35369 35365 "1" 0      # LINE from APP MAT 115.00 to AMD JCT 115.00
4 35369      0 "1 " 0      # LOAD-DROP APP MAT 115.00 LOAD==10.11(2.53)
0
#
#
# (346) BUS FAULT 35452 "LOYOLA"
#
1 35452 35450 "1" 0      # LINE from LOYOLA 60.00 to LOS ALTS 60.00
1 35452 35455 "1" 0      # LINE from LOYOLA 60.00 to MNTA VSA 60.00
4 35452      0 "1 " 0      # LOAD-DROP LOYOLA 60.00 LOAD==4.43(1.01)
4 35452      0 "2 " 0      # LOAD-DROP LOYOLA 60.00 LOAD==21.57(4.92)
0
#
#
# (347) BUS FAULT 35455 "MNTA VSA" Monta Vista 60 kV Bus Section 1
#
1 35455 35452 "1" 0      # LINE from MNTA VSA 60.00 to LOYOLA 60.00
1 35455 35458 "1" 0      # LINE from MNTA VSA 60.00 to PRMNT J1 60.00
2 35455 30705 "5" 0      # TRAN from MNTA VSA 60.00 to MONTAVIS 230.00
0
#
#
# (348) BUS FAULT 35455 "MNTA VSA" Monta Vista 60 kV Bus Section 2
#
1 35455 35456 "1" 0      # LINE from MNTA VSA 60.00 to PRMNT J3 60.00
1 35455 35460 "1" 0      # LINE from MNTA VSA 60.00 to LOS GATS 60.00
2 35455 35356 "6" 0      # TRAN from MNTA VSA 60.00 to MNTA VSA 115.00
0
#
#
# (349) BUS FAULT 35457 "PERMNTE"
#
1 35457 35458 "1" 0      # LINE from PERMNTE 60.00 to PRMNT J1 60.00
1 35457 35459 "1" 0      # LINE from PERMNTE 60.00 to PRMNT J2 60.00
4 35457      0 "1 " 0      # LOAD-DROP PERMNTE 60.00 LOAD==29.94(20.90)
0
#
#
# 2013 category c contingency list (dctl and bus outages)
# San Jose Division Zone 318
#
#
# (350) C5 DCTL OUTAGE
# Saratoga - Metcalf and Hicks - Metcalf 230 kV Lines
1 30733 30735 "1 " 0      # line from VASONA 230.00 BRKR to BRKR METCALF 230.00
#
1 30735 30730 "1 " 0      # line from METCALF 230.00 BRKR to BRKR HICKS 230.00
0
#
#
# (351) C5 DCTL OUTAGE
# Newark Distribution - Los Esteros and Los Esteros - Metcalf 230 kV Lines
1 30635 30731 "1 " 0      # line from NWK DIST 230.00 BRKR to BRKR LS ESTRS 230.00
#
1 30735 30731 "1 " 0      # line from METCALF 230.00 BRKR to BRKR LS ESTRS 230.00
0
#
#
# (352) C5 DCTL OUTAGE
# Metcalf - Moss Landing #1 and #2 230 kV Lines
1 30735 30755 "1 " 0      # line from METCALF 230.00 BRKR to BRKR MOSSLND1 230.00
#
1 30735 30750 "1 " 0      # line from METCALF 230.00 BRKR to BRKR MOSSLND2 230.00
0
#
#
# (353) C5 DCTL OUTAGE
# Dixon Landing - McKee and Newark - Milpitas #1 115 kV Lines
1 35600 35629 "1 " 0      # line from DIXON LD 115.00 BRKR to (3) MABURY J 115.00

```


APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

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1 35629 35626 "1 " 0 # line from MABURY J 115.00 (3) to BRKR MCKEE 115.00
1 35629 35630 "1 " 0 # line from MABURY J 115.00 (3) to BRKR MABURY 115.00
4 35630 0 "2 " 0 # LOAD-DROP MABURY 115.00 LOAD==19.00(4.33)
#
1 35122 35624 "1 " 0 # line from NEWARK F 115.00 BRKR to BRKR MILPITAS 115.00
0
#
#
# (354) C5 DCTL OUTAGE
# Dixon Landing - McKee and Milpitas - Swift 115 kV Lines
1 35600 35629 "1 " 0 # line from DIXON LD 115.00 BRKR to (3) MABURY J 115.00
1 35629 35626 "1 " 0 # line from MABURY J 115.00 (3) to BRKR MCKEE 115.00
1 35629 35630 "1 " 0 # line from MABURY J 115.00 (3) to BRKR MABURY 115.00
4 35630 0 "2 " 0 # LOAD-DROP MABURY 115.00 LOAD==19.00(4.33)
#
1 35622 35624 "1 " 0 # line from SWIFT 115.00 BRKR to BRKR MILPITAS 115.00
0
#
#
# (355) C5 DCTL OUTAGE
# McKee - Piercy and Milpitas - Swift 115 kV Lines
1 35626 35656 "1 " 0 # line from MCKEE 115.00 BRKR to BRKR PIERCY 115.00
#
1 35622 35624 "1 " 0 # line from SWIFT 115.00 BRKR to BRKR MILPITAS 115.00
0
#
#
# (356) C5 DCTL OUTAGE
# Swift - Metcalf and Piercy - Metcalf 115 kV Lines
1 35622 35643 "1 " 0 # line from SWIFT 115.00 BRKR to BRKR MTCALF E 115.00
#
1 35656 35643 "1 " 0 # line from PIERCY 115.00 BRKR to BRKR MTCALF E 115.00
0
#
#
# (357) C5 DCTL OUTAGE
# Los Esteros - Trimble and Los Esteros - Montague 115 kV Lines
1 35658 35612 "1 " 0 # line from LS ESTRS 115.00 BRKR to BRKR TRIMBLE 115.00
#
1 35658 35610 "1 " 0 # line from LS ESTRS 115.00 BRKR to BRKR MONTAGUE 115.00
0
#
#
# (358) C5 DCTL OUTAGE
# Los Esteros - Trimble and Montague - Trimble 115 kV Lines
1 35658 35612 "1 " 0 # line from LS ESTRS 115.00 BRKR to BRKR TRIMBLE 115.00
#
1 35612 35610 "1 " 0 # line from TRIMBLE 115.00 BRKR to BRKR MONTAGUE 115.00
0
#
#
# (359) C5 DCTL OUTAGE
# Los Esteros - Montague and Montague - Trimble 115 kV Lines
1 35658 35610 "1 " 0 # line from LS ESTRS 115.00 BRKR to BRKR MONTAGUE 115.00
#
1 35612 35610 "1 " 0 # line from TRIMBLE 115.00 BRKR to BRKR MONTAGUE 115.00
0
#
#
# (360) C5 DCTL OUTAGE
# Trimble - San Jose B and FMC - San Jose B 115 kV Lines
1 35612 35616 "1 " 0 # line from TRIMBLE 115.00 BRKR to BRKR SJ B E 115.00
#
1 35615 35616 "1 " 0 # line from FMC 115.00 BRKR to BRKR SJ B E 115.00
0
#
#
# (361) C5 DCTL OUTAGE
# Trimble - San Jose B and Kifer - FMC 115 kV Lines
1 35612 35616 "1 " 0 # line from TRIMBLE 115.00 BRKR to BRKR SJ B E 115.00
#
1 35615 35617 "1 " 0 # line from FMC 115.00 BRKR to (2) FMC JCT 115.00
1 35617 36850 "1 " 0 # line from FMC JCT 115.00 (2) to BRKR KRS 115.00
0
#
#
# (362) C5 DCTL OUTAGE
# Newark - Kifer and Kifer - FMC 115 kV Lines

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

1 35122 35602 "1 " 0 # line from NEWARK F 115.00 BRKR to (3) ZNKER J2 115.00
1 35602 35604 "1 " 0 # line from ZNKER J2 115.00 (3) to (3) ZANKER 115.00
1 35602 36850 "1 " 0 # line from ZNKER J2 115.00 (3) to BRKR KRS 115.00
2 35604 35861 "1 " 0 # TRAN from ZANKER 115.00 (3) to (2) SJ-SCL W 9.11
2 35604 35861 "2 " 0 # TRAN from ZANKER 115.00 (3) to (2) SJ-SCL W 9.11
4 35861 0 "SG" 0 # LOAD-DROP SJ-SCL W 9.11 LOAD==6.17(2.09)
3 35861 0 "1 " 0 # GEN-DROP SJ-SCL W 9.11 GEN==5.00(0.00)
#
1 35615 35617 "1 " 0 # line from FMC 115.00 BRKR to (2) FMC JCT 115.00
1 35617 36850 "1 " 0 # line from FMC JCT 115.00 (2) to BRKR KRS 115.00
0
#
#
# (363) C5 DCTL OUTAGE
# Newark - Trimble and Kifer - FMC 115 kV Lines
1 35122 35603 "1 " 0 # line from NEWARK F 115.00 BRKR to (3) ZNKER J1 115.00
1 35603 35605 "1 " 0 # line from ZNKER J1 115.00 (3) to (1) AGNEW J 115.00
1 35603 35612 "1 " 0 # line from ZNKER J1 115.00 (3) to BRKR TRIMBLE 115.00
#
1 35615 35617 "1 " 0 # line from FMC 115.00 BRKR to (2) FMC JCT 115.00
1 35617 36850 "1 " 0 # line from FMC JCT 115.00 (2) to BRKR KRS 115.00
0
#
#
# (364) C5 DCTL OUTAGE
# Metcalf - El Patio #1 and #2 115 kV Lines
1 35620 35621 "1 " 0 # line from EL PATIO 115.00 BRKR to (2) IBM-HR J 115.00
1 35621 35642 "1 " 0 # line from IBM-HR J 115.00 (2) to BRKR MTCALF D 115.00
#
1 35620 35651 "2 " 0 # line from EL PATIO 115.00 BRKR to (2) BAILY J3 115.00
1 35651 35642 "2 " 0 # line from BAILY J3 115.00 (2) to BRKR MTCALF D 115.00
0
#
#
# (365) C5 DCTL OUTAGE
# Metcalf - El Patio #1 and #2 115 kV Lines
1 35636 35643 "1 " 0 # line from EVRGRN 1 115.00 BRKR to BRKR MTCALF E 115.00
#
1 35625 35645 "1 " 0 # line from MARKHJM2 115.00 (2) to (3) EVRGRN J 115.00
1 35625 35634 "1 " 0 # line from MARKHJM2 115.00 (2) to (2) STONE J 115.00
1 35645 35633 "2 " 0 # line from EVRGRN J 115.00 (3) to BRKR EVRGRN 2 115.00
1 35645 35643 "2 " 0 # line from EVRGRN J 115.00 (3) to BRKR MTCALF E 115.00
1 35634 36420 "1 " 0 # line from STONE J 115.00 (2) to BRKR STONE 115.00
4 36420 0 "1 " 0 # LOAD-DROP STONE 115.00 LOAD==35.69(8.13)
4 36420 0 "2 " 0 # LOAD-DROP STONE 115.00 LOAD==14.87(3.39)
0
#
#
# (366) C5 DCTL OUTAGE
# Metcalf - Morgan Hill and Metcalf - Llagas 115 kV Lines
1 35642 35646 "1 " 0 # line from MTCALF D 115.00 BRKR to BRKR MRGN HIL 115.00
#
1 35642 35654 "1 " 0 # line from MTCALF D 115.00 BRKR to (2) MORGN J1 115.00
1 35654 35655 "1 " 0 # line from MORGN J1 115.00 (2) to (2) MORGN J2 115.00
1 35655 35648 "1 " 0 # line from MORGN J2 115.00 (2) to BRKR LLAGAS 115.00
0
#
#
# (367) C5 DCTL OUTAGE
# Morgan Hill - Llagas and Metcalf - Llagas 115 kV Lines
1 35646 35648 "1 " 0 # line from MRGN HIL 115.00 BRKR to BRKR LLAGAS 115.00
#
1 35642 35654 "1 " 0 # line from MTCALF D 115.00 BRKR to (2) MORGN J1 115.00
1 35654 35655 "1 " 0 # line from MORGN J1 115.00 (2) to (2) MORGN J2 115.00
1 35655 35648 "1 " 0 # line from MORGN J2 115.00 (2) to BRKR LLAGAS 115.00
0
#
#
# (368) BUS FAULT 30730 "HICKS"
#
1 30730 30705 "1" 0 # LINE from HICKS 230.00 to MONTAVIS 230.00
1 30730 30735 "1" 0 # LINE from HICKS 230.00 to METCALF 230.00
4 30730 0 "1 " 0 # LOAD-DROP HICKS 230.00 LOAD==36.06(8.22)
4 30730 0 "2 " 0 # LOAD-DROP HICKS 230.00 LOAD==41.64(9.49)
4 30730 0 "3 " 0 # LOAD-DROP HICKS 230.00 LOAD==50.98(11.62)
4 30730 0 "4 " 0 # LOAD-DROP HICKS 230.00 LOAD==36.06(8.22)
0
#

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

#
# (369) BUS FAULT 30735 "METCALF" Metcalf 230 kV Bus Section 1D
#
1 30735 30733 "1" 0 # LINE from METCALF 230.00 to VASONA 230.00
2 30735 35642 "1" 0 # TRAN from METCALF 230.00 to MTCALF D 115.00
6 30735 0 "v " 0 # SVD-DROP METCALF 230.00
0
#
#
# (370) BUS FAULT 30735 "METCALF" Metcalf 230 kV Bus Section 2D
#
1 30735 30730 "1" 0 # LINE from METCALF 230.00 to HICKS 230.00
1 30735 30731 "1" 0 # LINE from METCALF 230.00 to LS ESTRS 230.00
2 30735 35642 "4" 0 # TRAN from METCALF 230.00 to MTCALF D 115.00
0
#
#
# (371) BUS FAULT 30735 "METCALF" Metcalf 230 kV Bus Section 1E
#
1 30735 30705 "3" 0 # LINE from METCALF 230.00 to MONTAVIS 230.00
1 30735 30755 "1" 0 # LINE from METCALF 230.00 to MOSSLND1 230.00
2 30735 35643 "3" 0 # TRAN from METCALF 230.00 to MTCALF E 115.00
0
#
#
# (372) BUS FAULT 30735 "METCALF" Metcalf 230 kV Bus Section 2E
#
1 30735 30741 "4" 0 # LINE from METCALF 230.00 to CAL MEC 230.00
1 30735 30750 "1" 0 # LINE from METCALF 230.00 to MOSSLND2 230.00
2 30735 35643 "2" 0 # TRAN from METCALF 230.00 to MTCALF E 115.00
0
#
#
# (373) BUS FAULT 35600 "DIXON LD"
#
1 35600 35122 "1" 0 # LINE from DIXON LD 115.00 to NEWARK F 115.00
1 35600 35629 "1" 0 # LINE from DIXON LD 115.00 to MABURY J 115.00
4 35600 0 "1 " 0 # LOAD-DROP DIXON LD 115.00 LOAD==28.68(6.54)
4 35600 0 "2 " 0 # LOAD-DROP DIXON LD 115.00 LOAD==19.33(4.40)
4 35600 0 "3 " 0 # LOAD-DROP DIXON LD 115.00 LOAD==15.35(3.50)
0
#
#
# (374) BUS FAULT 35606 "AGNEW"
#
1 35606 35605 "1" 0 # LINE from AGNEW 115.00 to AGNEW J 115.00
1 35606 35658 "1" 0 # LINE from AGNEW 115.00 to LS ESTRS 115.00
2 35606 35860 "1" 0 # TRAN from AGNEW 115.00 to OLS-AGNE 9.11
4 35606 0 "1 " 0 # LOAD-DROP AGNEW 115.00 LOAD==31.91(7.27)
4 35606 0 "2 " 0 # LOAD-DROP AGNEW 115.00 LOAD==42.41(9.66)
0
#
#
# (375) BUS FAULT 35610 "MONTAGUE"
#
1 35610 35612 "1" 0 # LINE from MONTAGUE 115.00 to TRIMBLE 115.00
1 35610 35658 "1" 0 # LINE from MONTAGUE 115.00 to LS ESTRS 115.00
4 35610 0 "1 " 0 # LOAD-DROP MONTAGUE 115.00 LOAD==37.77(8.61)
4 35610 0 "2 " 0 # LOAD-DROP MONTAGUE 115.00 LOAD==42.11(9.60)
4 35610 0 "3 " 0 # LOAD-DROP MONTAGUE 115.00 LOAD==34.14(7.78)
0
#
#
# (376) BUS FAULT 35612 "TRIMBLE" Trimble 115 kV Bus Section D
#
1 35612 35610 "1" 0 # LINE from TRIMBLE 115.00 to MONTAGUE 115.00
1 35612 35658 "1" 0 # LINE from TRIMBLE 115.00 to LS ESTRS 115.00
4 35612 0 "1 " 0 # LOAD-DROP TRIMBLE 115.00 LOAD==29.68(6.77)
0
#
#
# (377) BUS FAULT 35612 "TRIMBLE" Trimble 115 kV Bus Section E
#
1 35612 35616 "1" 0 # LINE from TRIMBLE 115.00 to SJ B E 115.00
4 35612 0 "2 " 0 # LOAD-DROP TRIMBLE 115.00 LOAD==33.72(7.68)
0
#
#

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

# (378) BUS FAULT 35612 "TRIMBLE" Trimble 115 kV Bus Section F
#
1 35612 35603 "1" 0 # LINE from TRIMBLE 115.00 to ZNKER J1 115.00
4 35612 0 "3 " 0 # LOAD-DROP TRIMBLE 115.00 LOAD==43.92(10.01)
4 35612 0 "5 " 0 # LOAD-DROP TRIMBLE 115.00 LOAD==35.64(8.12)
0
#
#
# (379) BUS FAULT 35615 "FMC"
#
1 35615 35616 "1" 0 # LINE from FMC 115.00 to SJ B E 115.00
1 35615 35617 "1" 0 # LINE from FMC 115.00 to FMC JCT 115.00
4 35615 0 "1 " 0 # LOAD-DROP FMC 115.00 LOAD==21.65(4.93)
4 35615 0 "3 " 0 # LOAD-DROP FMC 115.00 LOAD==28.54(6.51)
0
#
#
# (380) BUS FAULT 35616 "SJ B E" San Jose B 115 kV Bus Section E
#
1 35616 35612 "1" 0 # LINE from SJ B E 115.00 to TRIMBLE 115.00
1 35616 35615 "1" 0 # LINE from SJ B E 115.00 to FMC 115.00
1 35616 35619 "1" 0 # LINE from SJ B E 115.00 to SJ B F 115.00
4 35616 0 "1 " 0 # LOAD-DROP SJ B E 115.00 LOAD==45.43(10.35)
4 35616 0 "4 " 0 # LOAD-DROP SJ B E 115.00 LOAD==40.44(9.21)
0
#
#
# (381) BUS FAULT 35618 "SN JSE A"
#
1 35618 35613 "1" 0 # LINE from SN JSE A 115.00 to ELPT_SJ1 115.00
1 35618 35619 "1" 0 # LINE from SN JSE A 115.00 to SJ B F 115.00
4 35618 0 "1 " 0 # LOAD-DROP SN JSE A 115.00 LOAD==8.60(1.96)
4 35618 0 "2 " 0 # LOAD-DROP SN JSE A 115.00 LOAD==9.00(2.05)
4 35618 0 "3 " 0 # LOAD-DROP SN JSE A 115.00 LOAD==39.97(9.10)
0
#
#
# (382) BUS FAULT 35619 "SJ B F" San Jose B 115 kV Bus Section F
#
1 35619 35616 "1" 0 # LINE from SJ B F 115.00 to SJ B E 115.00
1 35619 35618 "1" 0 # LINE from SJ B F 115.00 to SN JSE A 115.00
1 35619 35631 "1" 0 # LINE from SJ B F 115.00 to MARKHM J 115.00
4 35619 0 "2 " 0 # LOAD-DROP SJ B F 115.00 LOAD==43.89(10.00)
4 35619 0 "3 " 0 # LOAD-DROP SJ B F 115.00 LOAD==45.67(10.41)
0
#
#
# (383) BUS FAULT 35620 "EL PATIO"
#
1 35620 35614 "1" 0 # LINE from EL PATIO 115.00 to ELPT_SJ2 115.00
1 35620 35621 "1" 0 # LINE from EL PATIO 115.00 to IBM-HR J 115.00
1 35620 35651 "2" 0 # LINE from EL PATIO 115.00 to BAILY J3 115.00
4 35620 0 "1 " 0 # LOAD-DROP EL PATIO 115.00 LOAD==45.08(10.28)
4 35620 0 "2 " 0 # LOAD-DROP EL PATIO 115.00 LOAD==41.19(9.39)
4 35620 0 "3 " 0 # LOAD-DROP EL PATIO 115.00 LOAD==41.00(9.34)
0
#
#
# (384) BUS FAULT 35622 "SWIFT"
#
1 35622 35624 "1" 0 # LINE from SWIFT 115.00 to MILPITAS 115.00
1 35622 35643 "1" 0 # LINE from SWIFT 115.00 to MTCALF E 115.00
4 35622 0 "1 " 0 # LOAD-DROP SWIFT 115.00 LOAD==32.49(7.41)
4 35622 0 "2 " 0 # LOAD-DROP SWIFT 115.00 LOAD==32.21(7.34)
4 35622 0 "3 " 0 # LOAD-DROP SWIFT 115.00 LOAD==43.51(9.91)
0
#
#
# (385) BUS FAULT 35624 "MILPITAS" Milpitas 115 kV Bus Section E
#
1 35624 35122 "1" 0 # LINE from MILPITAS 115.00 to NEWARK F 115.00
4 35624 0 "3 " 0 # LOAD-DROP MILPITAS 115.00 LOAD==19.80(4.51)
4 35624 0 "6 " 0 # LOAD-DROP MILPITAS 115.00 LOAD==38.57(8.79)
0
#
#
# (386) BUS FAULT 35624 "MILPITAS" Milpitas 115 kV Bus Section F
#

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

1 35624 35122 "2" 0 # LINE from MILPITAS 115.00 to NEWARK F 115.00
1 35624 35622 "1" 0 # LINE from MILPITAS 115.00 to SWIFT 115.00
4 35624 0 "1 " 0 # LOAD-DROP MILPITAS 115.00 LOAD==42.72(9.74)
4 35624 0 "2 " 0 # LOAD-DROP MILPITAS 115.00 LOAD==35.14(8.01)
0
#
#
# (387) BUS FAULT 35626 "MCKEE"
#
1 35626 35629 "1" 0 # LINE from MCKEE 115.00 to MABURY J 115.00
1 35626 35656 "1" 0 # LINE from MCKEE 115.00 to PIERCY 115.00
4 35626 0 "1 " 0 # LOAD-DROP MCKEE 115.00 LOAD==39.23(8.94)
4 35626 0 "2 " 0 # LOAD-DROP MCKEE 115.00 LOAD==24.48(5.57)
4 35626 0 "3 " 0 # LOAD-DROP MCKEE 115.00 LOAD==35.43(8.08)
0
#
#
# (388) BUS FAULT 35630 "MABURY"
#
1 35630 35629 "1" 0 # LINE from MABURY 115.00 to MABURY J 115.00
4 35630 0 "2 " 0 # LOAD-DROP MABURY 115.00 LOAD==19.00(4.33)
0
#
#
# (389) BUS FAULT 35633 "EVRGRN 2"
#
1 35633 35636 "1" 0 # LINE from EVRGRN 2 115.00 to EVRGRN 1 115.00
1 35633 35645 "2" 0 # LINE from EVRGRN 2 115.00 to EVRGRN J 115.00
2 35633 35753 "1" 0 # TRAN from EVRGRN 2 115.00 to EVERGREN 60.00
0
#
#
# (390) BUS FAULT 35636 "EVRGRN 1"
#
1 35636 35631 "1" 0 # LINE from EVRGRN 1 115.00 to MARKHM J 115.00
1 35636 35633 "1" 0 # LINE from EVRGRN 1 115.00 to EVRGRN 2 115.00
1 35636 35643 "1" 0 # LINE from EVRGRN 1 115.00 to MTCALF E 115.00
4 35636 0 "2 " 0 # LOAD-DROP EVRGRN 1 115.00 LOAD==48.55(11.07)
4 35636 0 "3 " 0 # LOAD-DROP EVRGRN 1 115.00 LOAD==16.81(3.83)
0
#
#
# (391) BUS FAULT 35639 "IBM-HRRS"
#
1 35639 35621 "1" 0 # LINE from IBM-HRRS 115.00 to IBM-HR J 115.00
1 35639 35641 "1" 0 # LINE from IBM-HRRS 115.00 to EDNVL J1 115.00
4 35639 0 "1 " 0 # LOAD-DROP IBM-HRRS 115.00 LOAD==2.43(1.63)
4 35639 0 "2 " 0 # LOAD-DROP IBM-HRRS 115.00 LOAD==2.43(1.63)
0
#
#
# (392) BUS FAULT 35640 "IBM-BALY"
#
1 35640 35652 "1" 0 # LINE from IBM-BALY 115.00 to BAILY J1 115.00
4 35640 0 "1 " 0 # LOAD-DROP IBM-BALY 115.00 LOAD==5.63(3.04)
0
#
#
# (393) BUS FAULT 35642 "MTCALF D" Metcalf 115 kV Bus Section 1D
#
1 35642 35641 "1" 0 # LINE from MTCALF D 115.00 to EDNVL J1 115.00
1 35642 35621 "1" 0 # LINE from MTCALF D 115.00 to IBM-HR J 115.00
1 35642 35654 "1" 0 # LINE from MTCALF D 115.00 to MORGJ J1 115.00
0
#
#
# (394) BUS FAULT 35642 "MTCALF D" Metcalf 115 kV Bus Section 2D
#
1 35642 35651 "2" 0 # LINE from MTCALF D 115.00 to BAILY J3 115.00
1 35642 35653 "1" 0 # LINE from MTCALF D 115.00 to BAILY J2 115.00
1 35642 35646 "1" 0 # LINE from MTCALF D 115.00 to MRGN HIL 115.00
0
#
#
# (395) BUS FAULT 35643 "MTCALF E" Metcalf 115 kV Bus Section 1E
#
1 35643 35645 "2" 0 # LINE from MTCALF E 115.00 to EVRGRN J 115.00
1 35643 35656 "1" 0 # LINE from MTCALF E 115.00 to PIERCY 115.00

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

0
#
#
# (396) BUS FAULT 35643 "MTCALF E" Metcalf 115 kV Bus Section 2E
#
1 35643 35622 "1" 0 # LINE from MTCALF E 115.00 to SWIFT 115.00
1 35643 35636 "1" 0 # LINE from MTCALF E 115.00 to EVRGRN 1 115.00
1 35643 35644 "1" 0 # LINE from MTCALF E 115.00 to CYTE PMP 115.00
0
#
#
# (397) BUS FAULT 35644 "CYTE PMP"
#
1 35644 35643 "1" 0 # LINE from CYTE PMP 115.00 to MTCALF E 115.00
4 35644 0 "1 " 0 # LOAD-DROP CYTE PMP 115.00 LOAD==4.90(1.12)
0
#
#
# (398) BUS FAULT 35646 "MRGN HIL"
#
1 35646 35642 "1" 0 # LINE from MRGN HIL 115.00 to MTCALF D 115.00
1 35646 35648 "1" 0 # LINE from MRGN HIL 115.00 to LLAGAS 115.00
4 35646 0 "1 " 0 # LOAD-DROP MRGN HIL 115.00 LOAD==26.52(6.04)
4 35646 0 "2 " 0 # LOAD-DROP MRGN HIL 115.00 LOAD==22.86(5.21)
4 35646 0 "3 " 0 # LOAD-DROP MRGN HIL 115.00 LOAD==44.34(10.10)
0
#
#
# (399) BUS FAULT 35647 "GILROY"
#
1 35647 35660 "1" 0 # LINE from GILROY 115.00 to GILROYTP 115.00
2 35647 35850 "1" 0 # TRAN from GILROY 115.00 to GLRY COG 13.80
0
#
#
# (400) BUS FAULT 35648 "LLAGAS"
#
1 35648 35646 "1" 0 # LINE from LLAGAS 115.00 to MRGN HIL 115.00
1 35648 35655 "1" 0 # LINE from LLAGAS 115.00 to MORGN J2 115.00
1 35648 35660 "1" 0 # LINE from LLAGAS 115.00 to GILROYTP 115.00
4 35648 0 "1 " 0 # LOAD-DROP LLAGAS 115.00 LOAD==30.40(6.92)
4 35648 0 "2 " 0 # LOAD-DROP LLAGAS 115.00 LOAD==24.51(5.58)
4 35648 0 "3 " 0 # LOAD-DROP LLAGAS 115.00 LOAD==31.19(7.11)
0
#
#
# (401) BUS FAULT 35656 "PIERCY"
#
1 35656 35626 "1" 0 # LINE from PIERCY 115.00 to MCKEE 115.00
1 35656 35643 "1" 0 # LINE from PIERCY 115.00 to MTCALF E 115.00
4 35656 0 "3 " 0 # LOAD-DROP PIERCY 115.00 LOAD==35.37(8.06)
0
#
#
# (402) BUS FAULT 35659 "NORTECH"
#
1 35659 35658 "1" 0 # LINE from NORTECH 115.00 to LS ESTRS 115.00
1 35659 35666 "1" 0 # LINE from NORTECH 115.00 to LECEFTAP 115.00
1 35659 36853 "1" 0 # LINE from NORTECH 115.00 to NRS 300 115.00
4 35659 0 "3 " 0 # LOAD-DROP NORTECH 115.00 LOAD==15.25(3.48)
0
#
#
# (403) BUS FAULT 35750 "MABURY"
#
1 35750 35752 "1" 0 # LINE from MABURY 60.00 to JENING J 60.00
4 35750 0 "1 " 0 # LOAD-DROP MABURY 60.00 LOAD==17.10(3.90)
0
#
#
# (404) BUS FAULT 35751 "JENNINGS"
#
1 35751 35752 "1" 0 # LINE from JENNINGS 60.00 to JENING J 60.00
4 35751 0 "1 " 0 # LOAD-DROP JENNINGS 60.00 LOAD==0.71(0.77)
0
#
#
# (405) BUS FAULT 35753 "EVERGREN"

```

APPENDIX B – CAISO CATEGORY C AUTOCON INPUT FILE

```

#
1 35753 35754 "1" 0 # LINE from EVERGREN 60.00 to EVRGRN J 60.00
1 35753 35756 "1" 0 # LINE from EVERGREN 60.00 to SENTER J 60.00
2 35753 35633 "1" 0 # TRAN from EVERGREN 60.00 to EVRGRN 2 115.00
0
#
#
# (406) BUS FAULT 35755 "SENTER"
#
1 35755 35754 "1" 0 # LINE from SENTER 60.00 to EVRGRN J 60.00
1 35755 35756 "1" 0 # LINE from SENTER 60.00 to SENTER J 60.00
0
#
#
# (407) BUS FAULT 35757 "ALMADEN"
#
1 35757 35756 "1" 0 # LINE from ALMADEN 60.00 to SENTER J 60.00
1 35757 35460 "1" 0 # LINE from ALMADEN 60.00 to LOS GATS 60.00
4 35757 0 "1 " 0 # LOAD-DROP ALMADEN 60.00 LOAD==18.96(4.32)
0
#
#
# (408) BUS FAULT 36420 "STONE"
#
1 36420 35632 "1" 0 # LINE from STONE 115.00 to MARKHAM 115.00
1 36420 35634 "1" 0 # LINE from STONE 115.00 to STONE J 115.00
4 36420 0 "1 " 0 # LOAD-DROP STONE 115.00 LOAD==35.69(8.13)
4 36420 0 "2 " 0 # LOAD-DROP STONE 115.00 LOAD==14.87(3.39)
0
#
#
-1
# EOF

```

Appendix D

Steady State Power Flow Plots

APPENDIX D - STEADY STATE POWER FLOW PLOTS

PG&E TCP1 Group 1 Greater Bay Area Power Flow Plots

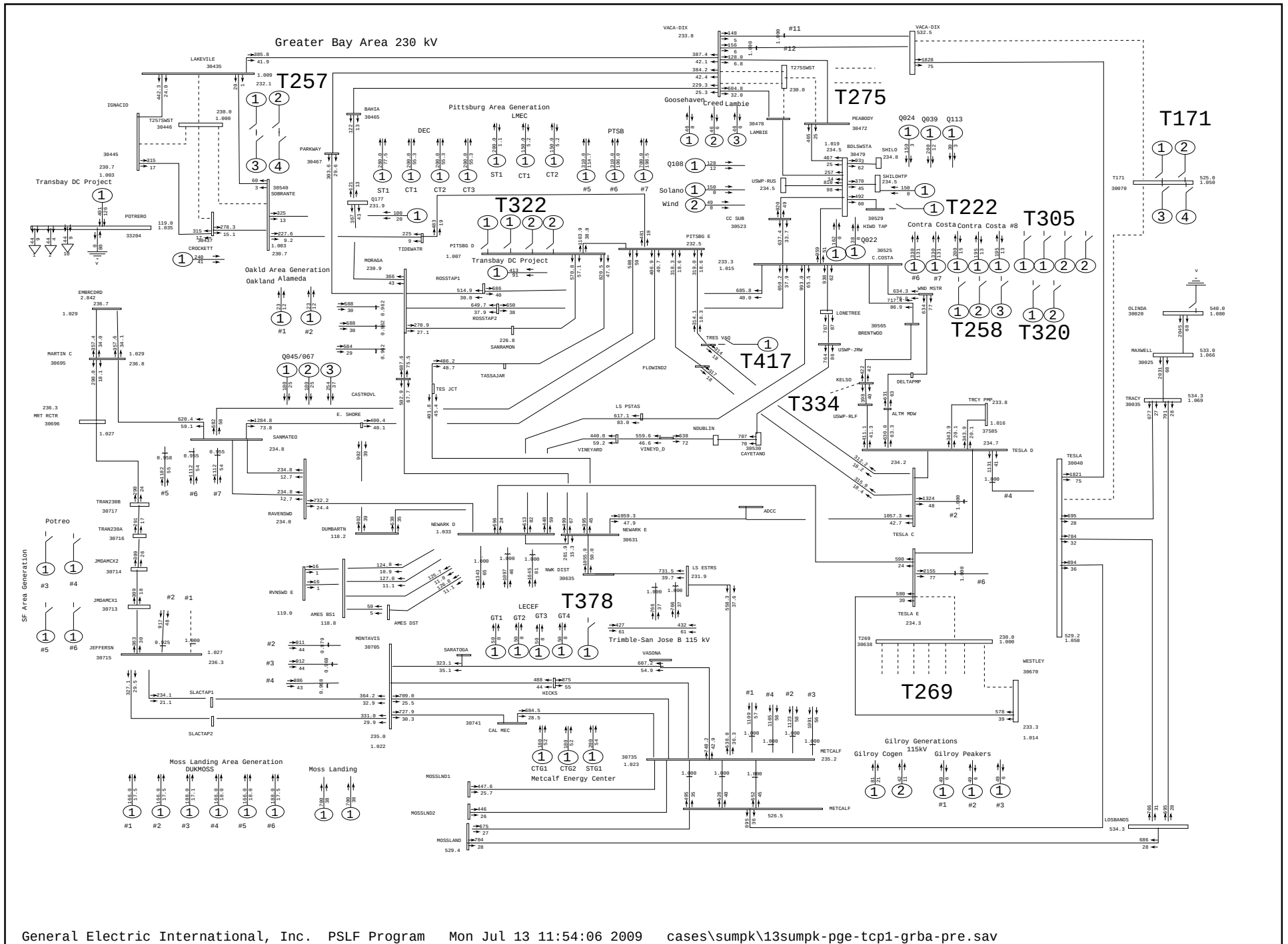
Plot	Description
Plot #1	2013 Summer Peak Pre-Project: Normal Conditions (MW/MVAr)
Plot #2	2013 Summer Peak Pre-Project: Normal Conditions (Amps/% Rate)
Plot #3	2013 Summer Peak Post-Project: Normal Conditions (MW/MVAr)
Plot #4	2013 Summer Peak Post-Project: Normal Conditions (Amps/% Rate)
Plot #5	2013 Summer Off Peak Pre-Project: Normal Conditions (MW/MVAr)
Plot #6	2013 Summer Off Peak Pre-Project: Normal Conditions (Amps/% Rate)
Plot #7	2013 Summer Off Peak Post-Project: Normal Conditions (MW/MVAr)
Plot #8	2013 Summer Off Peak Post-Project: Normal Conditions (Amps/% Rate)
Plot #9	2013 Summer Peak Pre-Project : Contra Costa - Las Positas 230 kV Line and RCEC STG1 Outage (MW/MVAr)
Plot #10	2013 Summer Peak Pre-Project: Contra Costa - Las Positas 230 kV Line and RCEC STG1 Outage (Amps/% Rate)
Plot #11	2013 Summer Peak Post-Project : Contra Costa - Las Positas 230 kV Line and RCEC STG1 Outage (MW/MVAr)
Plot #12	2013 Summer Peak Post-Project: Contra Costa - Las Positas 230 kV Line and RCEC STG1 Outage (Amps/% Rate)
Plot #13	2013 Summer Peak Pre-Project : Contra Costa - Lonetree 230 kV Line Outage (MW/MVAr)
Plot #14	2013 Summer Peak Pre-Project: Contra Costa - Lonetree 230 kV Line Outage (Amps/% Rate)
Plot #15	2013 Summer Peak Post-Project : Contra Costa - Lonetree 230 kV Line Outage (MW/MVAr)
Plot #16	2013 Summer Peak Post-Project: Contra Costa - Lonetree 230 kV Line Outage (Amps/% Rate)
Plot #17	2013 Summer Peak Pre-Project : Birds Landing - Contra Costa 230 kV Line & Gateway PP Outage (MW/MVAr)
Plot #18	2013 Summer Peak Pre-Project: Birds Landing - Contra Costa 230 kV Line & Gateway PP Outage (Amps/% Rate)
Plot #19	2013 Summer Peak Post-Project : Birds Landing - Contra Costa 230 kV Line & Gateway PP Outage (MW/MVAr)
Plot #20	2013 Summer Peak Post-Project: Birds Landing - Contra Costa 230 kV Line & Gateway PP Outage (Amps/% Rate)
Plot #21	2013 Summer Peak Pre-Project : Kelso - Tesla 230 kV Line Outage (MW/MVAr)
Plot #22	2013 Summer Peak Pre-Project: Kelso - Tesla 230 kV Line Outage (Amps/% Rate)
Plot #23	2013 Summer Peak Post-Project : Kelso - Tesla 230 kV Line Outage (MW/MVAr)
Plot #24	2013 Summer Peak Post-Project: Kelso - Tesla 230 kV Line Outage (Amps/% Rate)
Plot #25	2013 Summer Off Peak Pre-Project : Kelso - Tesla 230 kV Line Outage (MW/MVAr)
Plot #26	2013 Summer Off Peak Pre-Project: Kelso - Tesla 230 kV Line Outage (Amps/% Rate)
Plot #27	2013 Summer Off Peak Post-Project : Kelso - Tesla 230 kV Line Outage (MW/MVAr)
Plot #28	2013 Summer Off Peak Post-Project: Kelso - Tesla 230 kV Line Outage (Amps/% Rate)
Plot #29	2013 Summer Peak Pre-Project : Contra Costa - Delta Pumps 230 kV Line Outage (MW/MVAr)
Plot #30	2013 Summer Peak Pre-Project: Contra Costa - Delta Pumps 230 kV Line Outage (Amps/% Rate)
Plot #31	2013 Summer Peak Post-Project : Contra Costa - Delta Pumps 230 kV Line Outage (MW/MVAr)

APPENDIX D - STEADY STATE POWER FLOW PLOTS

Plot	Description
Plot #32	2013 Summer Peak Post-Project: Contra Costa - Delta Pumps 230 kV Line Outage (Amps/% Rate)
Plot #33	2013 Summer Off Peak Pre-Project : Contra Costa - Delta Pumps 230 kV Line Outage (MW/MVAr)
Plot #34	2013 Summer Off Peak Pre-Project: Contra Costa - Delta Pumps 230 kV Line Outage (Amps/% Rate)
Plot #35	2013 Summer Off Peak Post-Project : Contra Costa - Delta Pumps 230 kV Line Outage (MW/MVAr)
Plot #36	2013 Summer Off Peak Post-Project: Contra Costa - Delta Pumps 230 kV Line Outage (Amps/% Rate)
Plot #37	2013 Summer Peak Pre-Project : Vaca-Dixon - T275 #1 230 kV Line Outage (MW/MVAr)
Plot #38	2013 Summer Peak Pre-Project: Vaca-Dixon - T275 #1 230 kV Line Outage (Amps/% Rate)
Plot #39	2013 Summer Peak Post-Project : Vaca-Dixon - T275 #1 230 kV Line Outage (MW/MVAr)
Plot #40	2013 Summer Peak Post-Project: Vaca-Dixon - T275 #1 230 kV Line Outage (Amps/% Rate)
Plot #41	2013 Summer Off Peak Pre-Project : Vaca-Dixon - T275 #1 230 kV Line Outage (MW/MVAr)
Plot #42	2013 Summer Off Peak Pre-Project: Vaca-Dixon - T275 #1 230 kV Line Outage (Amps/% Rate)
Plot #43	2013 Summer Off Peak Post-Project : Vaca-Dixon - T275 #1 230 kV Line Outage (MW/MVAr)
Plot #44	2013 Summer Off Peak Post-Project: Vaca-Dixon - T275 #1 230 kV Line Outage (Amps/% Rate)
Plot #45	2013 Summer Peak Pre-Project : Olinda - Tracy 500 kV Line Outage (MW/MVAr)
Plot #46	2013 Summer Peak Pre-Project: Olinda - Tracy 500 kV Line Outage (Amps/% Rate)
Plot #47	2013 Summer Peak Post-Project : Olinda - Tracy 500 kV Line Outage (MW/MVAr)
Plot #48	2013 Summer Peak Post-Project: Olinda - Tracy 500 kV Line Outage (Amps/% Rate)

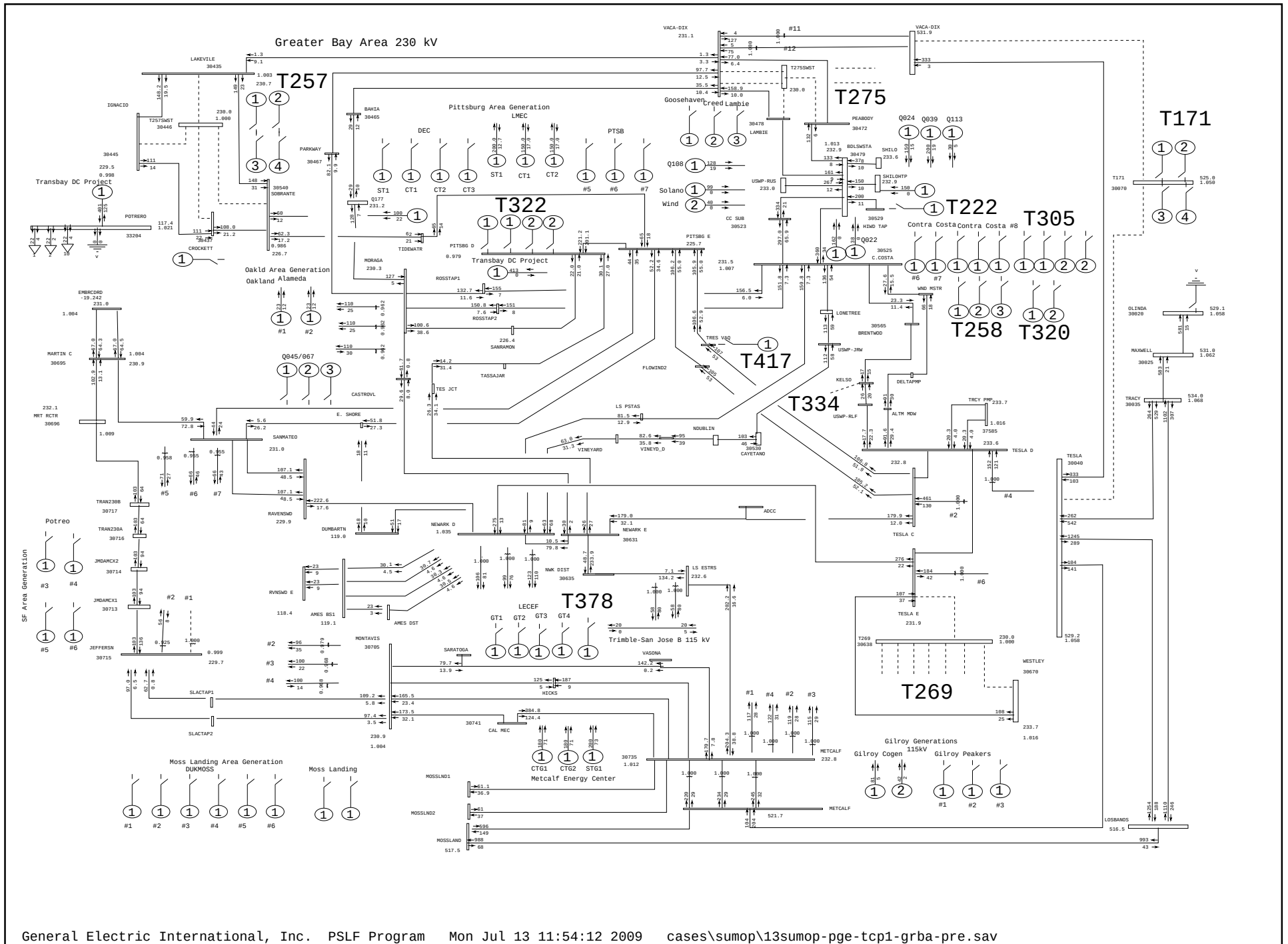
	PG&E 2008 CASE SERIES: 2013 Greater Bay Area Summer Peak Case (1-in-10 load)	Plot 001: Normal Conditions	MW/MVAR
	PATH15=-1215 MW(S-N) PATH26= 3906 MW(N-S) PDCI= 3096 MW(N-S) COI= 4710 MW(N-S) PG&E 2008 Group 1 Greater Bay Area Summer Peak Transition Pre-Cluster Case		draw\grba\pge-tcp1-gr Rating = 1

APPENDIX D - STEADY STATE POWER FLOW PLOTS

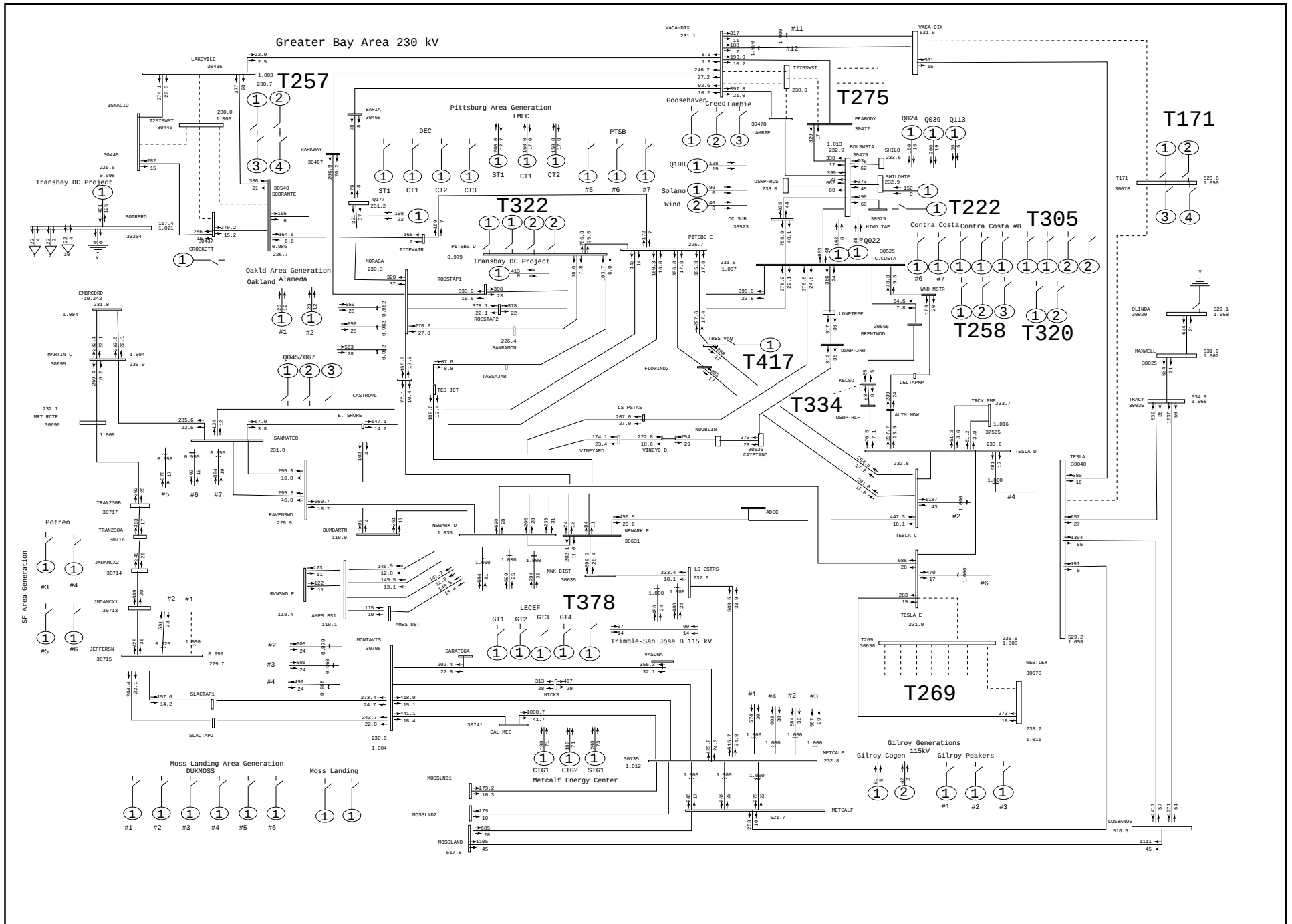


	PG&E 2008 CASE SERIES: 2013 Greater Bay Area Summer Peak Case (1-in-10 load) PATH15=-2341 MW(S-N) PATH26= 3975 MW(N-S) PDCI= 3087 MW(N-S) COI= 4585 MW(N-S) PG&E 2008 Group 1 Greater Bay Area Summer Peak Transition Post-Cluster Case	Plot 003: Normal Conditions	MW/MVAR draw\grba\pge-tcp1-gr Rating = 1

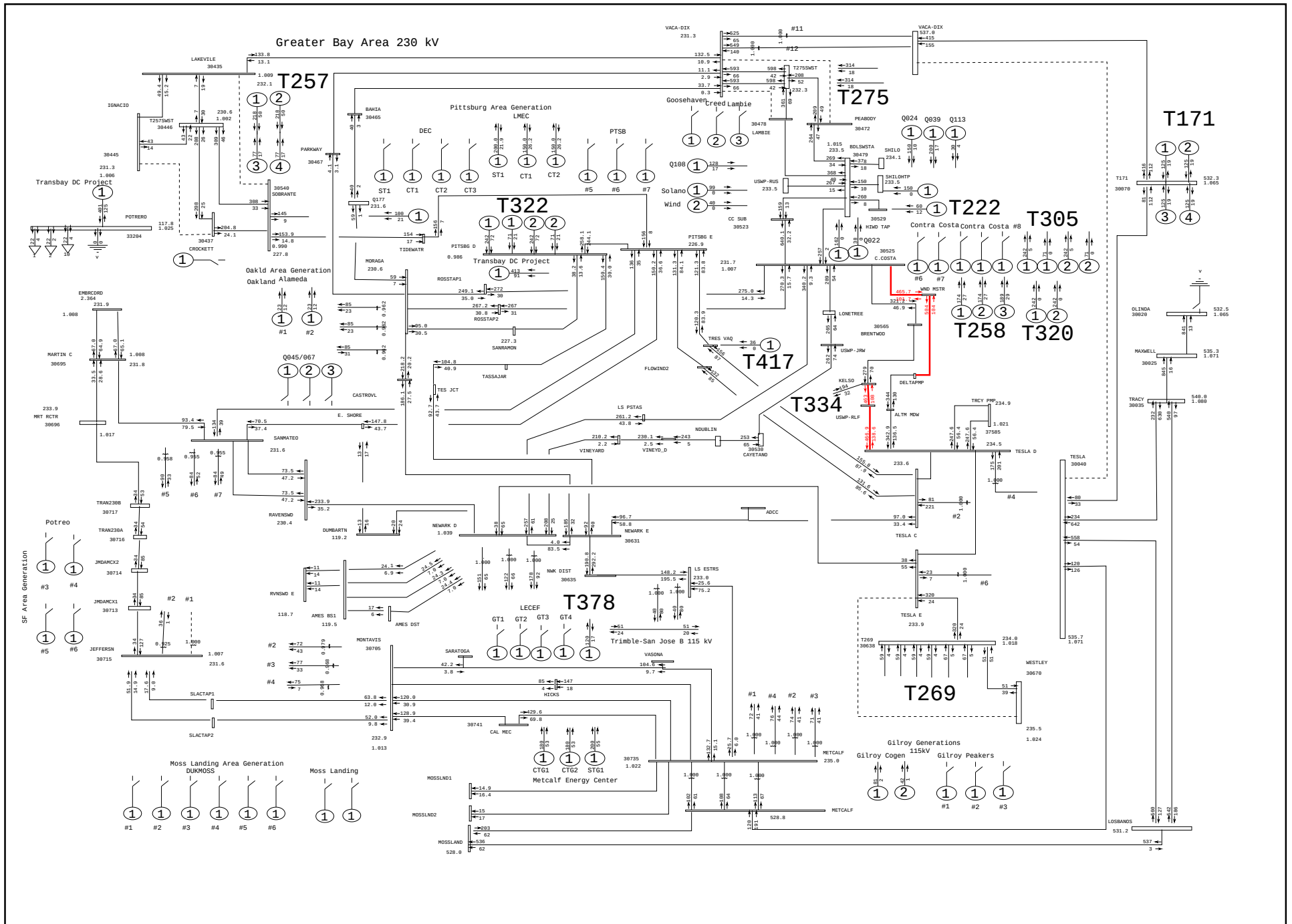
APPENDIX D - STEADY STATE POWER FLOW PLOTS



APPENDIX D - STEADY STATE POWER FLOW PLOTS



APPENDIX D - STEADY STATE POWER FLOW PLOTS



General Electric International, Inc. PSLF Program Mon Jul 13 11:54:15 2009 cases\sumop\13sumop-pge-tcp1-grba-pst.sav

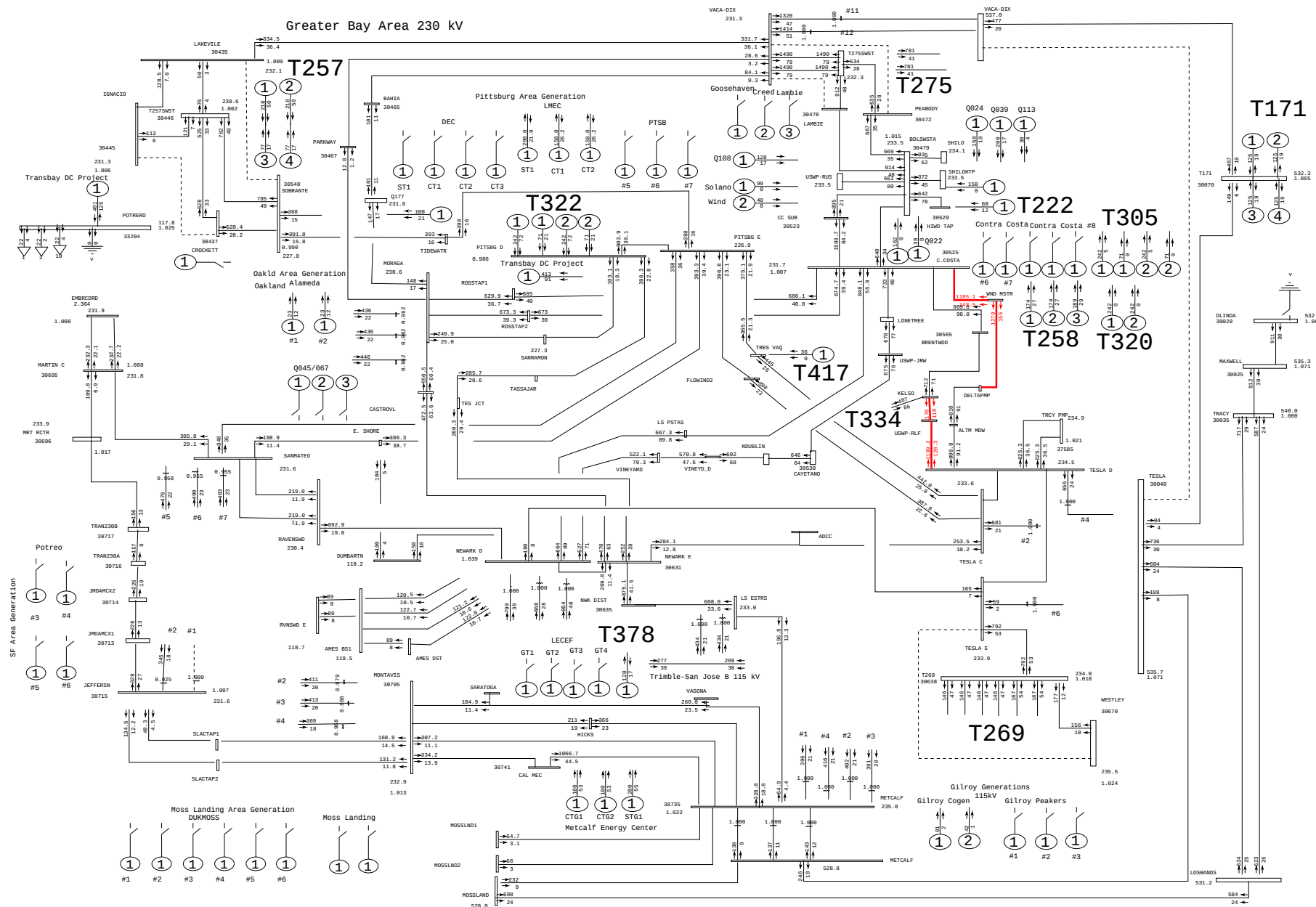


PG&E 2008 CASE SERIES: 2013 Summer Off Peak Case
 PATH15= 3141 MW(S-N) PATH26= -212 MW(N-S) PDCI=-1846 MW(N-S) COI=-3658 MW(N-S)
 PG&E 2008 Group 1 Greater Bay Area Summer Off Peak Transition Post-Cluster Case

Plot 007: Normal Conditions

MW/MVAR
 draw\grba\pge-tcp1-grba-
 Rating = 1

APPENDIX D - STEADY STATE POWER FLOW PLOTS



General Electric International, Inc. PSLF Program Mon Jul 13 11:54:16 2009 cases\sumop\13sumop-pge-tcp1-grba-pst.sav



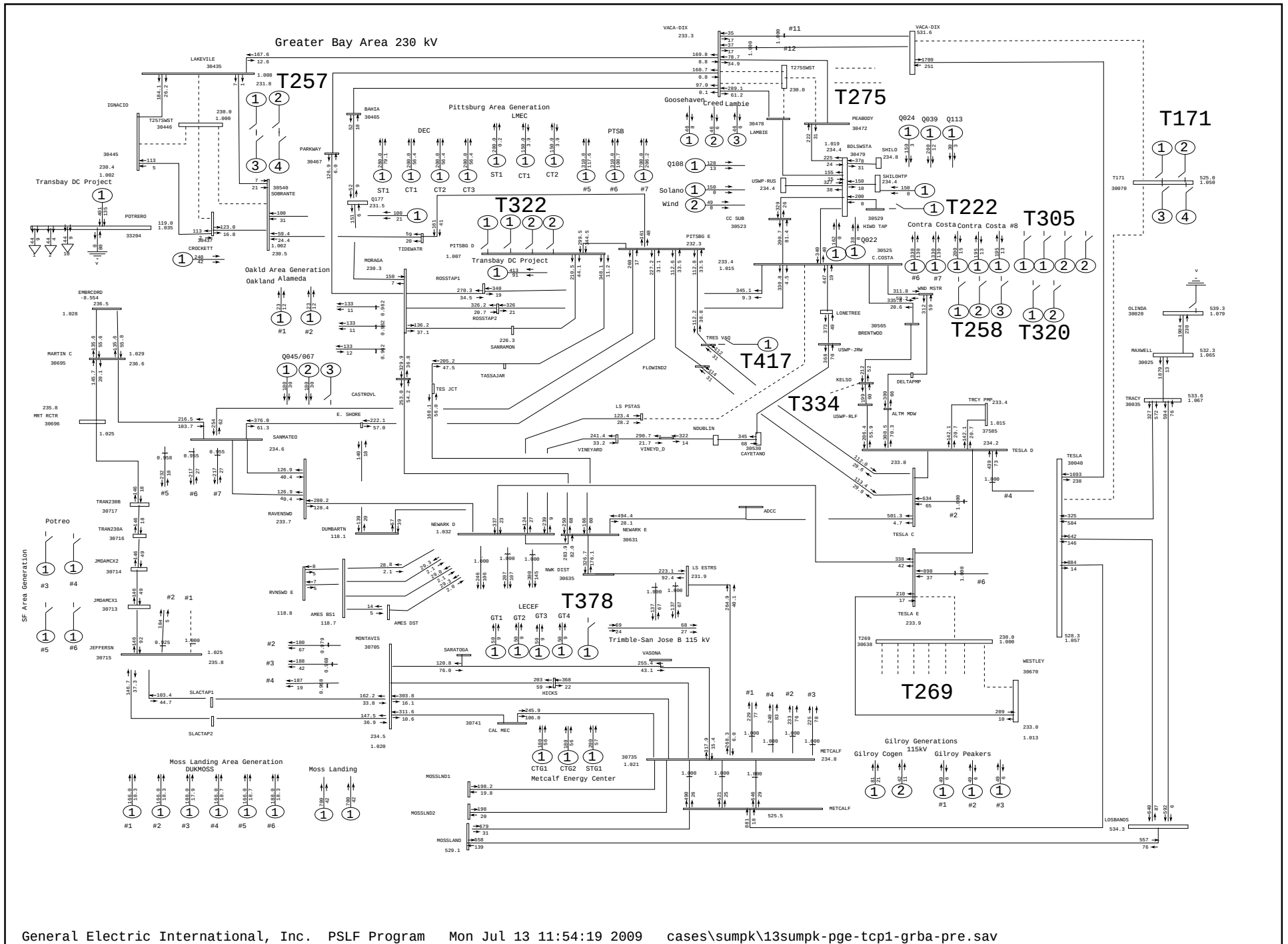
Pacific Gas and Electric Company¹

PG&E 2008 CASE SERIES: 2013 Summer Off Peak Case

Plot 008: Normal Conditions

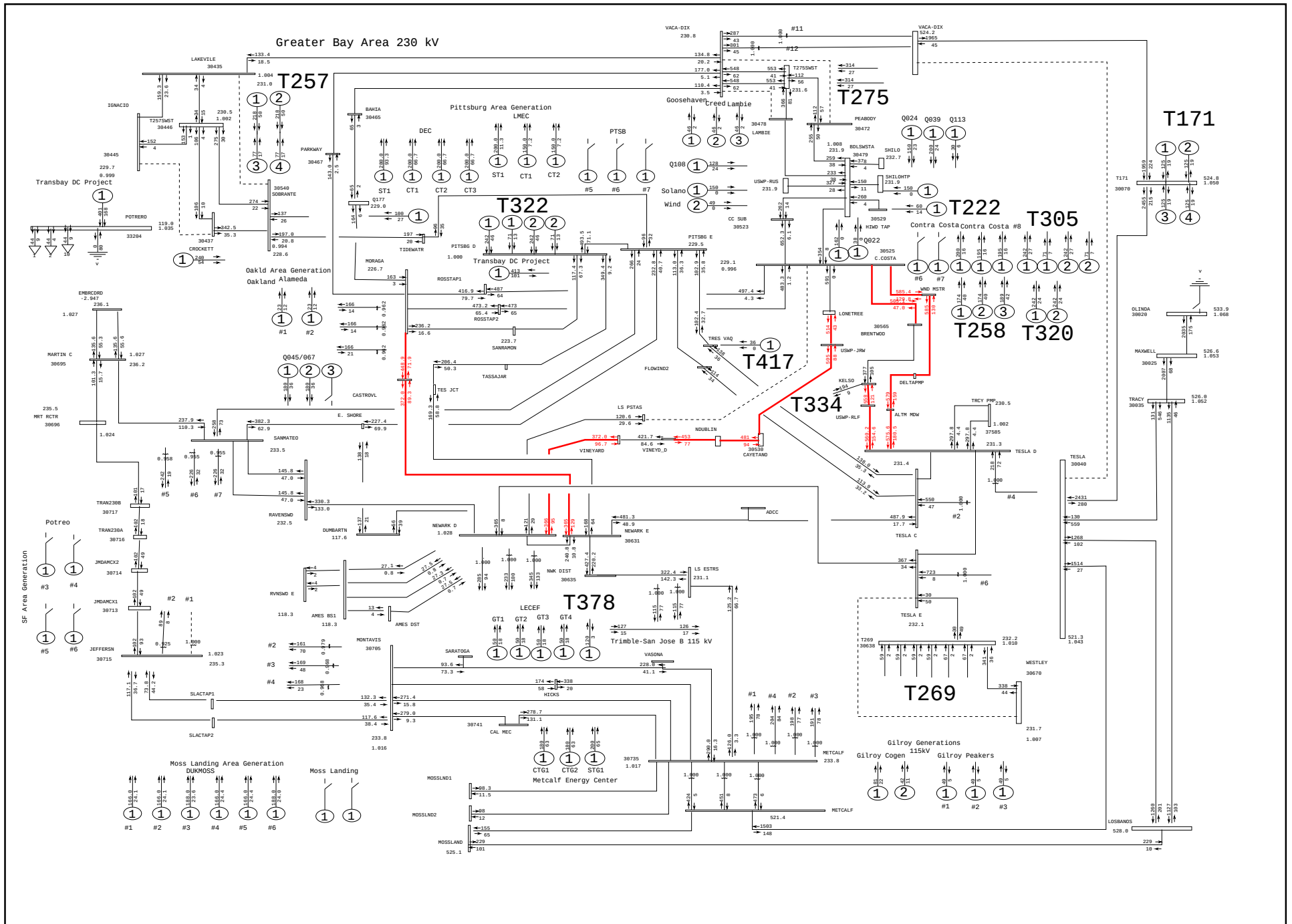
amps/rate	
draw\grba\pge-tcp1-grba-	
Rating =	1

APPENDIX D - STEADY STATE POWER FLOW PLOTS



	PG&E 2008 CASE SERIES: 2013 Greater Bay Area Summer Peak Case (1-in-10 load) PATH15=-1215 MW(S-N) PATH26= 3906 MW(N-S) PDCI= 3096 MW(N-S) COI= 4710 MW(N-S) PG&E 2008 Group 1 Greater Bay Area Summer Peak Transition Pre-Cluster Case	Plot 010: Contra Costa - Las Positas 230 kV Line and RCEC STG1 Outage	amps/rate draw\grba\pge-tcp1-gr Rating = 2

APPENDIX D - STEADY STATE POWER FLOW PLOTS



General Electric International, Inc. PSLF Program Mon Jul 13 11:54:25 2009 cases\sumpk\13sumpk-pge-tcp1-grba-pst.sav

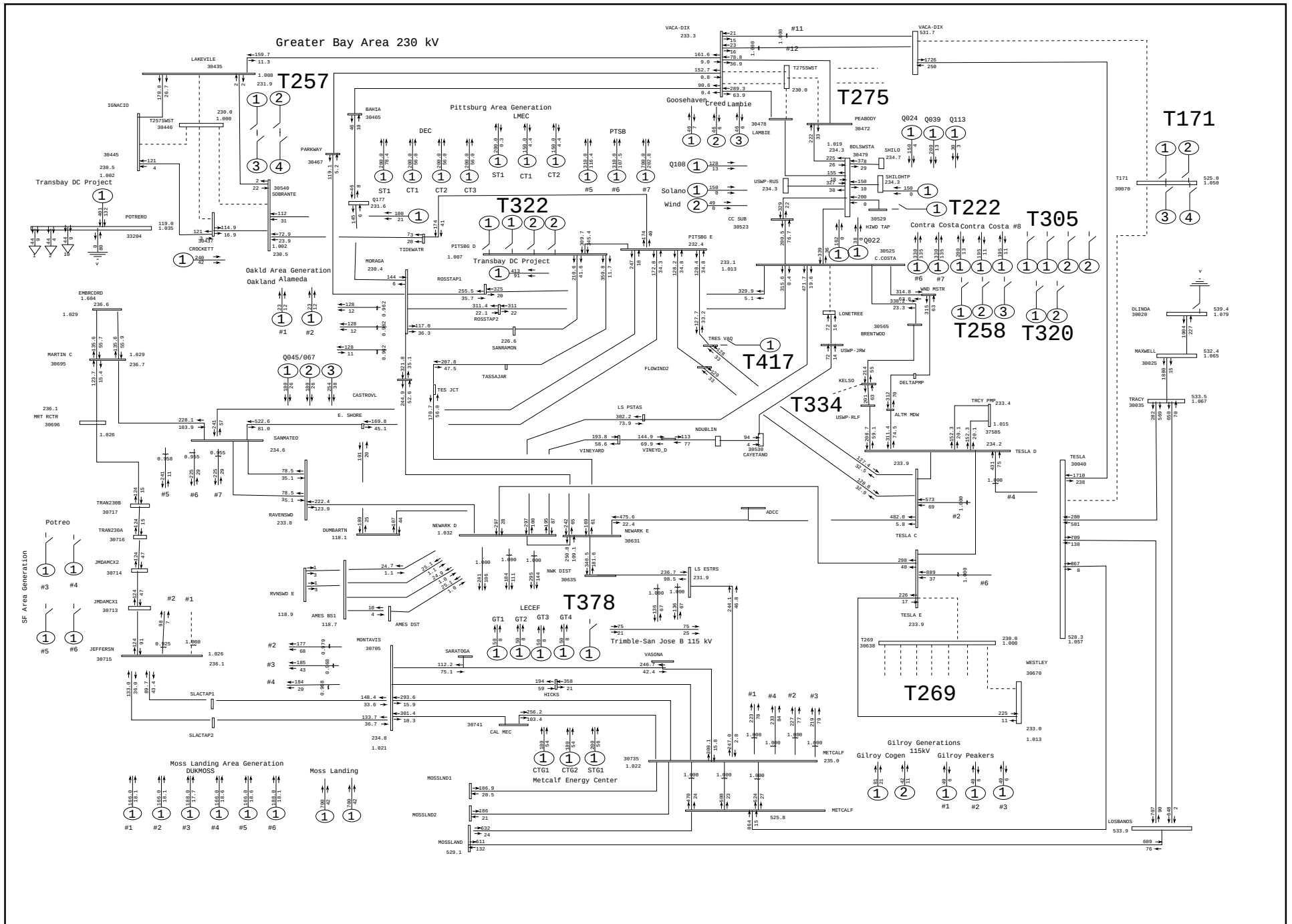
	PG&E 2008 CASE SERIES: 2013 Greater Bay Area Summer Peak Case (1-in-10 load) PATH15=-2341 MW(S-N) PATH26= 3975 MW(N-S) PDCI= 3087 MW(N-S) COI= 4585 MW(N-S) PG&E 2008 Group 1 Greater Bay Area Summer Peak Transition Post-Cluster Case	Plot 011: Contra Costa - Las Positas 230 kV Line and RCEC STG1 Outage	MW/MVAR draw\grba\pge-tcp1-grba- Rating = 2
--	--	--	--

Greater Bay Area 230 kV

General Electric International, Inc. PSFL Program Mon Jul 13 11:54:27 2009 cases\sumpk\13sumpk-pge-tcp1-grba-pst.sav

	PG&E 2008 CASE SERIES: 2013 Greater Bay Area Summer Peak Case (1-in-10 load) PATH15=-2341 MW(S-N) PATH26= 3975 MW(N-S) PDCI= 3087 MW(N-S) COI= 4585 MW(N-S) PG&E 2008 Group 1 Greater Bay Area Summer Peak Transition Post-Cluster Case	Plot 012: Contra Costa - Las Positas 230 kV Line and RCEC STG1 Outage	amps/rate draw\grba\pge-tcp1-gr Rating = 2

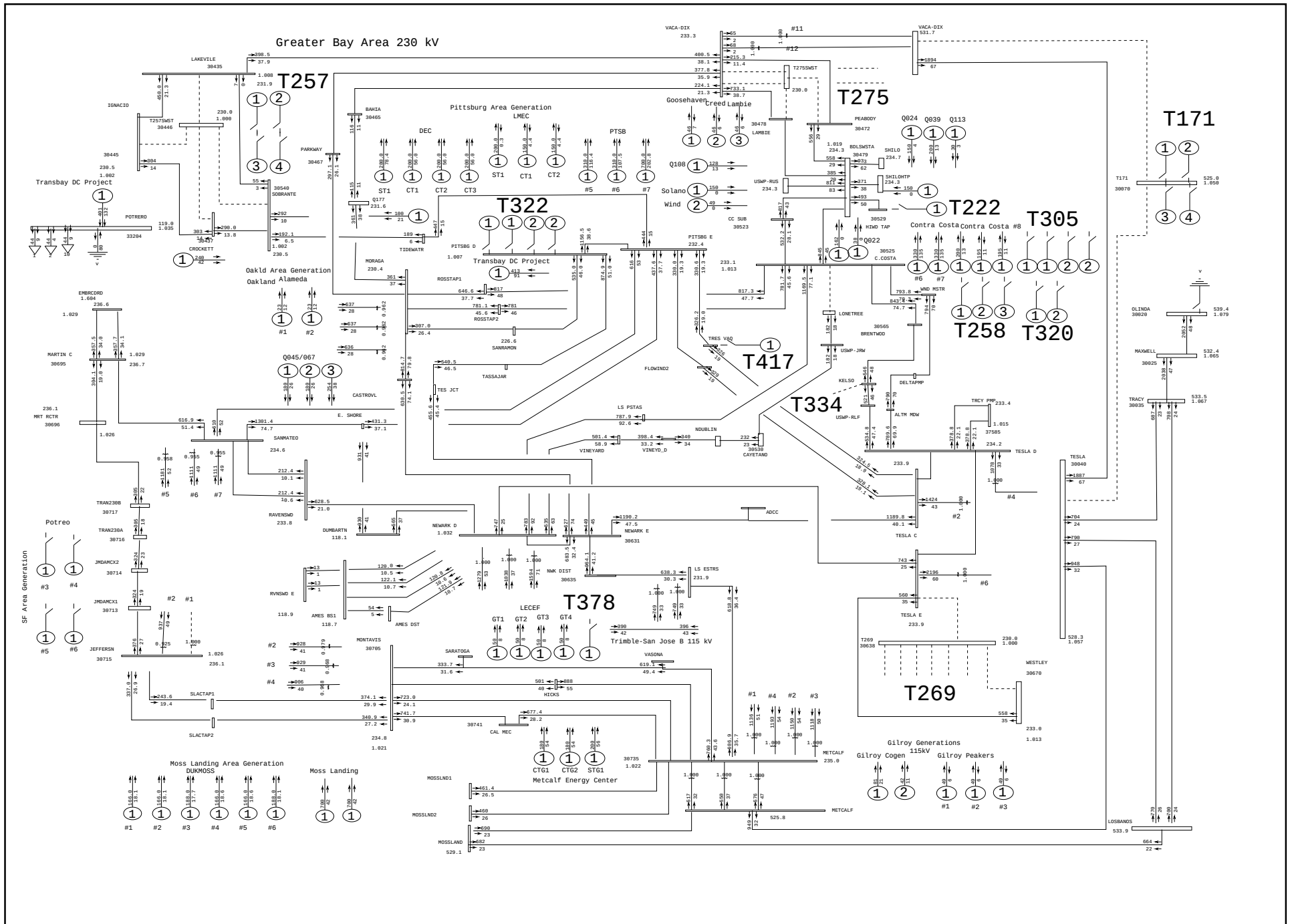
APPENDIX D - STEADY STATE POWER FLOW PLOTS



General Electric International, Inc. PSLF Program Mon Jul 13 11:54:30 2009 cases\sumpk\13sumpk-pge-tcp1-grba-pre.sav

	PG&E 2008 CASE SERIES: 2013 Greater Bay Area Summer Peak Case (1-in-10 load) PATH15=-1215 MW(S-N) PATH26= 3906 MW(N-S) PDCI= 3096 MW(N-S) COI= 4710 MW(N-S) PG&E 2008 Group 1 Greater Bay Area Summer Peak Transition Pre-Cluster Case	Plot 013: Contra Costa - Lonetree 230 kV Line Outage	MW/MVAR draw\grba\pge-tcp1-grba- Rating = 2
--	---	---	--

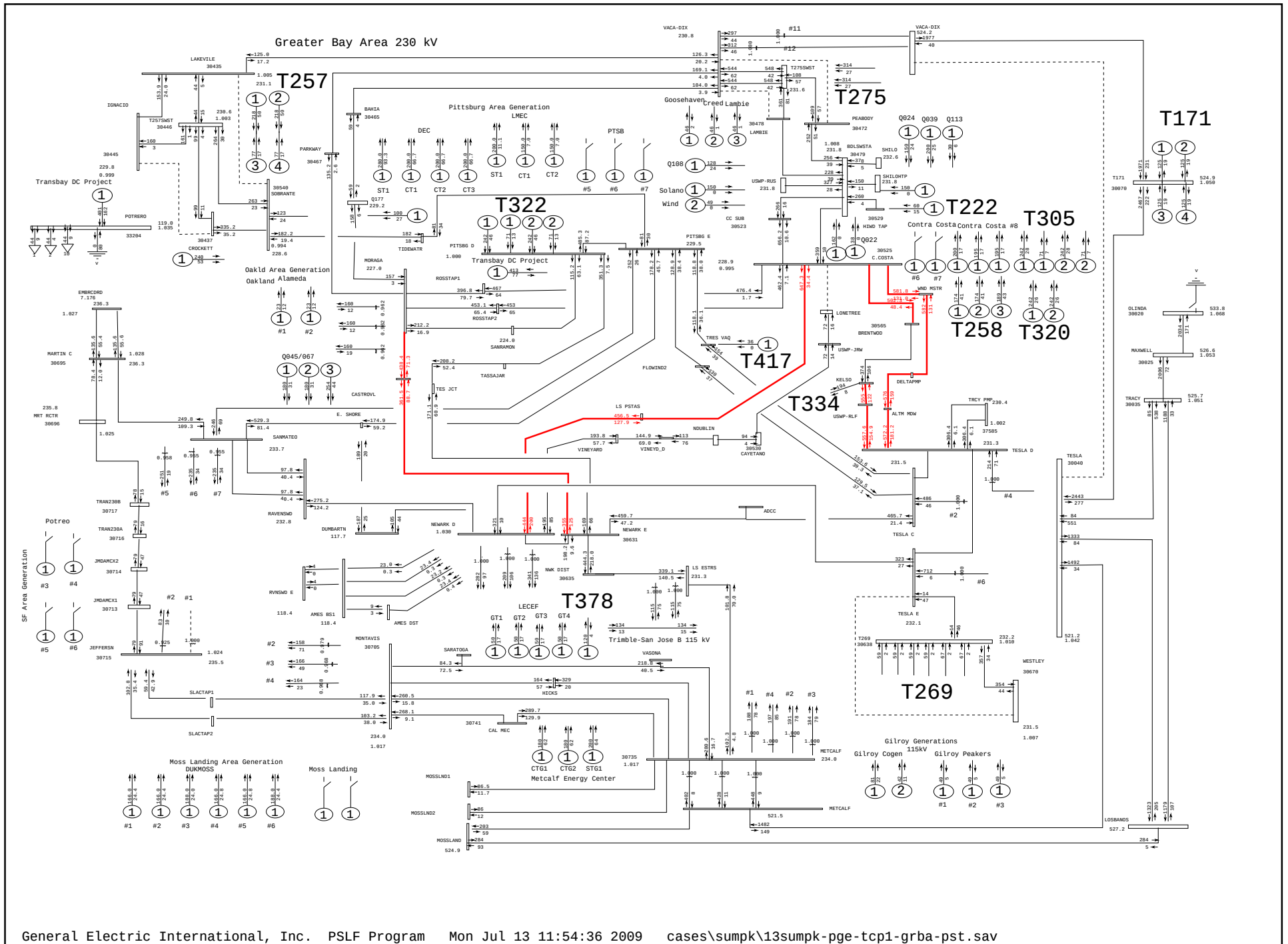
APPENDIX D - STEADY STATE POWER FLOW PLOTS



General Electric International, Inc. PSLF Program Mon Jul 13 11:54:32 2009 cases\sumpk\13sumpk-pge-tcp1-grba-pre.sav

	PG&E 2008 CASE SERIES: 2013 Greater Bay Area Summer Peak Case (1-in-10 load) PATH15=-1215 MW(S-N) PATH26= 3906 MW(N-S) PDCI= 3096 MW(N-S) COI= 4710 MW(N-S) PG&E 2008 Group 1 Greater Bay Area Summer Peak Transition Pre-Cluster Case	Plot 014: Contra Costa - Lonetree 230 kV Line Outage	amps/rate draw\grba\pge-tcp1-grba- Rating = 2
--	---	---	--

APPENDIX D - STEADY STATE POWER FLOW PLOTS



General Electric International, Inc. PSLF Program Mon Jul 13 11:54:36 2009 cases\sumpk\13sumpk-pge-tcp1-grba-pst.sav

	PG&E 2008 CASE SERIES: 2013 Greater Bay Area Summer Peak Case (1-in-10 load) PATH15=-2341 MW(S-N) PATH26= 3975 MW(N-S) PDCI= 3087 MW(N-S) COI= 4585 MW(N-S) PG&E 2008 Group 1 Greater Bay Area Summer Peak Transition Post-Cluster Case	Plot 015: Contra Costa - Lonetree 230 kV Line Outage	MW/MVAR draw\grba\pge-tcp1-grba- Rating = 2
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Greater Bay Area 230 kV

Diagram illustrating the 230 kV transmission system in the Greater Bay Area, showing various substations, lines, and associated equipment.

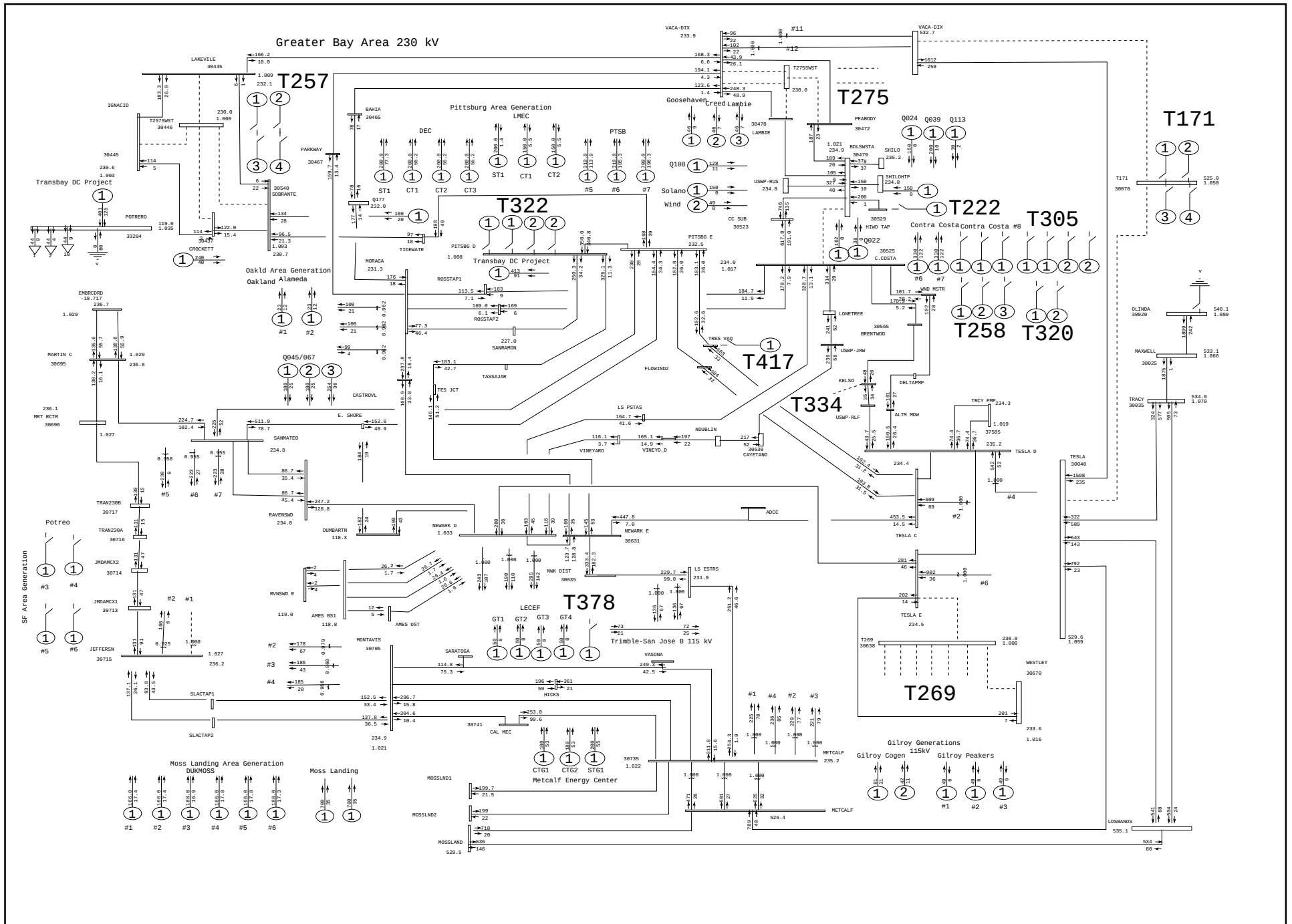
Key components and labels include:

- Substations:** T257, T275, T171, T322, T222, T305, T258, T320, T417, T334, T378, T269, T305.
- Lines:** T257, T275, T171, T322, T222, T305, T258, T320, T417, T334, T378, T269, T305.
- Equipment:** Various transformers, breakers, and other electrical components are shown throughout the system.
- Geographic Area:** The diagram covers the Greater Bay Area, including locations like Lakeville, Potrero, and Moss Landing.

The diagram provides a detailed view of the 230 kV transmission infrastructure, including line configurations, equipment ratings, and interconnections between different parts of the system.

	PG&E 2008 CASE SERIES: 2013 Greater Bay Area Summer Peak Case (1-in-10 load)	Plot 016 Contra Costa - Lonetree 230 kV Line Outage	amps/rate
	PATH15=-2341 MW(S-N) PATH26= 3975 MW(N-S) PDCI= 3087 MW(N-S) COI= 4585 MW(N-S)		draw\grba\pge-tcp1-gr
	PG&E 2008 Group 1 Greater Bay Area Summer Peak Transition Post-Cluster Case		Rating = 2

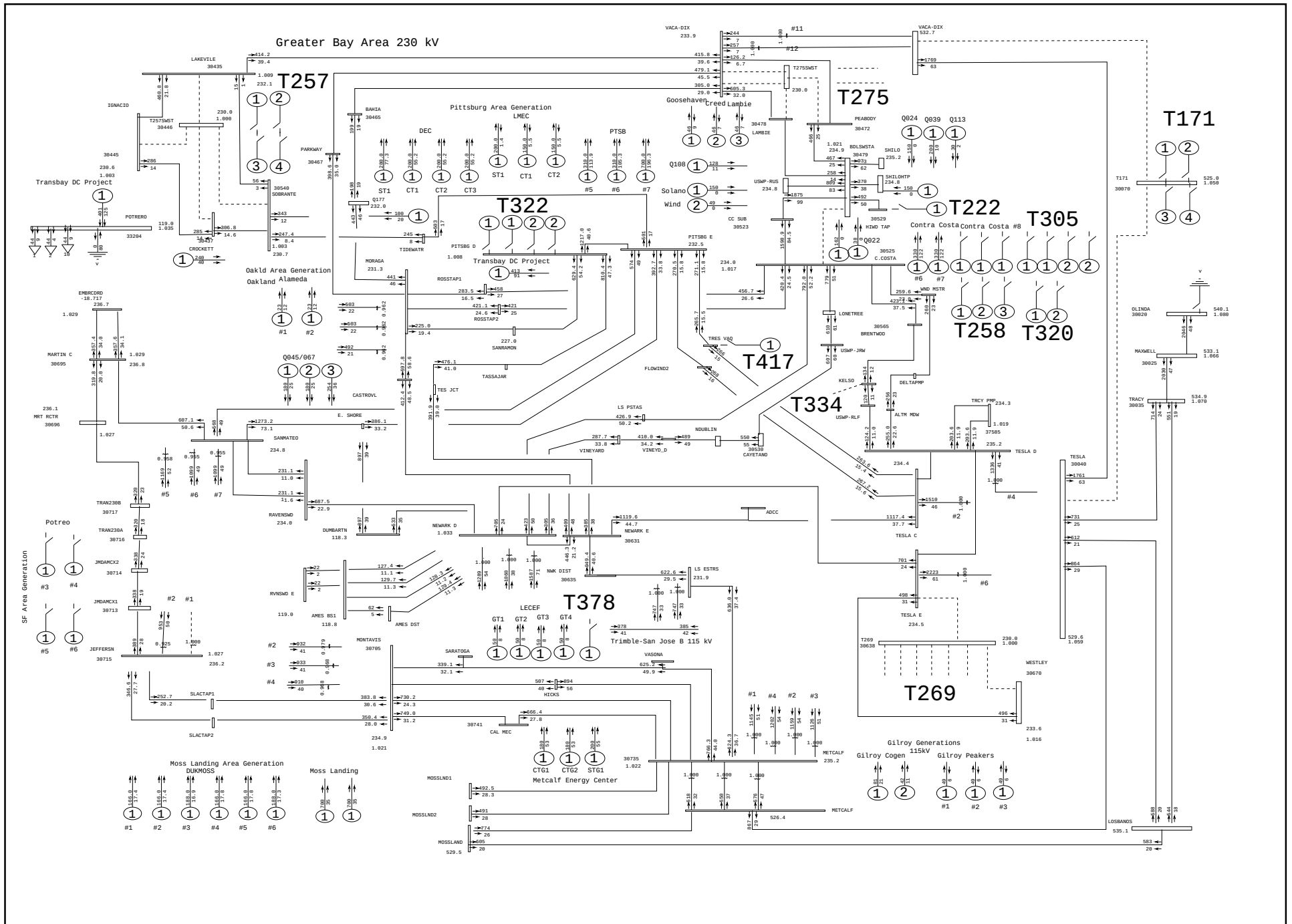
APPENDIX D - STEADY STATE POWER FLOW PLOTS



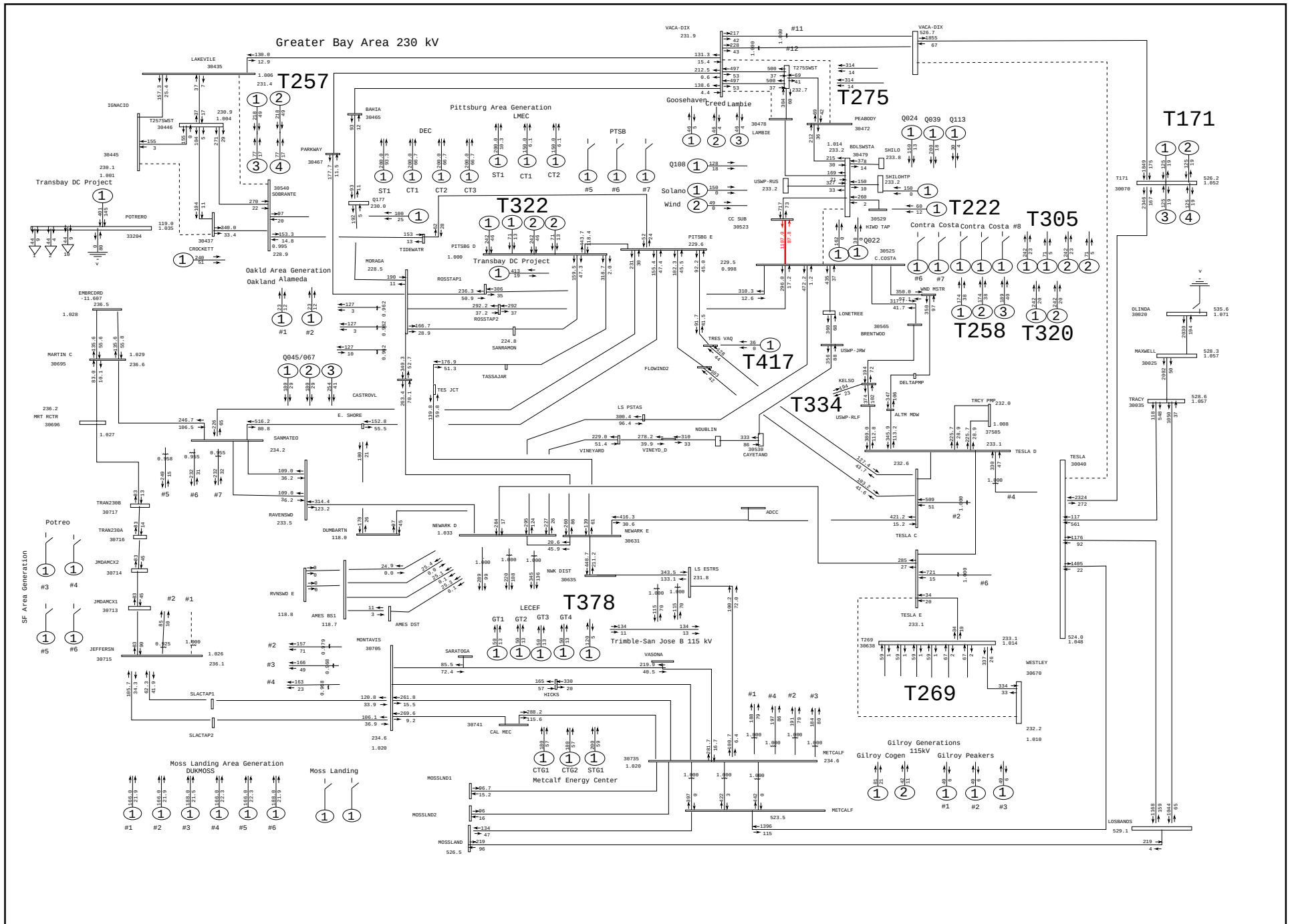
General Electric International, Inc. PSLF Program Mon Jul 13 11:54:40 2009 cases\sumpk\13sumpk-pge-tcp1-grba-pre.sav

	PG&E 2008 CASE SERIES: 2013 Greater Bay Area Summer Peak Case (1-in-10 load) PATH15=-1215 MW(S-N) PATH26= 3906 MW(N-S) PDCI= 3096 MW(N-S) COI= 4710 MW(N-S) PG&E 2008 Group 1 Greater Bay Area Summer Peak Transition Pre-Cluster Case	Plot 017: Birds Landing - Contra Costa 230 kV Line & Gateway PP Outage	MW/MVAR draw\grba\pge-tcp1-grba- Rating = 2
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APPENDIX D - STEADY STATE POWER FLOW PLOTS



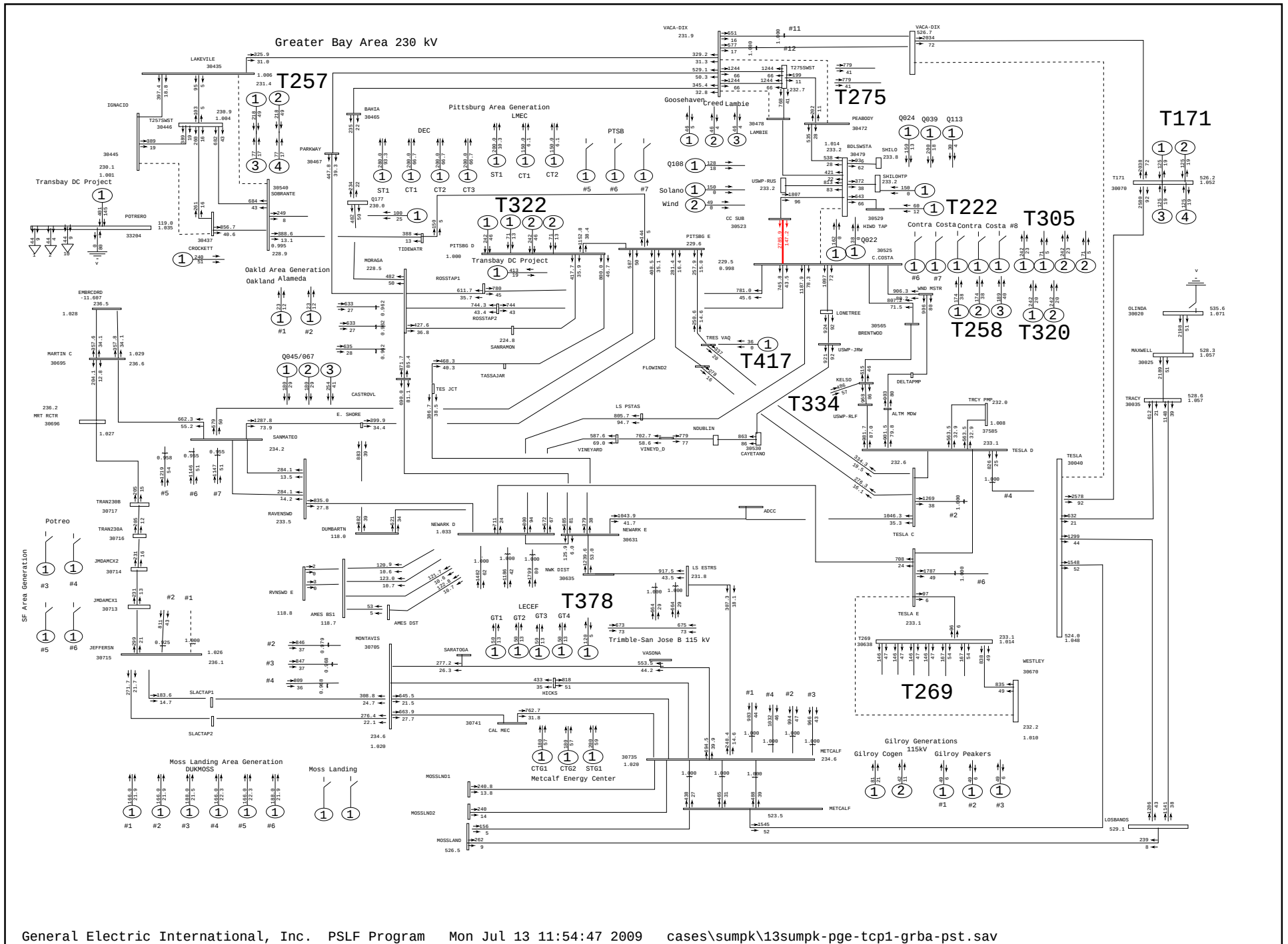
APPENDIX D - STEADY STATE POWER FLOW PLOTS



General Electric International, Inc. PSLF Program Mon Jul 13 11:54:45 2009 cases\sumpk\13sumpk-pge-tcp1-grba-pst.sav

	PG&E 2008 CASE SERIES: 2013 Greater Bay Area Summer Peak Case (1-in-10 load) PATH15=-2341 MW(S-N) PATH26= 3975 MW(N-S) PDCI= 3087 MW(N-S) COI= 4585 MW(N-S) PG&E 2008 Group 1 Greater Bay Area Summer Peak Transition Post-Cluster Case	Plot 019: Birds Landing - Contra Costa 230 kV Line & Gateway PP Outage	MW/MVAR draw\grba\pge-tcp1-grba- Rating = 2
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APPENDIX D - STEADY STATE POWER FLOW PLOTS



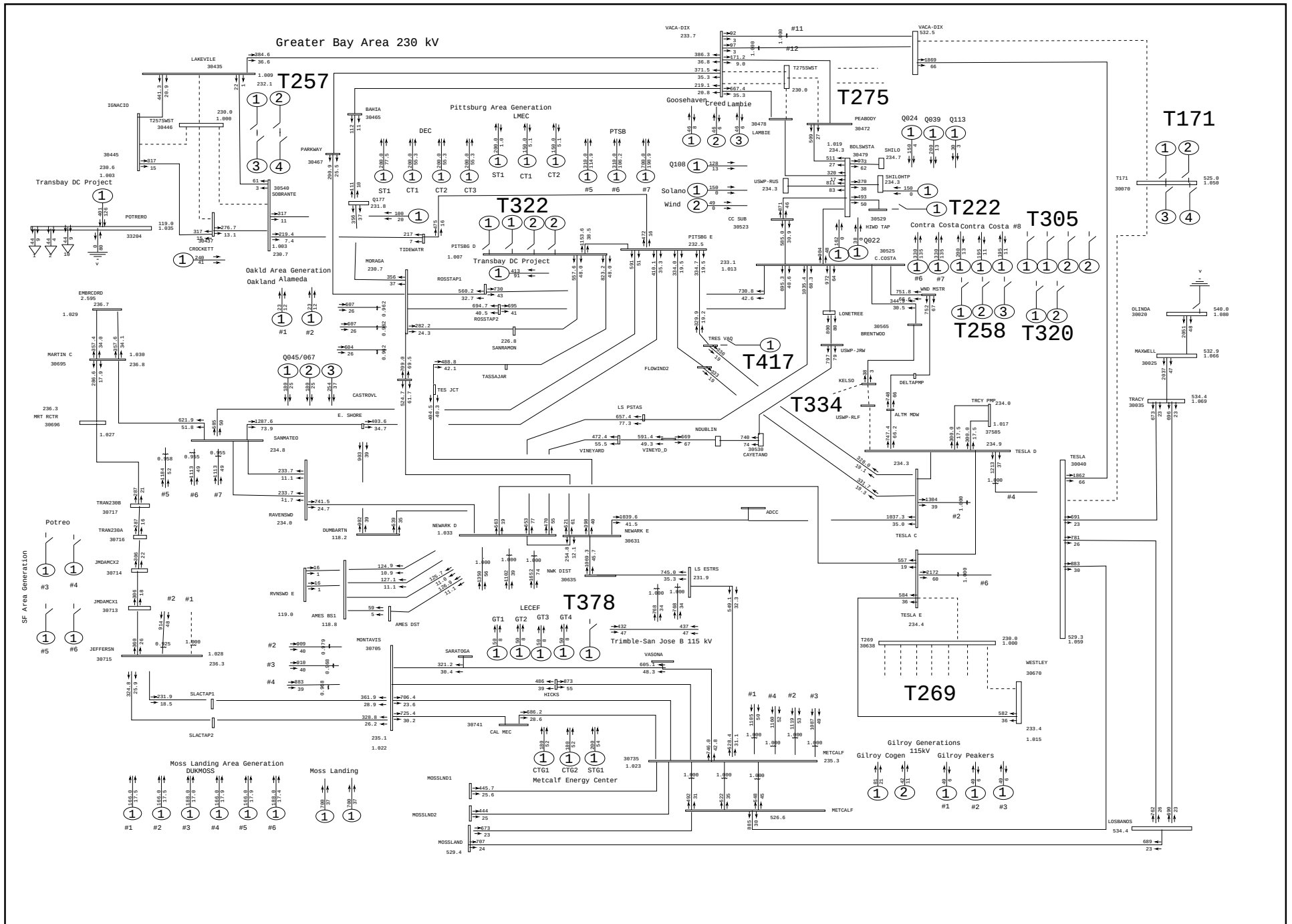
General Electric International, Inc. PSLF Program Mon Jul 13 11:54:47 2009 cases\sumpk\13sumpk-pge-tcp1-grba-pst.sav

	PG&E 2008 CASE SERIES: 2013 Greater Bay Area Summer Peak Case (1-in-10 load) PATH15=-2341 MW(S-N) PATH26= 3975 MW(N-S) PDCI= 3087 MW(N-S) COI= 4585 MW(N-S) PG&E 2008 Group 1 Greater Bay Area Summer Peak Transition Post-Cluster Case	Plot 020: Birds Landing - Contra Costa 230 kV Line & Gateway PP Outage	amps/rate draw\grba\pge-tcp1-grba- Rating = 2
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[illegible]

	PG&E 2008 CASE SERIES: 2013 Greater Bay Area Summer Peak Case (1-in-10 load)	Plot 021: Kelso - Tesla 230 kV Line Outage	MW/MVAR
	PATH15=-1215 MW(S-N) PATH26= 3906 MW(N-S) PDCI= 3096 MW(N-S) COI= 4710 MW(N-S)		draw\grba\pge-tcp1-gr
	PG&E 2008 Group 1 Greater Bay Area Summer Peak Transition Pre-Cluster Case		Rating = 2

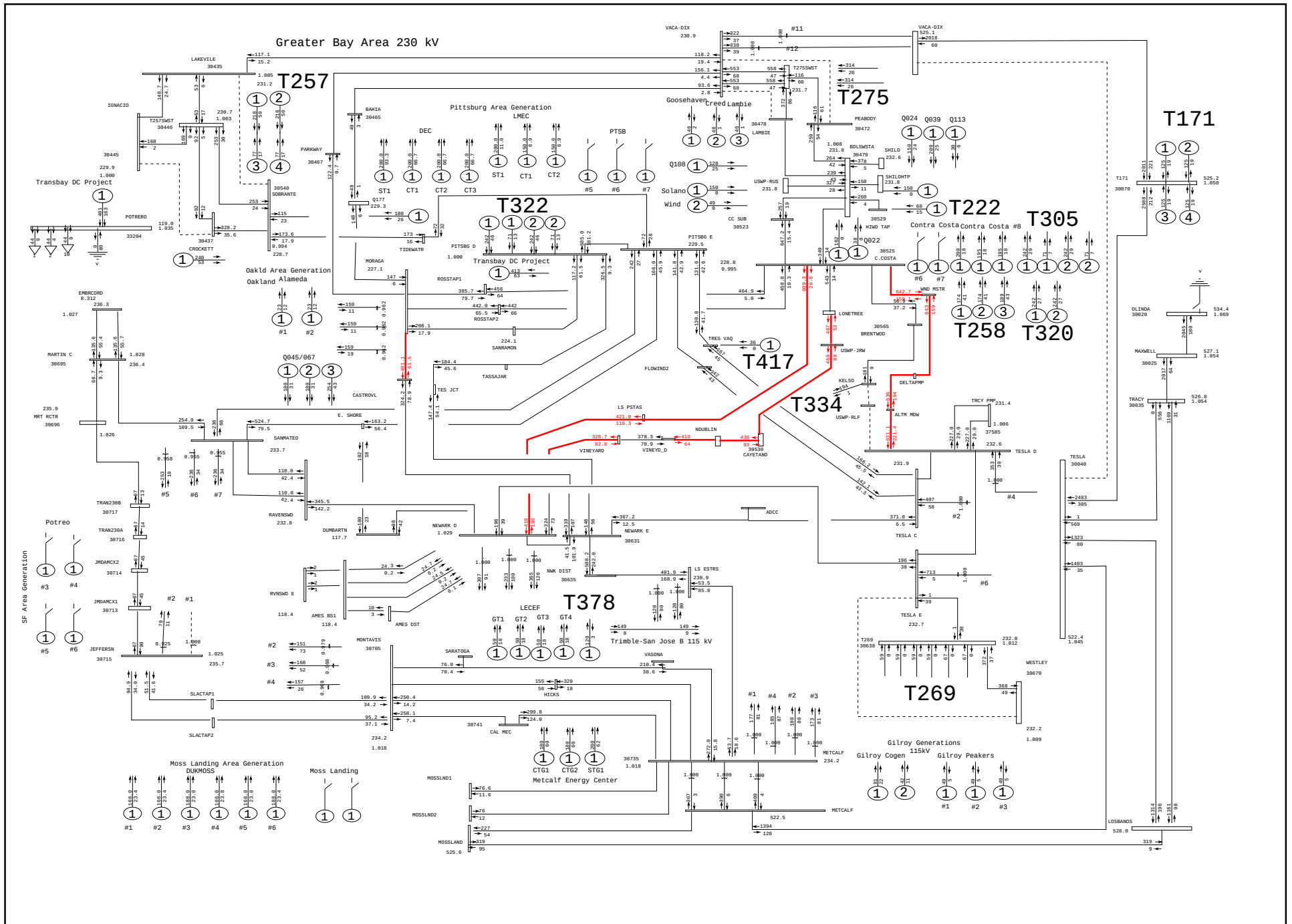
APPENDIX D - STEADY STATE POWER FLOW PLOTS



General Electric International, Inc. PSLF Program Mon Jul 13 11:54:55 2009 cases\sumpk\13sumpk-pge-tcp1-grba-pre.sav

	PG&E 2008 CASE SERIES: 2013 Greater Bay Area Summer Peak Case (1-in-10 load) PATH15=-1215 MW(S-N) PATH26= 3906 MW(N-S) PDCI= 3096 MW(N-S) COI= 4710 MW(N-S) PG&E 2008 Group 1 Greater Bay Area Summer Peak Transition Pre-Cluster Case	Plot 022: Kelso - Tesla 230 kV Line Outage	amps/rate draw\grba\pge-tcp1-grba- Rating = 2
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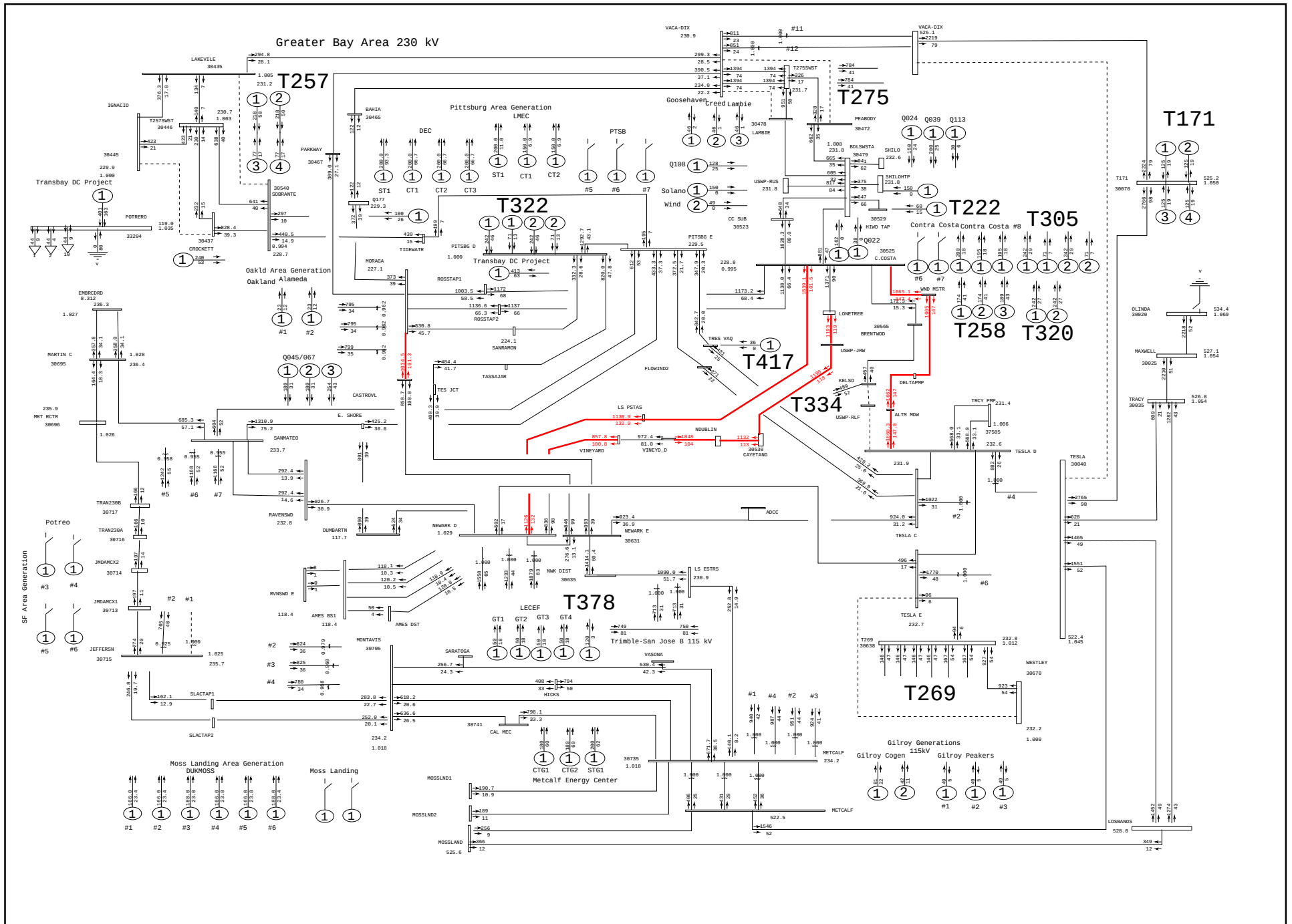
APPENDIX D - STEADY STATE POWER FLOW PLOTS



General Electric International, Inc. PSLF Program Mon Jul 13 11:55:01 2009 cases\sumpk\13sumpk-pge-tcp1-grba-pst.sav

	PG&E 2008 CASE SERIES: 2013 Greater Bay Area Summer Peak Case (1-in-10 load) PATH15=-2341 MW(S-N) PATH26= 3975 MW(N-S) PDCI= 3087 MW(N-S) COI= 4585 MW(N-S) PG&E 2008 Group 1 Greater Bay Area Summer Peak Transition Post-Cluster Case	Plot 023: Kelso - Tesla 230 kV Line Outage	MW/MVAR draw\grba\pge-tcp1-grba- Rating = 2
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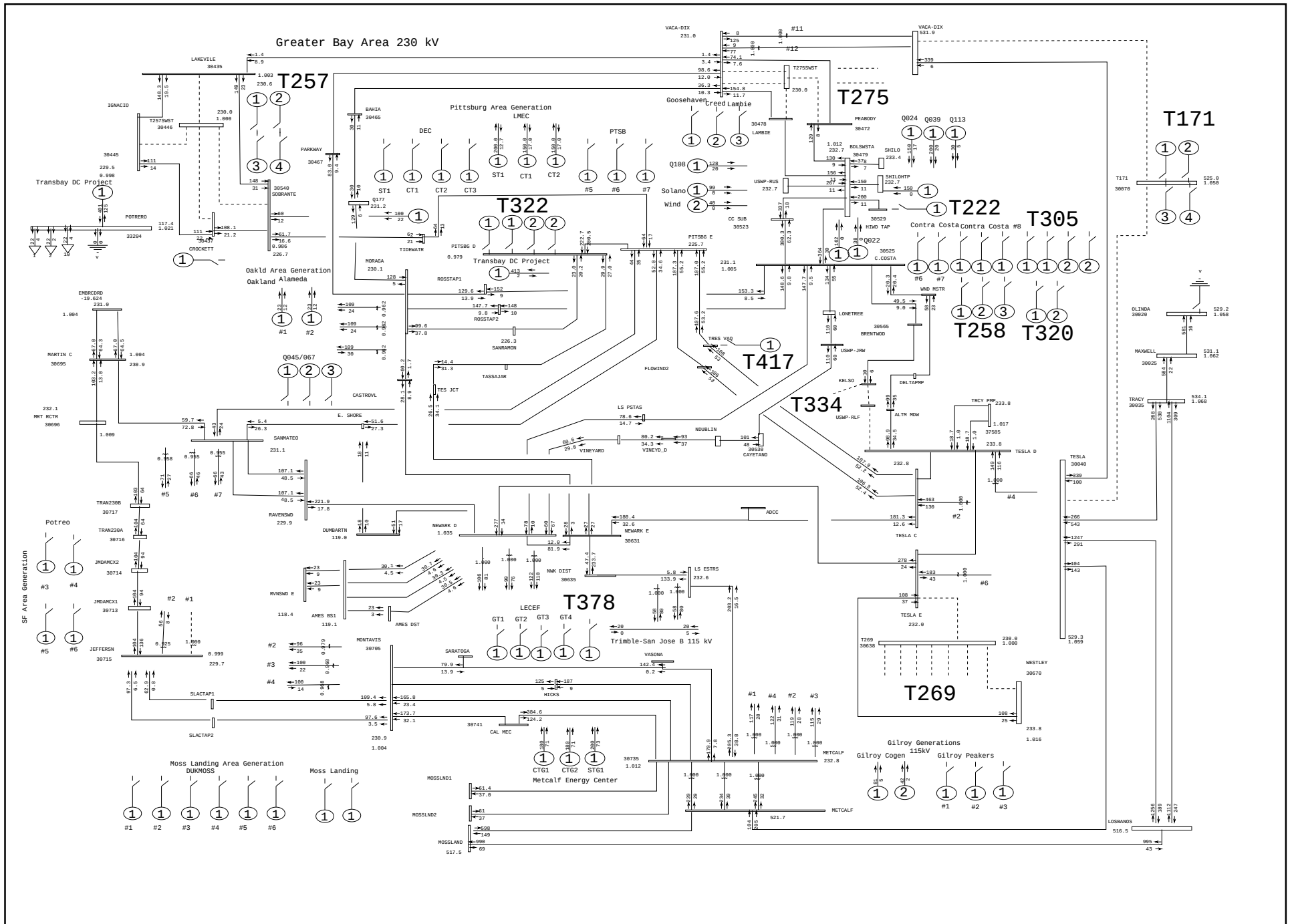
APPENDIX D - STEADY STATE POWER FLOW PLOTS



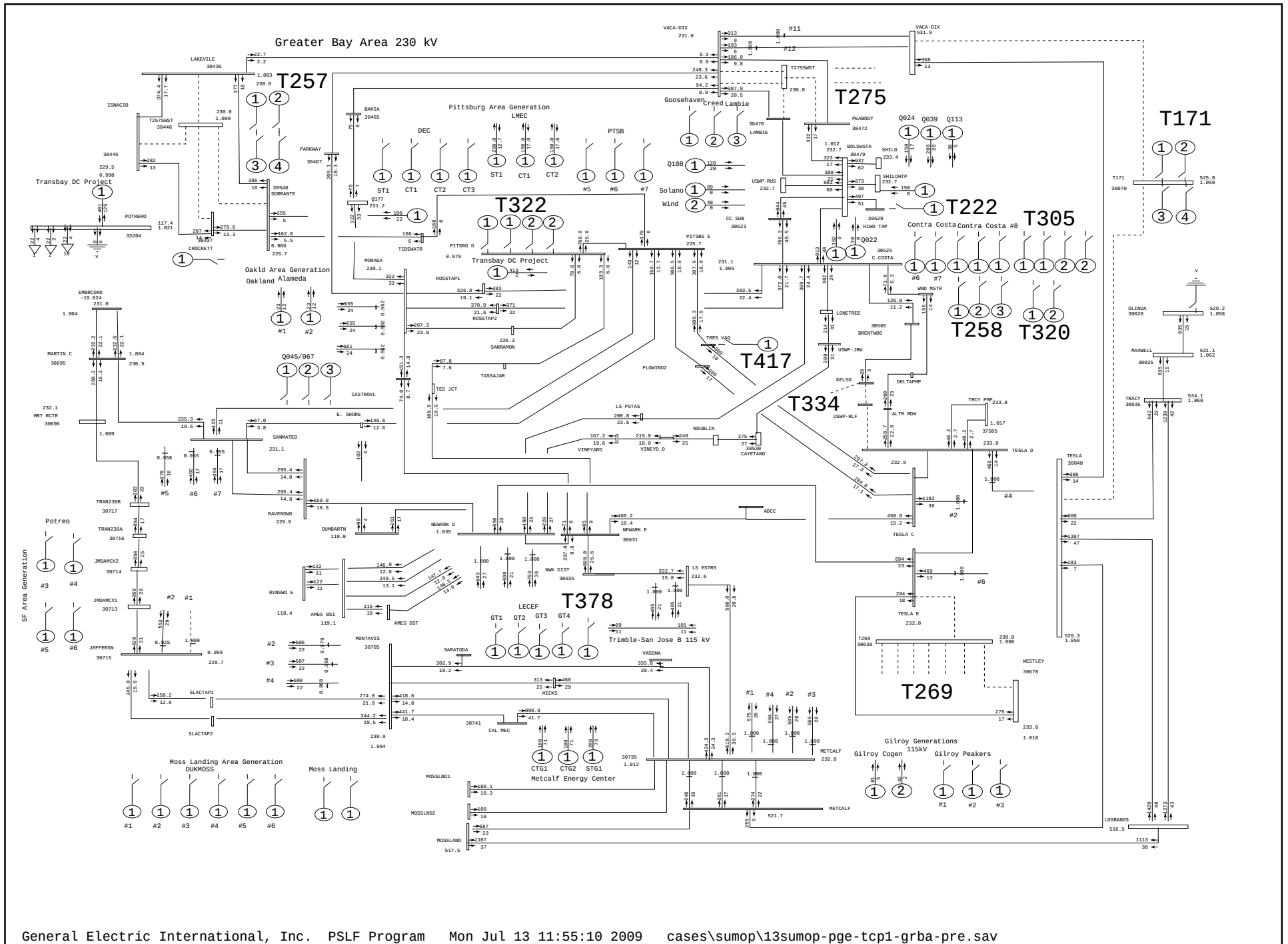
General Electric International, Inc. PSLF Program Mon Jul 13 11:55:02 2009 cases\sumpk\13sumpk-pge-tcp1-grba-pst.sav

	PG&E 2008 CASE SERIES: 2013 Greater Bay Area Summer Peak Case (1-in-10 load) PATH15=-2341 MW(S-N) PATH26= 3975 MW(N-S) PDCI= 3087 MW(N-S) COI= 4585 MW(N-S) PG&E 2008 Group 1 Greater Bay Area Summer Peak Transition Post-Cluster Case	Plot 024: Kelso - Tesla 230 kV Line Outage	amps/rate draw\grba\pge-tcp1-grba- Rating = 2
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APPENDIX D - STEADY STATE POWER FLOW PLOTS

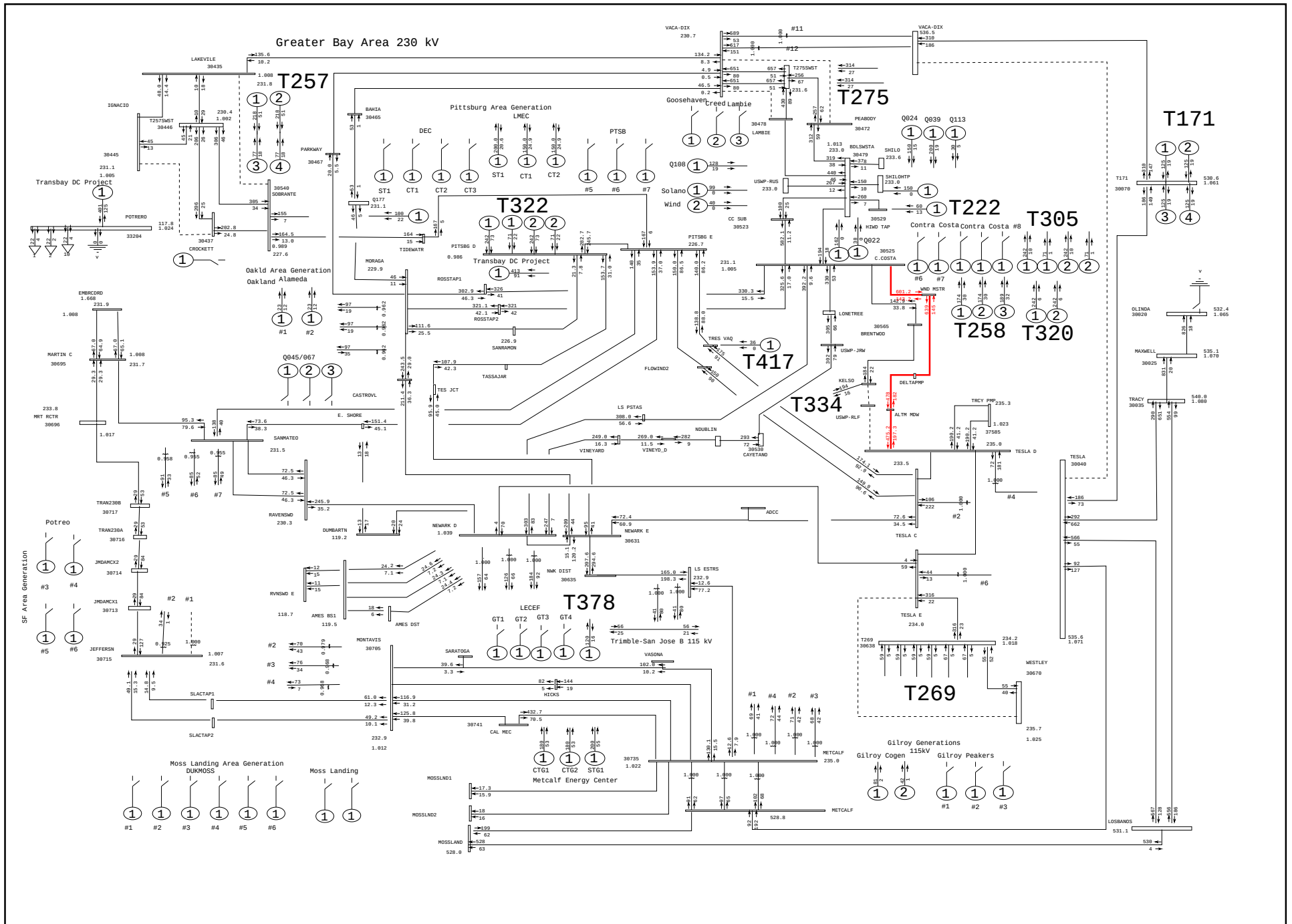


APPENDIX D - STEADY STATE POWER FLOW PLOTS



	PG&E 2008 CASE SERIES: 2013 Summer Off Peak Case PATH15= 5294 MW(N-S) PATH26=-1637 MW(N-S) PDCI=-1846 MW(N-S) COI=-3584 MW(N-S) PG&E 2008 Group 1 Greater Bay Area Summer Off Peak Transition Pre-Cluster Case	Plot 026: Kelso - Tesla 230 kV Line Outage	amps/rate draw\grba\pge-tcp1-grba- Rating = 2
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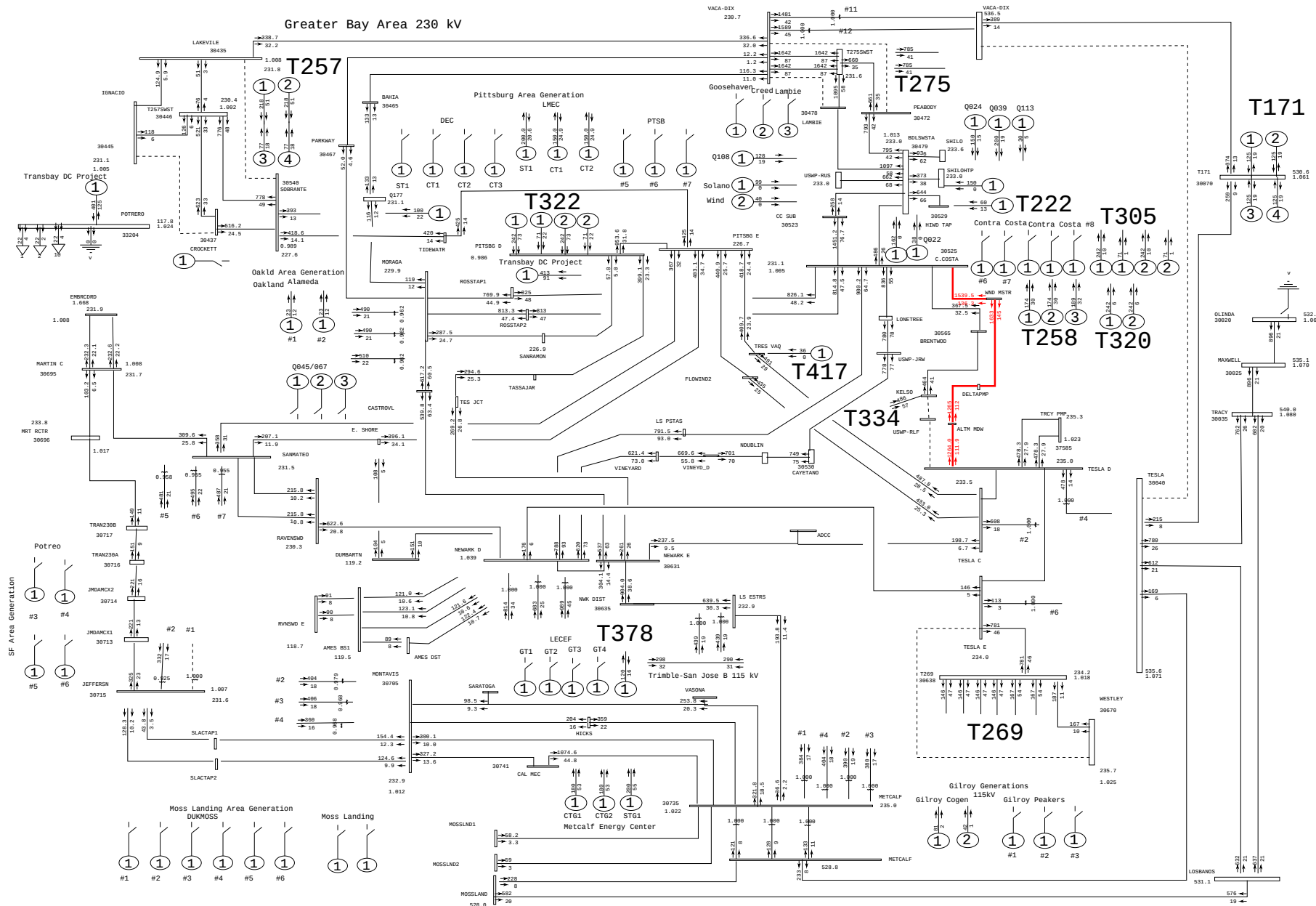
APPENDIX D - STEADY STATE POWER FLOW PLOTS



General Electric International, Inc. PSLF Program Mon Jul 13 11:55:16 2009 cases\sumop\13sumop-pge-tcp1-grba-pst.sav

	PG&E 2008 CASE SERIES: 2013 Summer Off Peak Case PATH15= 3141 MW(S-N) PATH26= -212 MW(N-S) PDCI=-1846 MW(N-S) COI=-3658 MW(N-S) PG&E 2008 Group 1 Greater Bay Area Summer Off Peak Transition Post-Cluster Case	Plot 027: Kelso - Tesla 230 kV Line Outage	MW/MVAR draw\grba\pge-tcp1-grba- Rating = 2
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APPENDIX D - STEADY STATE POWER FLOW PLOTS



General Electric International, Inc. PSLF Program Mon Jul 13 11:55:17 2009 cases\sumop\13sumop-pge-tcp1-grba-pst.sav



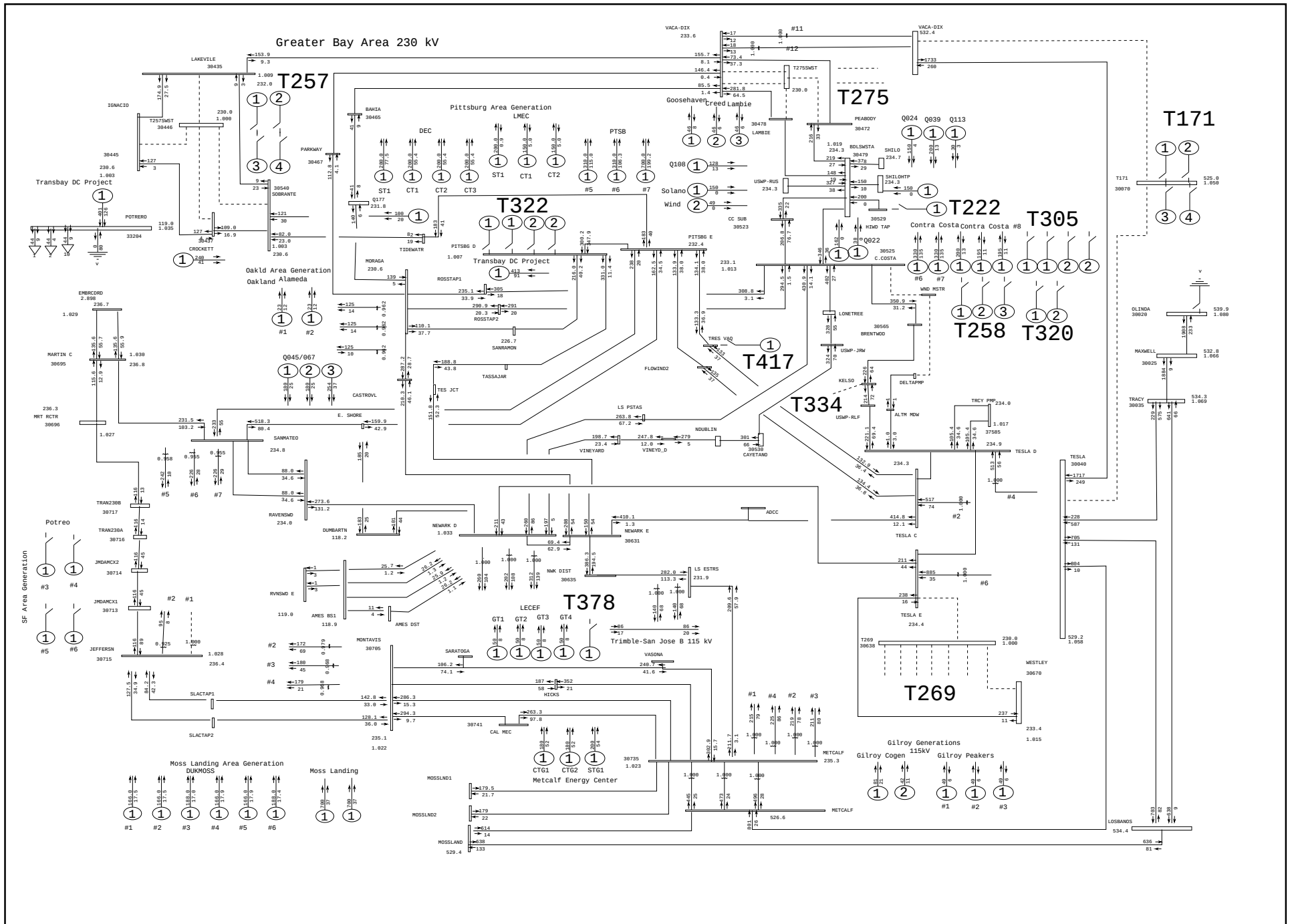
Pacific Gas and
Electric Company[®]

PG&E 2008 CASE SERIES: 2013 Summer Off Peak Case

Plot 028: Kelso - Tesla 230 kV Line Outage

amps/rate	
draw\grba\pge-tcp1-grba-	
Rating =	2

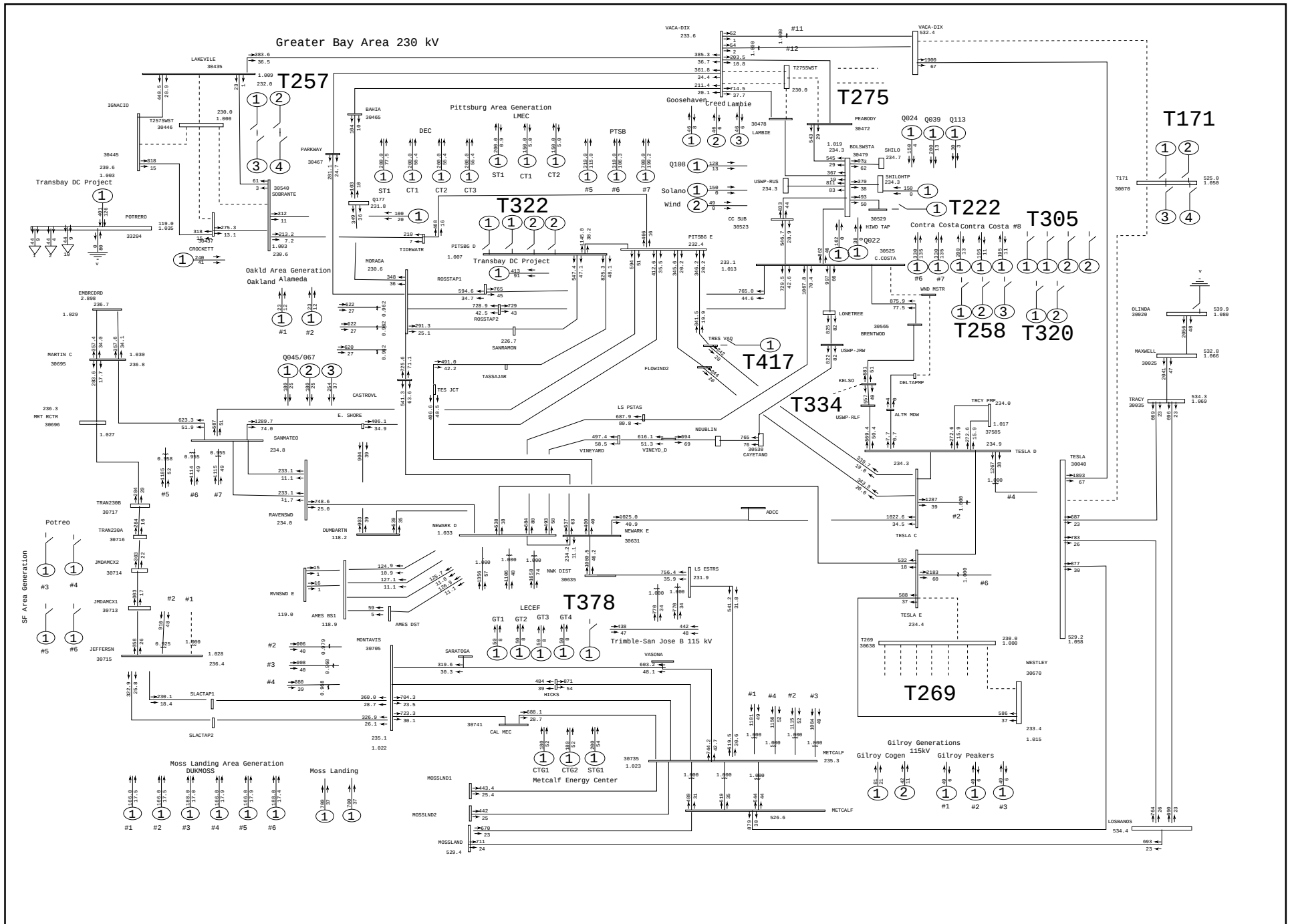
APPENDIX D - STEADY STATE POWER FLOW PLOTS



General Electric International, Inc. PSLF Program Mon Jul 13 11:55:20 2009 cases\sumpk\13sumpk-pge-tcp1-grba-pre.sav

	PG&E 2008 CASE SERIES: 2013 Greater Bay Area Summer Peak Case (1-in-10 load) PATH15=-1215 MW(S-N) PATH26= 3906 MW(N-S) PDCI= 3096 MW(N-S) COI= 4710 MW(N-S) PG&E 2008 Group 1 Greater Bay Area Summer Peak Transition Pre-Cluster Case	Plot 029: Contra Costa - Delta Pumps 230 kV Line Outage	MW/MVAR draw\grba\pge-tcp1-grba- Rating = 2
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APPENDIX D - STEADY STATE POWER FLOW PLOTS



General Electric International, Inc. PSLF Program Mon Jul 13 11:55:21 2009 cases\sumpk\13sumpk-pge-tcp1-grba-pre.sav

	PG&E 2008 CASE SERIES: 2013 Greater Bay Area Summer Peak Case (1-in-10 load) PATH15=-1215 MW(S-N) PATH26= 3906 MW(N-S) PDCI= 3096 MW(N-S) COI= 4710 MW(N-S) PG&E 2008 Group 1 Greater Bay Area Summer Peak Transition Pre-Cluster Case	Plot 030: Contra Costa - Delta Pumps 230 kV Line Outage	amps/rate draw\grba\pge-tcp1-grba- Rating = 2
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Greater Bay Area 230 kV

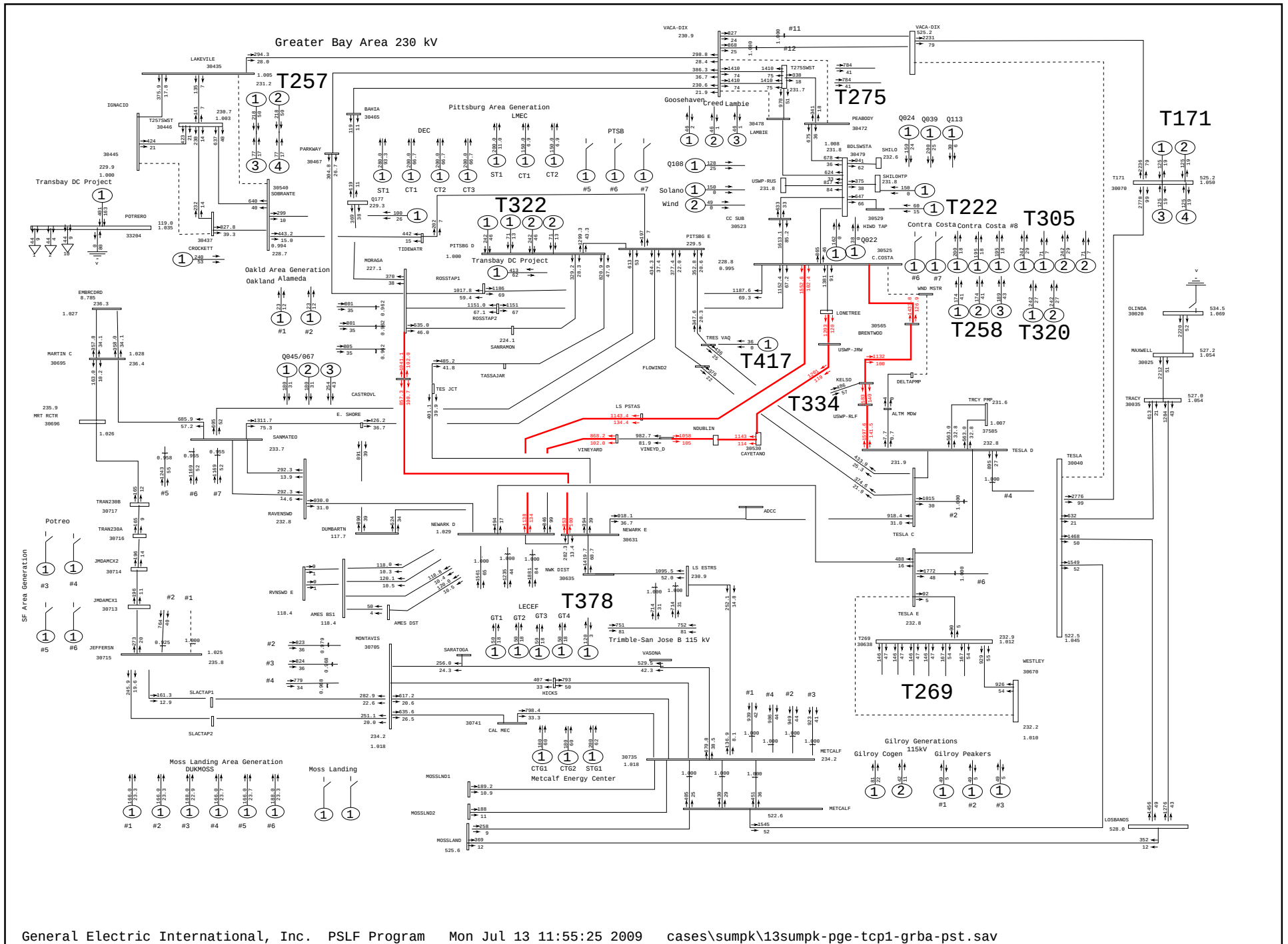
Diagram illustrating the 230 kV transmission system in the Greater Bay Area, showing various substations, transmission lines, and associated equipment.

Key components and labels include:

- Substations:** T257, T275, T171, T322, T334, T378, T269, T222, T305, T258, T320, T330, T331, T332, T333, T334, T335, T336, T337, T338, T339, T340, T341, T342, T343, T344, T345, T346, T347, T348, T349, T350, T351, T352, T353, T354, T355, T356, T357, T358, T359, T360, T361, T362, T363, T364, T365, T366, T367, T368, T369, T370, T371, T372, T373, T374, T375, T376, T377, T378, T379, T380, T381, T382, T383, T384, T385, T386, T387, T388, T389, T390, T391, T392, T393, T394, T395, T396, T397, T398, T399, T400, T401, T402, T403, T404, T405, T406, T407, T408, T409, T410, T411, T412, T413, T414, T415, T416, T417, T418, T419, T420, T421, T422, T423, T424, T425, T426, T427, T428, T429, T430, T431, T432, T433, T434, T435, T436, T437, T438, T439, T440, T441, T442, T443, T444, T445, T446, T447, T448, T449, T450, T451, T452, T453, T454, T455, T456, T457, T458, T459, T460, T461, T462, T463, T464, T465, T466, T467, T468, T469, T470, T471, T472, T473, T474, T475, T476, T477, T478, T479, T480, T481, T482, T483, T484, T485, T486, T487, T488, T489, T490, T491, T492, T493, T494, T495, T496, T497, T498, T499, T500, T501, T502, T503, T504, T505, T506, T507, T508, T509, T510, T511, T512, T513, T514, T515, T516, T517, T518, T519, T520, T521, T522, T523, T524, T525, T526, T527, T528, T529, T530, T531, T532, T533, T534, T535, T536, T537, T538, T539, T540, T541, T542, T543, T544, T545, T546, T547, T548, T549, T550, T551, T552, T553, T554, T555, T556, T557, T558, T559, T560, T561, T562, T563, T564, T565, T566, T567, T568, T569, T570, T571, T572, T573, T574, T575, T576, T577, T578, T579, T580, T581, T582, T583, T584, T585, T586, T587, T588, T589, T590, T591, T592, T593, T594, T595, T596, T597, T598, T599, T600, T601, T602, T603, T604, T605, T606, T607, T608, T609, T610, T611, T612, T613, T614, T615, T616, T617, T618, T619, T620, T621, T622, T623, T624, T625, T626, T627, T628, T629, T630, T631, T632, T633, T634, T635, T636, T637, T638, T639, T640, T641, T642, T643, T644, T645, T646, T647, T648, T649, T650, T651, T652, T653, T654, T655, T656, T657, T658, T659, T660, T661, T662, T663, T664, T665, T666, T667, T668, T669, T670, T671, T672, T673, T674, T675, T676, T677, T678, T679, T680, T681, T682, T683, T684, T685, T686, T687, T688, T689, T690, T691, T692, T693, T694, T695, T696, T697, T698, T699, T700, T701, T702, T703, T704, T705, T706, T707, T708, T709, T710, T711, T712, T713, T714, T715, T716, T717, T718, T719, T720, T721, T722, T723, T724, T725, T726, T727, T728, T729, T730, T731, T732, T733, T734, T735, T736, T737, T738, T739, T740, T741, T742, T743, T744, T745, T746, T747, T748, T749, T750, T751, T752, T753, T754, T755, T756, T757, T758, T759, T760, T761, T762, T763, T764, T765, T766, T767, T768, T769, T770, T771, T772, T773, T774, T775, T776, T777, T778, T779, T780, T781, T782, T783, T784, T785, T786, T787, T788, T789, T790, T791, T792, T793, T794, T795, T796, T797, T798, T799, T800, T801, T802, T803, T804, T805, T806, T807, T808, T809, T810, T811, T812, T813, T814, T815, T816, T817, T818, T819, T820, T821, T822, T823, T824, T825, T826, T827, T828, T829, T830, T831, T832, T833, T834, T835, T836, T837, T838, T839, T840, T841, T842, T843, T844, T845, T846, T847, T848, T849, T850, T851, T852, T853, T854, T855, T856, T857, T858, T859, T860, T861, T862, T863, T864, T865, T866, T867, T868, T869, T870, T871, T872, T873, T874, T875, T876, T877, T878, T879, T880, T881, T882, T883, T884, T885, T886, T887, T888, T889, T890, T891, T892, T893, T894, T895, T896, T897, T898, T899, T900, T901, T902, T903, T904, T905, T906, T907, T908, T909, T910, T911, T912, T913, T914, T915, T916, T917, T918, T919, T920, T921, T922, T923, T924, T925, T926, T927, T928, T929, T930, T931, T932, T933, T934, T935, T936, T937, T938, T939, T940, T941, T942, T943, T944, T945, T946, T947, T948, T949, T950, T951, T952, T953, T954, T955, T956, T957, T958, T959, T960, T961, T962, T963, T964, T965, T966, T967, T968, T969, T970, T971, T972, T973, T974, T975, T976, T977, T978, T979, T980, T981, T982, T983, T984, T985, T986, T987, T988, T989, T990, T991, T992, T993, T994, T995, T996, T997, T998, T999, T1000, T1001, T1002, T1003, T1004, T1005, T1006, T1007, T1008, T1009, T1010, T1011, T1012, T1013, T1014, T1015, T1016, T1017, T1018, T1019, T1020, T1021, T1022, T1023, T1024, T1025, T1026, T1027, T1028, T1029, T1030, T1031, T1032, T1033, T1034, T1035, T1036, T1037, T1038, T1039, T1040, T1041, T1042, T1043, T1044, T1045, T1046, T1047, T1048, T1049, T1050, T1051, T1052, T1053, T1054, T1055, T1056, T1057, T1058, T1059, T1060, T1061, T1062, T1063, T1064, T1065, T1066, T1067, T1068,

	PG&E 2008 CASE SERIES: 2013 Greater Bay Area Summer Peak Case (1-in-10 load) PATH15=-2341 MW(S-N) PATH26= 3975 MW(N-S) PDCI= 3087 MW(N-S) COI= 4585 MW(N-S) PG&E 2008 Group 1 Greater Bay Area Summer Peak Transition Post-Cluster Case	Plot 031: Contra Costa - Delta Pumps 230 kV Line Outage	MW/MVAR draw\grba\tcp1-gr Rating = 2

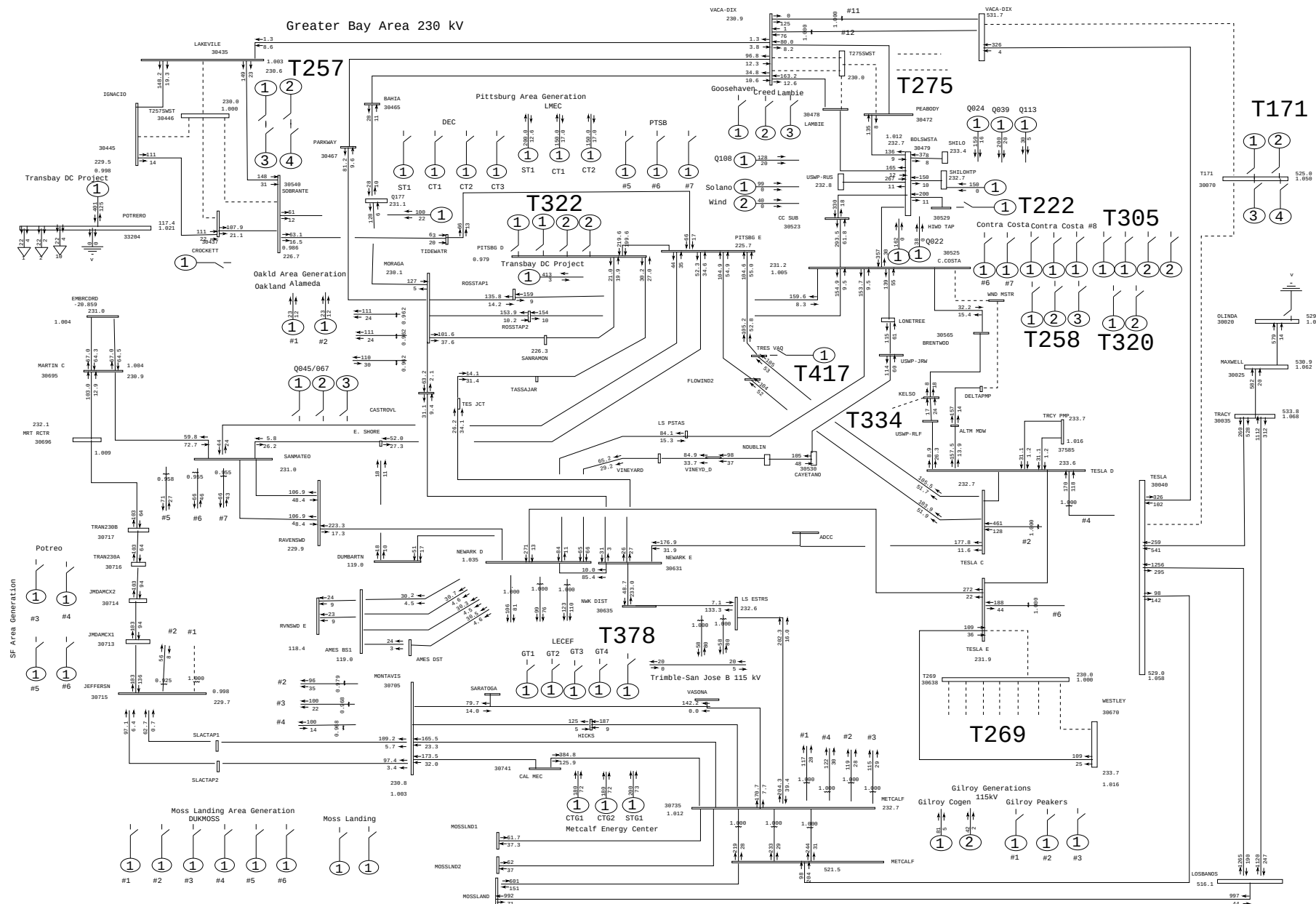
APPENDIX D - STEADY STATE POWER FLOW PLOTS



General Electric International, Inc. PSLF Program Mon Jul 13 11:55:25 2009 cases\sumpk\13sumpk-pge-tcp1-grba-pst.sav

	PG&E 2008 CASE SERIES: 2013 Greater Bay Area Summer Peak Case (1-in-10 load) PATH15=-2341 MW(S-N) PATH26= 3975 MW(N-S) PDCI= 3087 MW(N-S) COI= 4585 MW(N-S) PG&E 2008 Group 1 Greater Bay Area Summer Peak Transition Post-Cluster Case	Plot 032: Contra Costa - Delta Pumps 230 kV Line Outage	amps/rate draw\grba\pge-tcp1-grba- Rating = 2
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APPENDIX D - STEADY STATE POWER FLOW PLOTS



General Electric International, Inc. PSLF Program Mon Jul 13 11:55:31 2009 cases\sumop\13sumop-pge-tcp1-grba-pre.sav



Pacific Gas and Electric Company¹

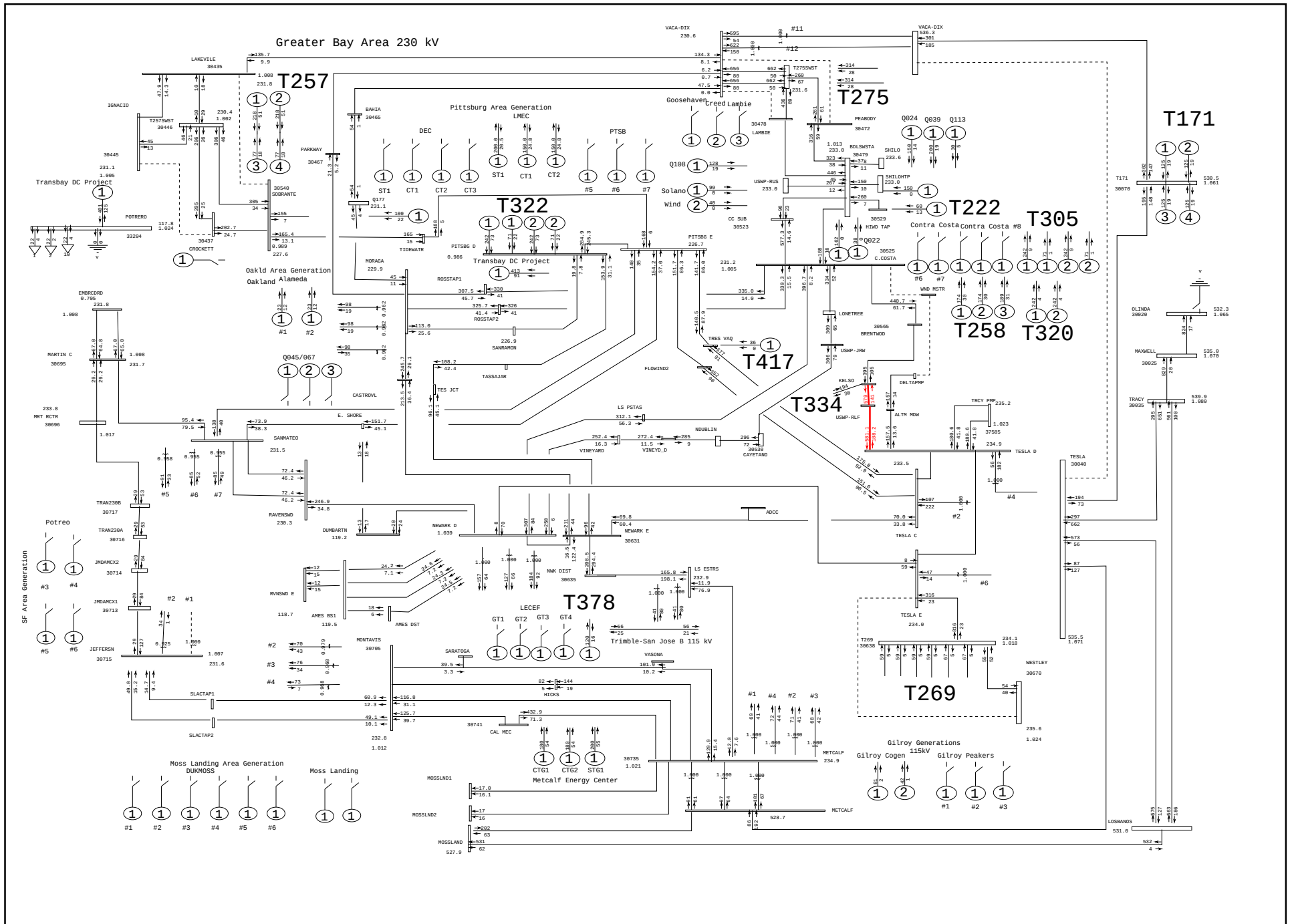
PG&E 2008 CASE SERIES: 2013 Summer Off Peak Case

Plot 033: Contra Costa - Delta Pumps 230 kV Line Outage

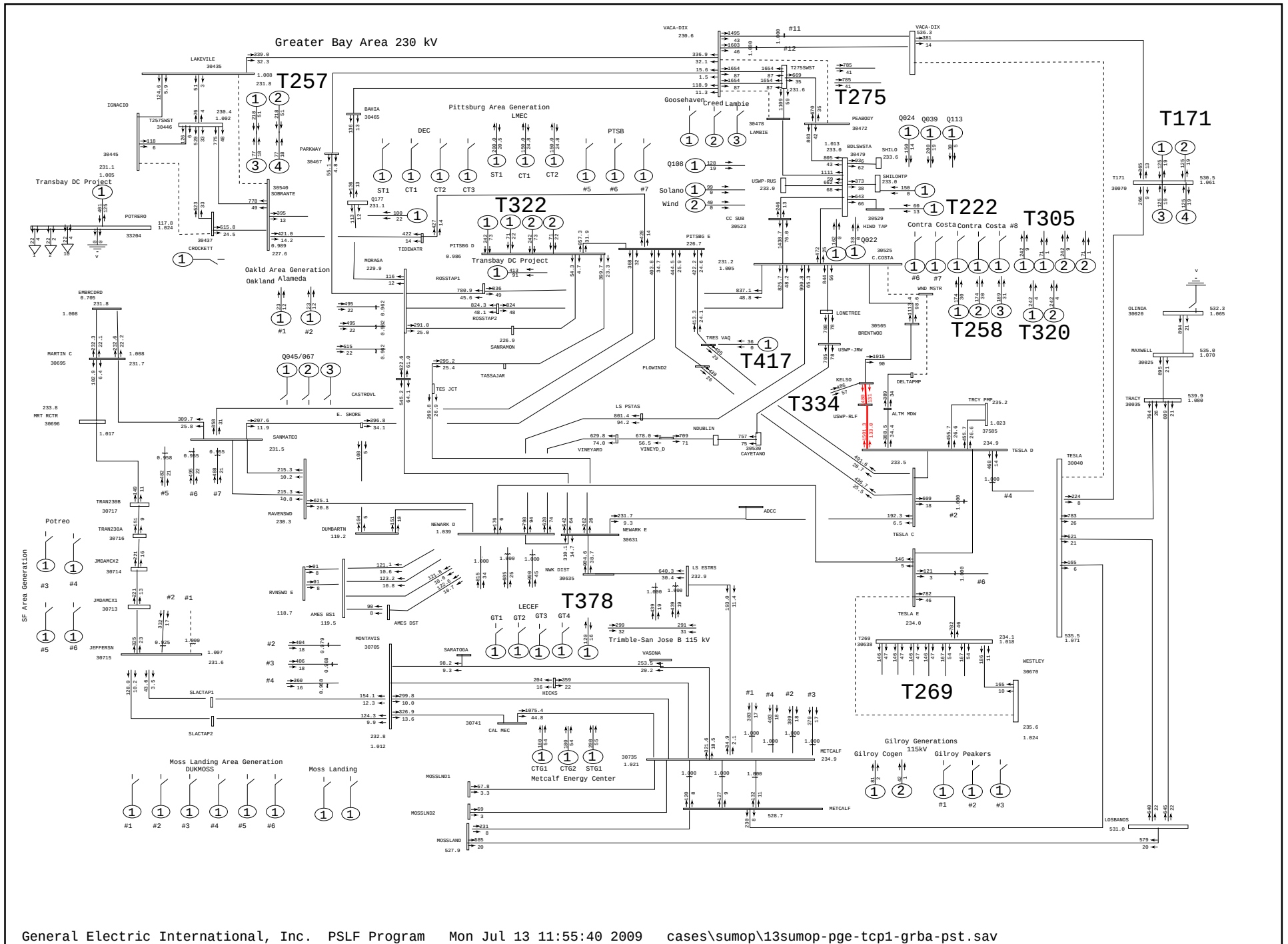
MW/MVAR	
draw\grba\pge-tcp1-grba-	
Rating =	2

	PG&E 2008 CASE SERIES: 2013 Summer Off Peak Case	Plot 034: Contra Costa - Delta Pumps 230 kV Line Outage	amps/rate
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	PG&E 2008 Group 1 Greater Bay Area Summer Off Peak Transition Pre-Cluster Case		Rating = 2

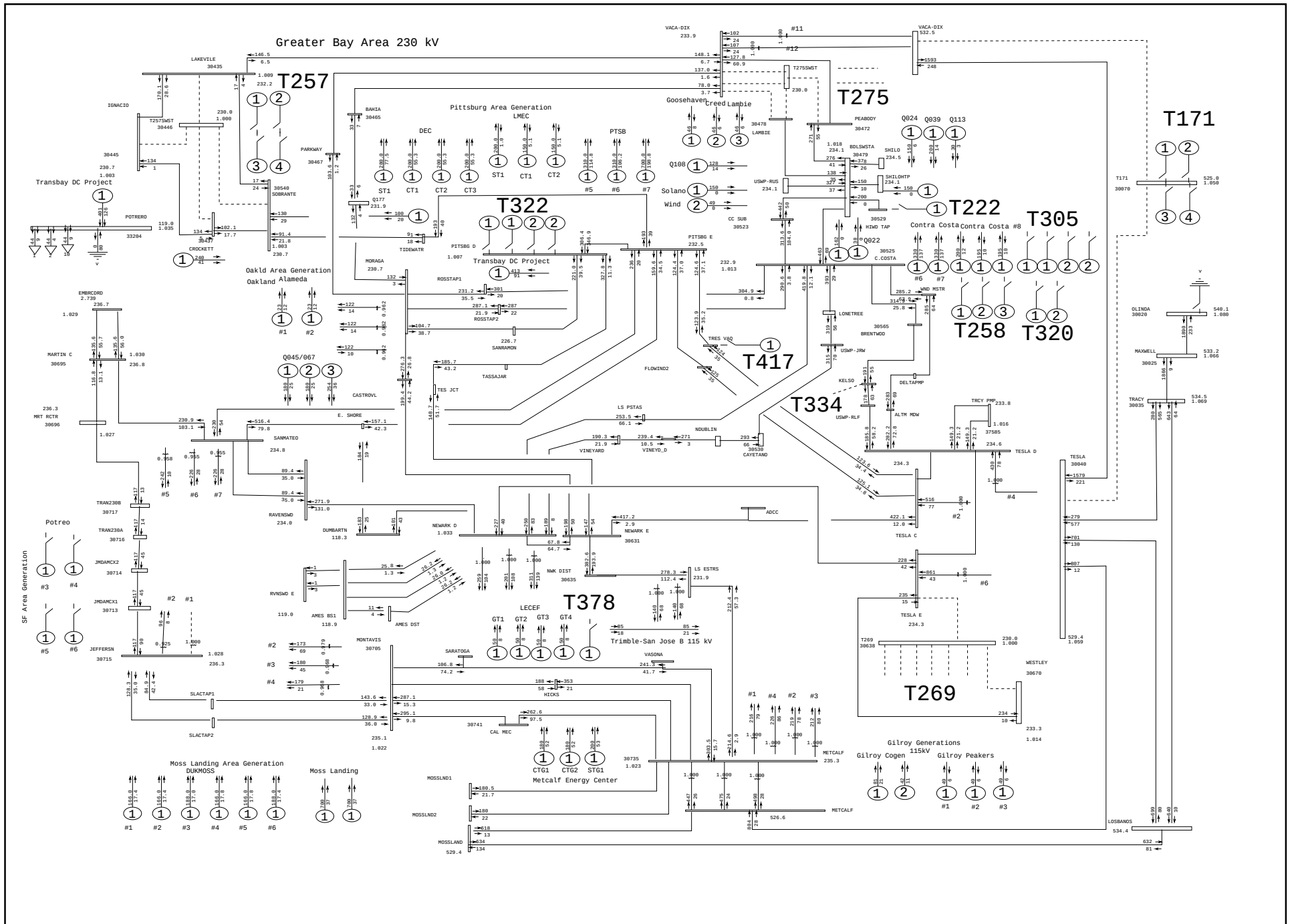
APPENDIX D - STEADY STATE POWER FLOW PLOTS



APPENDIX D - STEADY STATE POWER FLOW PLOTS



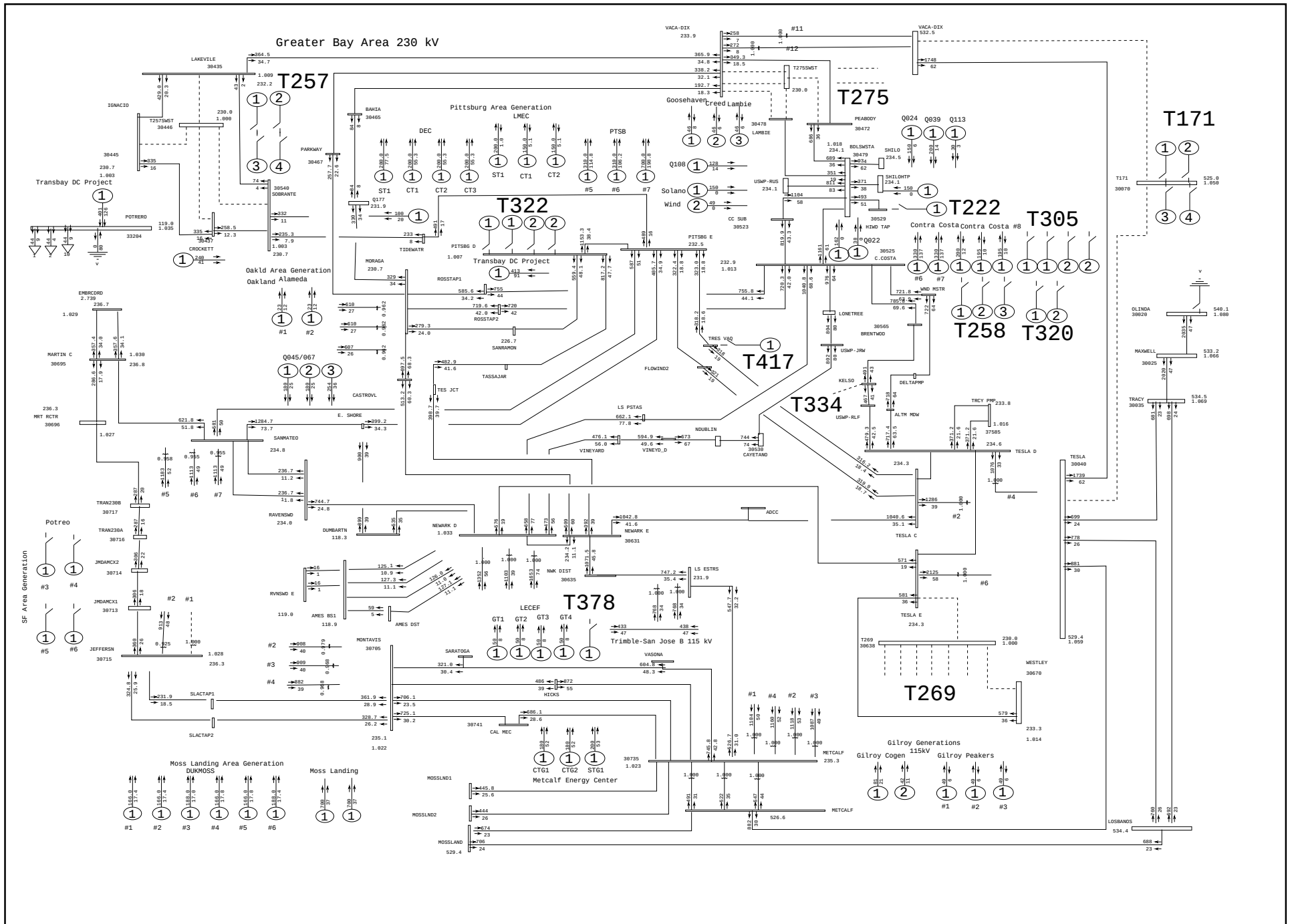
APPENDIX D - STEADY STATE POWER FLOW PLOTS



General Electric International, Inc. PSLF Program Mon Jul 13 11:55:43 2009 cases\sumpk\13sumpk-pge-tcp1-grba-pre.sav

	PG&E 2008 CASE SERIES: 2013 Greater Bay Area Summer Peak Case (1-in-10 load) PATH15=-1215 MW(S-N) PATH26= 3906 MW(N-S) PDCI= 3096 MW(N-S) COI= 4710 MW(N-S) PG&E 2008 Group 1 Greater Bay Area Summer Peak Transition Pre-Cluster Case	Plot 037: Vaca-Di on - T275 #1 230 kV Line Outage	MW/MVAR draw\grba\pge-tcp1-grba- Rating = 2
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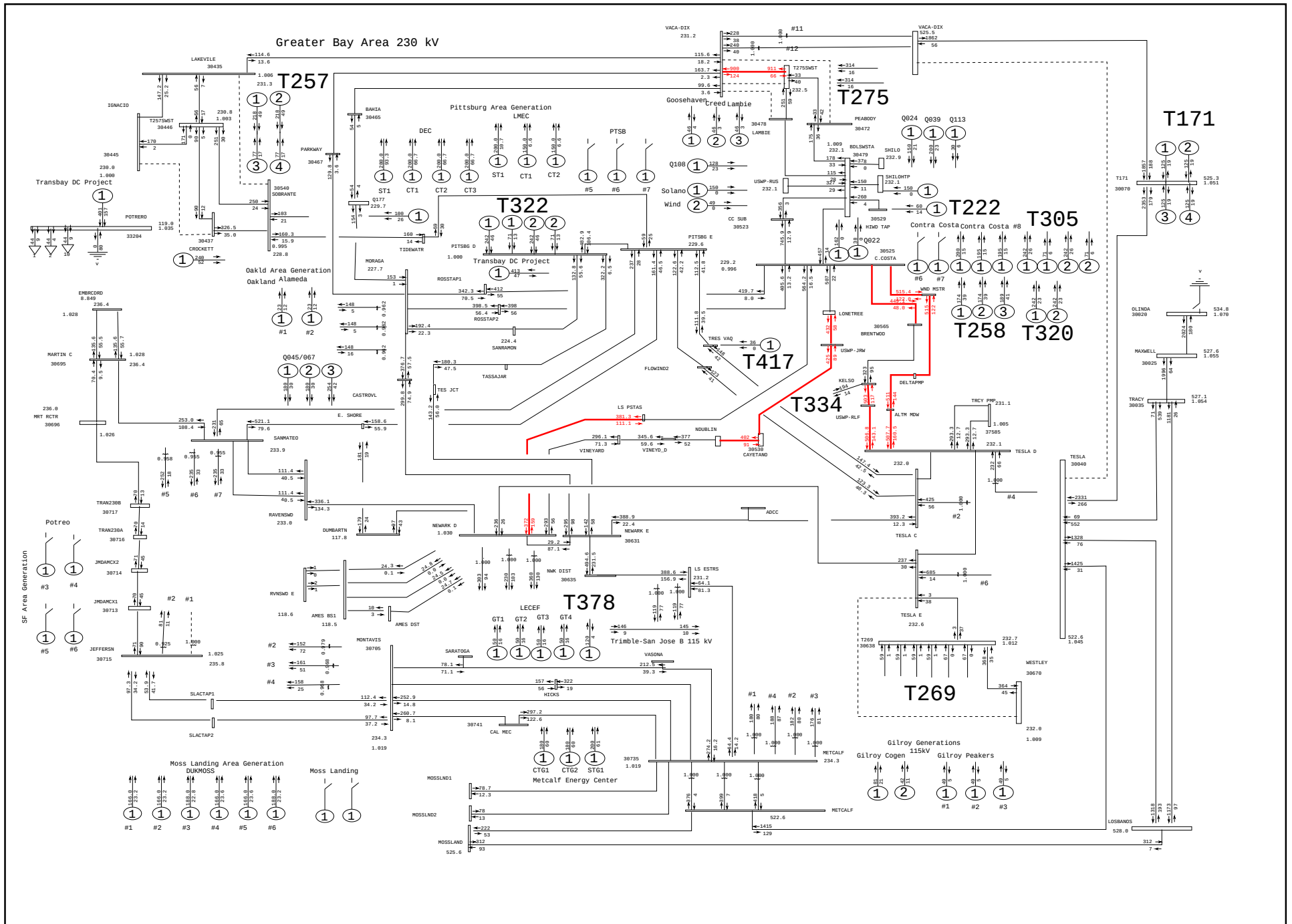
APPENDIX D - STEADY STATE POWER FLOW PLOTS



General Electric International, Inc. PSLF Program Mon Jul 13 11:55:45 2009 cases\sumpk\13sumpk-pge-tcp1-grba-pre.sav

	PG&E 2008 CASE SERIES: 2013 Greater Bay Area Summer Peak Case (1-in-10 load) PATH15=-1215 MW(S-N) PATH26= 3906 MW(N-S) PDCI= 3096 MW(N-S) COI= 4710 MW(N-S) PG&E 2008 Group 1 Greater Bay Area Summer Peak Transition Pre-Cluster Case	Plot 038: Vaca-Di on - T275 #1 230 kV Line Outage	amps/rate draw\grba\pge-tcp1-grba- Rating = 2
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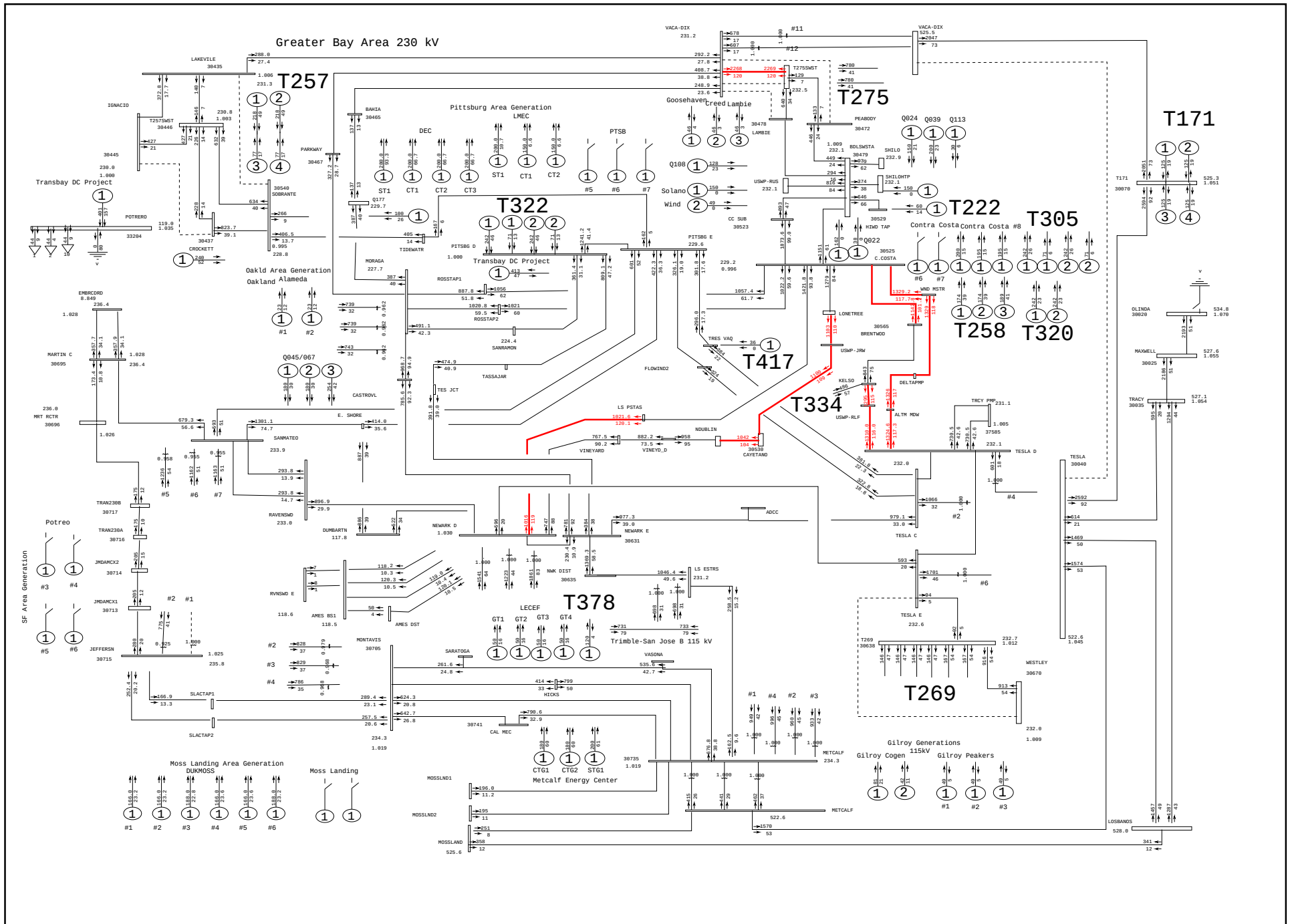
APPENDIX D - STEADY STATE POWER FLOW PLOTS



General Electric International, Inc. PSLF Program Mon Jul 13 11:55:48 2009 cases\sumpk\13sumpk-pge-tcp1-grba-pst.sav

	PG&E 2008 CASE SERIES: 2013 Greater Bay Area Summer Peak Case (1-in-10 load) PATH15=-2341 MW(S-N) PATH26= 3975 MW(N-S) PDCI= 3087 MW(N-S) COI= 4585 MW(N-S) PG&E 2008 Group 1 Greater Bay Area Summer Peak Transition Post-Cluster Case	Plot 039: Vaca-Di on - T275 #1 230 kV Line Outage	MW/MVAR draw\grba\pge-tcp1-grba- Rating = 2
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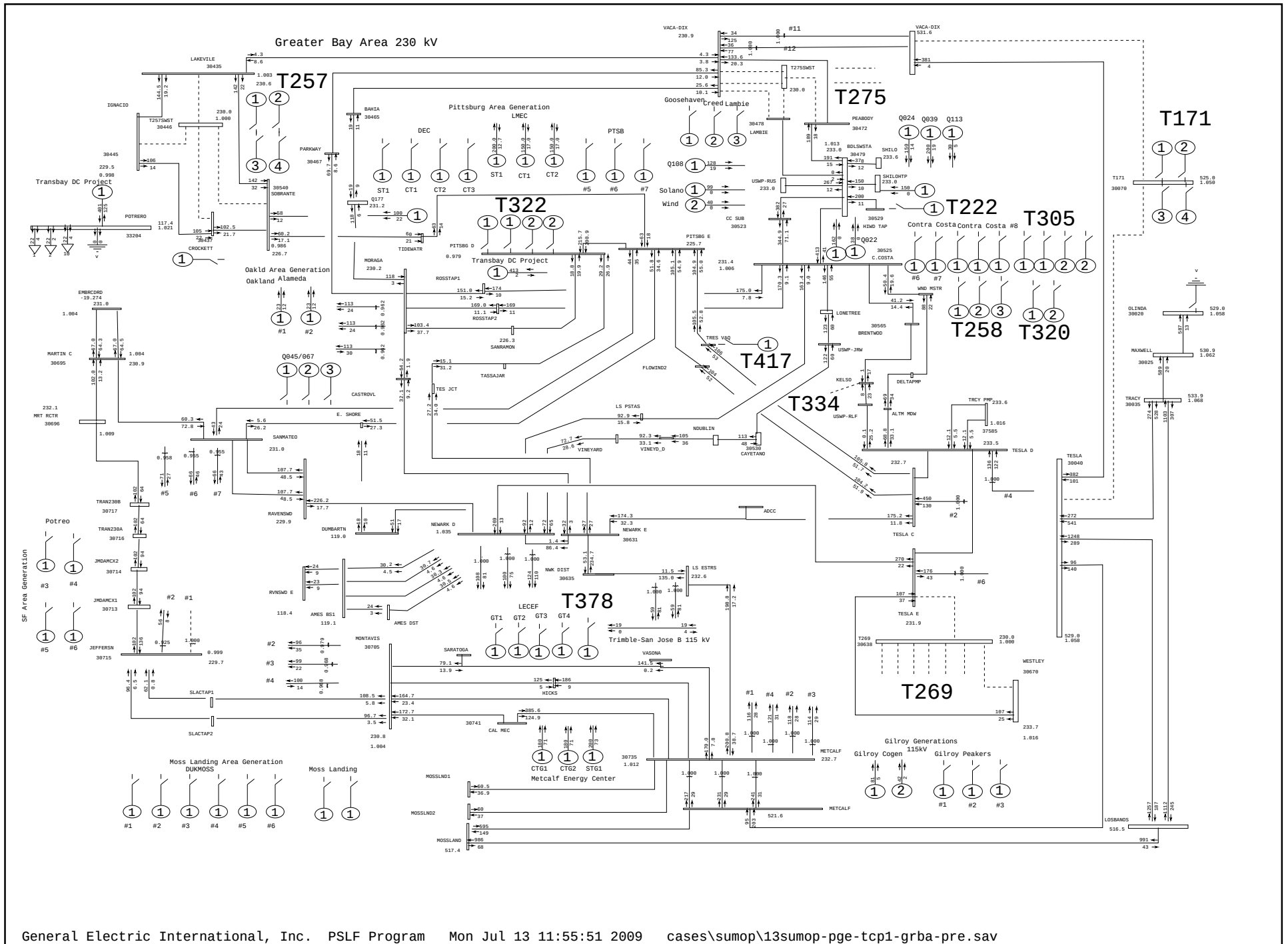
APPENDIX D - STEADY STATE POWER FLOW PLOTS



General Electric International, Inc. PSLF Program Mon Jul 13 11:55:49 2009 cases\sumpk\13sumpk-pge-tcp1-grba-pst.sav

	PG&E 2008 CASE SERIES: 2013 Greater Bay Area Summer Peak Case (1-in-10 load) PATH15=-2341 MW(S-N) PATH26= 3975 MW(N-S) PDCI= 3087 MW(N-S) COI= 4585 MW(N-S) PG&E 2008 Group 1 Greater Bay Area Summer Peak Transition Post-Cluster Case	Plot 040: Vaca-Di on - T275 #1 230 kV Line Outage	amps/rate draw\grba\pge-tcp1-grba- Rating = 2
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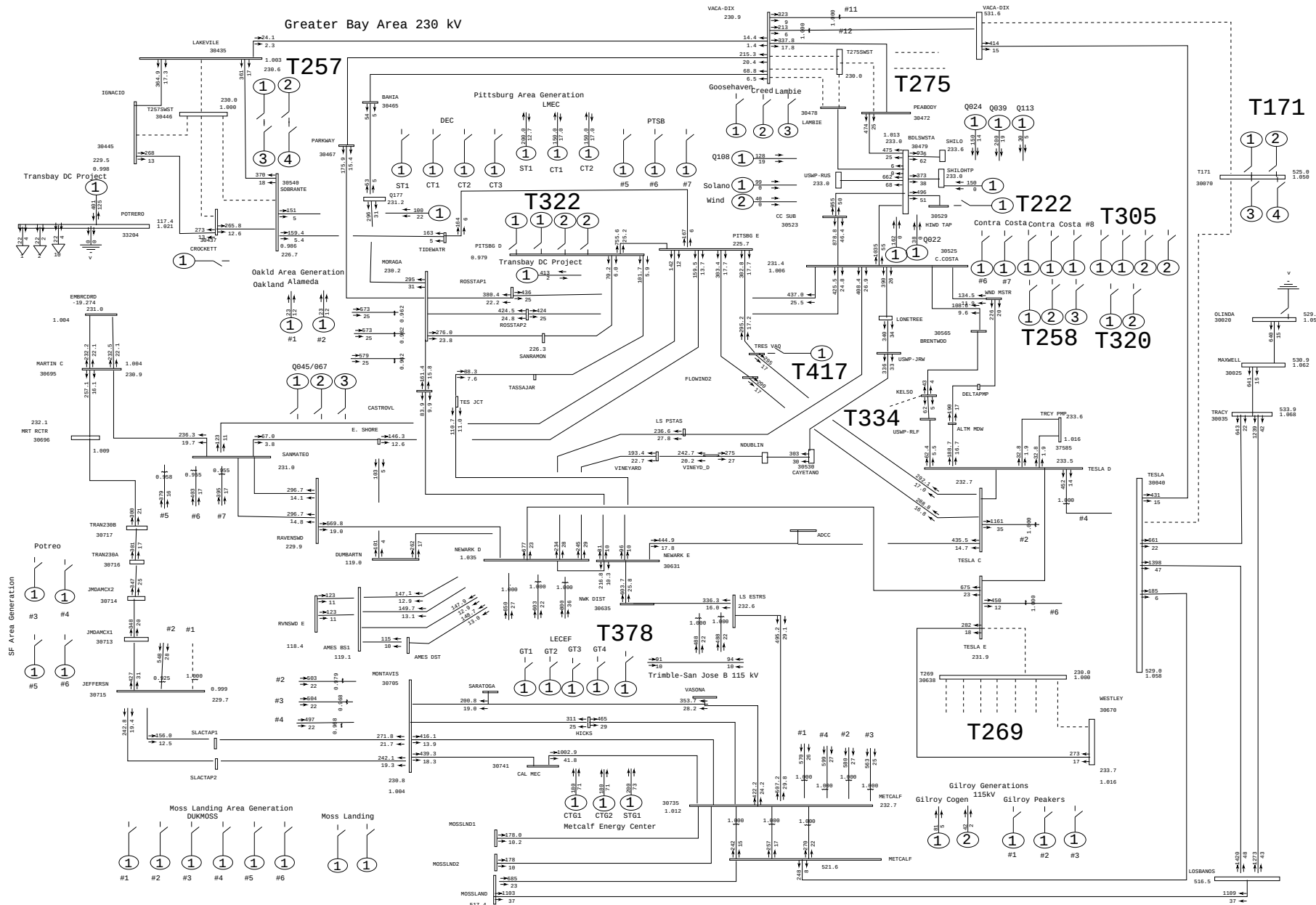
APPENDIX D - STEADY STATE POWER FLOW PLOTS



General Electric International, Inc. PSLF Program Mon Jul 13 11:55:51 2009 cases\sumop\13sumop-pge-tcp1-grba-pre.sav

	PG&E 2008 CASE SERIES: 2013 Summer Off Peak Case PATH15= 5294 MW(S-N) PATH26=-1637 MW(N-S) PDCI=-1846 MW(N-S) COI=-3584 MW(N-S) PG&E 2008 Group 1 Greater Bay Area Summer Off Peak Transition Pre-Cluster Case	Plot 041: Vaca-Di on - T275 #1 230 kV Line Outage	MW/MVAR draw\grba\pge-tcp1-grba- Rating = 2
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APPENDIX D - STEADY STATE POWER FLOW PLOTS



General Electric International, Inc. PSLF Program Mon Jul 13 11:55:53 2009 cases\sumop\13sumop-pge-tcp1-grba-pre.sav



Pacific Gas and Electric Company[®]

PG&E 2008 CASE SERIES: 2013 Summer Off Peak Case

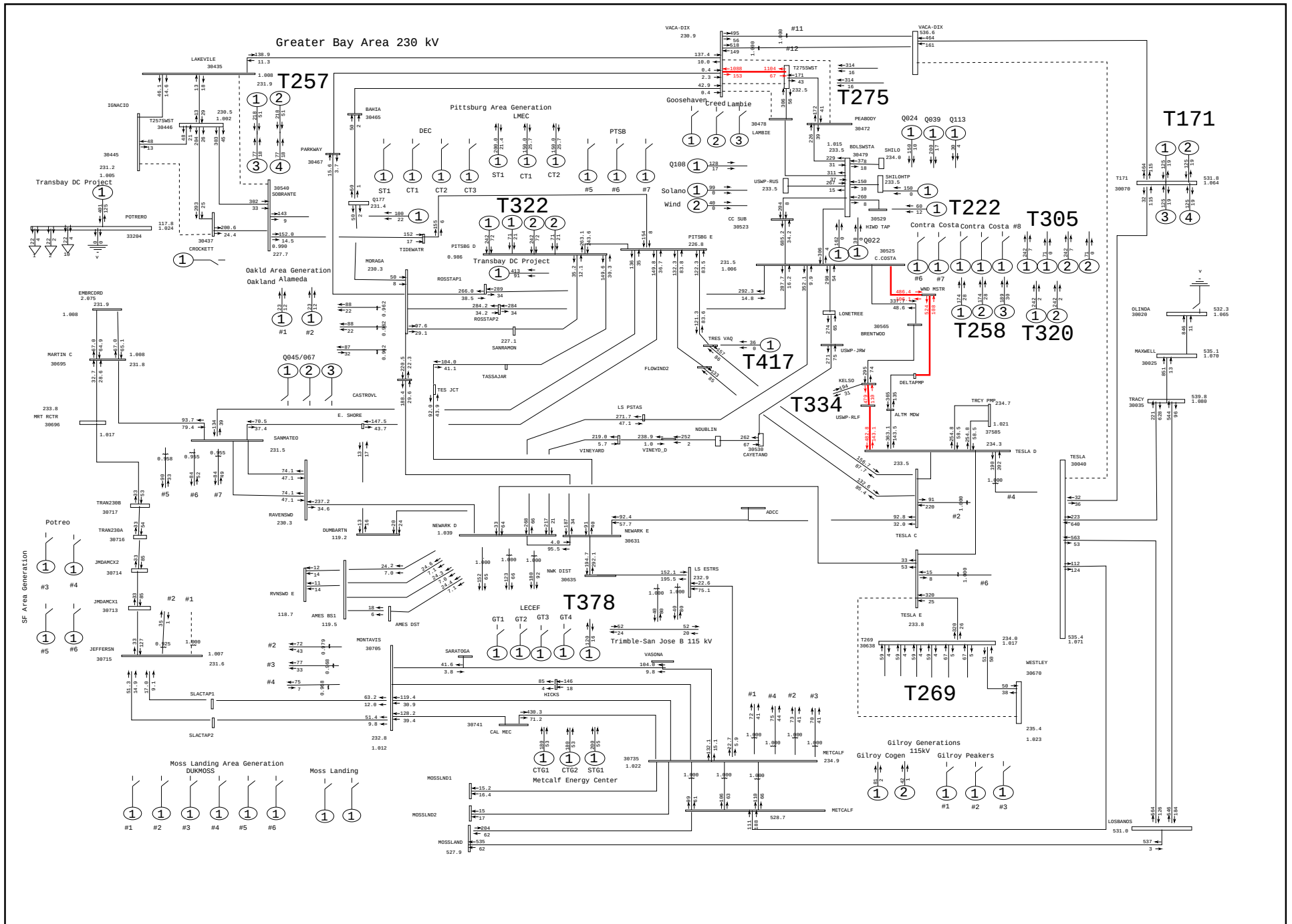
PATH15= 5294 MW(S-N) PATH26=-1637 MW(N-S) PDCI=-1846 MW(N-S) COI=-3584 MW(N-S)

PG&E 2008 Group 1 Greater Bay Area Summer Off Peak Transition Pre-Cluster Case

Plot 042: Vaca-Di on - T275 #1 230 kV Line Outage

amps/rate	
draw\grba\pge-tcp1-grba-	
Rating =	2

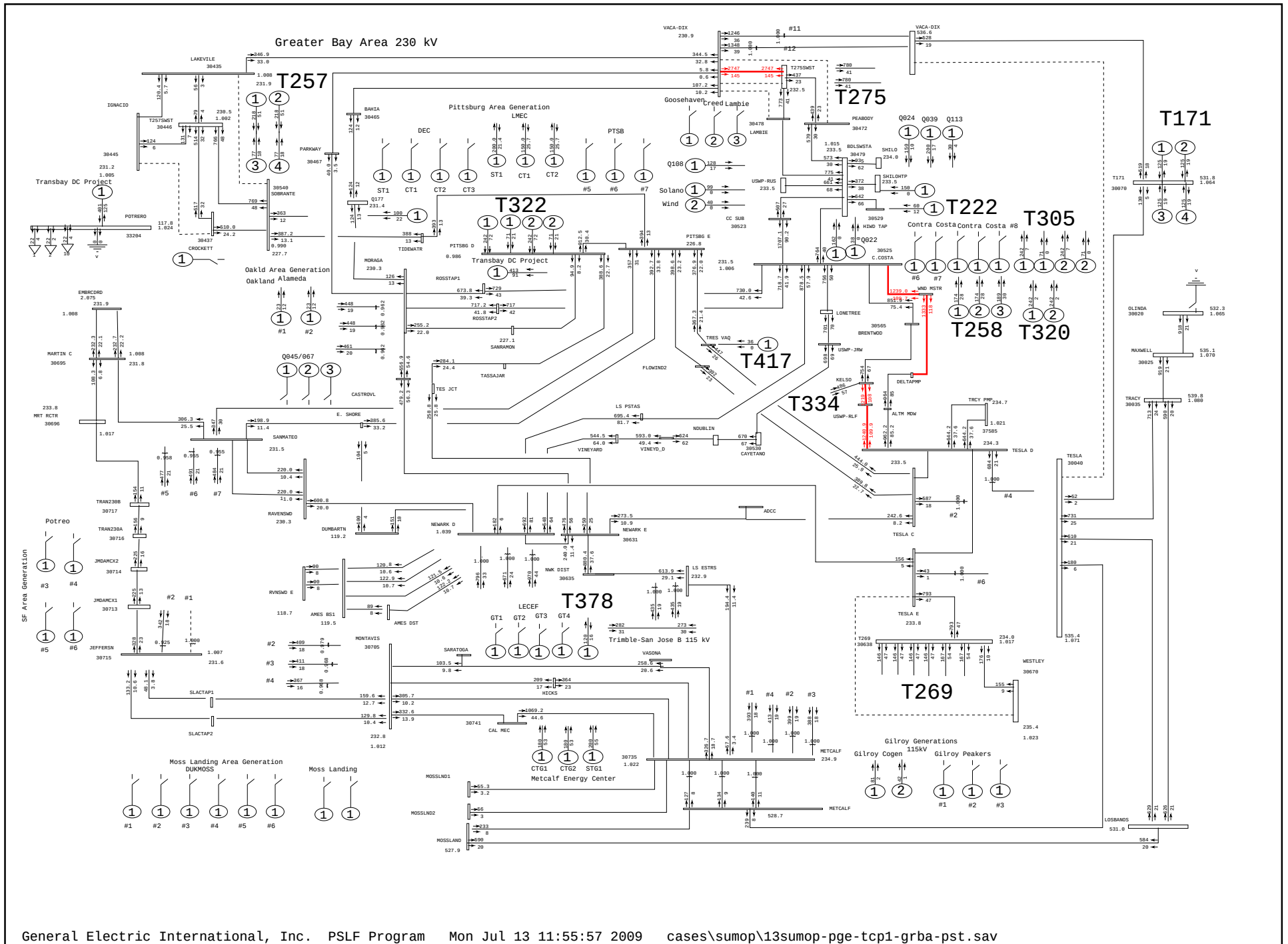
APPENDIX D - STEADY STATE POWER FLOW PLOTS



General Electric International, Inc. PSLF Program Mon Jul 13 11:55:56 2009 cases\sumop\13sumop-pge-tcp1-grba-pst.sav

	PG&E 2008 CASE SERIES: 2013 Summer Off Peak Case PATH15= 3141 MW(S-N) PATH26= -212 MW(N-S) PDCI=-1846 MW(N-S) COI=-3658 MW(N-S) PG&E 2008 Group 1 Greater Bay Area Summer Off Peak Transition Post-Cluster Case	Plot 043: Vaca-Di on - T275 #1 230 kV Line Outage	MW/MVAR draw\grba\pge-tcp1-grba- Rating = 2
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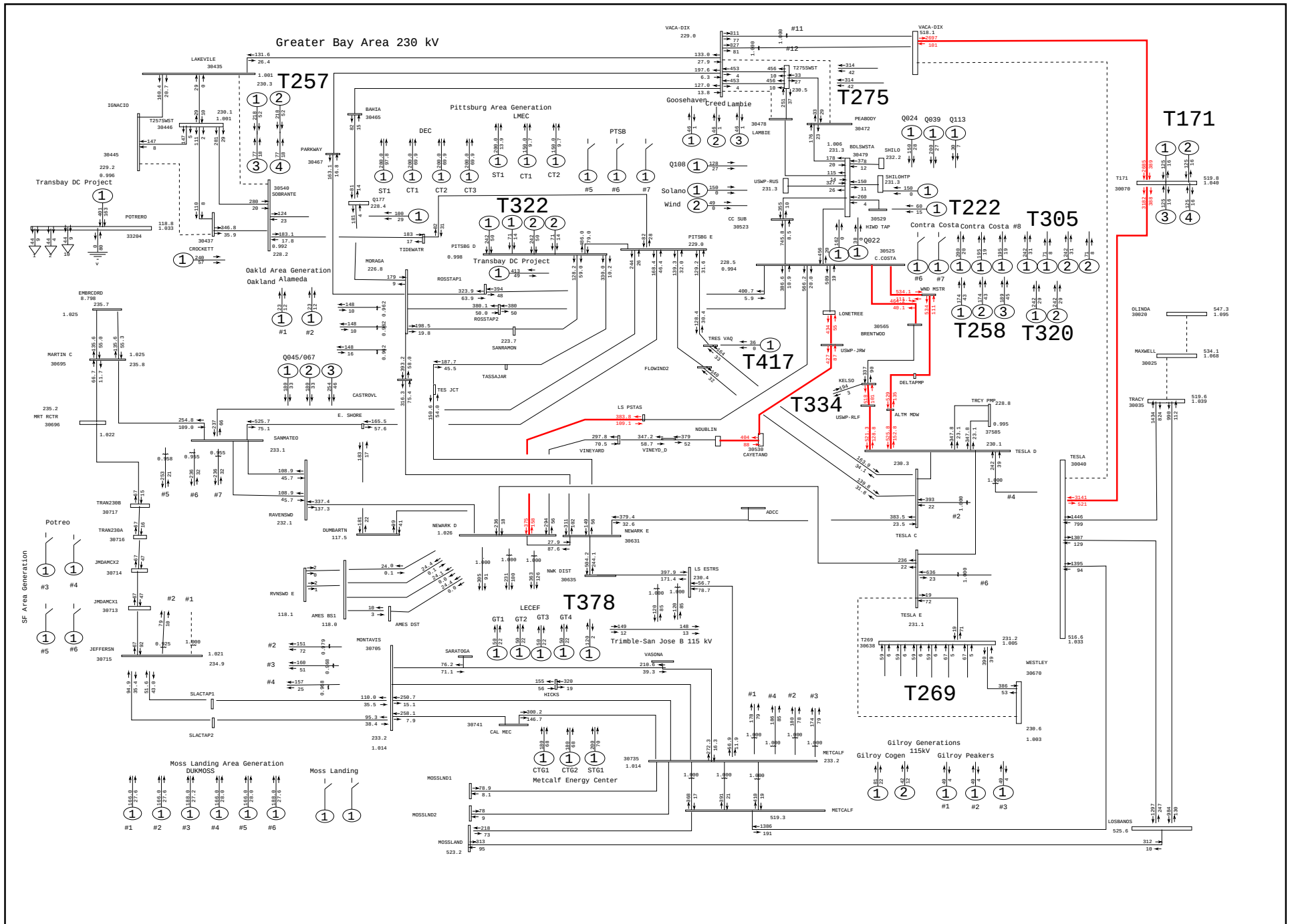
APPENDIX D - STEADY STATE POWER FLOW PLOTS



General Electric International, Inc. PSLF Program Mon Jul 13 11:55:57 2009 cases\sumop\13sumop-pge-tcp1-grba-pst.sav

	PG&E 2008 CASE SERIES: 2013 Summer Off Peak Case PATH15= 3141 MW(S-N) PATH26= -212 MW(N-S) PDCI=-1846 MW(N-S) COI=-3658 MW(N-S) PG&E 2008 Group 1 Greater Bay Area Summer Off Peak Transition Post-Cluster Case	Plot 044: Vaca-Di on - T275 #1 230 kV Line Outage	amps/rate draw\grba\pge-tcp1-grba- Rating = 2
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APPENDIX D - STEADY STATE POWER FLOW PLOTS



General Electric International, Inc. PSLF Program Mon Jul 13 11:56:00 2009 draw\grba\pt-13sumpk-grba-pst-dyn_swt06_b2_olinda-trcy-500kv.sav

	PG&E 2008 CASE SERIES: 2013 Greater Bay Area Summer Peak Case (1-in-10 load) PATH15=-2341 MW(S-N) PATH26= 3975 MW(N-S) PDCI= 3087 MW(N-S) COI= 4585 MW(N-S) PG&E 2008 Group 1 Greater Bay Area Summer Peak Transition Post-Cluster Case	Plot 045: Olinda - Tracy 500 kV Line Outage	MW/MVAR draw\grba\pge-tcp1-grba- Rating = 2
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	PG&E 2008 CASE SERIES: 2013 Greater Bay Area Summer Peak Case (1-in-10 load)	Plot 046: Olinda - Tracy 500 kV Line Outage	amps/rate
	PATH15=-2341 MW(S-N) PATH26= 3975 MW(N-S) PDCI= 3087 MW(N-S) COI= 4585 MW(N-S)		draw\grba\pge-tcp1-gr
	PG&E 2008 Group 1 Greater Bay Area Summer Peak Transition Post-Cluster Case		Rating = 2

Greater Bay Area 230 kV

Pittsburg Area Generation LMEC

Oakland Area Generation

San Francisco Area Generation

500 kV Line Outage

General Electric International, Inc. PSLF Program Mon Jul 13 11:56:05 2009 draw\grba\pt-13sumpk-grba-pst-dyn_swt06_b2_olinda-trcy-500kv.sav

PG&E 2008 CASE SERIES: 2013 Greater Bay Area Summer Peak Case (1-in-10 load)

PATH15=-2341 MW(S-N) PATH26= 3975 MW(N-S) PDCI= 3087 MW(N-S) COI= 4585 MW(N-S)

PG&E 2008 Group 1 Greater Bay Area Summer Peak Transition Post-Cluster Case

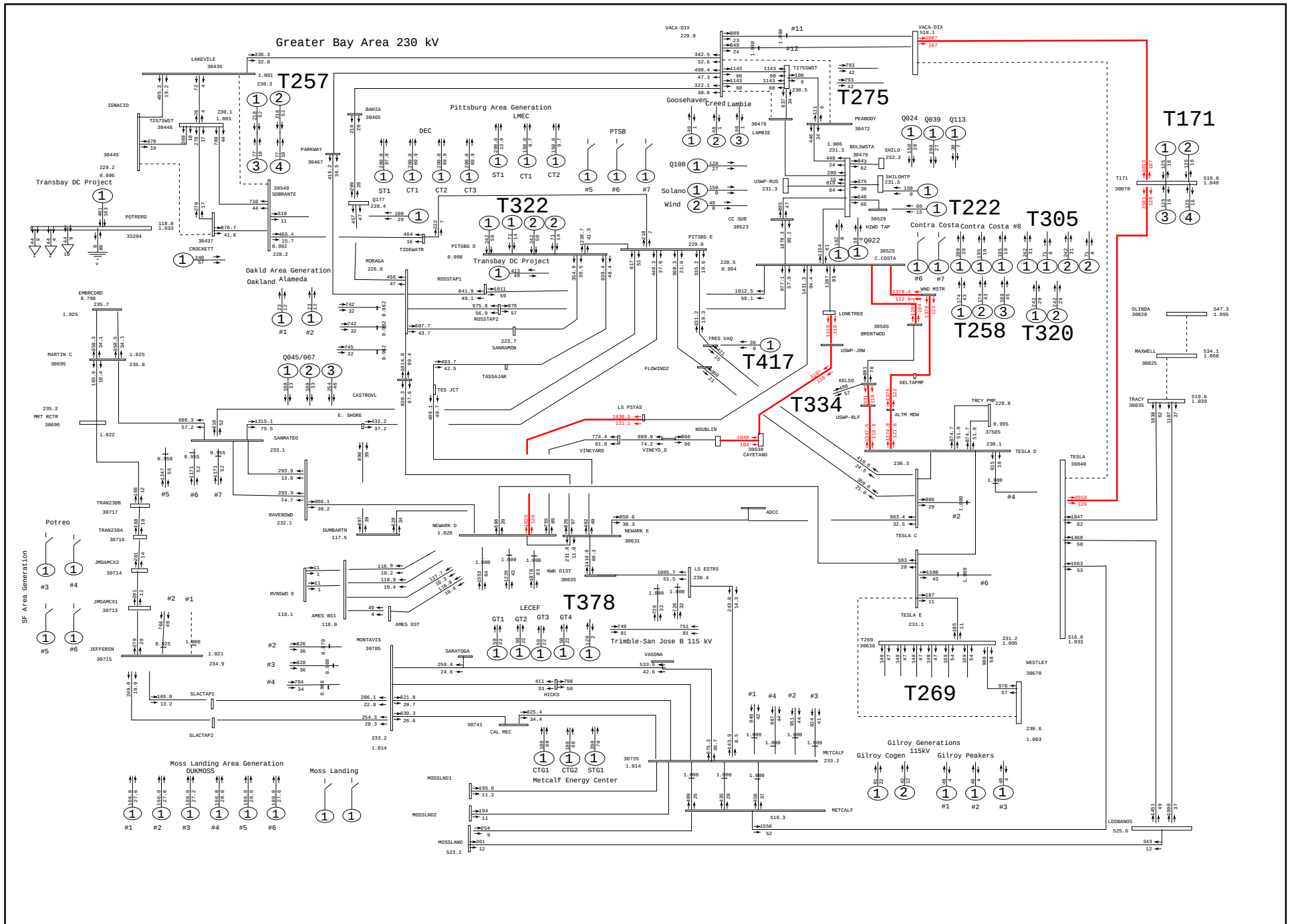
Plot 047: Olinda - Tracy 500 kV Line Outage

MW/MVAR

draw\grba\pge-tcp1-gr

Rating = 2

APPENDIX D - STEADY STATE POWER FLOW PLOTS



General Electric International, Inc. PSLF Program Mon Jul 13 11:56:06 2009 draw\grba\pt-13sumpk-grba-pst-dyn_swt06_b2_olinda-trcy-500kv.sav

	PG&E 2008 CASE SERIES: 2013 Greater Bay Area Summer Peak Case (1-in-10 load) PATH15=-2341 MW(S-N) PATH26= 3975 MW(N-S) PDCI= 3087 MW(N-S) COI= 4585 MW(N-S) PG&E 2008 Group 1 Greater Bay Area Summer Peak Transition Post-Cluster Case	Plot 048: Olinda - Tracy 500 kV Line Outage	amps/rate draw\grba\pge-tcp1-grba- Rating = 2
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Appendix E

Generator Machine Dynamic Data

Machine Data for CT1-2:

Model: GENROU

Variable	Description	Value
Tdop	D-axis transient rotor time constant, set	7.059
Tppdo	D-axis sub-transient rotor time constant, sec	0.04
Tpgo	Q-axis transient rotor time constant, sec	0.554
Tppgo	Q-axis sub-transient rotor time constant, sec	0.081
H	Inertia constant, sec	5.38
D	Damping factor, pu	0.00
Ld	D-axis synchronous reactance, pu	1.9
Lq	Q-axis synchronous reactance, pu	1.79
Lpd	D-axis transient synchronous reactance, pu	0.24
Lpq	Q-axis transient synchronous reactance, pu	0.43
Lppd	D-axis subtransient synchronous reactance, pu	0.18
Lppq	Q-axis subtransient synchronous reactance, pu	0.18
Ll	Stator leakage reactance, pu	0.12
s1	Saturation factor at 1 pu flux	0.068
s12	Saturation factor at 1.2 pu flux	0.5806
Ra	Stator resistance, pu	0.0027
Rcomp	Compounding resistance voltage control, pu	0.00
Xcomp	Compounding reactance voltage control, pu	0.00

Excitation Data for CT1-2: Model: EXST4B

Variable	Description	Value
Tr	Voltage transducer time constant, sec	0
Kpr	Proportional Gain, p.u.	3.74
Kir	Integral Gain, p.u.	3.74
Ta	Time constant, sec	0.01
Vrmax	Maximum controller output, p.u.	1
Vrmin	Minimum controller output, p.u.	-.8
Kpm	Prop. Gain of field voltage regulator, p.u.	1
Kim	Integral gain of field voltage regulator, p.u.	0
Vmmax	Maximum field voltage regulator output, p.u.	1
Vmmin	Minimum field voltage regulator output, p.u.	-.8
Kg	Excitation limiter gain, p.u.	0
Kp	Potential source gain, p.u.	5.34
Angp	Phase angle of potential source, degree	0
Ki	Current source gain, p.u.	0
Kc	Exciter regulation factor, p.u.	0.08
Xl	P-bar leakage reactance, p.u.	0
Vbmax	Maximum excitation voltage	6.68

PSS for CT1-2:

Model PSS2A

Variable	Description	Value
j1	Input signal #1 code	1
k1	Input signal #1 remote bus number	0
j2	Input signal #2 code	3
k2	Input signal #2 remote bus number	0
tw1	First washout on signal #1, sec	2.00
tw2	First washout on signal #1, sec	2.00
tw3	First washout on signal #2, sec	2.00
tw4	First washout on signal #2, sec	0.00
t6	Time constant on signal #1, sec	0.00
t7	Time constant on signal #2, sec	2.00
ks2	Gain signal #2	.186
ks3	Gain signal #2	1.00
ks4	Gain signal #2	1.00
t8	Lead of ramp tracking filter	0.50
t9	Lag of ramp tracking filter	0.10
N	Order of ramp tracking filter	1.0
M	Order of ramp tracking filter	5.0
ks1	Stabilizer gain	3.0
t1	Lead/lag time constants, sec	.15
t2	Lead/lag time constants, sec	0.03
t3	Lead/lag time constants, sec	0.15
t4	Lead/lag time constants, sec	0.03
vstmax	Stabilizer output max limit, p.u.	0.10
vstmin	Stabilizer output min limit, p.u.	-0.10

Governor for CT1-2:

Model: GGOV1

Variable	Description	Value
R	Permanent droop, p.u.	0.04
Rselect	Selection for feedback signal for droop	1
Tpelec	Electrical power transducer time constant, sec	1
Maxerr	Maximum value of speed error signal	.05
Minerr	Minimum value of speed error signal	-.05
Kpgov	Governor proportional gain	10
Kigov	Governor integral gain	2
Kdgo	Governor derivative gain	0
Tdgo	Governor derivative controller time constant, sec	1
Vmax	Maximum valve position limit	1.0
Vmin	Minimum valve position limit	.15
Tact	Actuator time constant, sec	.5
Kturb	Valve-to-power gain	1.5
Wfnl	No load fuel flow, p.u.	.2
Tb	Power development lag time constant	.3
Tc	Power development lead time constant	0
Flag	Switch for turbine output	1
Teng	Transport lag time constant for diesel engine	0
Tfload	Load limiter time constant	3
Kpload	Load limiter proportional gain for PI controller	2
Kiload	Load limiter integral gain for PI controller	.67
Ldref	Load limiter reference value, p.u.	1
Dm	Mechanical damping coefficient, p.u.	0
Ropen	Maximum valve opening rate, p.u./sec	.1
Rclose	Minimum valve closing rate, p.u./sec	-.1
Kimw	Power controller (reset) gain	0.0
Pmwset	Power controller setpoint, MW	0
aset	Acceleration limiter setpoint, p.u./sec	.01
Ka	Acceleration limiter Gain	10
Ta	Acceleration limiter time constant, sec	.1
Db	Speed governor dead band	0
Tsa	Temperature detection lead time constant, sec	4
Tsb	Temperature detection lag time constant, sec	5
Rup	Maximum rate of load limit increase	99
Rdown	Maximum rate of load limit decrease	-99
Tbd	Speed Ratio Valve and Fuel Supply lag time constant, sec	0.0
Tcd	Speed Ratio Valve and Fuel Supply lead time constant, sec	0.0

Machine Data for ST:

Model: GENROU

Variable	Description	Value
Tdop	D-axis transient rotor time constant, set	6.319
Tppdo	D-axis sub-transient rotor time constant, sec	0.037
Tpgo	Q-axis transient rotor time constant, sec	0.526
Tppgo	Q-axis sub-transient rotor time constant, sec	0.071
H	Inertia constant, sec	3.45
D	Damping factor, pu	0.00
Ld	D-axis synchronous reactance, pu	1.94
Lq	Q-axis synchronous reactance, pu	1.85
Lpd	D-axis transient synchronous reactance, pu	0.285
Lpq	Q-axis transient synchronous reactance, pu	0.49
Lppd	D-axis subtransient synchronous reactance, pu	0.22
Lppq	Q-axis subtransient synchronous reactance, pu	0.22
Ll	Stator leakage reactance, pu	0.153
S1	Saturation factor at 1 pu flux	0.0572
S12	Saturation factor at 1.2 pu flux	0.4604
Ra	Stator resistance, pu	.0027
Rcomp	Compounding resistance voltage control, pu	0.00
Xcomp	Compounding reactance voltage control, pu	0.00

Excitation Data for ST: Model: EXST4B

Variable	Description	Value
Tr	Voltage transducer time constant, sec	0
Kpr	Proportional Gain, p.u.	4.02
Kir	Integral Gain, p.u.	4.02
Ta	Time constant, sec	0.01
Vrmax	Maximum controller output, p.u.	1
Vrmin	Minimum controller output, p.u.	-.8
Kpm	Prop. Gain of field voltage regulator, p.u.	1
Kim	Integral gain of field voltage regulator, p.u.	0
Vmmax	Maximum field voltage regulator output, p.u.	1
Vmmin	Minimum field voltage regulator output, p.u.	-.8
Kg	Excitation limiter gain, p.u.	0
Kp	Potential source gain, p.u.	4.98
Angp	Phase angle of potential source, degree	0
Ki	Current source gain, p.u.	0
Kc	Exciter regulation factor, p.u.	0.09
Xl	P-bar leakage reactance, p.u.	0
Vbmax	Maximum excitation voltage	6.22

PSS for ST:

Model PSS2A

Variable	Description	Value
j1	Input signal #1 code	1
k1	Input signal #1 remote bus number	0
j2	Input signal #2 code	3
k2	Input signal #2 remote bus number	0
tw1	First washout on signal #1, sec	2.00
tw2	First washout on signal #1, sec	2.00
tw3	First washout on signal #2, sec	2.00
tw4	First washout on signal #2, sec	0.00
t6	Time constant on signal #1, sec	0.00
t7	Time constant on signal #2, sec	2.00
ks2	Gain signal #2	.29
ks3	Gain signal #2	1.00
ks4	Gain signal #2	1.00
t8	Lead of ramp tracking filter	0.50
t9	Lag of ramp tracking filter	0.10
N	Order of ramp tracking filter	1.0
M	Order of ramp tracking filter	5.0
ks1	Stabilizer gain	3.0
t1	Lead/lag time constants, sec	.15
t2	Lead/lag time constants, sec	0.03
t3	Lead/lag time constants, sec	0.15
t4	Lead/lag time constants, sec	.03
vstmax	Stabilizer output max limit, p.u.	0.10
vstmin	Stabilizer output min limit, p.u.	-0.10

Governor Data for ST: Model: IEEE G1

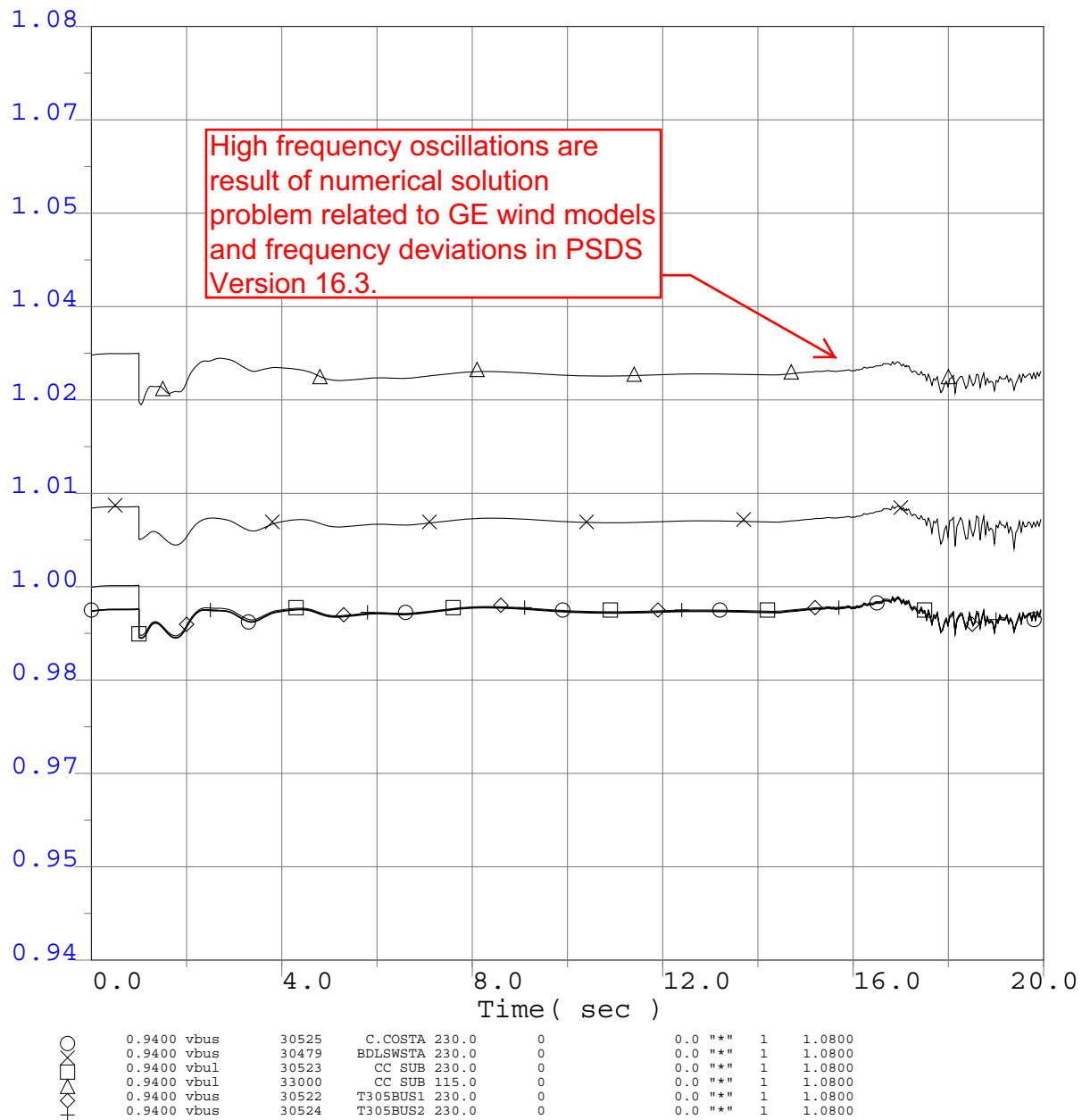
Variable	Description	Value
K	Governor gain	20
T1	Governor lag time constant, sec.	0
T2	Governor lead time constant, sec.	0
T3	Valve positioner time constant, sec.	1.15
Uo	Maximum valve opening velocity, p.u./sec.	0.012
Uc	Maximum valve closing velocity, p.u./sec (< 0.)	-0.012
Pmax	Maximum valve opening, p.u. of mwcap.	1.0
Pmin	Minimum valve opening, p.u. of mwcap	0.00
T4	Inlet piping/steam bowl time constant, sec.	.275
K1	Fraction of hp shaft power after first boiler pass	.224
K2	Fraction of lp shaft power after first boiler pass	0.00
T5	Time constant of second boiler pass, sec	0.1
K3	Fraction of hp shaft power after second boiler pass	.395
K4	Fraction of lp shaft power after second boiler pass	0
T6	Time constant of third boiler pass, sec.	.3
K5	Fraction of hp shaft power after third boiler pass	.381
K6	Fraction of lp shaft power after third boiler pass	0
T7	Time constant of fourth boiler pass, sec	10000.
K7	Fraction of hp shaft power after fourth boiler pass	0
K8	Fraction of lp shaft power after fourth boiler pass	0
Db1	Intentional deadband width, Hz.	0
Eps	Intentional db hysteresis, Hz.	0
Db2	Unintentional deadband, MW	0
Gv1	Nonlinear gain point 1, p.u. gv	0
Pgv1	Nonlinear gain point 1, p.u. power	0
Gv2	Nonlinear gain point 2, p.u. gv	0
Pgv	Nonlinear gain point 2, p.u. power	0
Gv3	Nonlinear gain point 3, p.u. gv	0
Pgv3	Nonlinear gain point 3, p.u. power	0
Gv4	Nonlinear gain point 4, p.u. gv	0
Pgv4	Nonlinear gain point 4, p.u. power	0
Gv5	Nonlinear gain point 5, p.u. gv	0
Pgv5	Nonlinear gain point 5, p.u. power	0
Gv6	Nonlinear gain point 6, p.u. gv	0
Pgv6	Nonlinear gain point 6, p.u. power	0

Appendix F

Dynamic Stability Plots

Q258 GIPR Phase 1 Interconnection System Impact Study

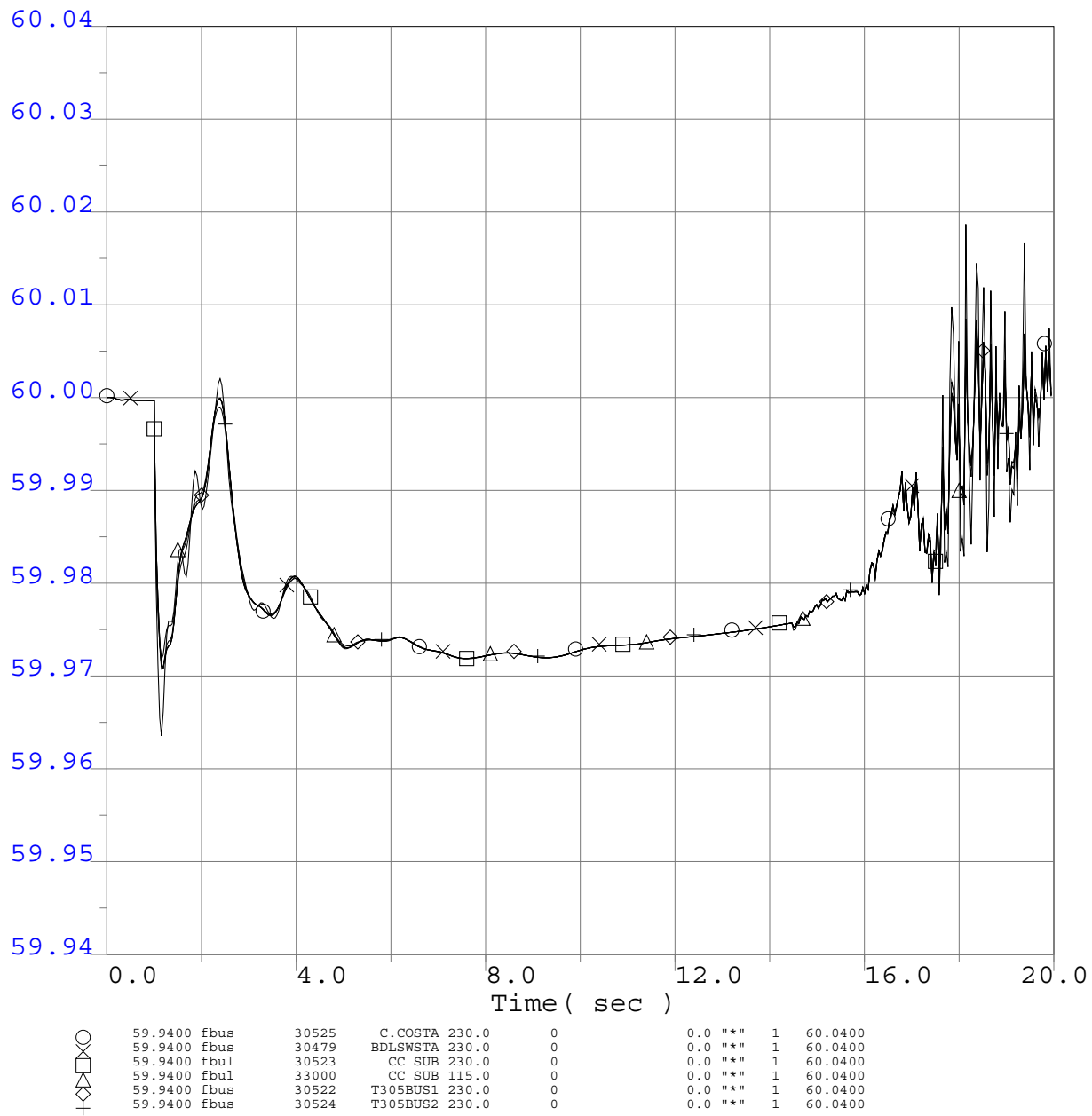
Selected PG&E Bus Voltage Plots Adjacent to Fault



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 Q258 Load Rejection
 No Fault Load Rejection

Q258 GIPR Phase 1 Interconnection System Impact Study

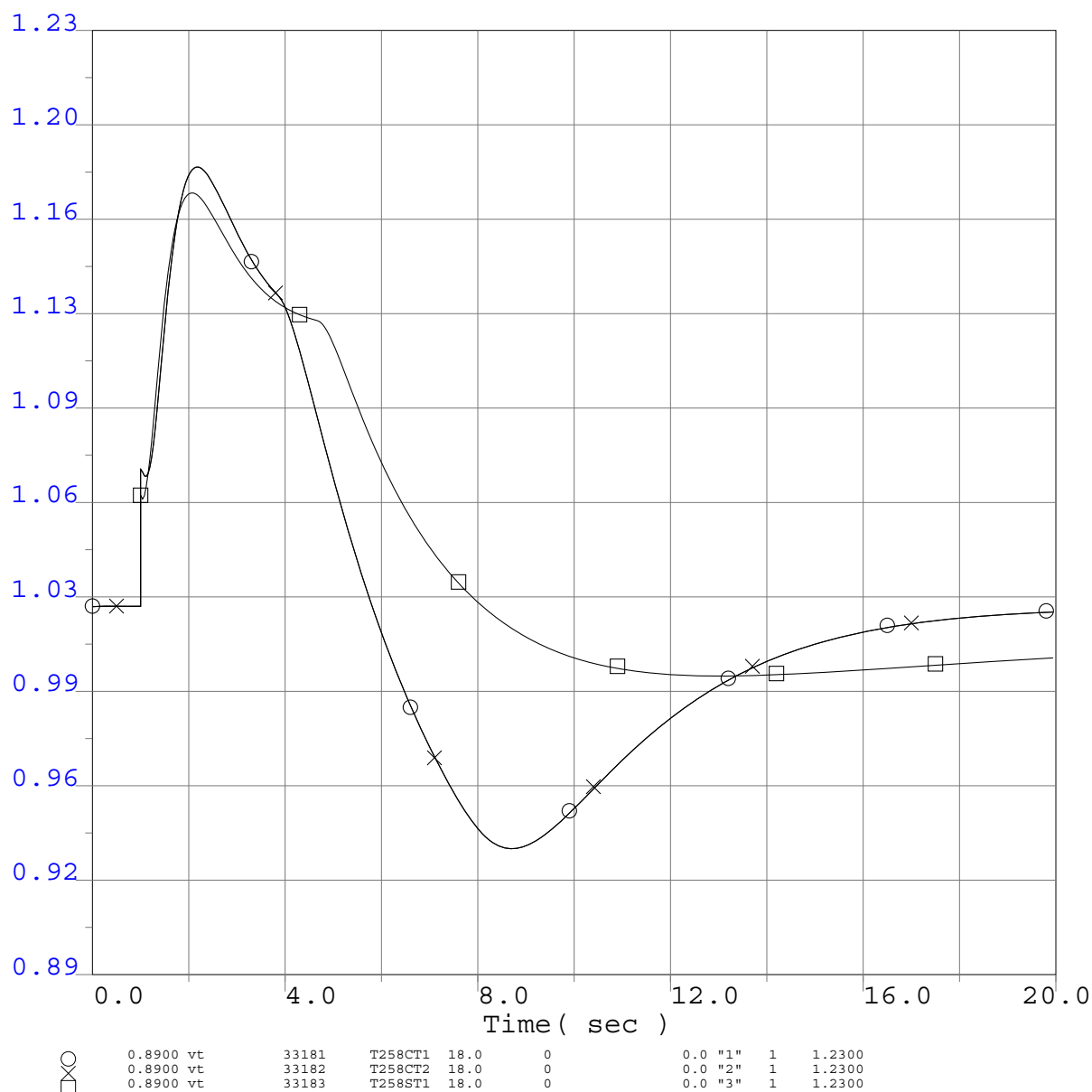
Selected PG&E Bus Frequency Plots Adjacent to Fault



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 Q258 Load Rejection
 No Fault Load Rejection

Q258 GIPR Phase 1 Interconnection System Impact Study

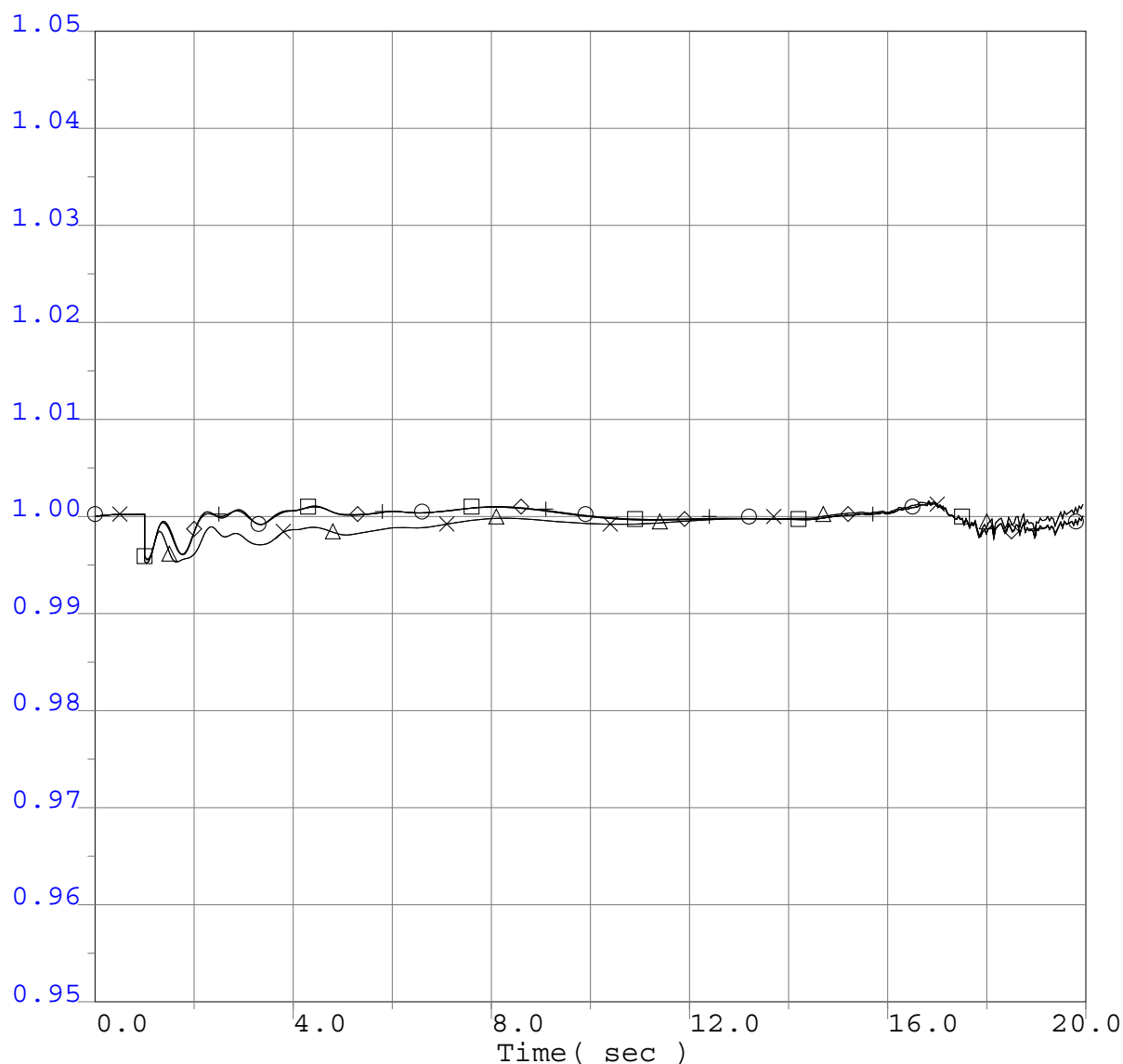
Project Generator Terminal Voltages (P.U.)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 Q258 Load Rejection
 No Fault Load Rejection

Q258 GIPR Phase 1 Interconnection System Impact Study

Selected Generator Terminal Voltages (P.U.)

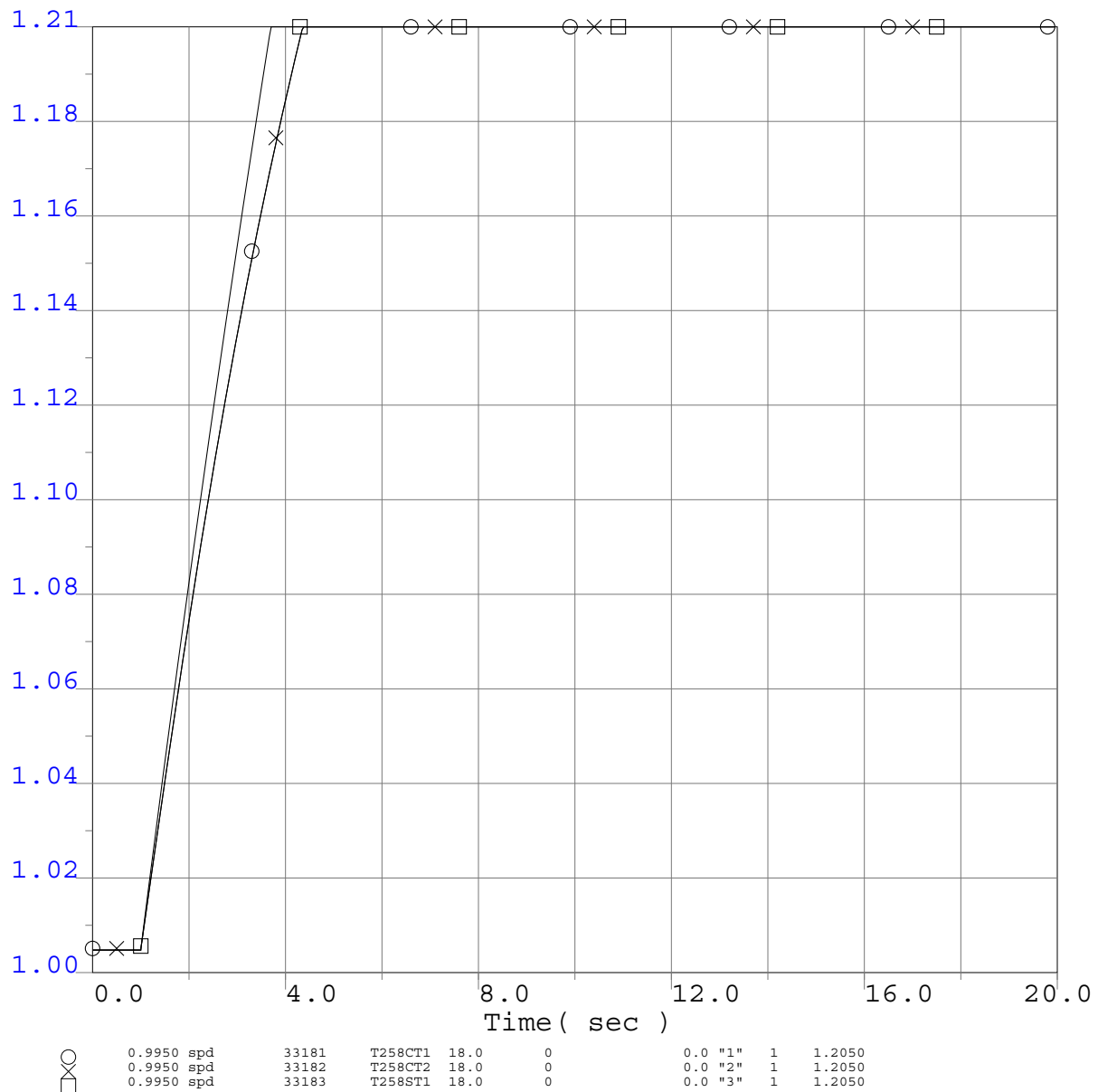


○	0.9500 vt	33184	T305GT1	16.5	0	0.0 "1"	1	1.0500
×	0.9500 vt	33185	T305ST1	13.8	0	0.0 "1"	1	1.0500
□	0.9500 vt	33186	T305GT2	16.5	0	0.0 "2"	1	1.0500
△	0.9500 vt	33187	T305ST2	13.8	0	0.0 "2"	1	1.0500
◇	0.9500 vt	33188	T320GT1	16.5	0	0.0 "1"	1	1.0500
+	0.9500 vt	33189	T320GT2	16.5	0	0.0 "2"	1	1.0500

Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 Q258 Load Rejection
 No Fault Load Rejection

Q258 GIPR Phase 1 Interconnection System Impact Study

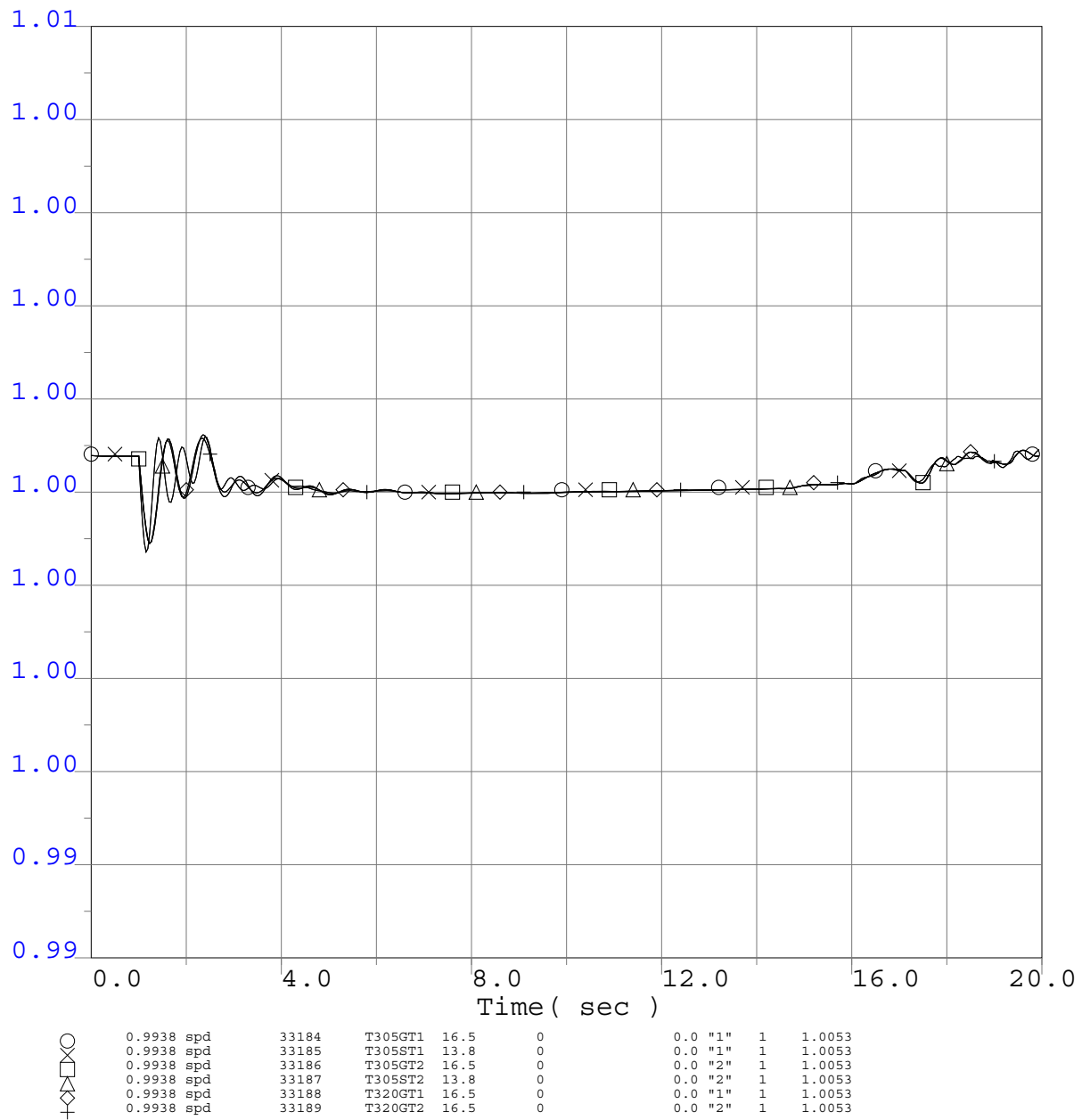
Project Generator Speed (P.U.)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 Q258 Load Rejection
 No Fault Load Rejection

Q258 GIPR Phase 1 Interconnection System Impact Study

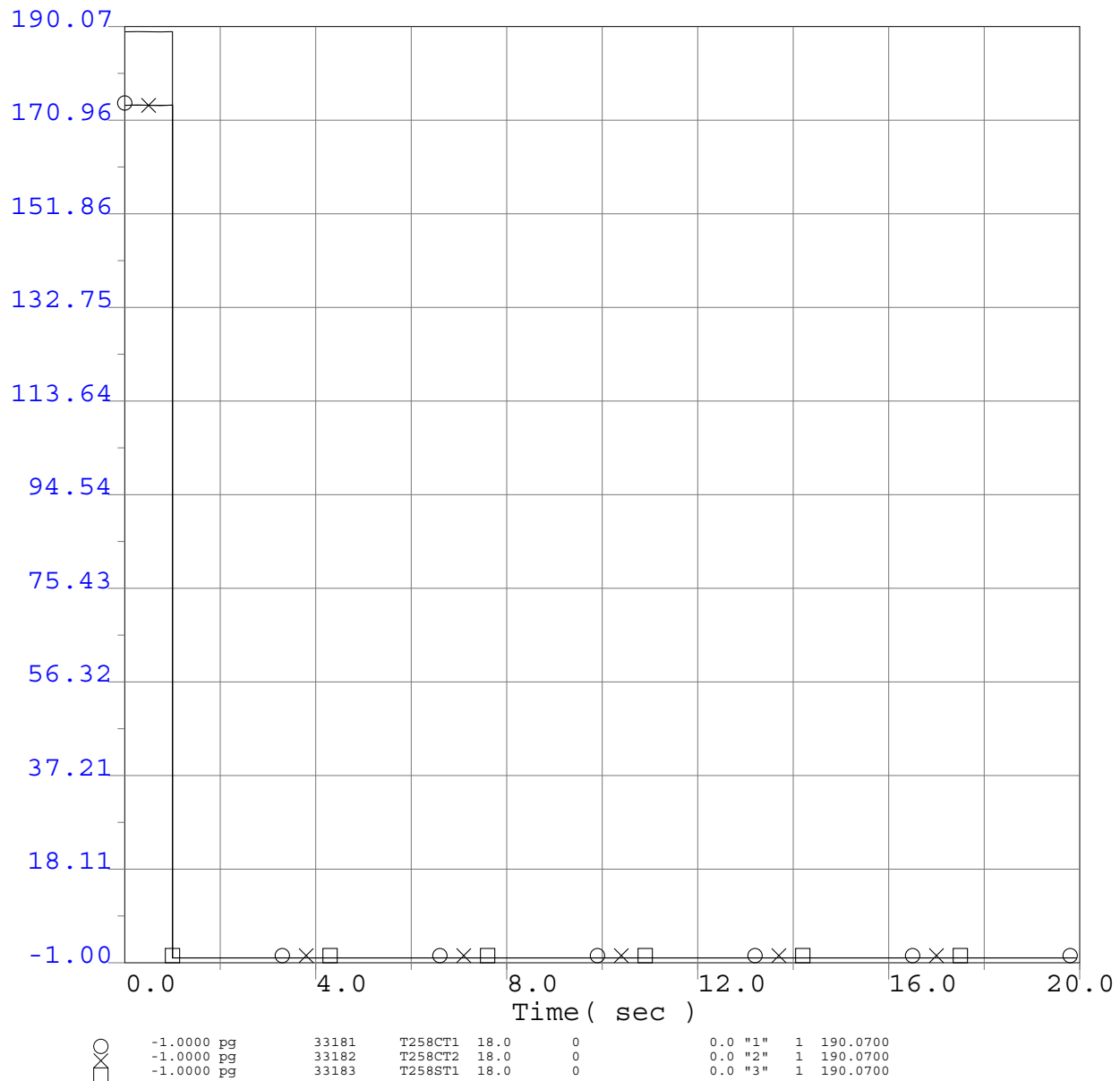
Selected Generator Speed (P.U.)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 Q258 Load Rejection
 No Fault Load Rejection

Q258 GIPR Phase 1 Interconnection System Impact Study

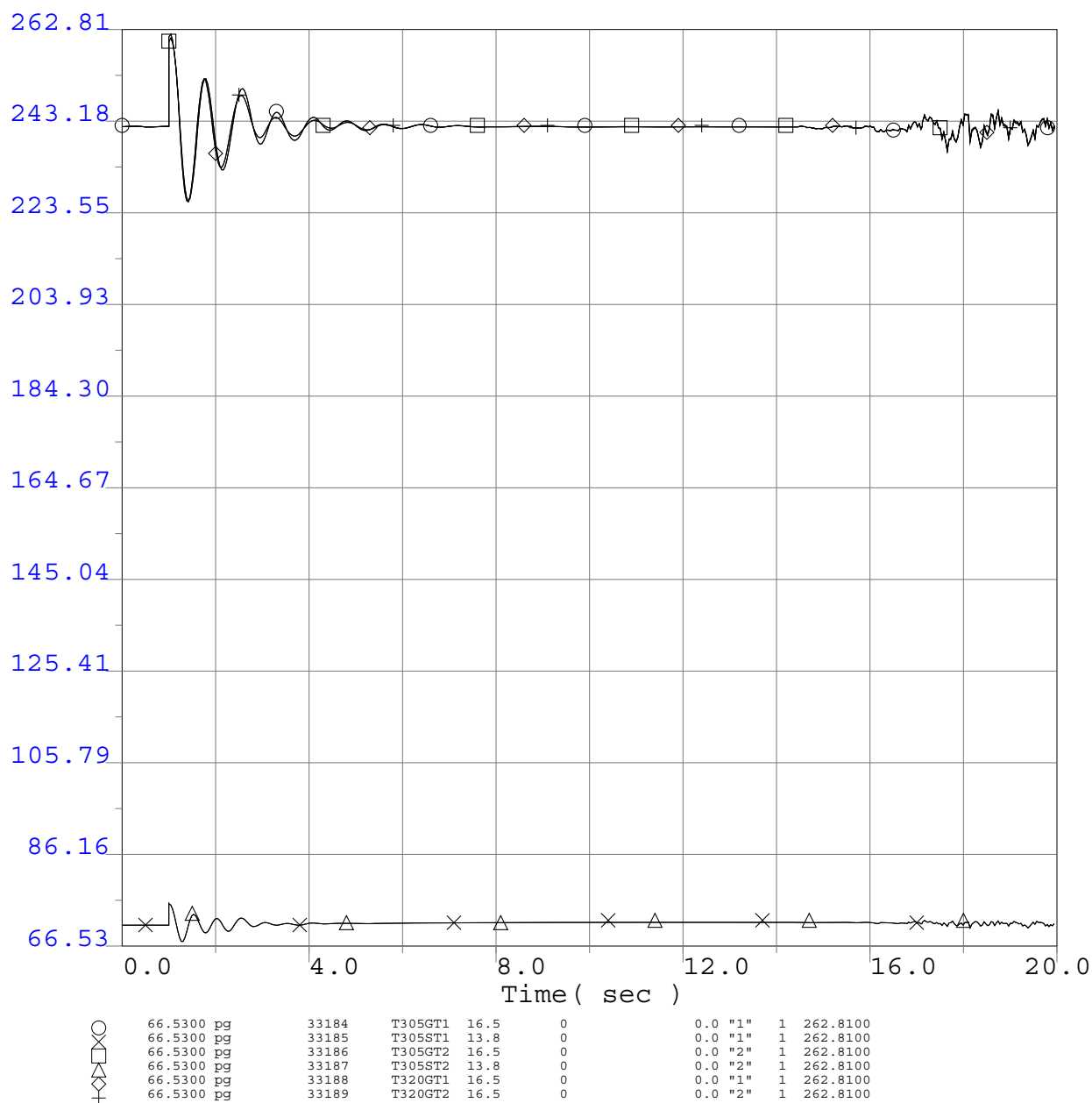
Project Generator Terminal Power (MW)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 Q258 Load Rejection
 No Fault Load Rejection

Q258 GIPR Phase 1 Interconnection System Impact Study

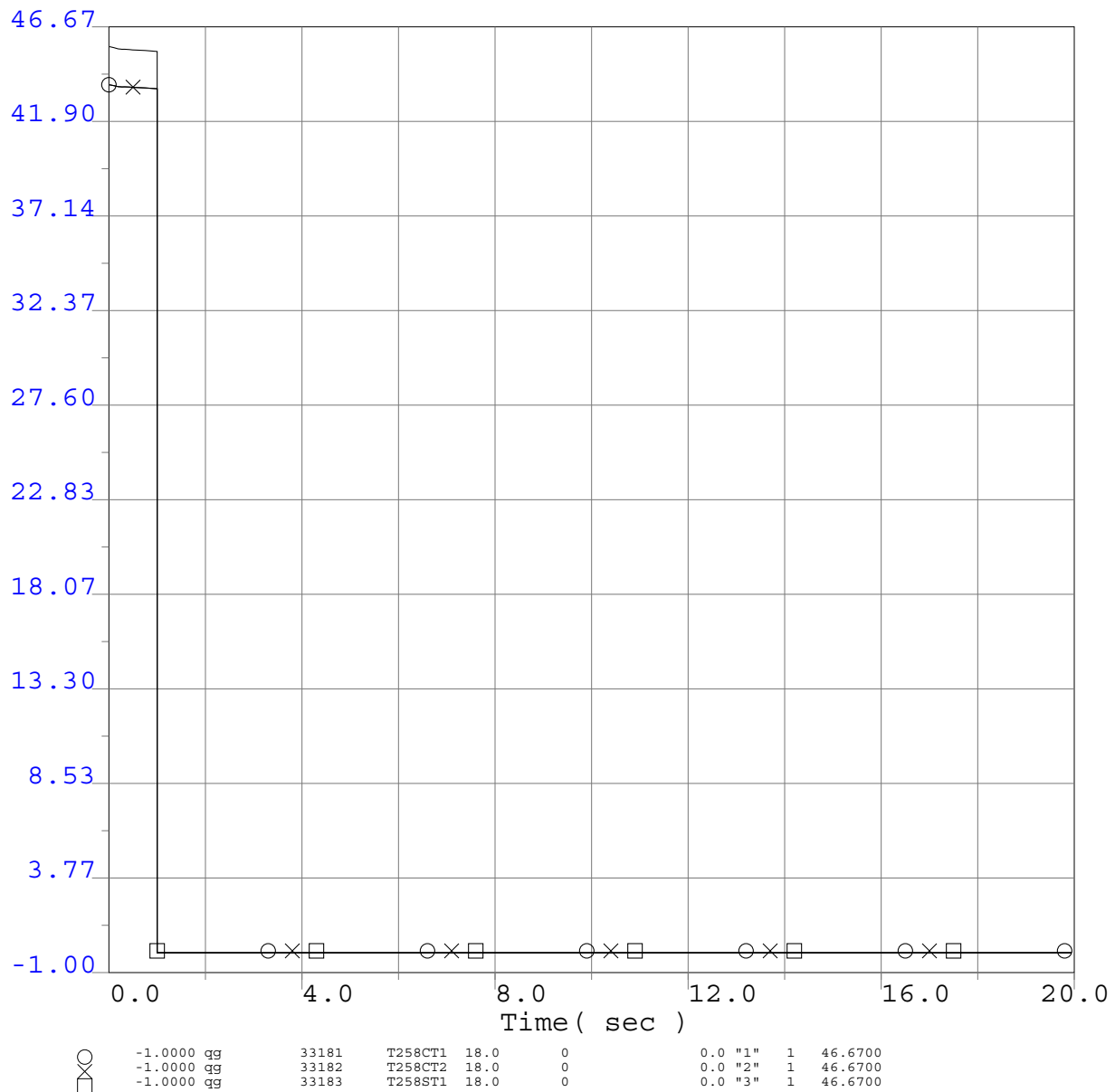
Selected Generator Terminal Power (MW)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 Q258 Load Rejection
 No Fault Load Rejection

Q258 GIPR Phase 1 Interconnection System Impact Study

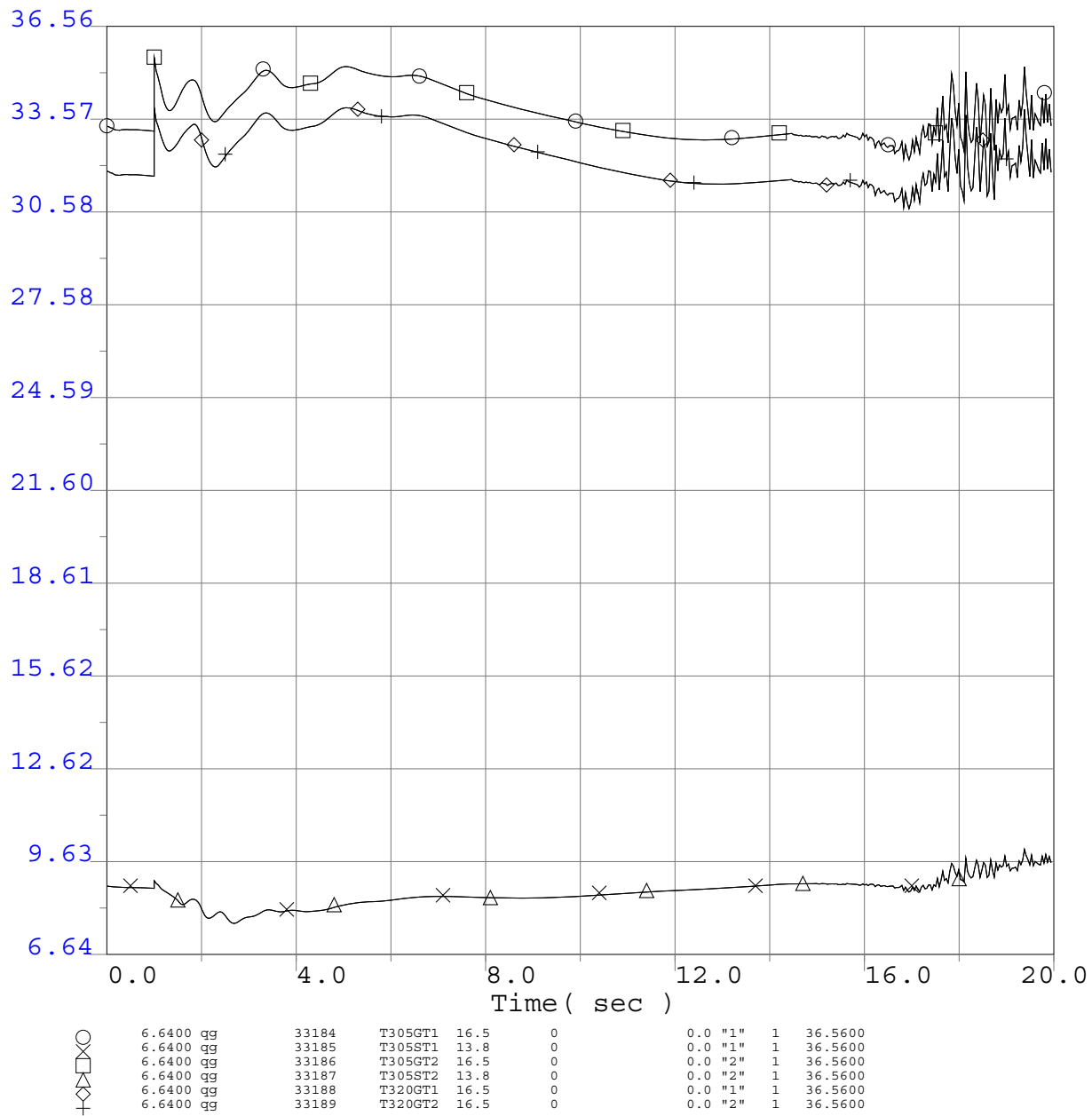
Project Generator Terminal Reactive Power (MVar)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 Q258 Load Rejection
 No Fault Load Rejection

Q258 GIPR Phase 1 Interconnection System Impact Study

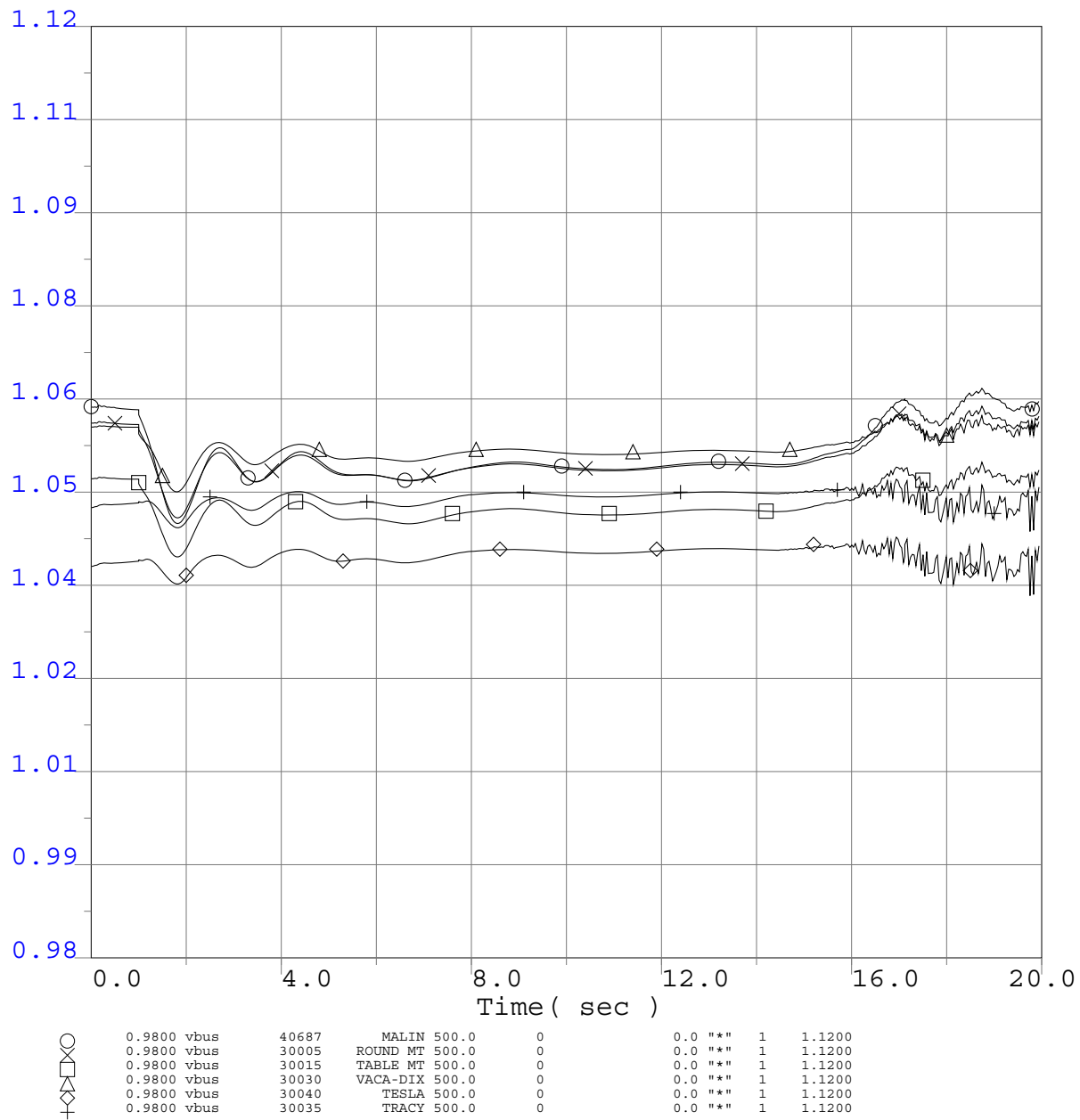
Selected Generator Terminal Reactive Power (MVar)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 Q258 Load Rejection
 No Fault Load Rejection

Q258 GIPR Phase 1 Interconnection System Impact Study

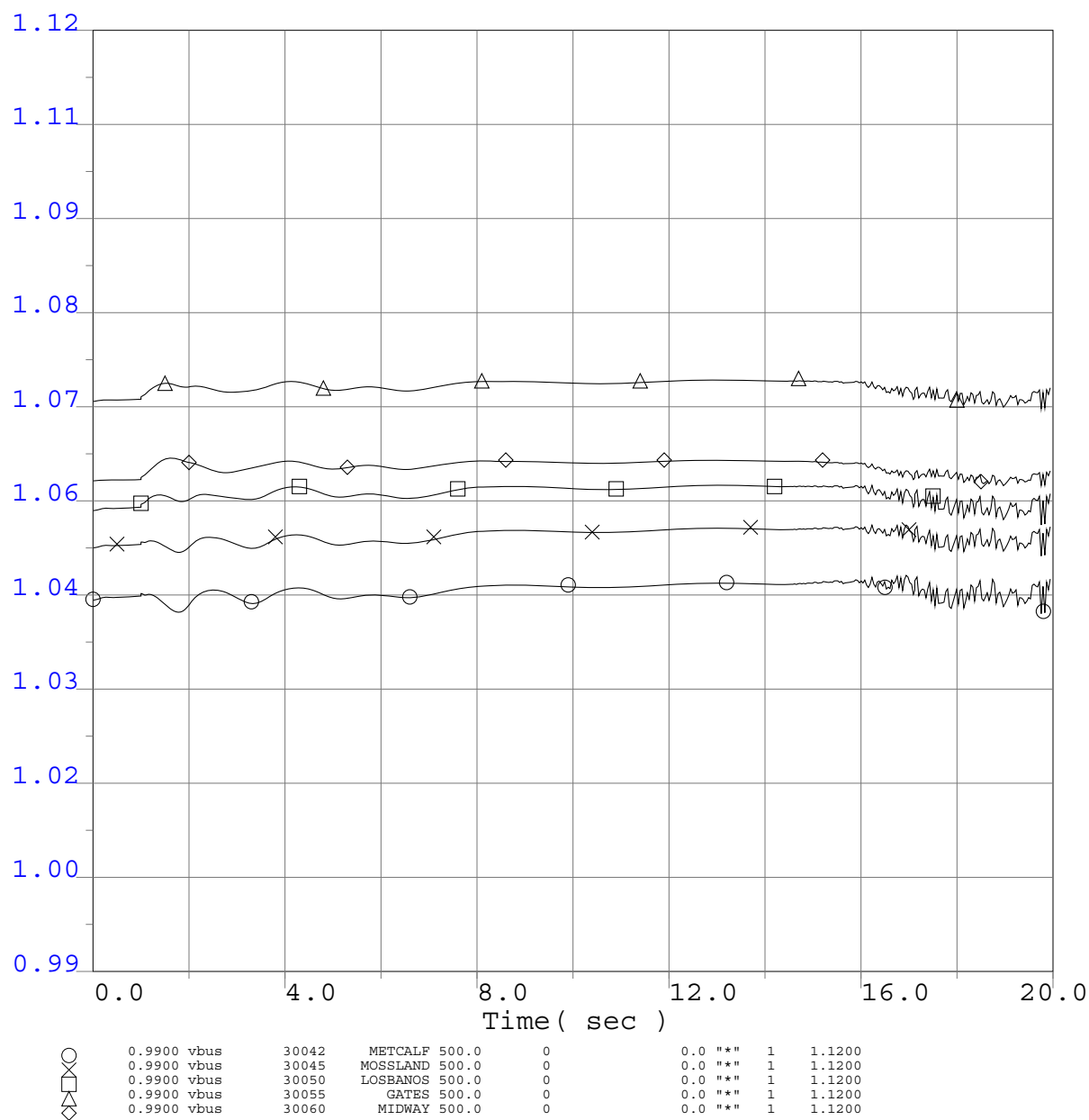
Selected WECC Bus Voltage Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 Q258 Load Rejection
 No Fault Load Rejection

Q258 GIPR Phase 1 Interconnection System Impact Study

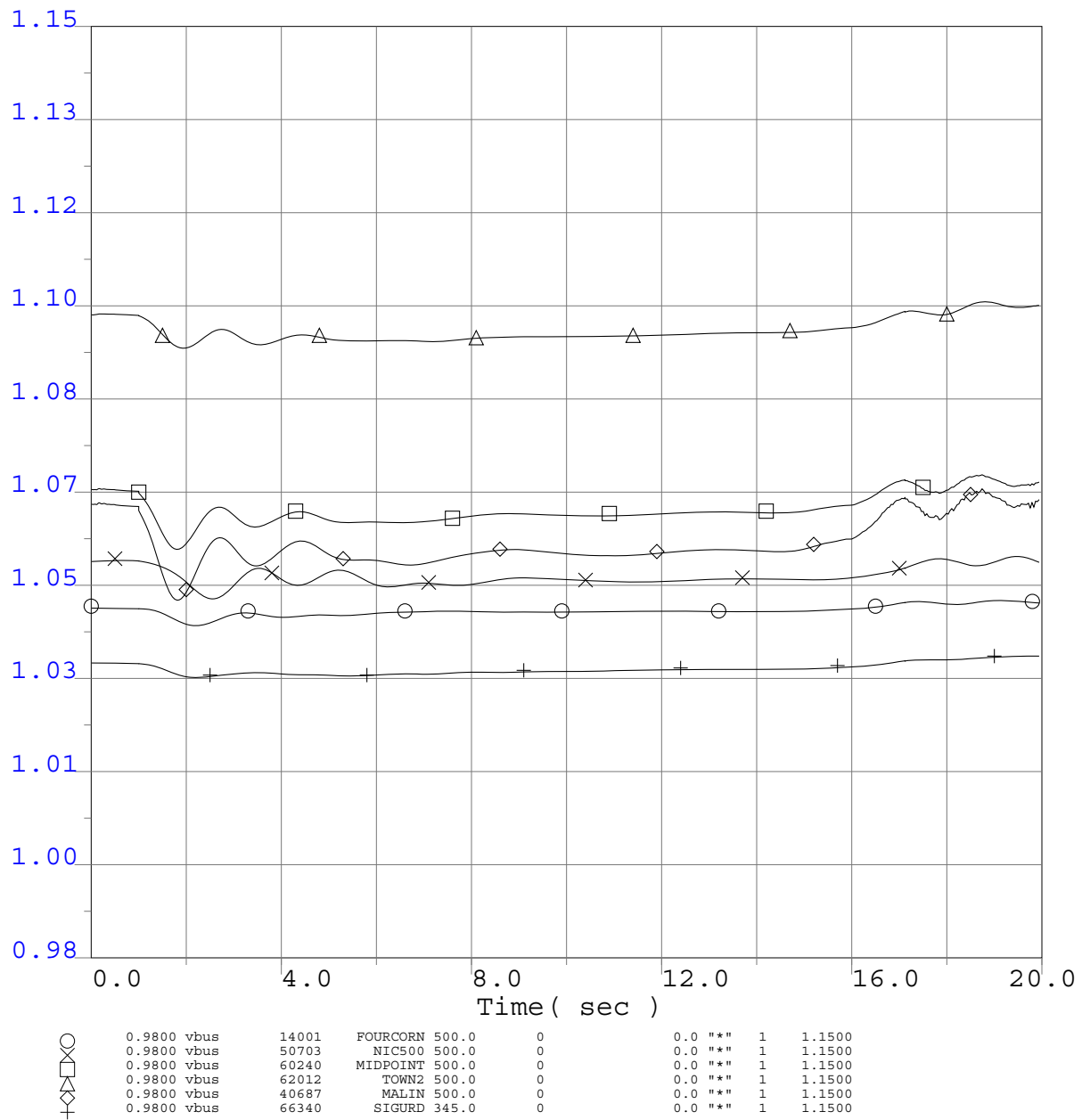
Selected WECC Bus Voltage Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 Q258 Load Rejection
 No Fault Load Rejection

Q258 GIPR Phase 1 Interconnection System Impact Study

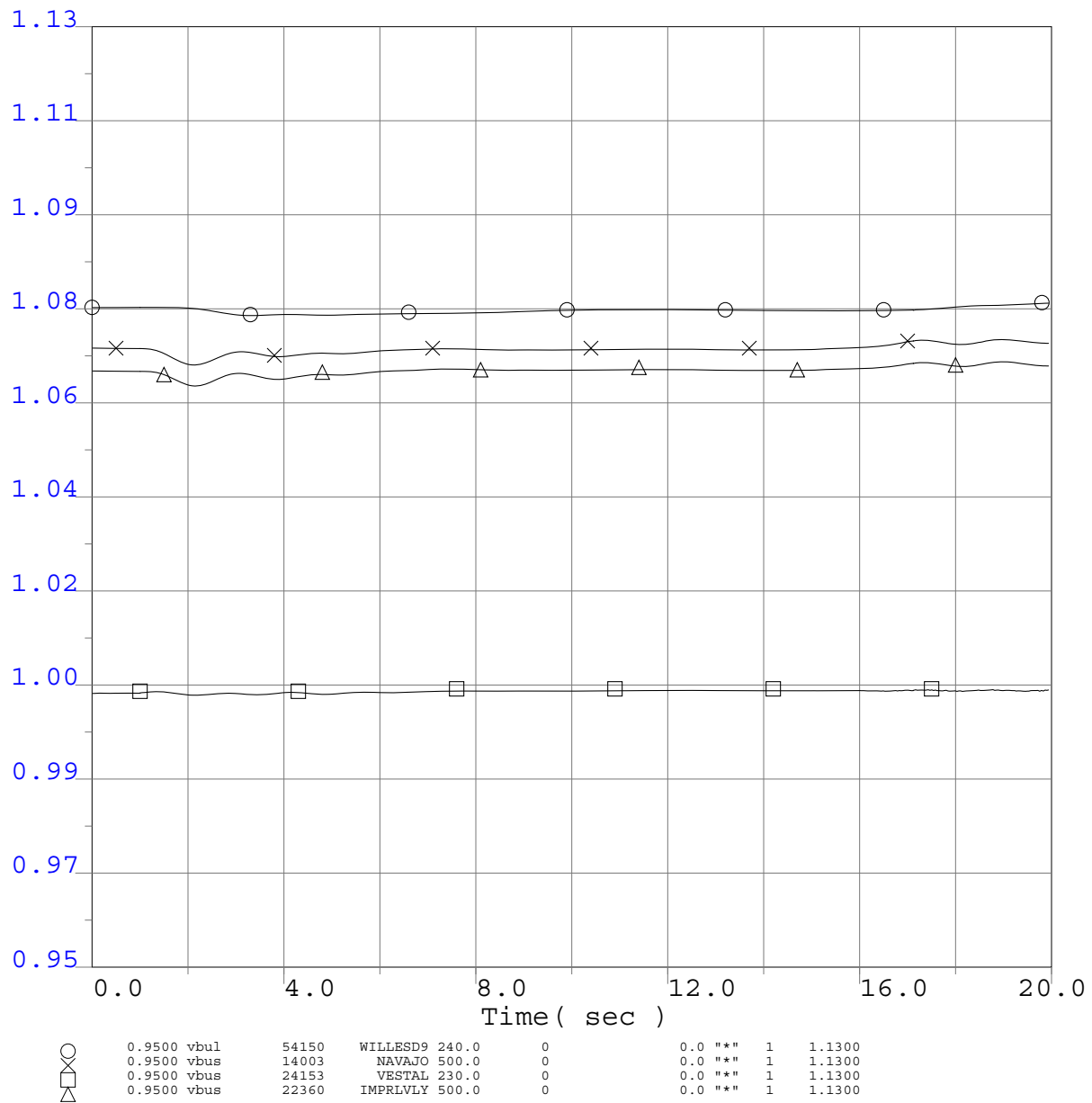
Selected WECC Bus Voltage Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
2013 Greater Bay Area Summer Peak Base Case
Q258 @537MW
Q258 Load Rejection
No Fault Load Rejection

Q258 GIPR Phase 1 Interconnection System Impact Study

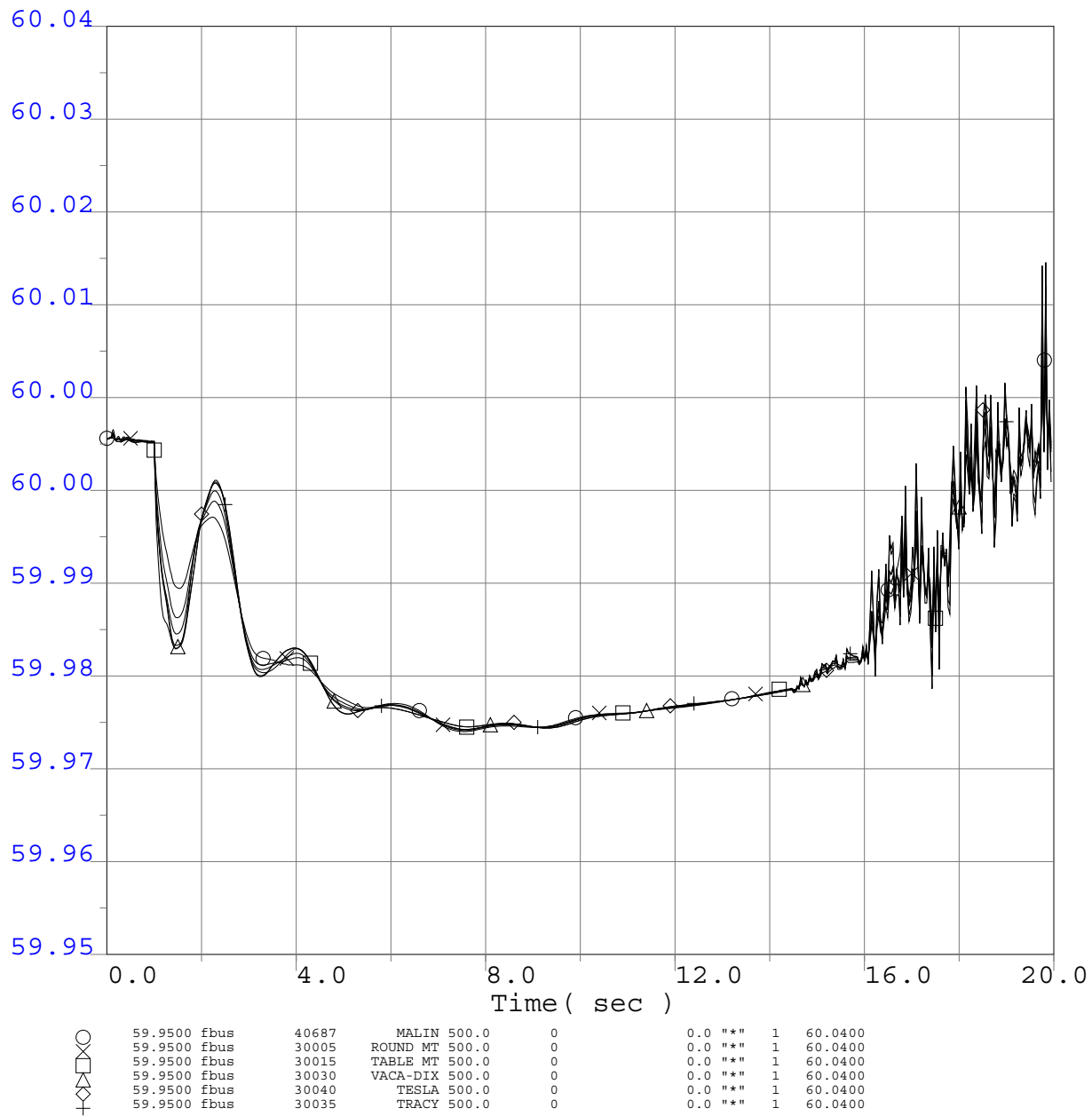
Selected WECC Bus Voltage Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
2013 Greater Bay Area Summer Peak Base Case
Q258 @537MW
Q258 Load Rejection
No Fault Load Rejection

Q258 GIPR Phase 1 Interconnection System Impact Study

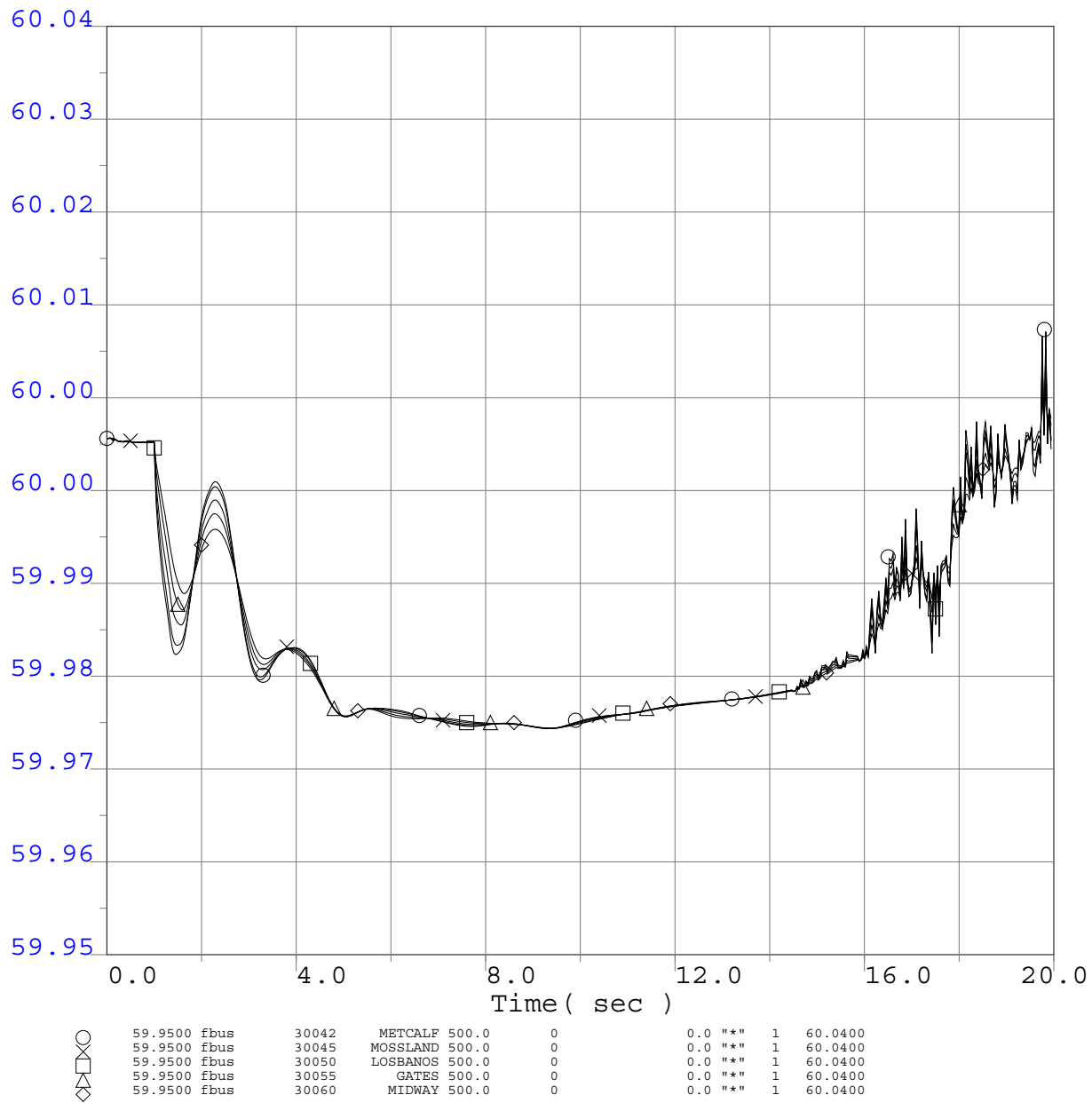
Selected WECC Bus Frequency Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 Q258 Load Rejection
 No Fault Load Rejection

Q258 GIPR Phase 1 Interconnection System Impact Study

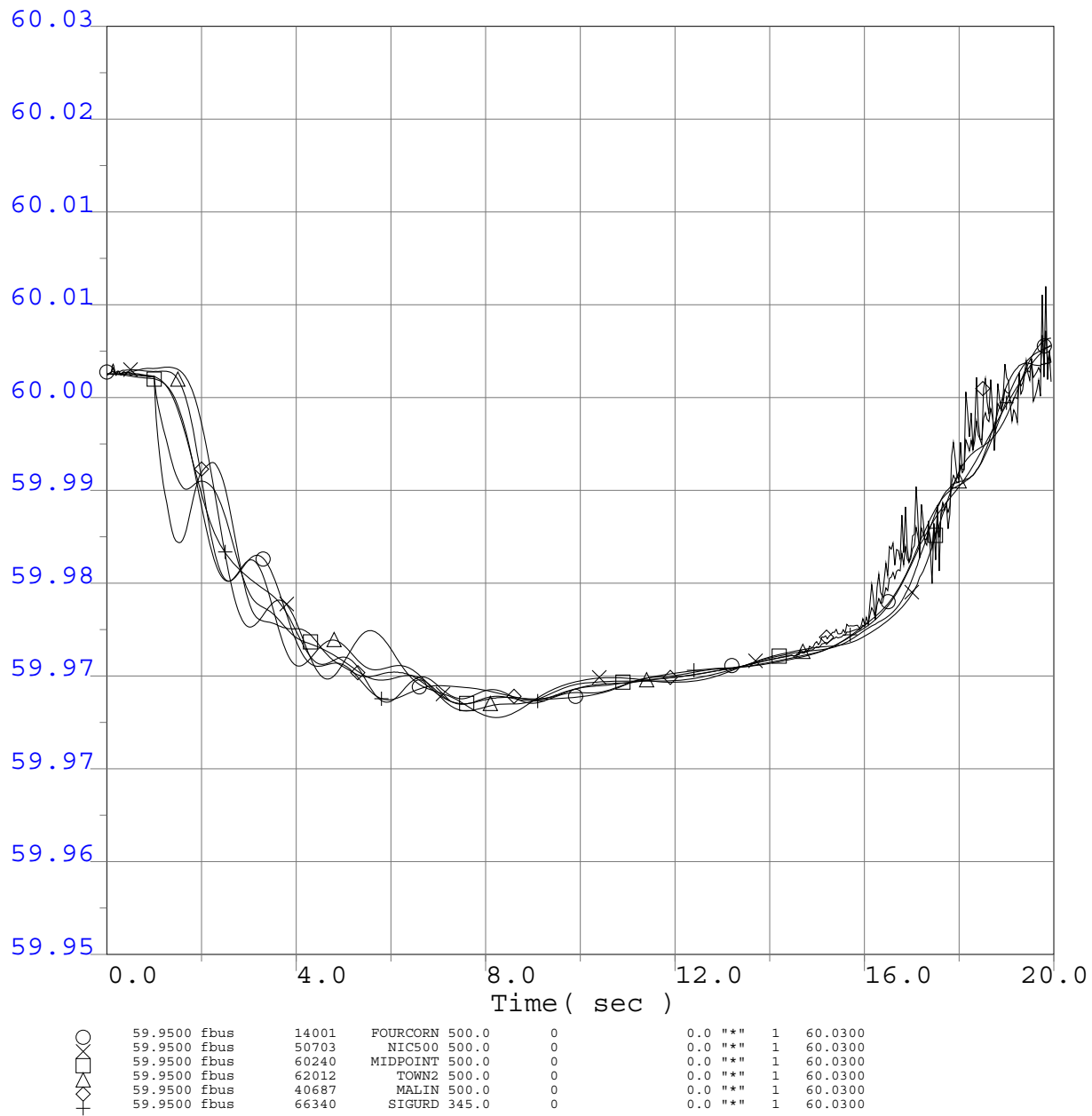
Selected WECC Bus Frequency Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 Q258 Load Rejection
 No Fault Load Rejection

Q258 GIPR Phase 1 Interconnection System Impact Study

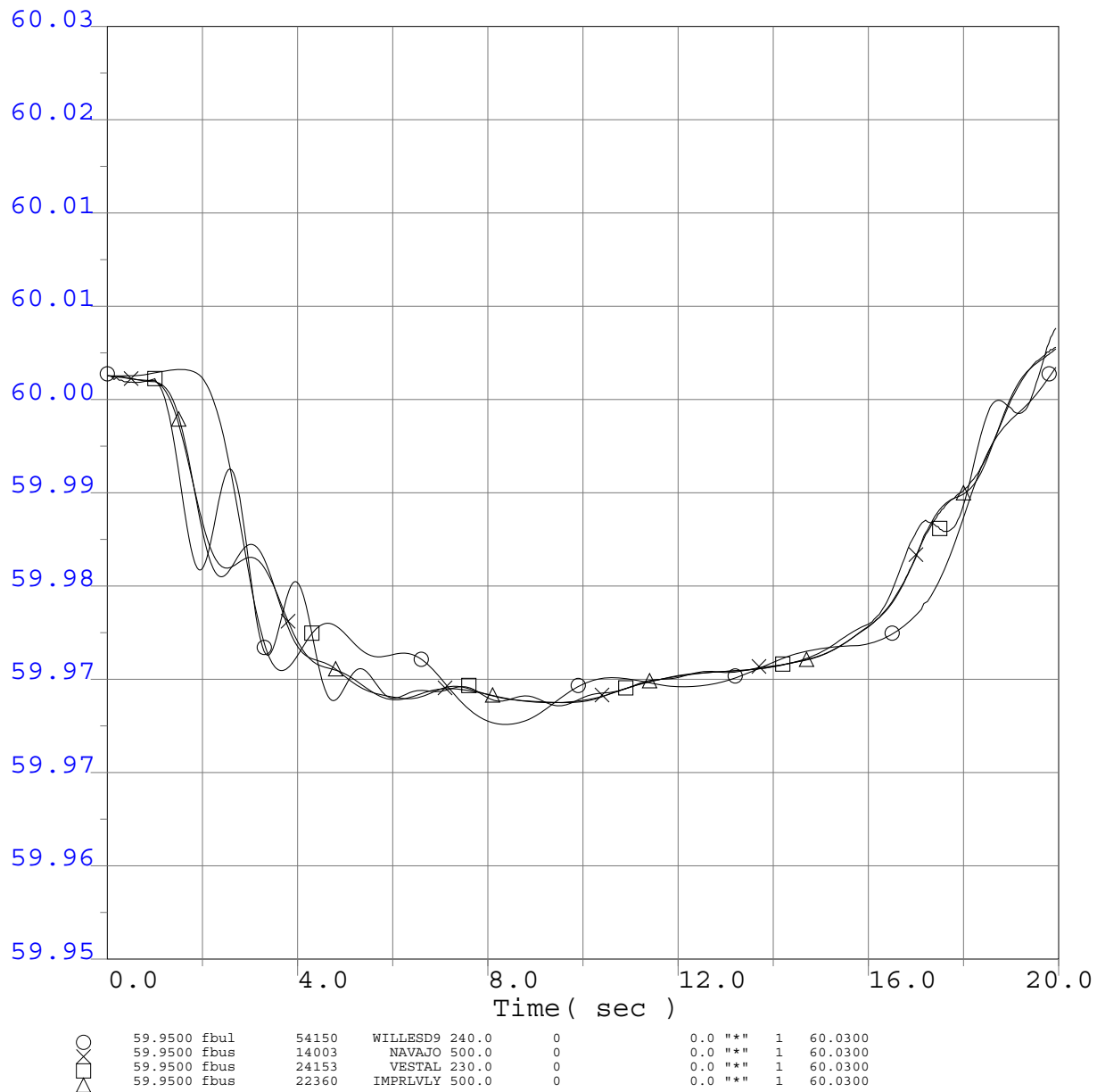
Selected WECC Bus Frequency Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
2013 Greater Bay Area Summer Peak Base Case
Q258 @537MW
Q258 Load Rejection
No Fault Load Rejection

Q258 GIPR Phase 1 Interconnection System Impact Study

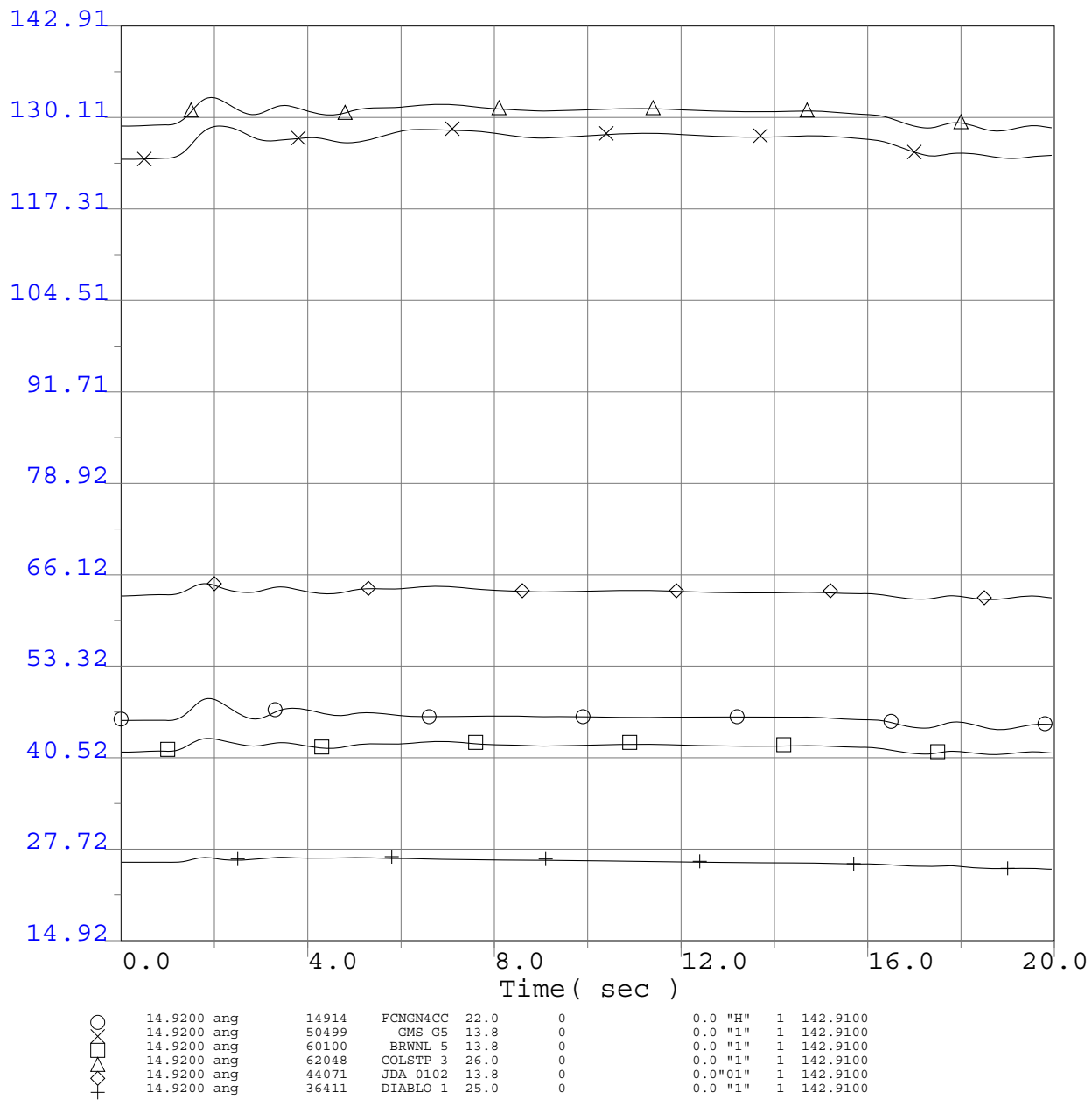
Selected WECC Bus Frequency Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
2013 Greater Bay Area Summer Peak Base Case
Q258 @537MW
Q258 Load Rejection
No Fault Load Rejection

Q258 GIPR Phase 1 Interconnection System Impact Study

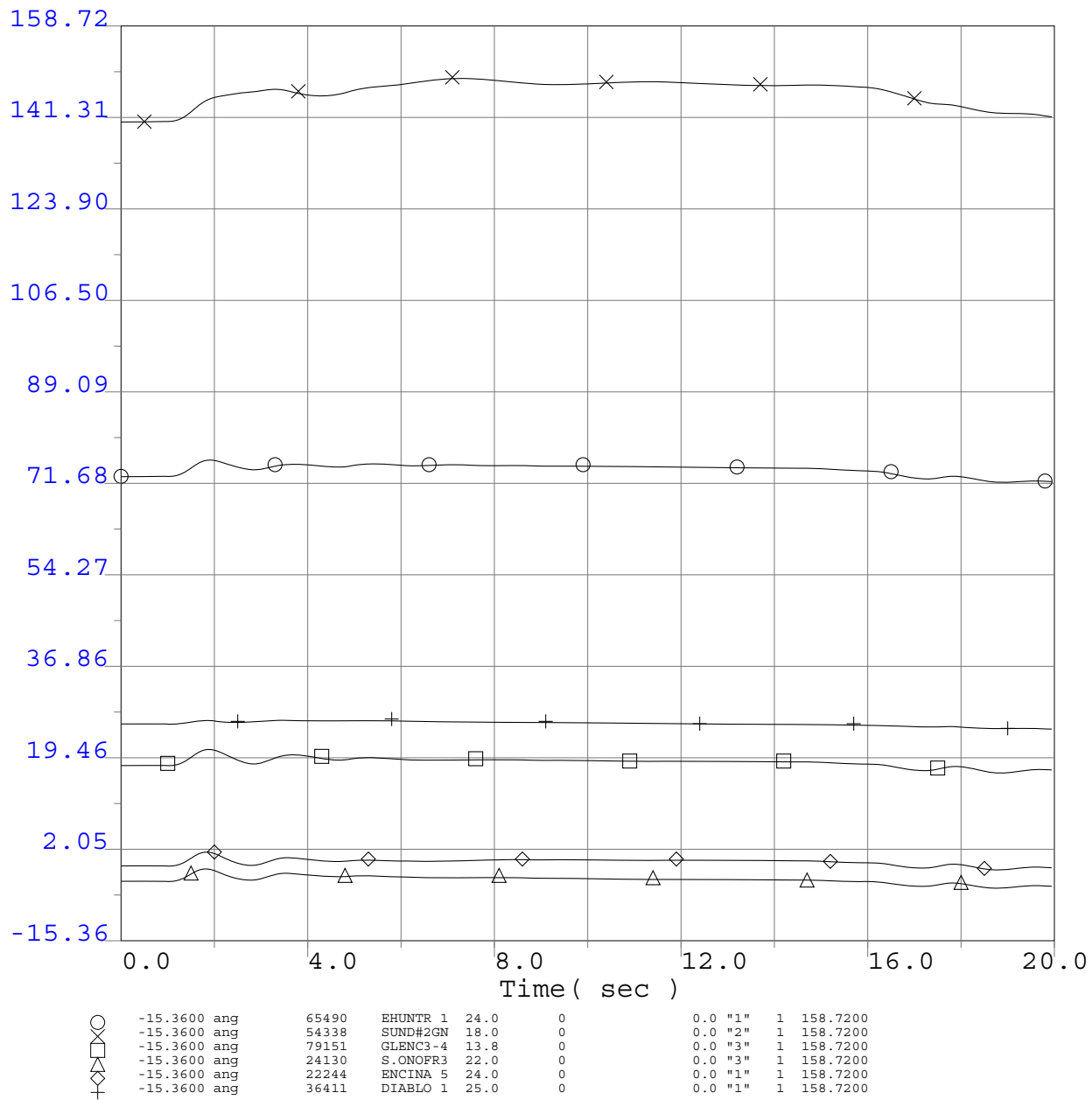
WECC Generator Rotor Angle



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 Q258 Load Rejection
 No Fault Load Rejection

Q258 GIPR Phase 1 Interconnection System Impact Study

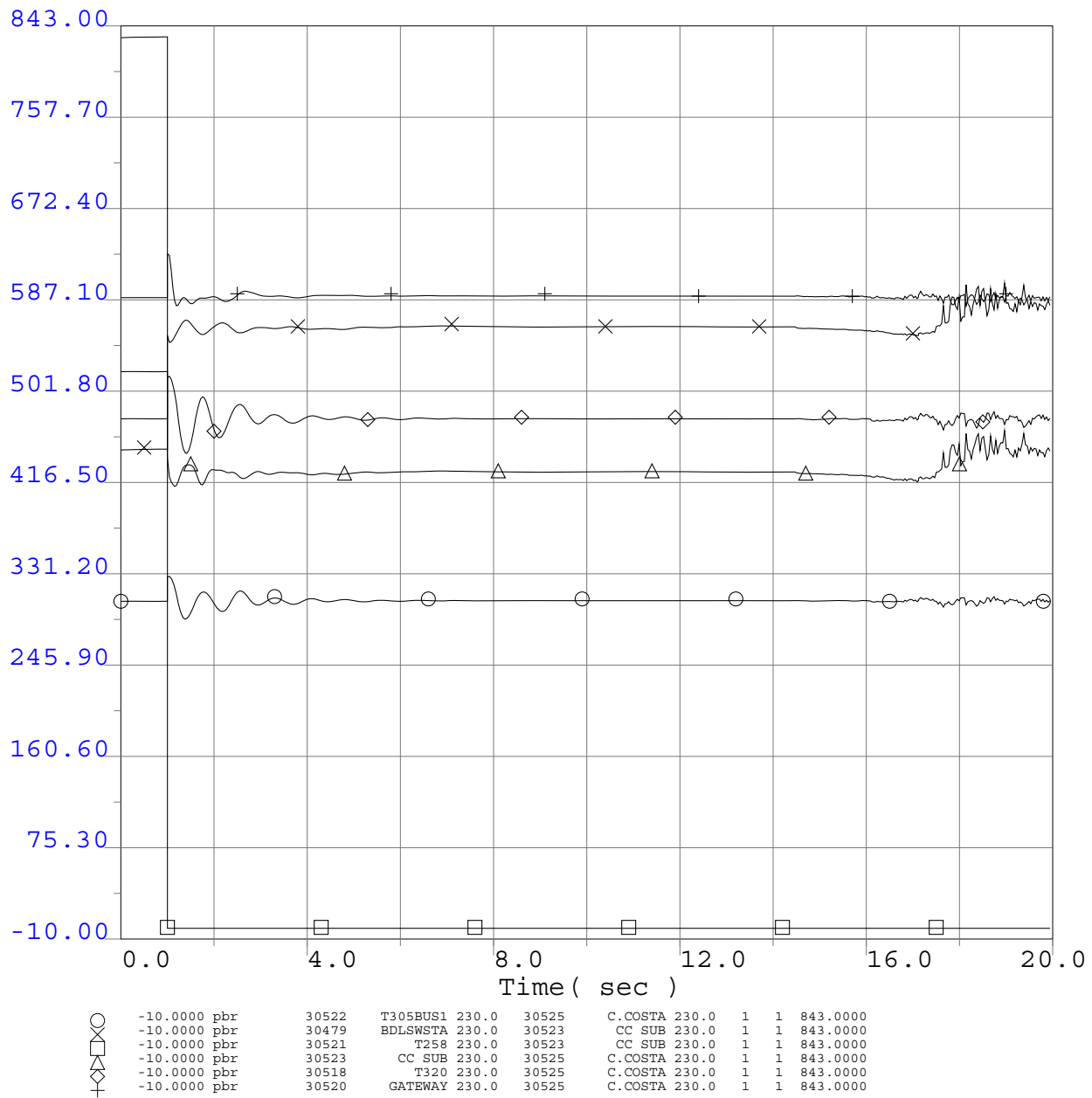
WECC Generator Rotor Angle



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 Q258 Load Rejection
 No Fault Load Rejection

Q258 GIPR Phase 1 Interconnection System Impact Study

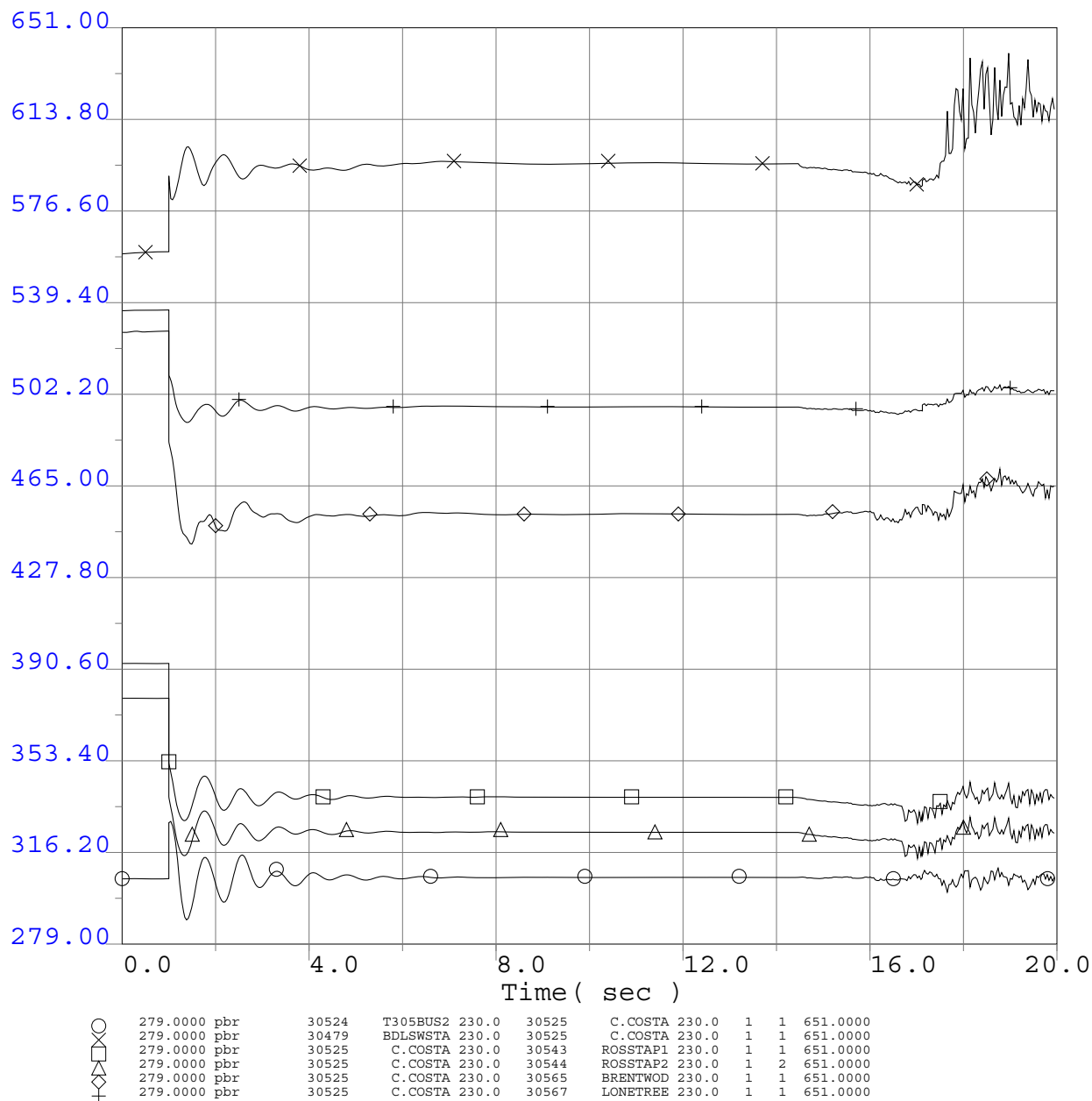
Selected PG&E Transmission Line Flows (MW)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 Q258 Load Rejection
 No Fault Load Rejection

Q258 GIPR Phase 1 Interconnection System Impact Study

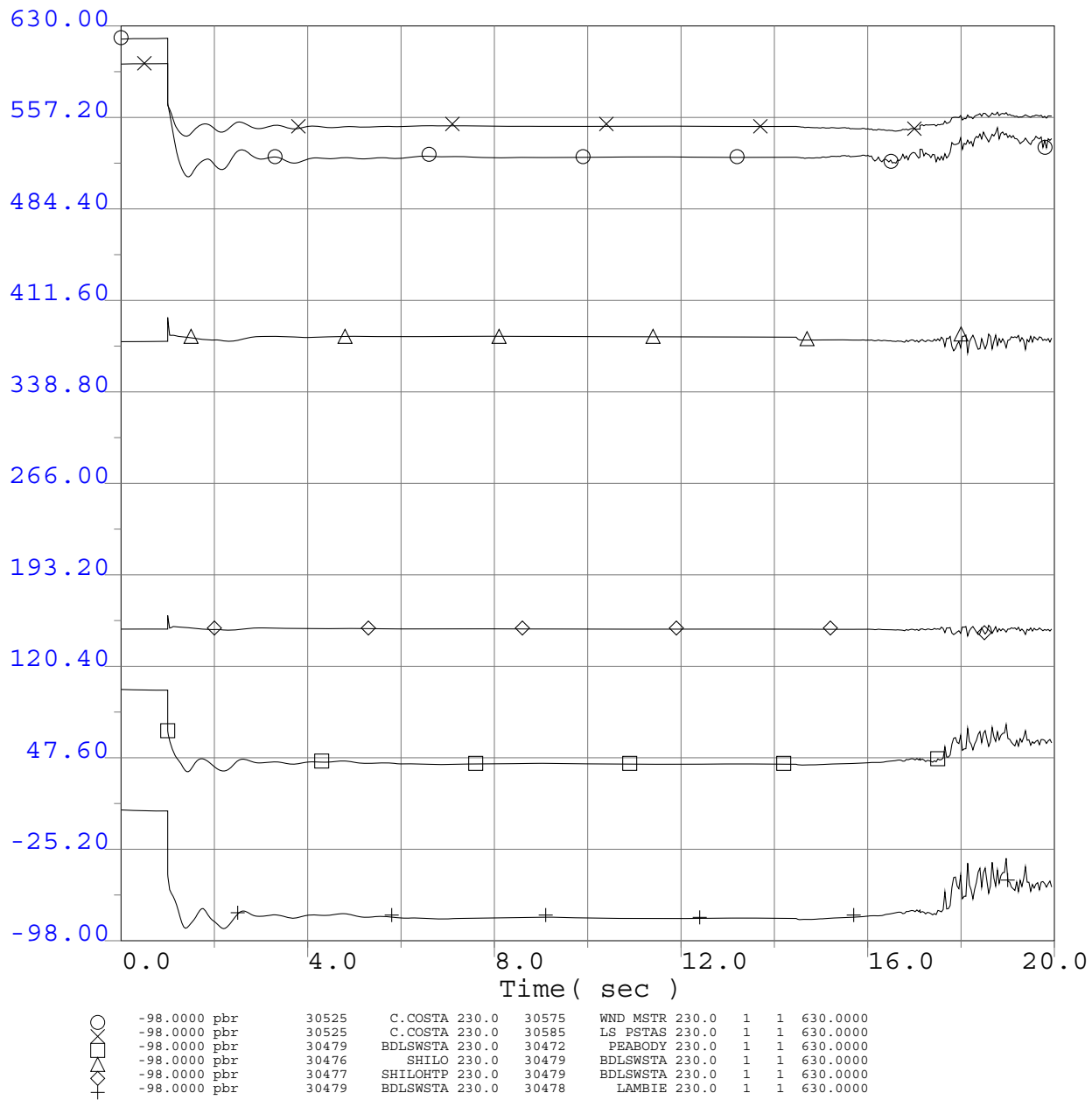
Selected PG&E Transmission Line Flows (MW)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 Q258 Load Rejection
 No Fault Load Rejection

Q258 GIPR Phase 1 Interconnection System Impact Study

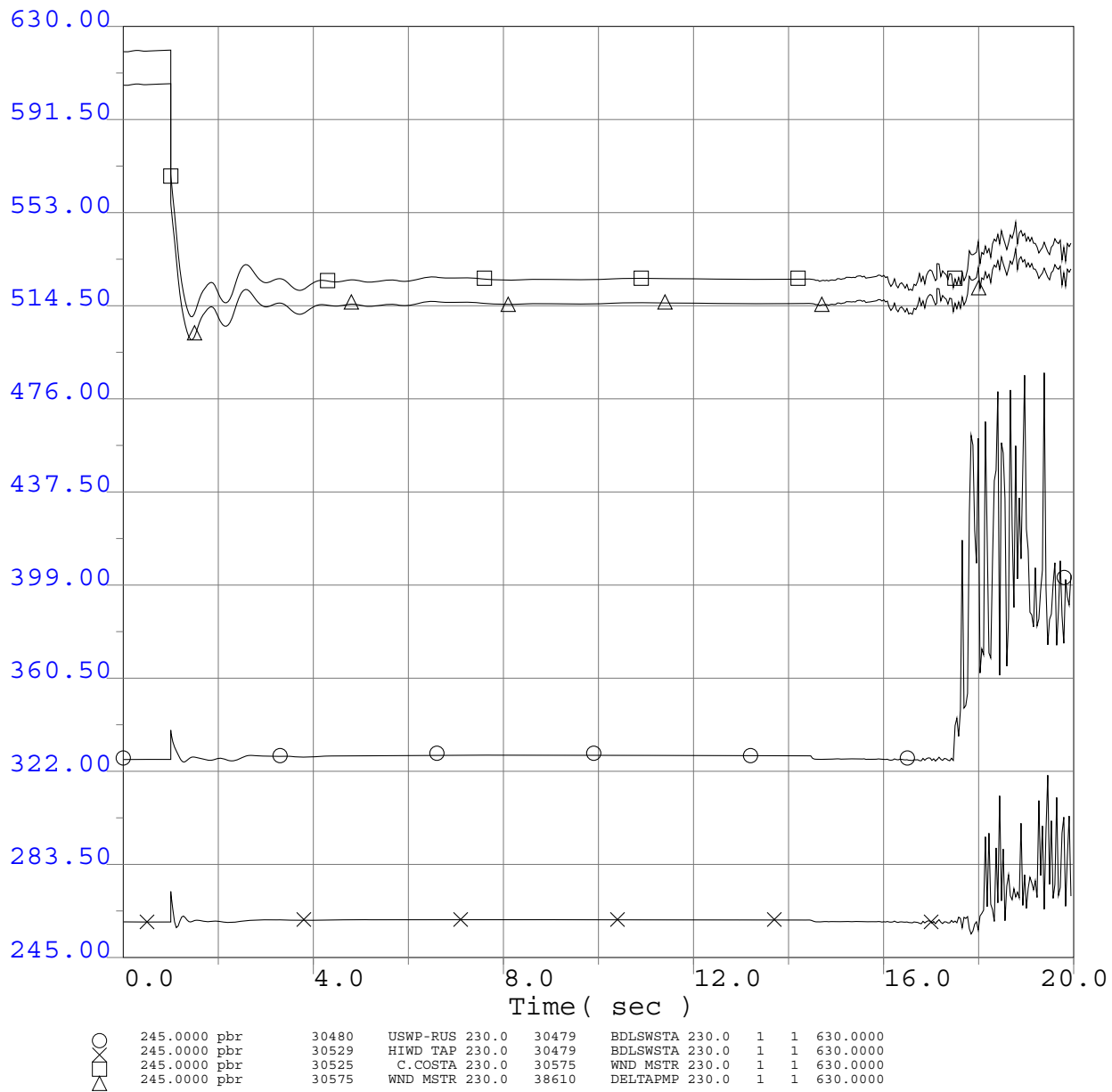
Selected PG&E Transmission Line Flows (MW)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 Q258 Load Rejection
 No Fault Load Rejection

Q258 GIPR Phase 1 Interconnection System Impact Study

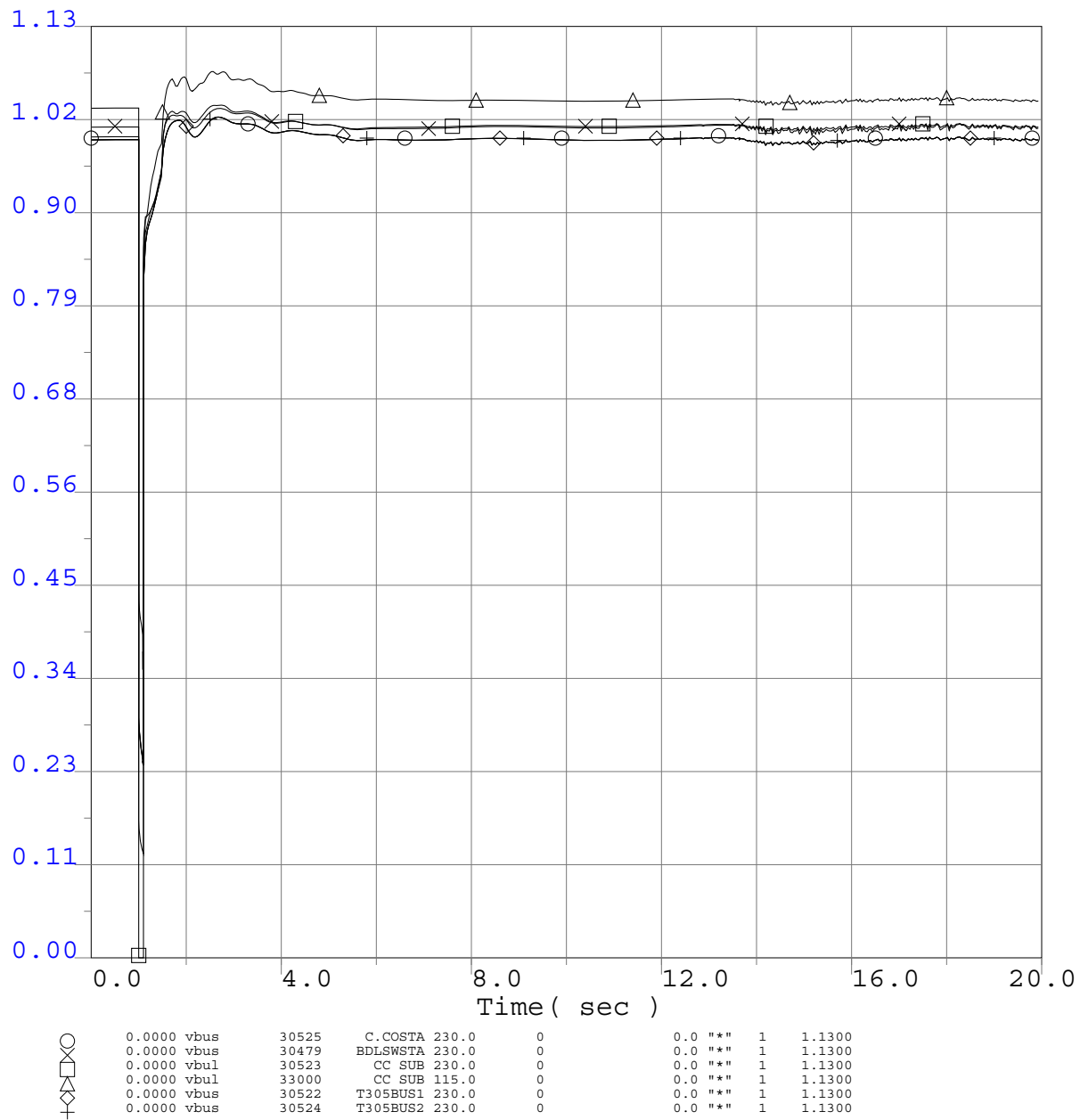
Selected PG&E Transmission Line Flows (MW)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
2013 Greater Bay Area Summer Peak Base Case
Q258 @537MW
Q258 Load Rejection
No Fault Load Rejection

Q258 GIPR Phase 1 Interconnection System Impact Study

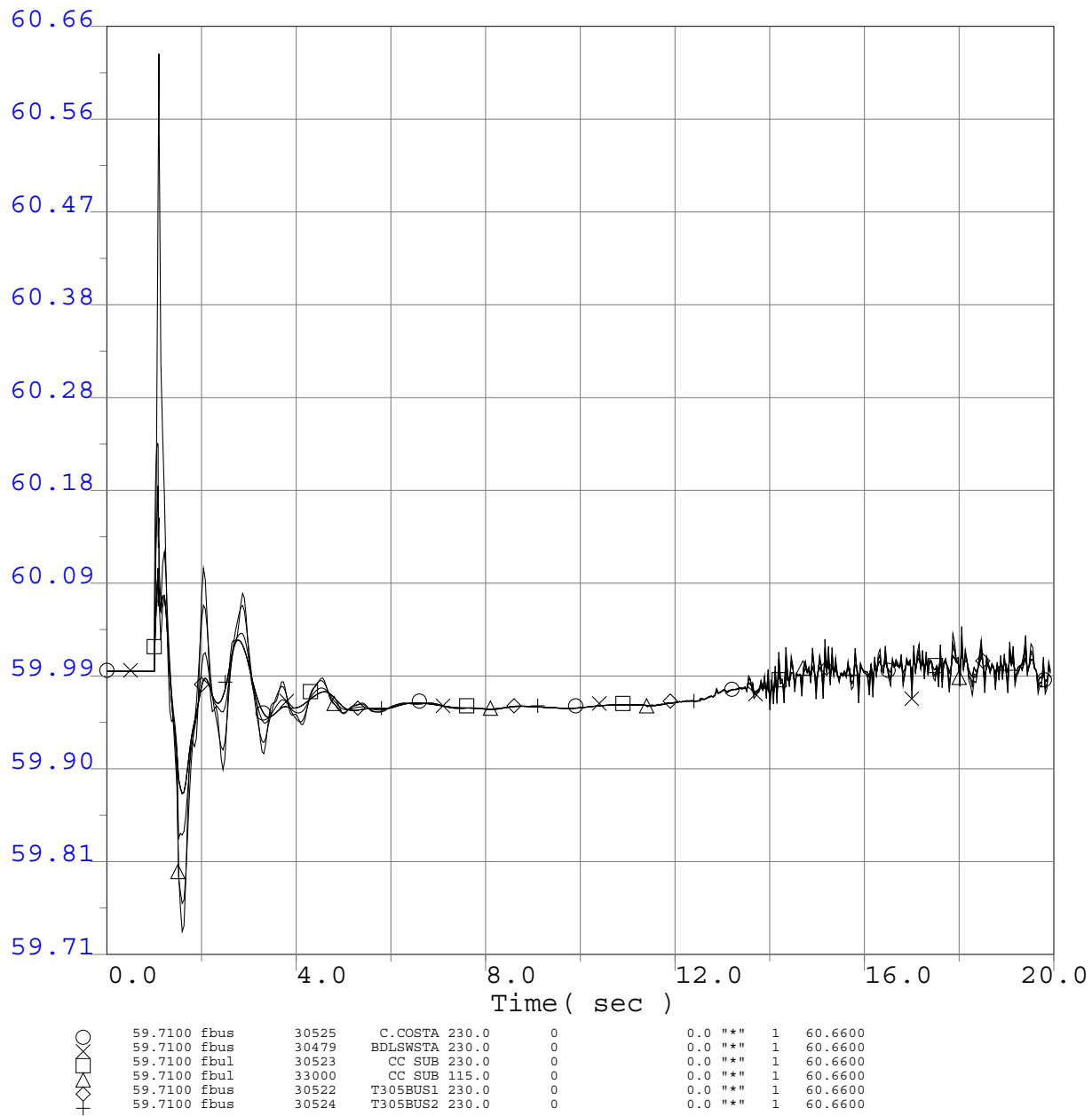
Selected PG&E Bus Voltage Plots Adjacent to Fault



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CCPP-CC Sub 230kV Line Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CCPP-CC Sub 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

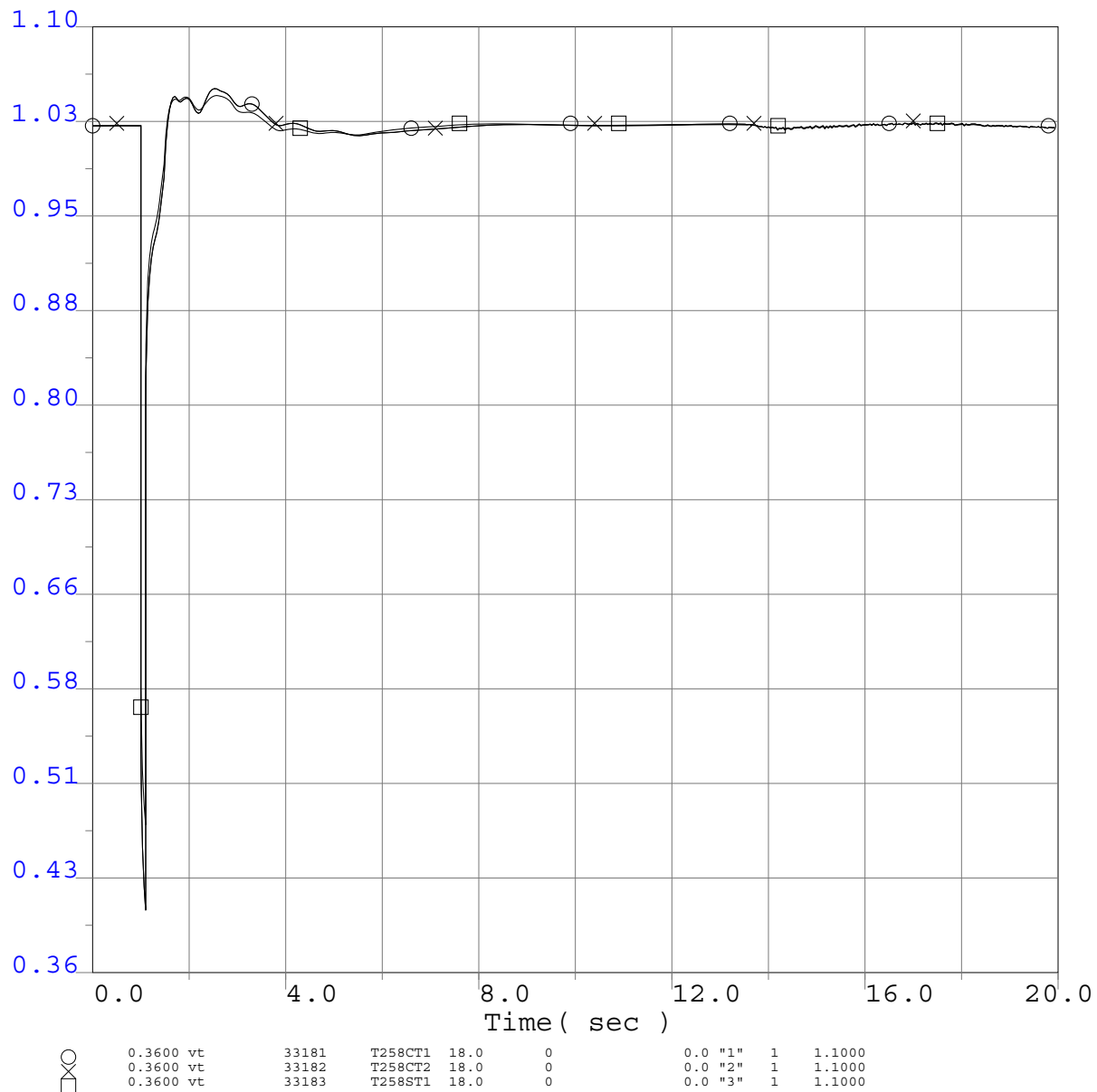
Selected PG&E Bus Frequency Plots Adjacent to Fault



Q258 Project GIPR Phase 1 Interconnection System Impact Study
2013 Greater Bay Area Summer Peak Base Case
Q258 @537MW
CCPP-CC Sub 230kV Line Outage
3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CCPP-CC Sub 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

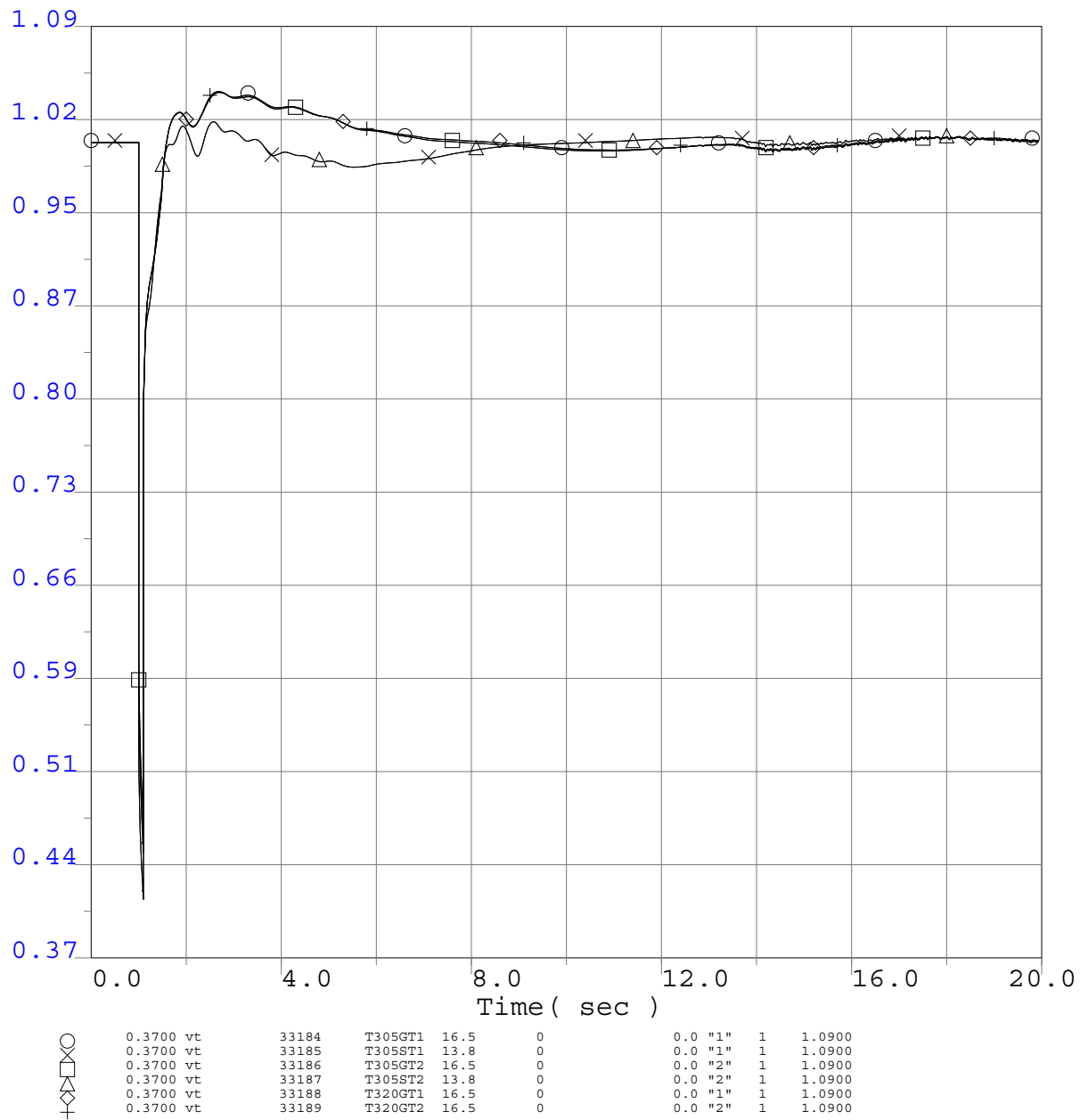
Project Generator Terminal Voltages (P.U.)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CAPP-CC Sub 230kV Line Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CAPP-CC Sub 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

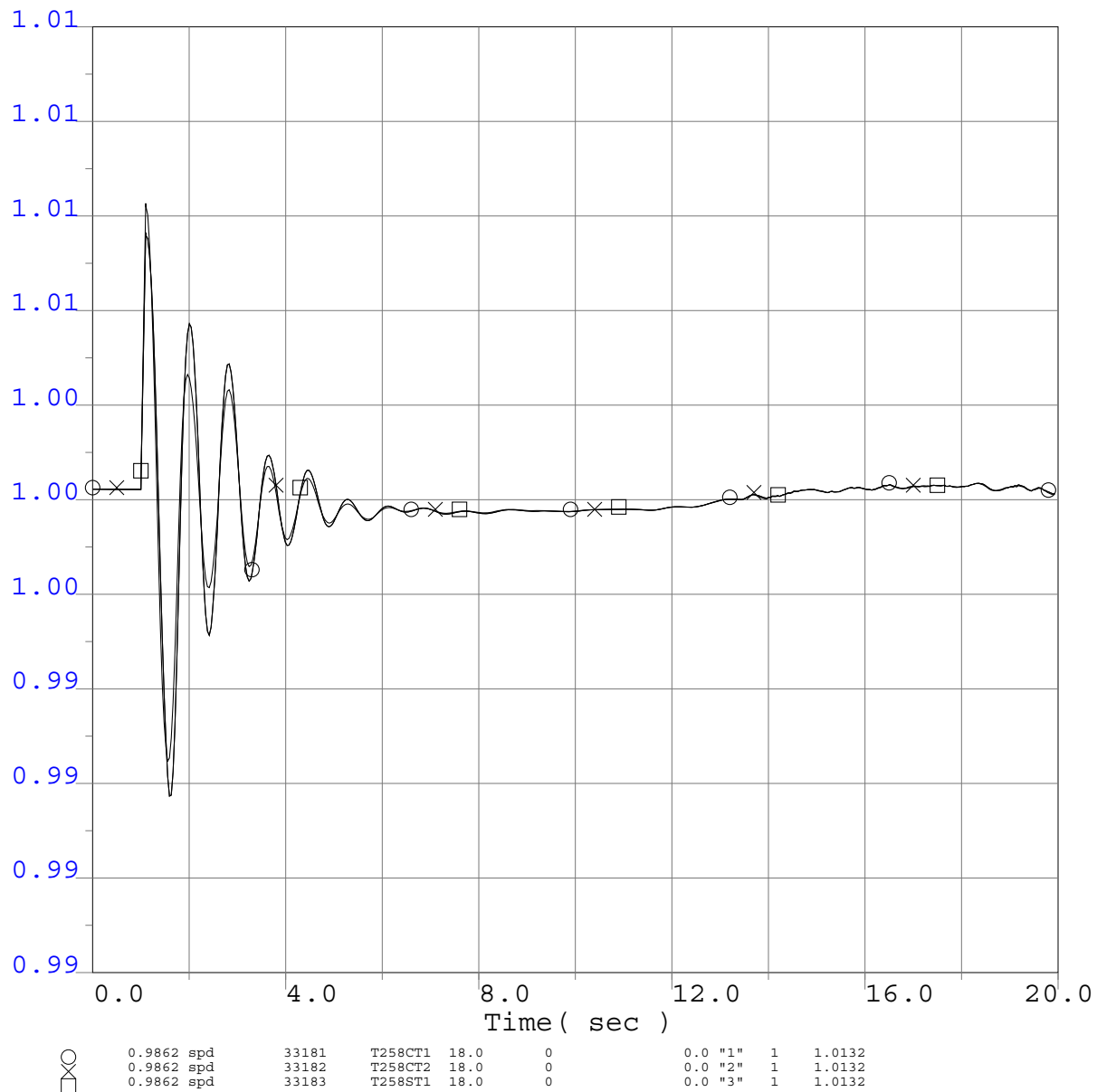
Selected Generator Terminal Voltages (P.U.)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CCPP-CC Sub 230kV Line Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CCPP-CC Sub 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

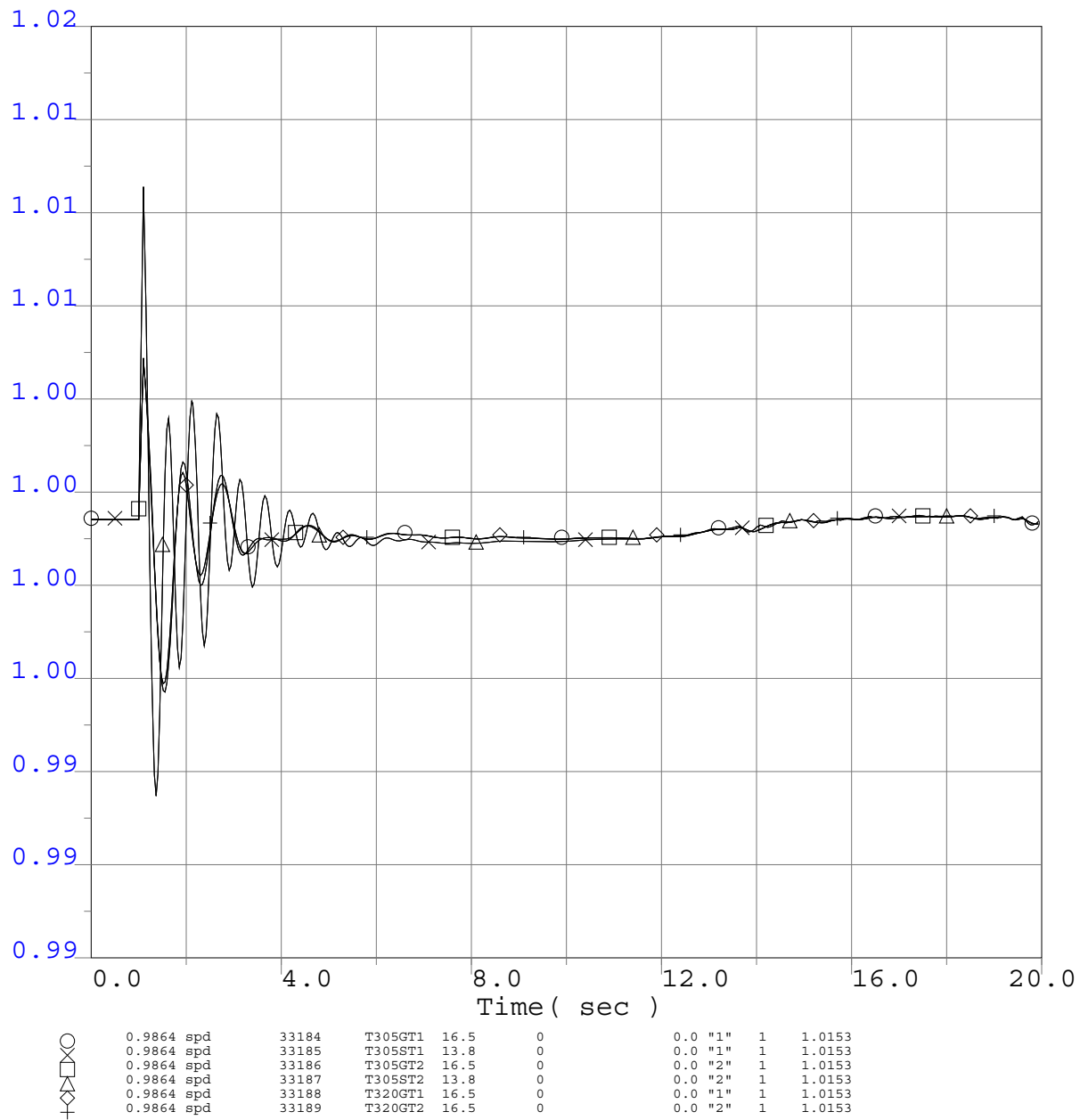
Project Generator Speed (P.U.)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CCPP-CC Sub 230kV Line Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CCPP-CC Sub 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

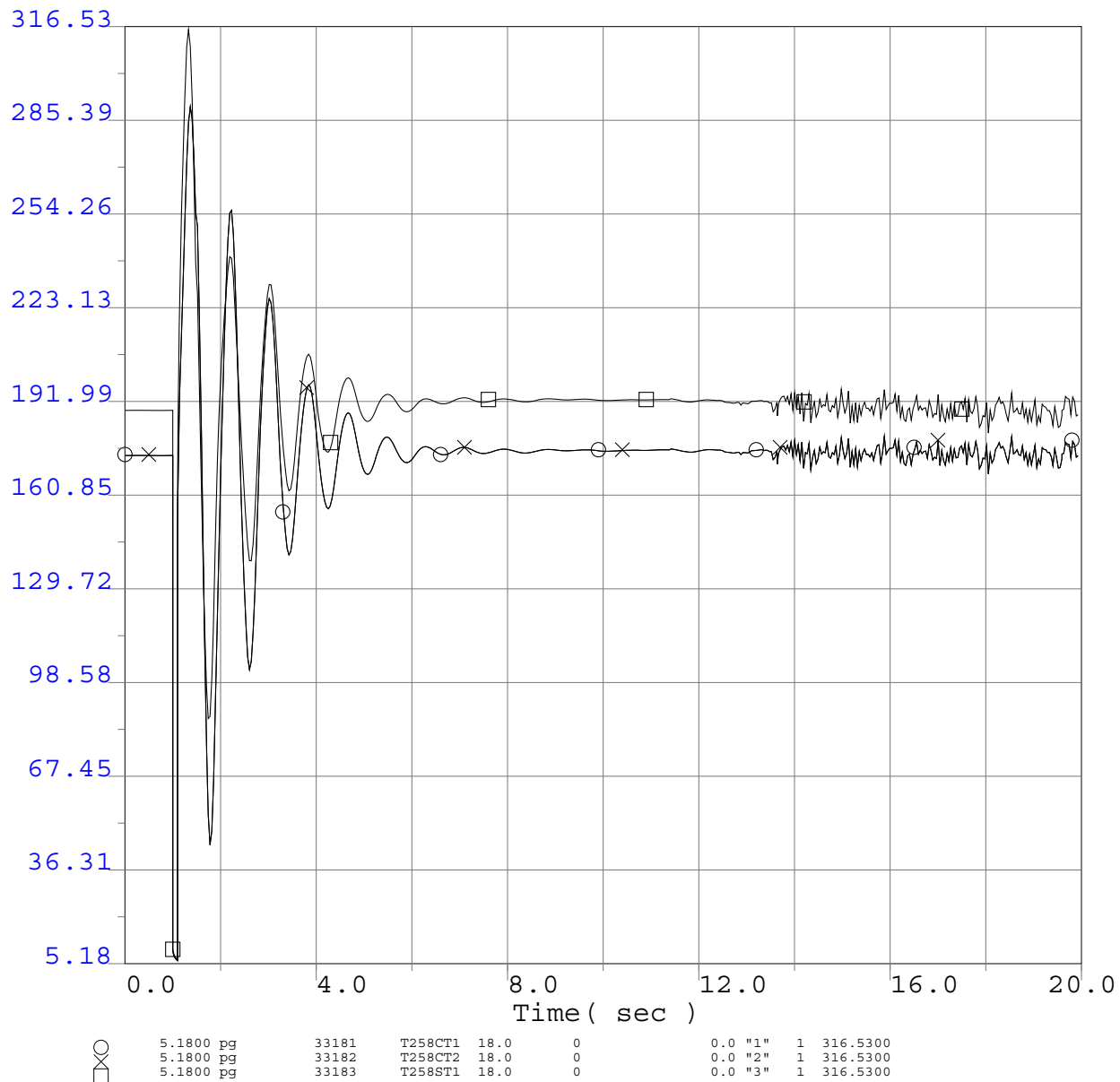
Selected Generator Speed (P.U.)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CCPP-CC Sub 230kV Line Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CCPP-CC Sub 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

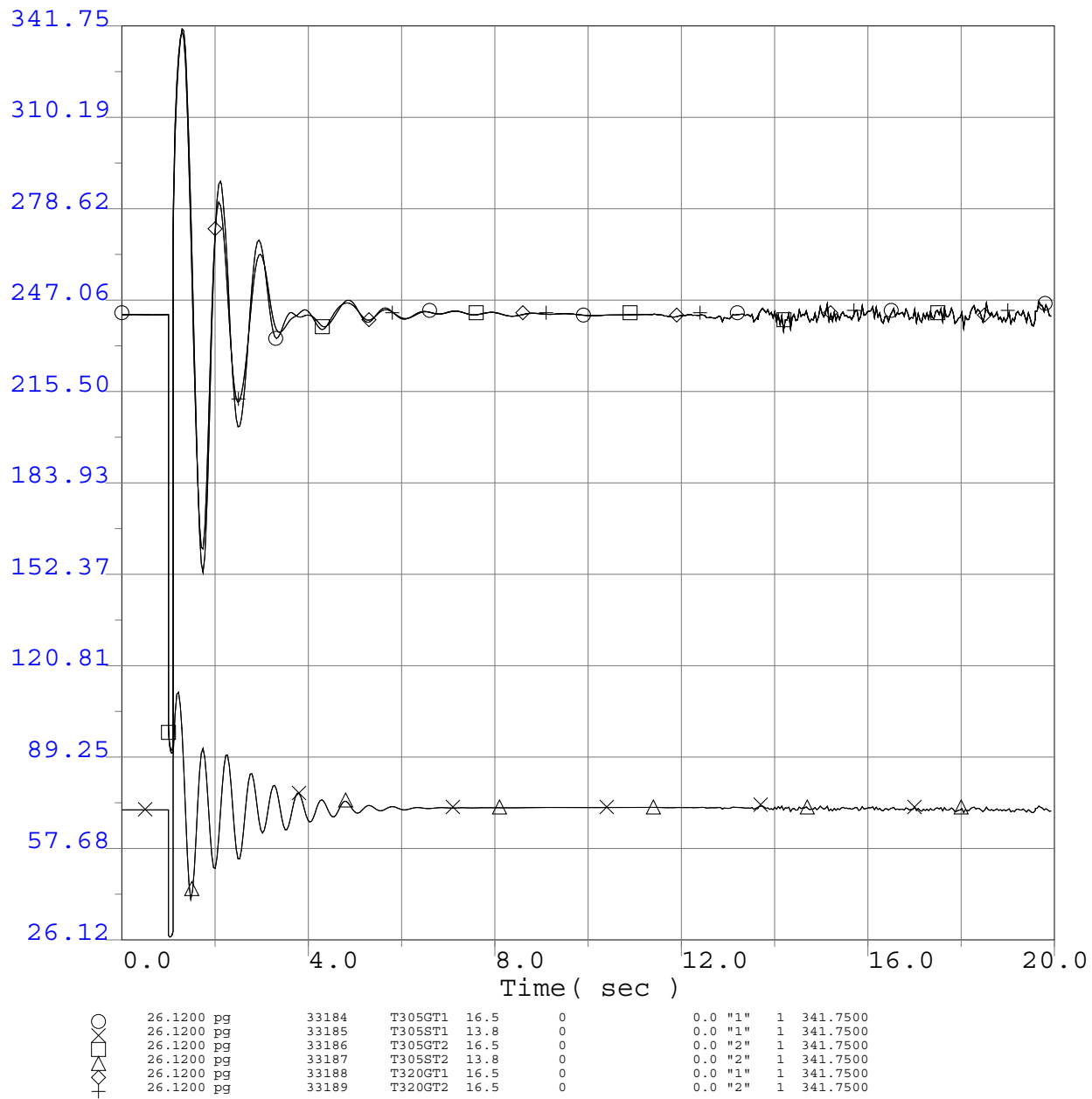
Project Generator Terminal Power (MW)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CAPP-CC Sub 230kV Line Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CAPP-CC Sub 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

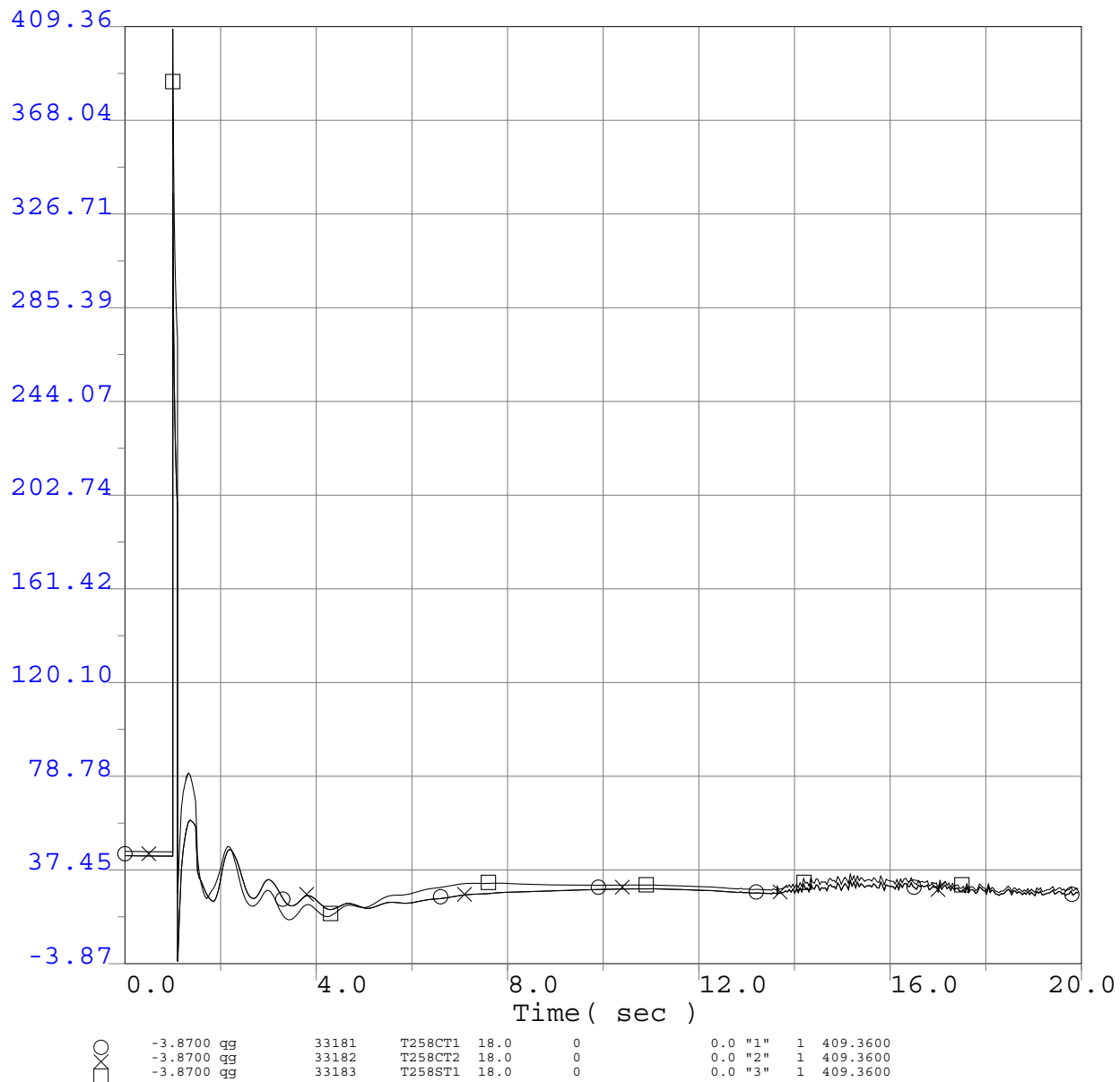
Selected Generator Terminal Power (MW)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CAPP-CC Sub 230kV Line Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CAPP-CC Sub 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

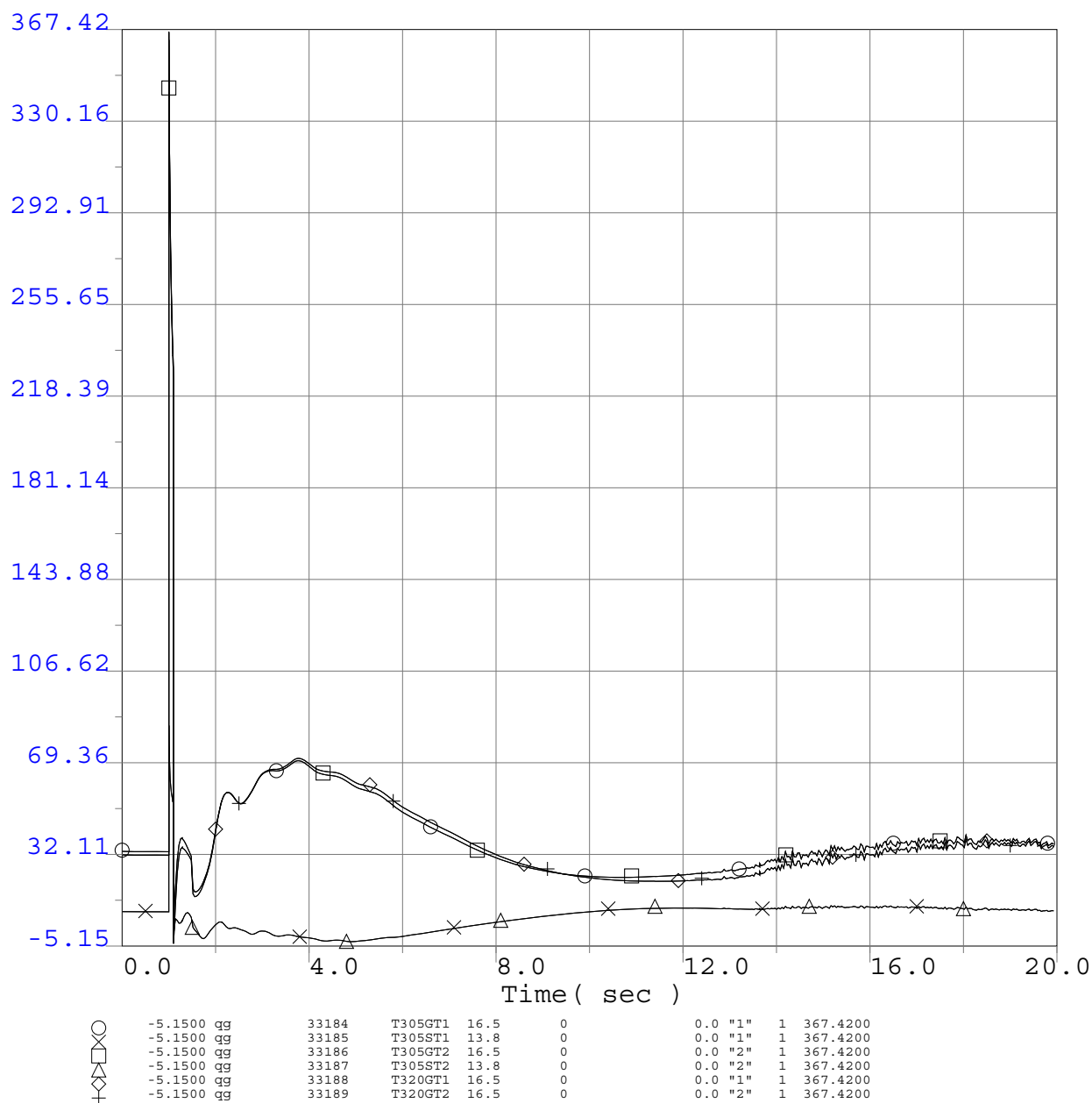
Project Generator Terminal Reactive Power (MVar)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CCPP-CC Sub 230kV Line Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CCPP-CC Sub 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

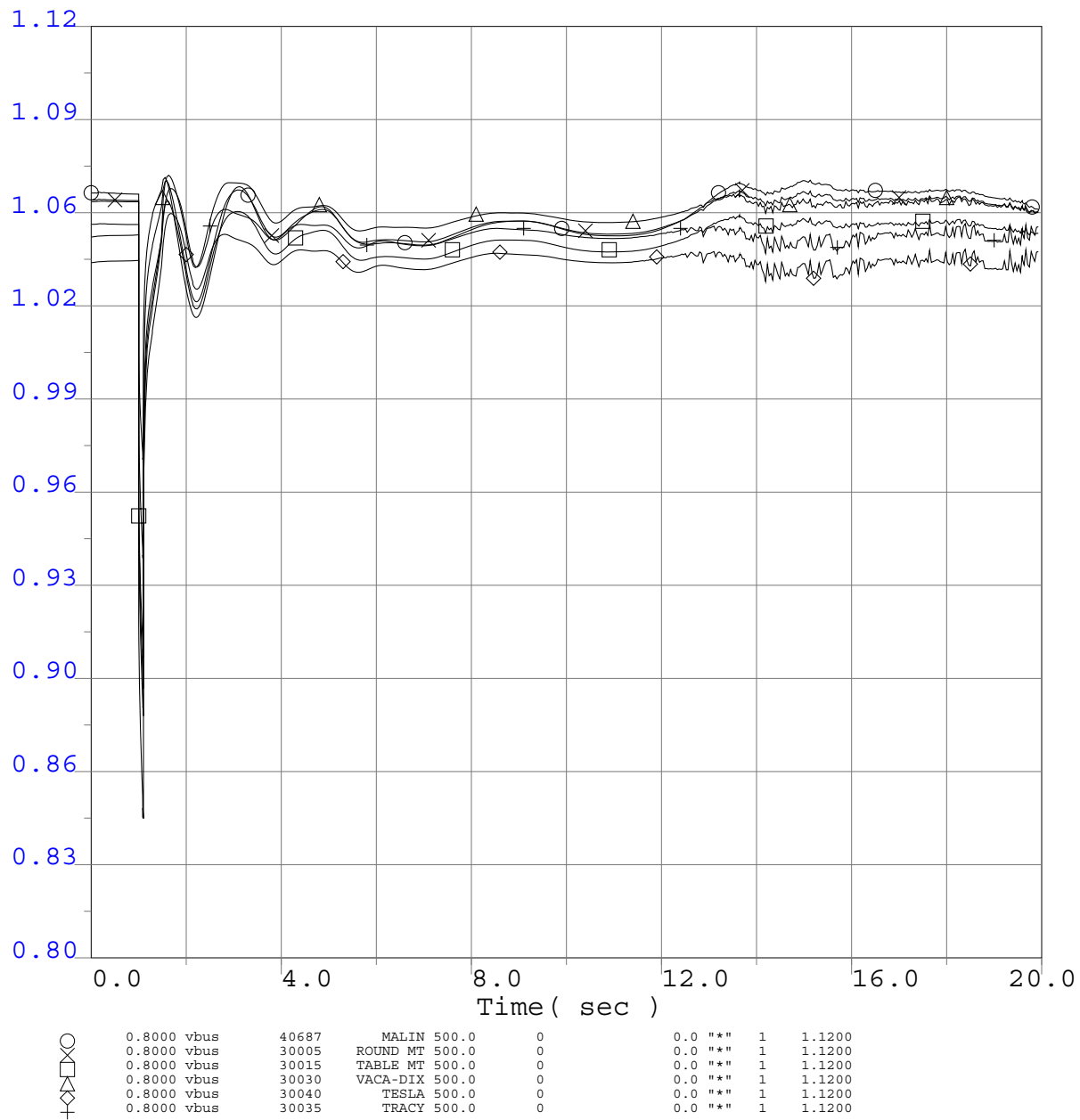
Selected Generator Terminal Reactive Power (MVar)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CAPP-CC Sub 230kV Line Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CAPP-CC Sub 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

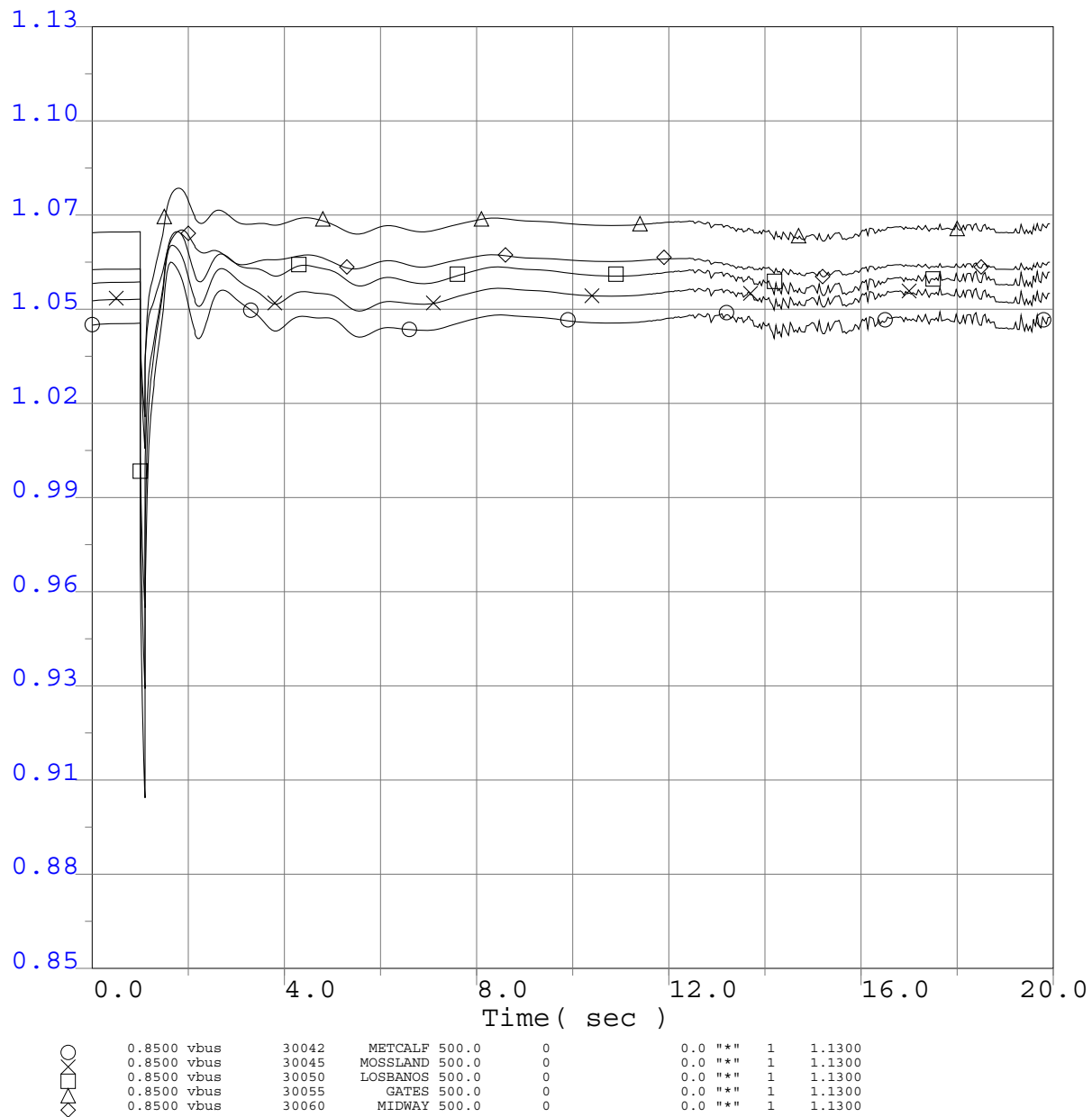
Selected WECC Bus Voltage Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
2013 Greater Bay Area Summer Peak Base Case
Q258 @537MW
CCPP-CC Sub 230kV Line Outage
3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CCPP-CC Sub 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

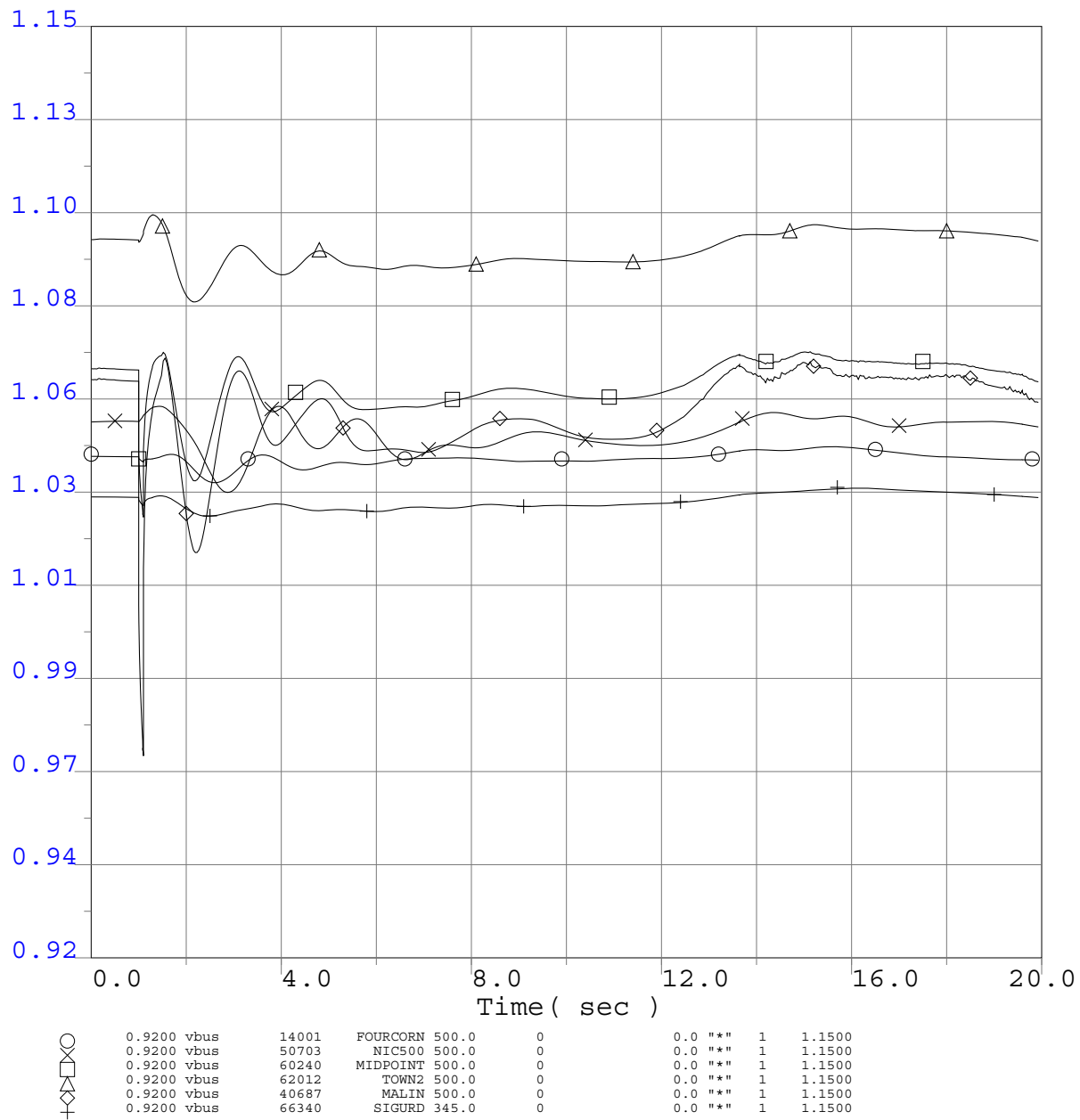
Selected WECC Bus Voltage Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CAPP-CC Sub 230kV Line Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CAPP-CC Sub 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

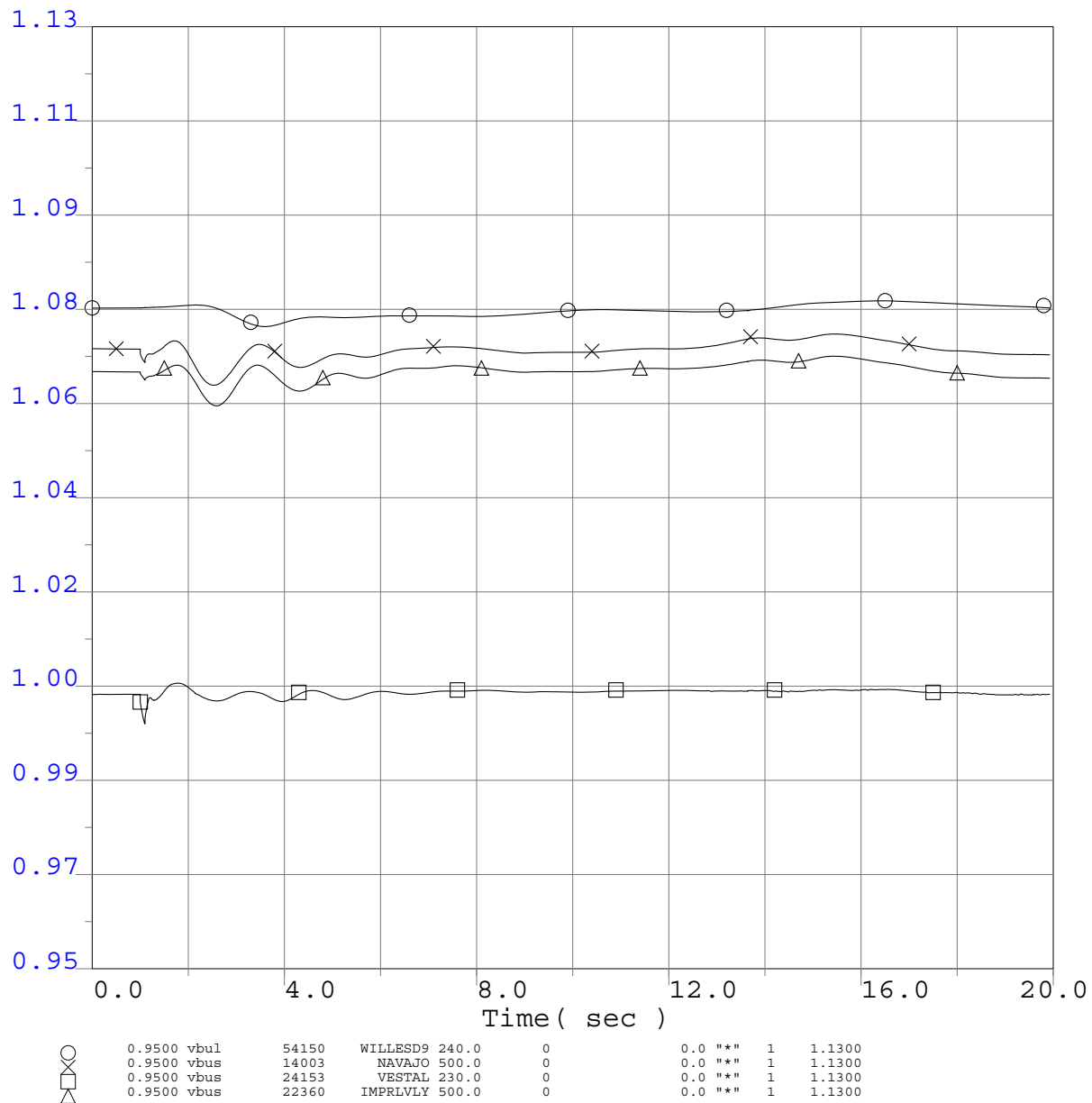
Selected WECC Bus Voltage Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CCPP-CC Sub 230kV Line Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CCPP-CC Sub 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

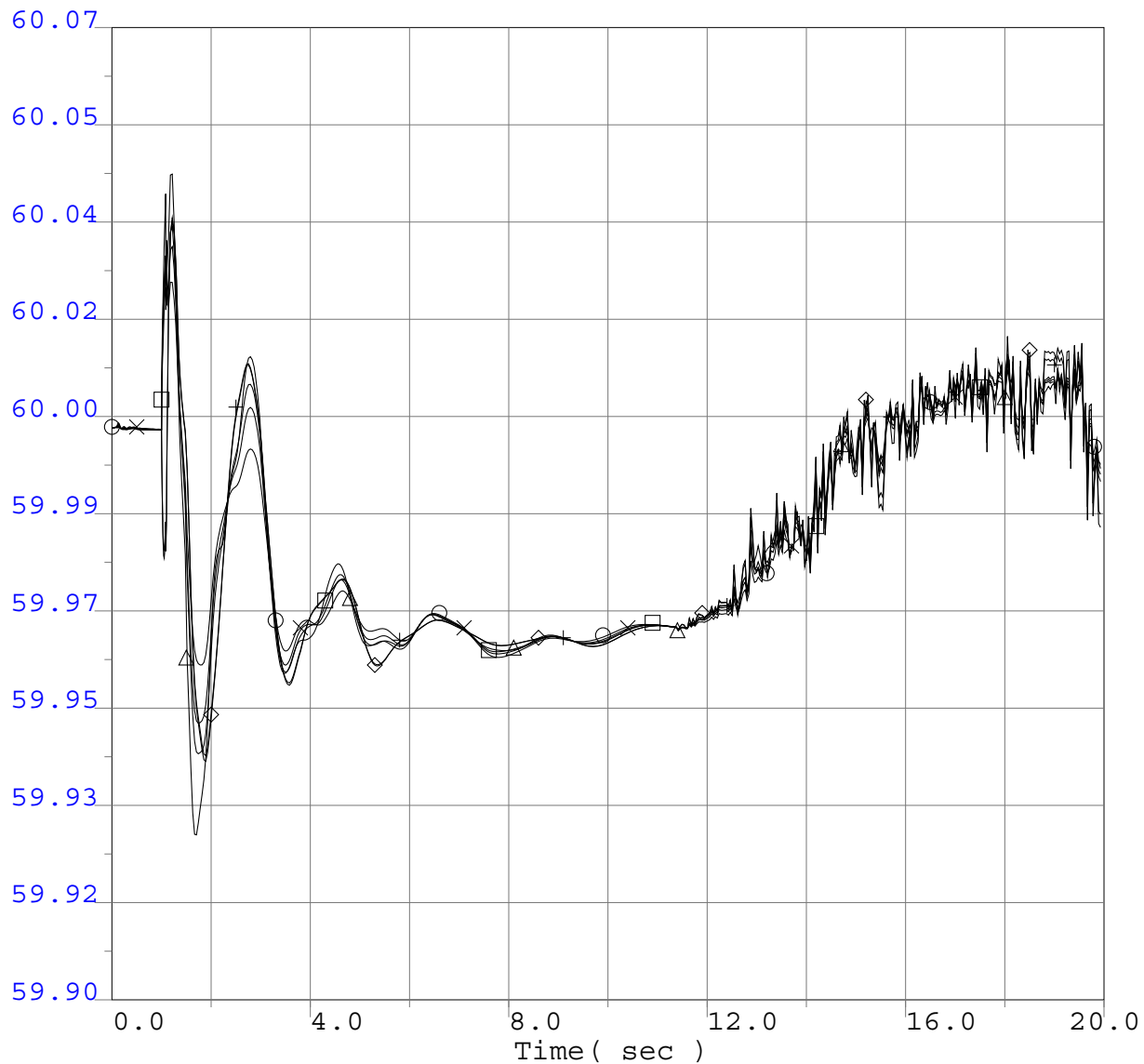
Selected WECC Bus Voltage Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CAPP-CC Sub 230kV Line Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CAPP-CC Sub 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

Selected WECC Bus Frequency Plots

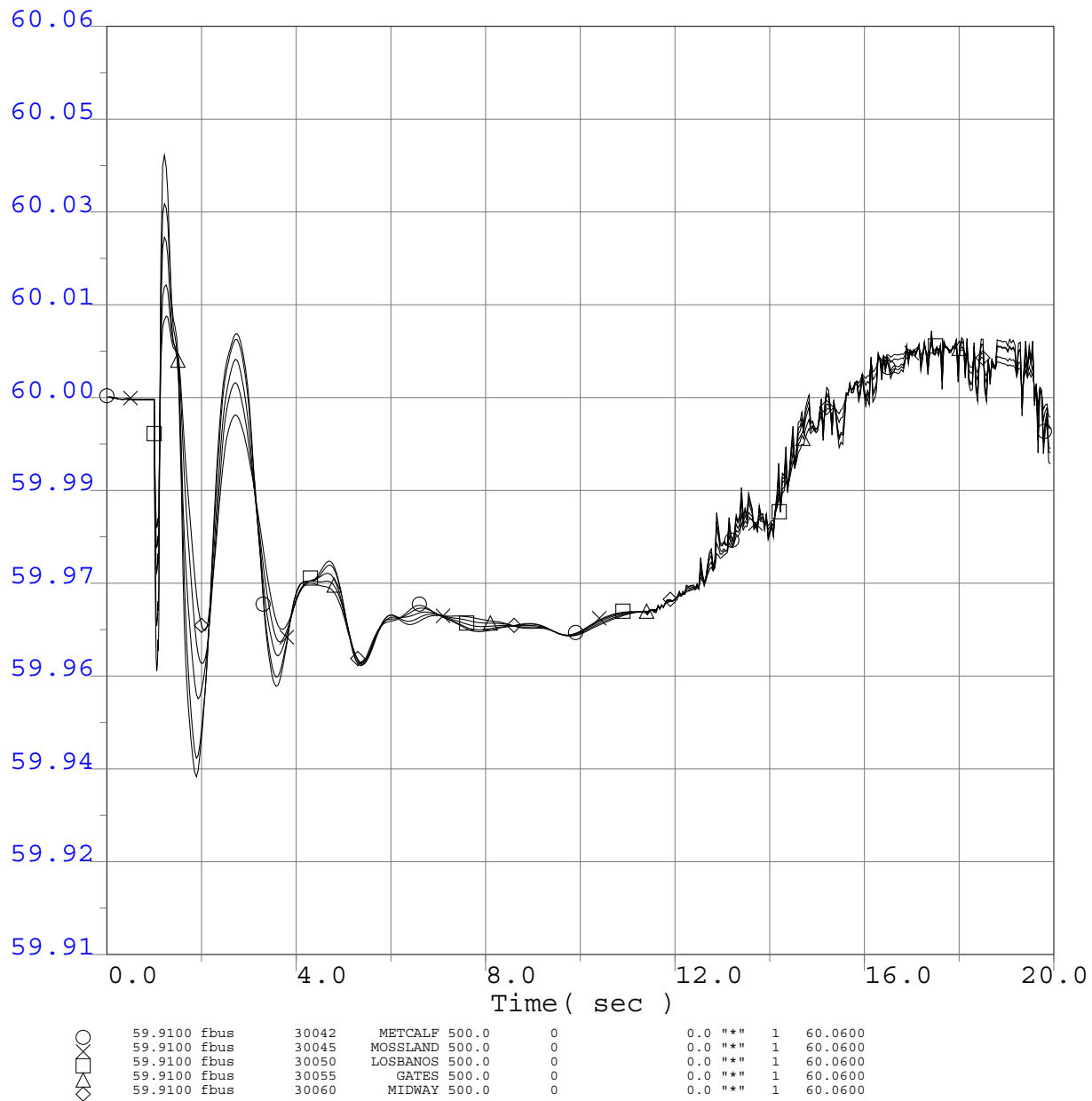


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□	59.9000 fbus	30005	ROUND MT 500.0	0	0.0	"	1	60.0700
△	59.9000 fbus	30015	TABLE MT 500.0	0	0.0	"	1	60.0700
◇	59.9000 fbus	30030	VACA-DIX 500.0	0	0.0	"	1	60.0700
+	59.9000 fbus	30040	TESLA 500.0	0	0.0	"	1	60.0700
×	59.9000 fbus	30035	TRACY 500.0	0	0.0	"	1	60.0700

Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CAPP-CC Sub 230kV Line Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CAPP-CC Sub 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

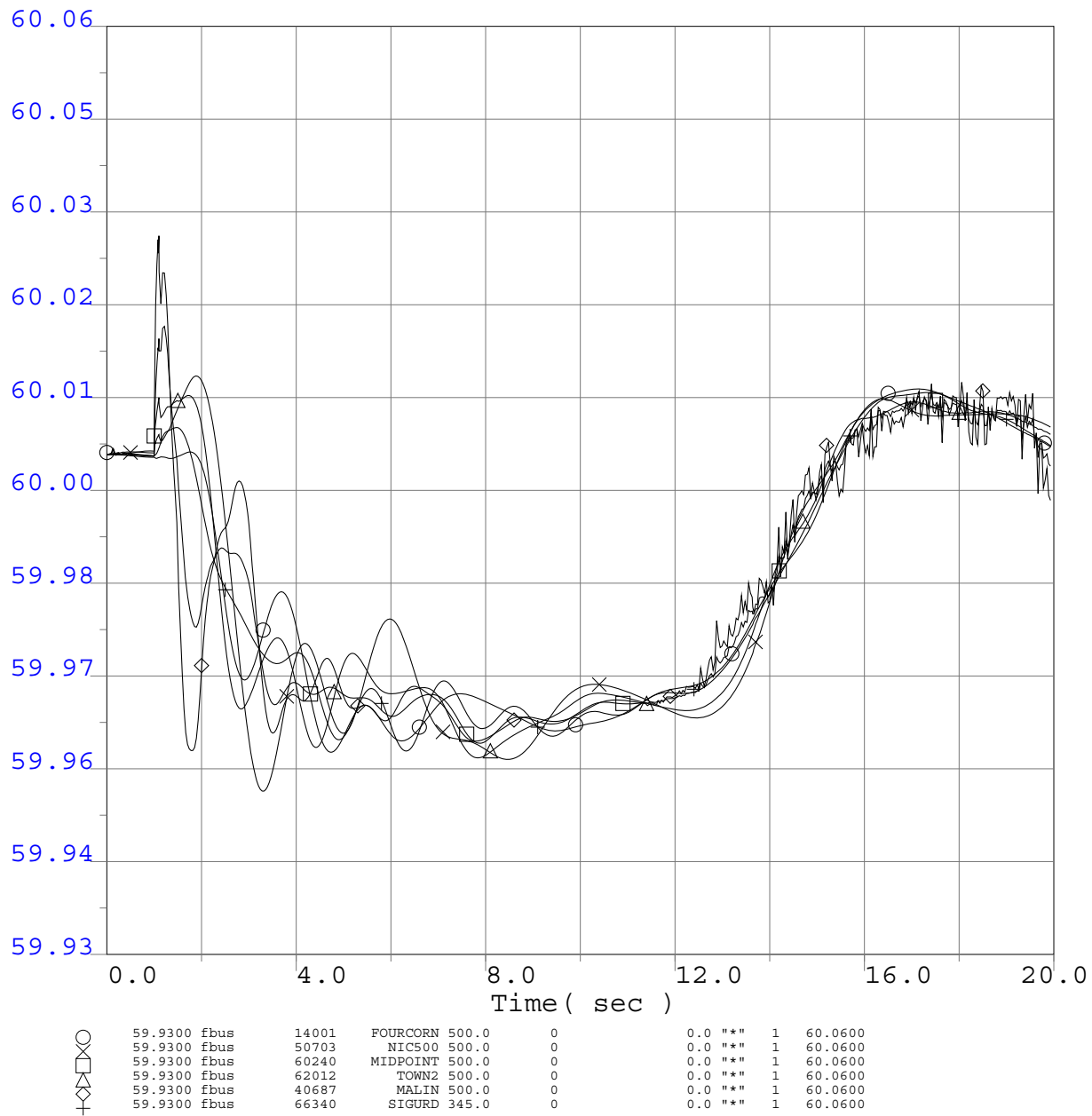
Selected WECC Bus Frequency Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CAPP-CC Sub 230kV Line Outage
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Q258 GIPR Phase 1 Interconnection System Impact Study

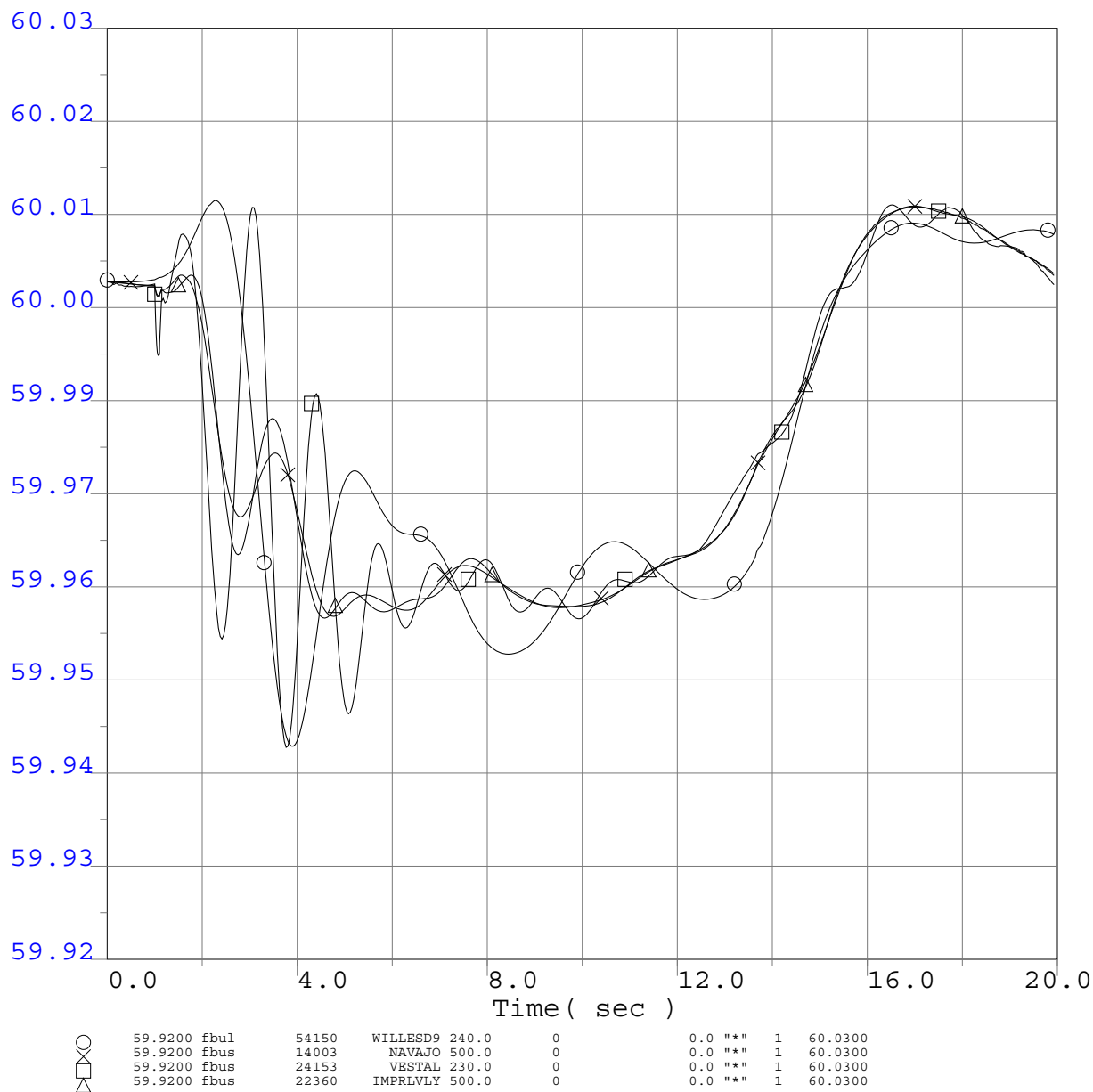
Selected WECC Bus Frequency Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
2013 Greater Bay Area Summer Peak Base Case
Q258 @537MW
CCPP-CC Sub 230kV Line Outage
3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CCPP-CC Sub 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

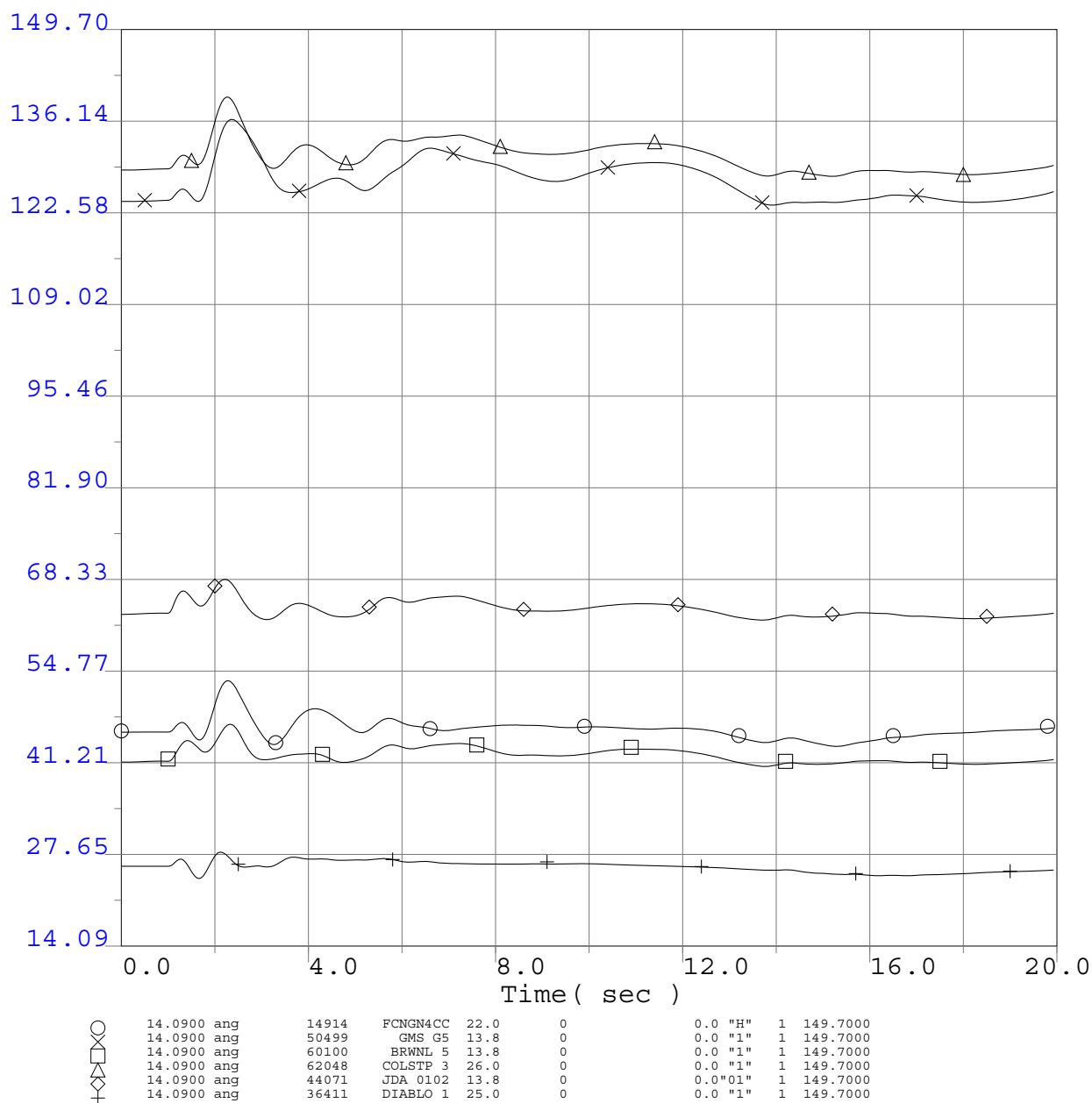
Selected WECC Bus Frequency Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CAPP-CC Sub 230kV Line Outage
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Q258 GIPR Phase 1 Interconnection System Impact Study

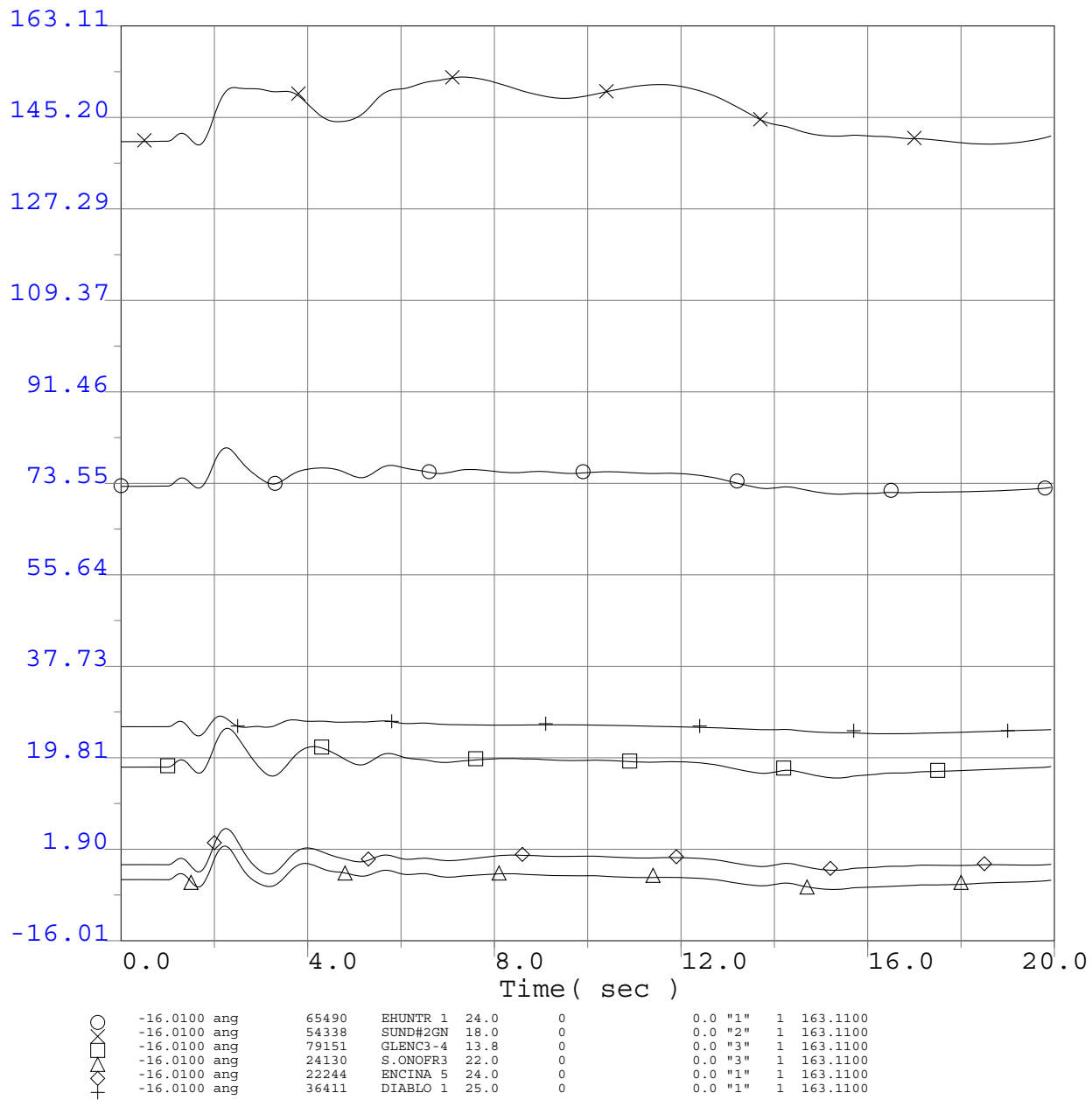
WECC Generator Rotor Angle



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CCPP-CC Sub 230kV Line Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CCPP-CC Sub 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

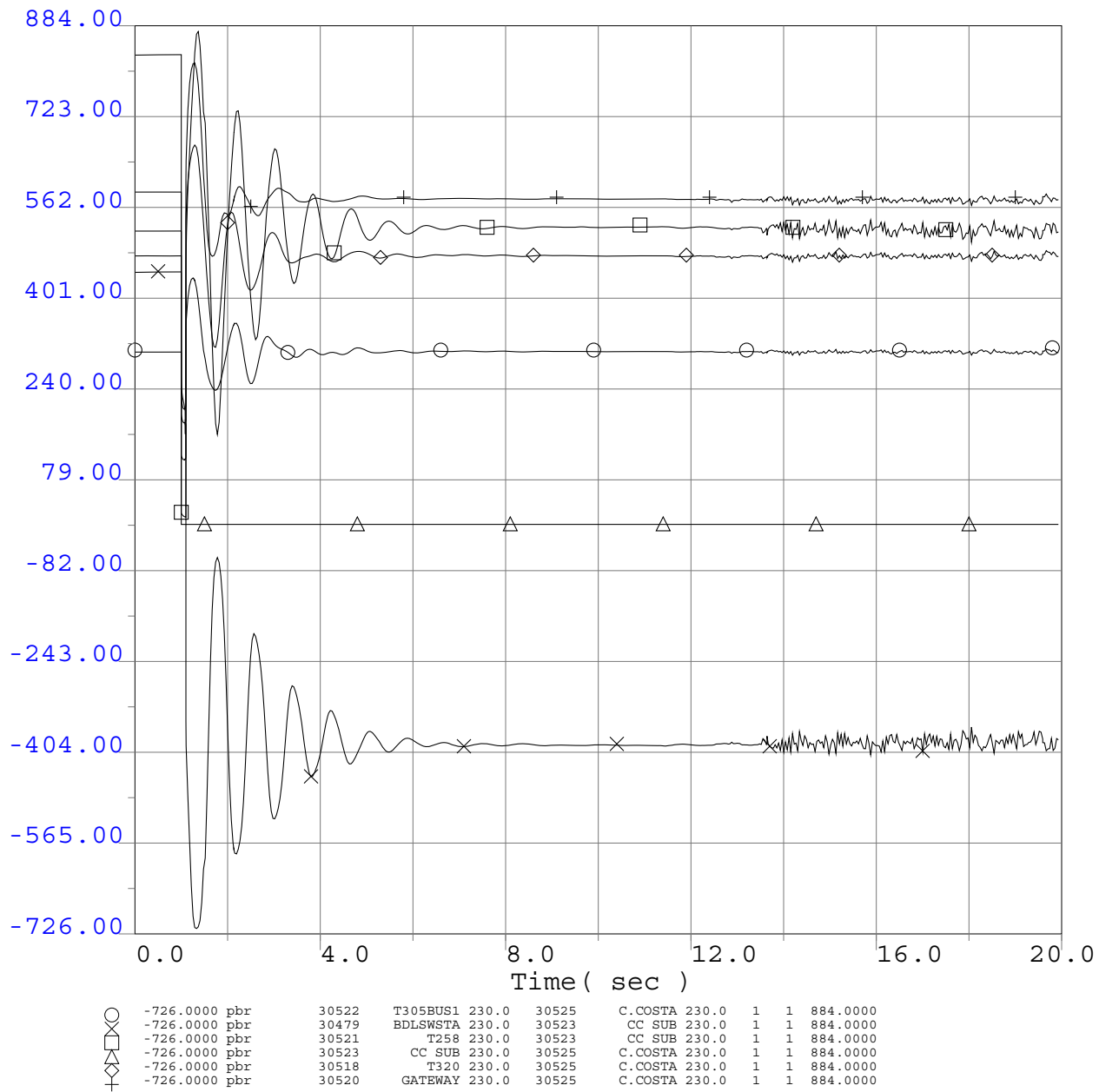
WECC Generator Rotor Angle



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CAPP-CC Sub 230kV Line Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CAPP-CC Sub 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

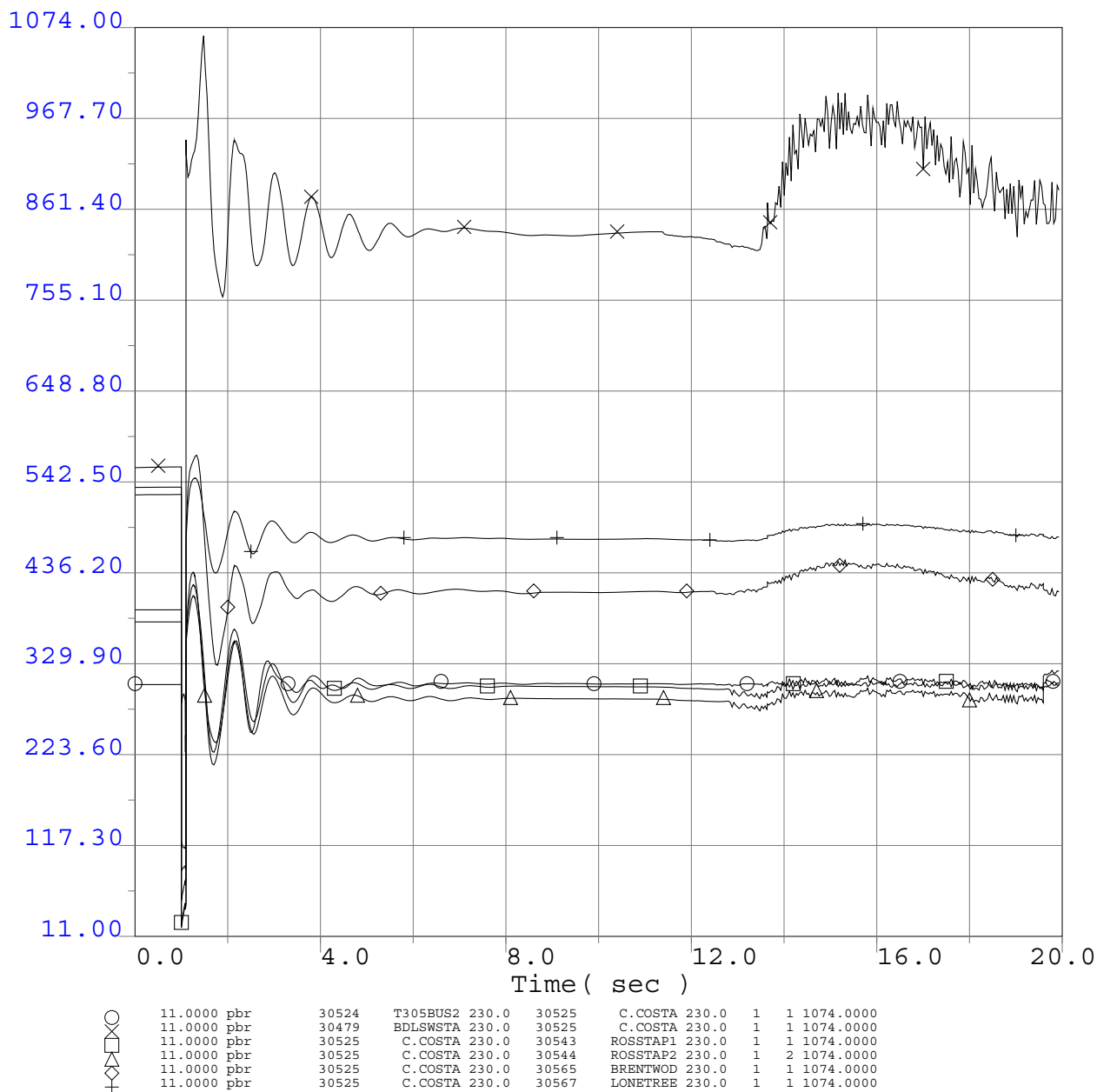
Selected PG&E Transmission Line Flows (MW)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
2013 Greater Bay Area Summer Peak Base Case
Q258 @537MW
CCPP-CC Sub 230kV Line Outage
3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CCPP-CC Sub 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

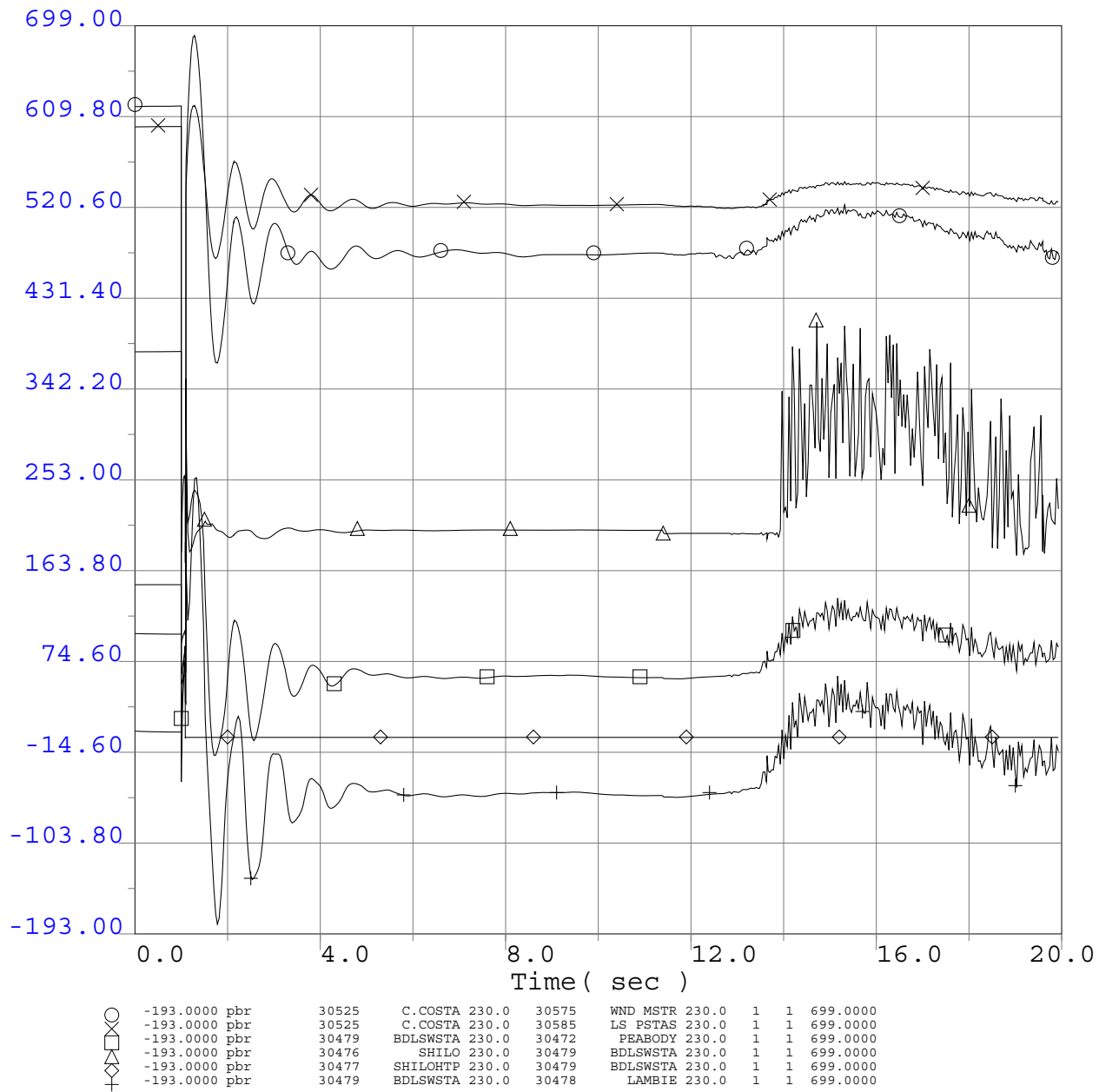
Selected PG&E Transmission Line Flows (MW)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CCPP-CC Sub 230kV Line Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CCPP-CC Sub 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

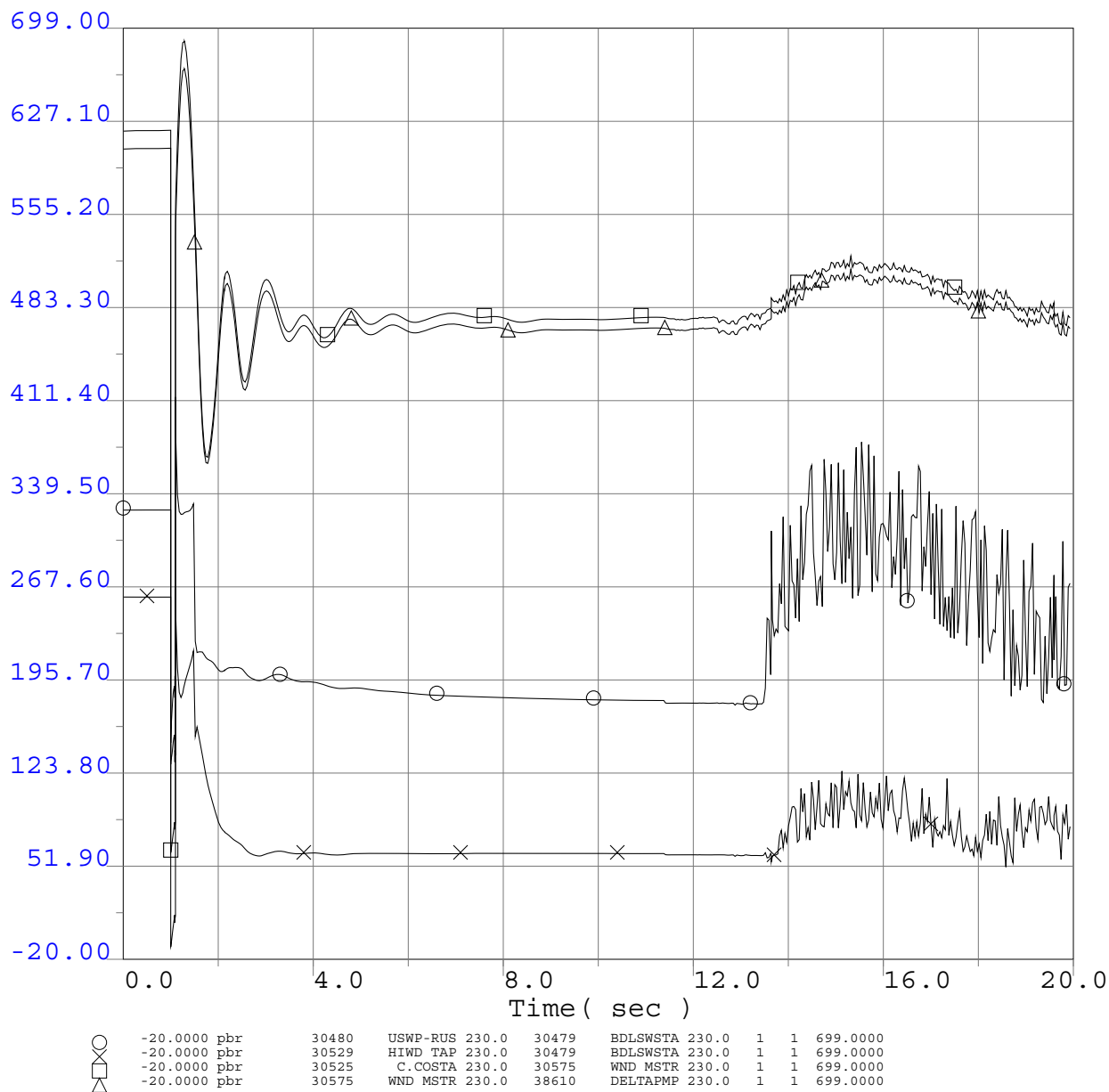
Selected PG&E Transmission Line Flows (MW)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CAPP-CC Sub 230kV Line Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CAPP-CC Sub 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

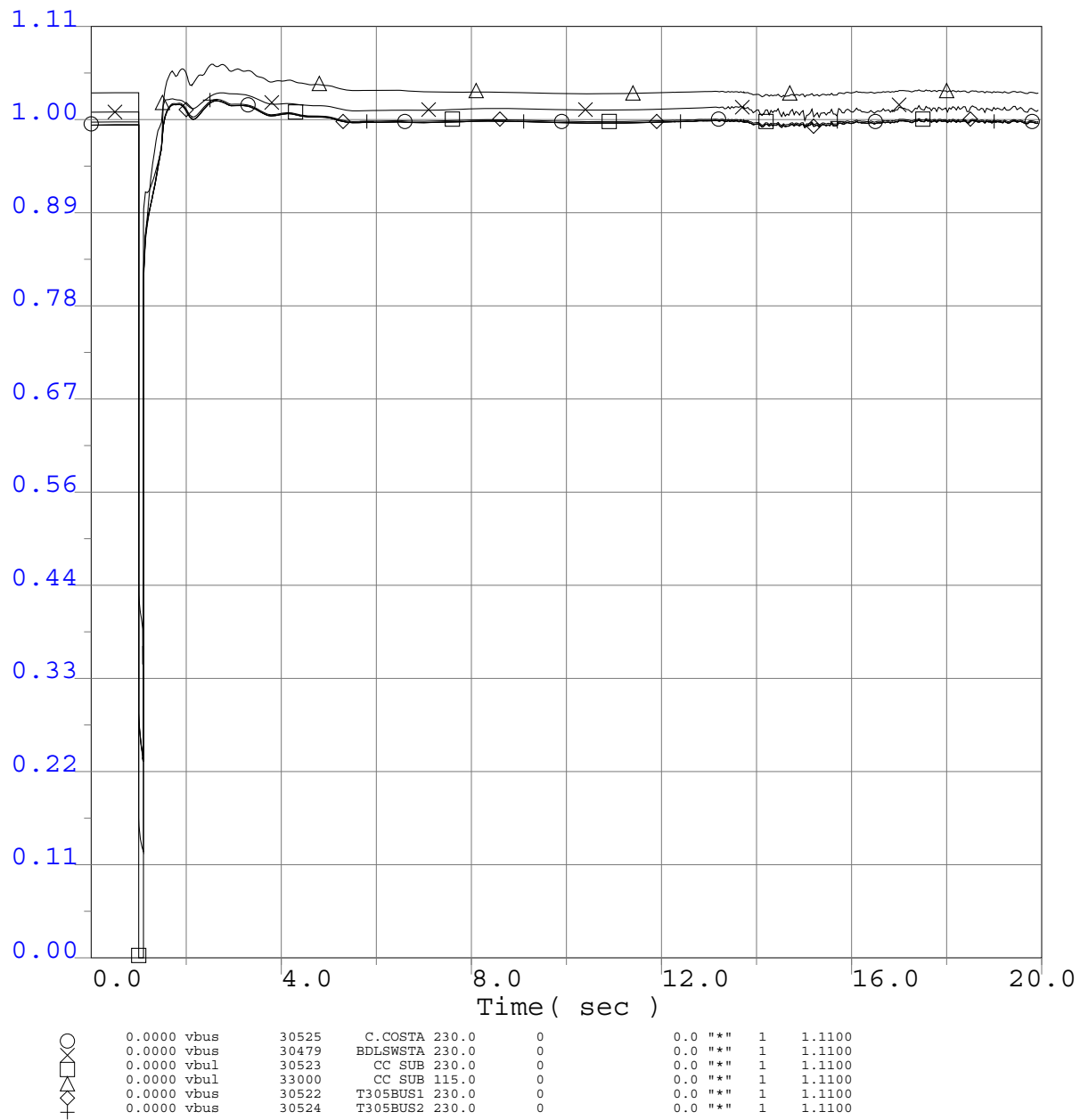
Selected PG&E Transmission Line Flows (MW)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CAPP-CC Sub 230kV Line Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CAPP-CC Sub 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

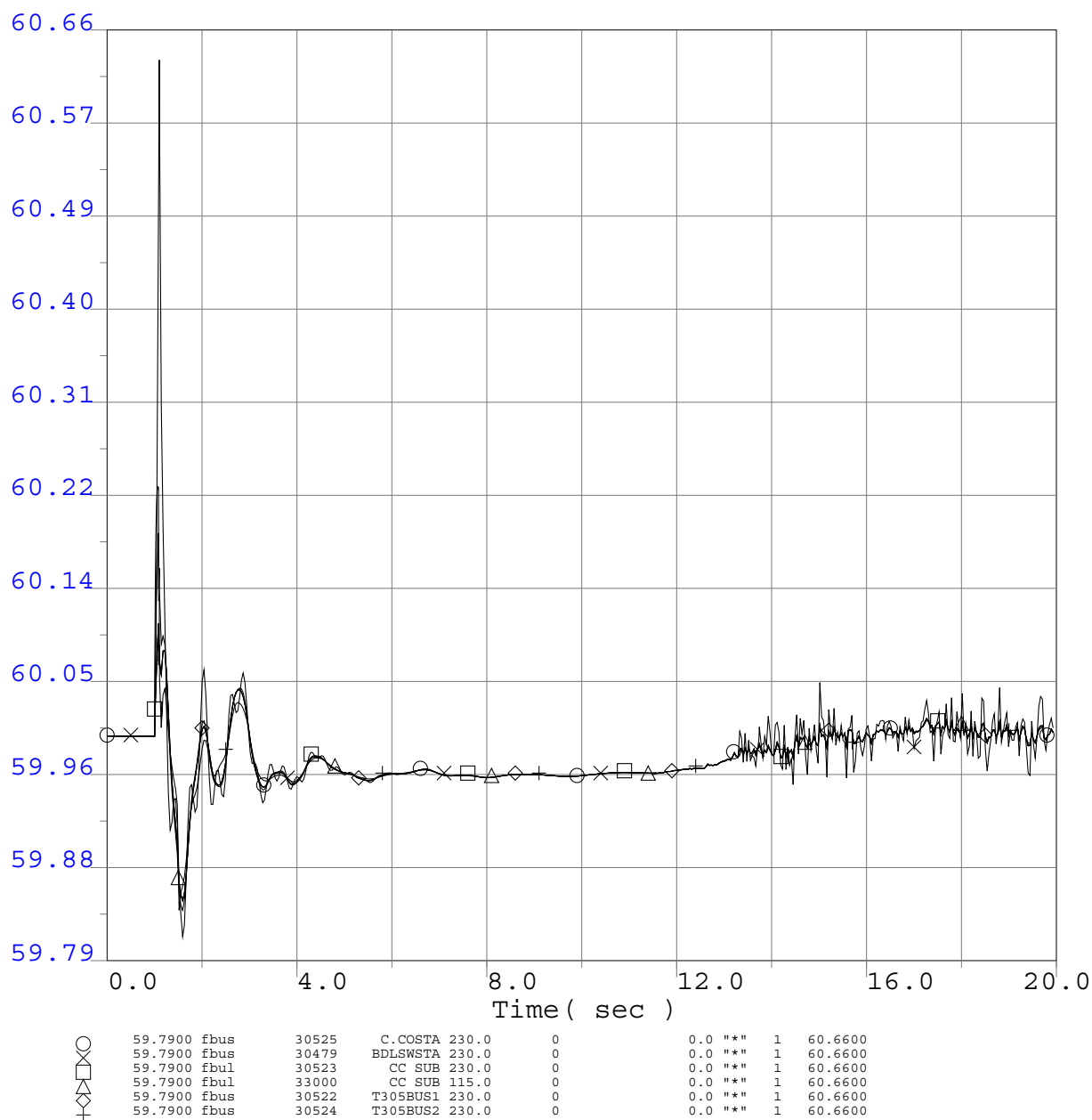
Selected PG&E Bus Voltage Plots Adjacent to Fault



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub-Birds Landing 230kV Line Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub-Birds Landing 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

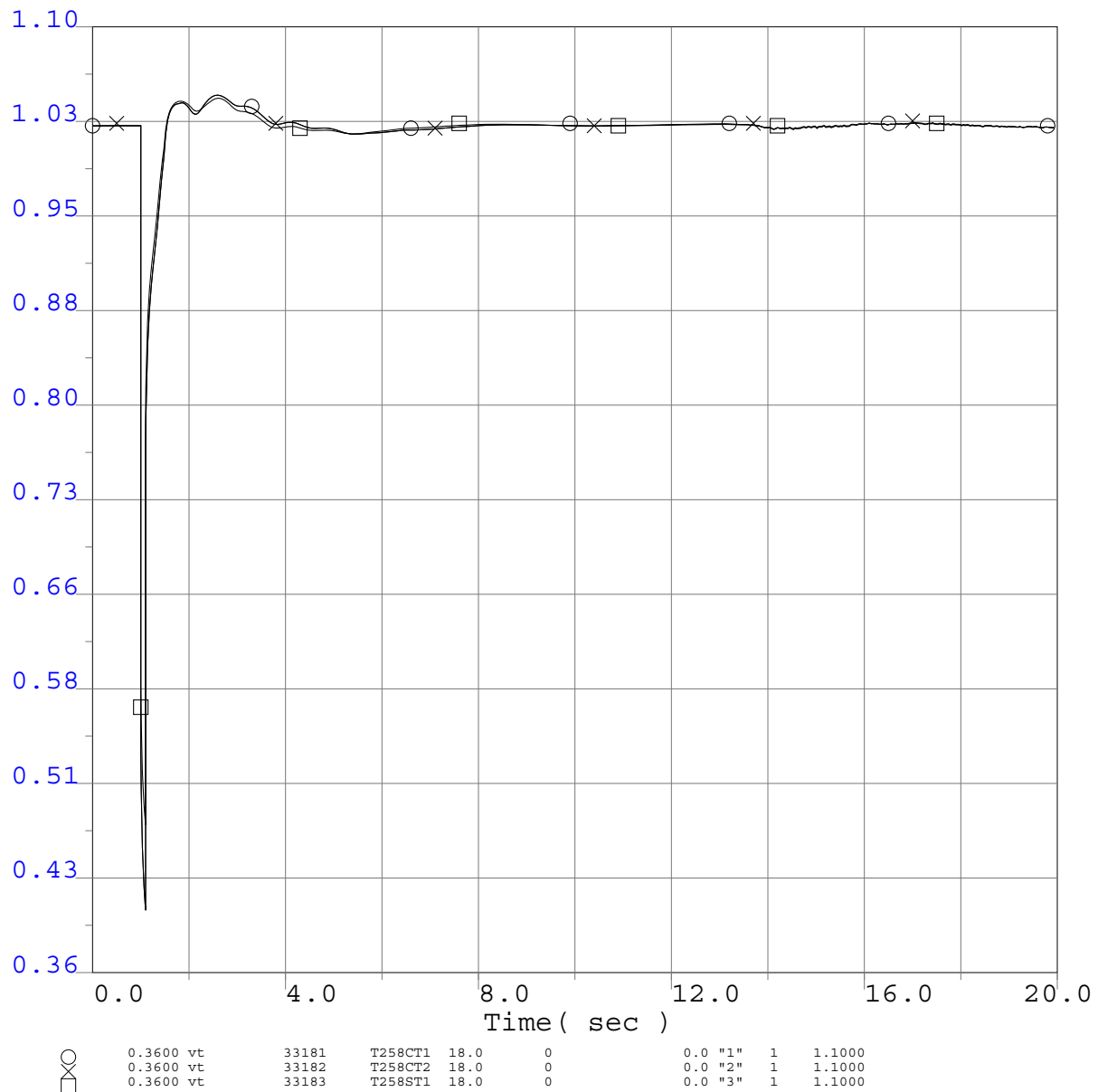
Selected PG&E Bus Frequency Plots Adjacent to Fault



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub-Birds Landing 230kV Line Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub-Birds Landing 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

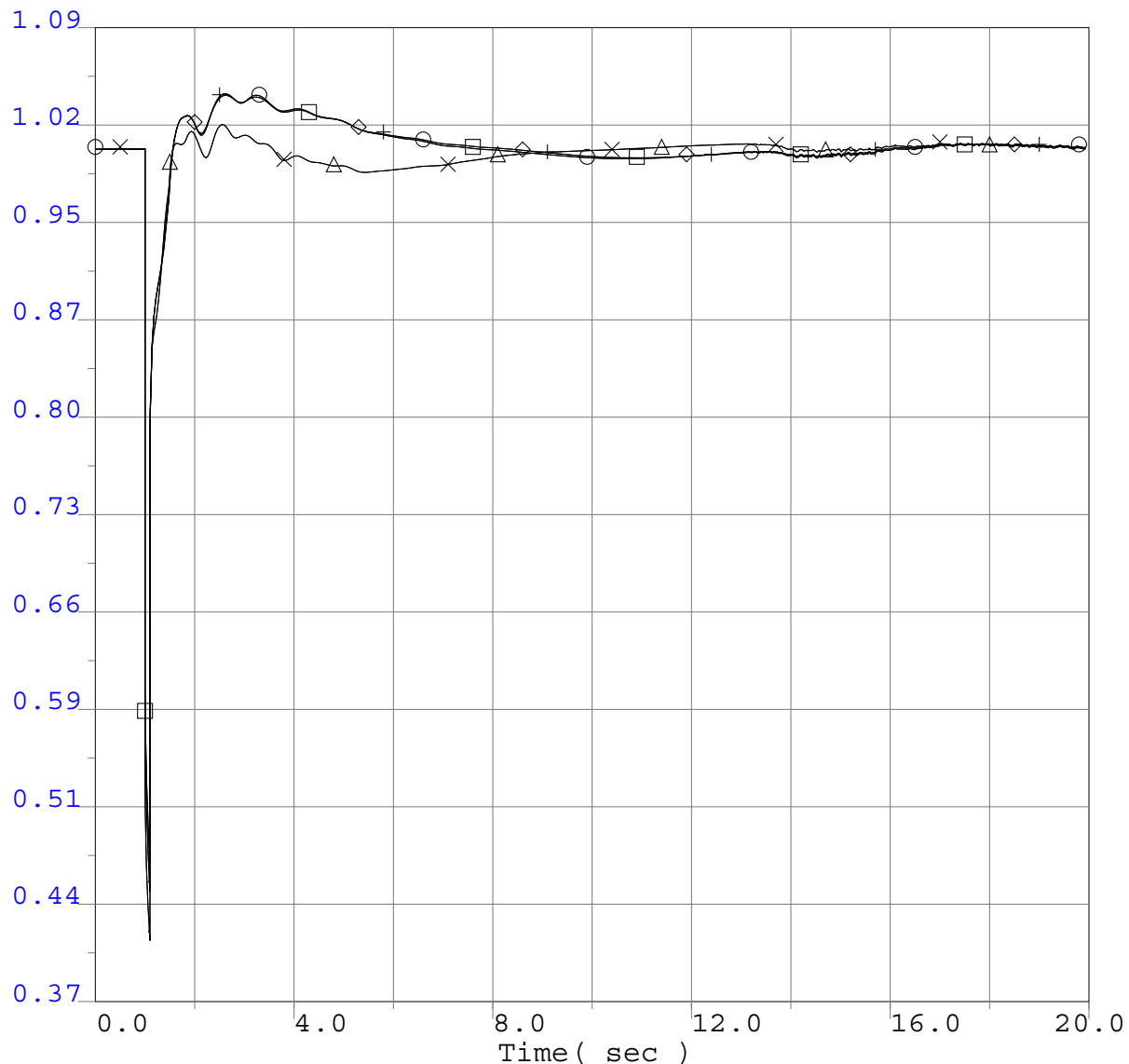
Project Generator Terminal Voltages (P.U.)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub-Birds Landing 230kV Line Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub-Birds Landing 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

Selected Generator Terminal Voltages (P.U.)

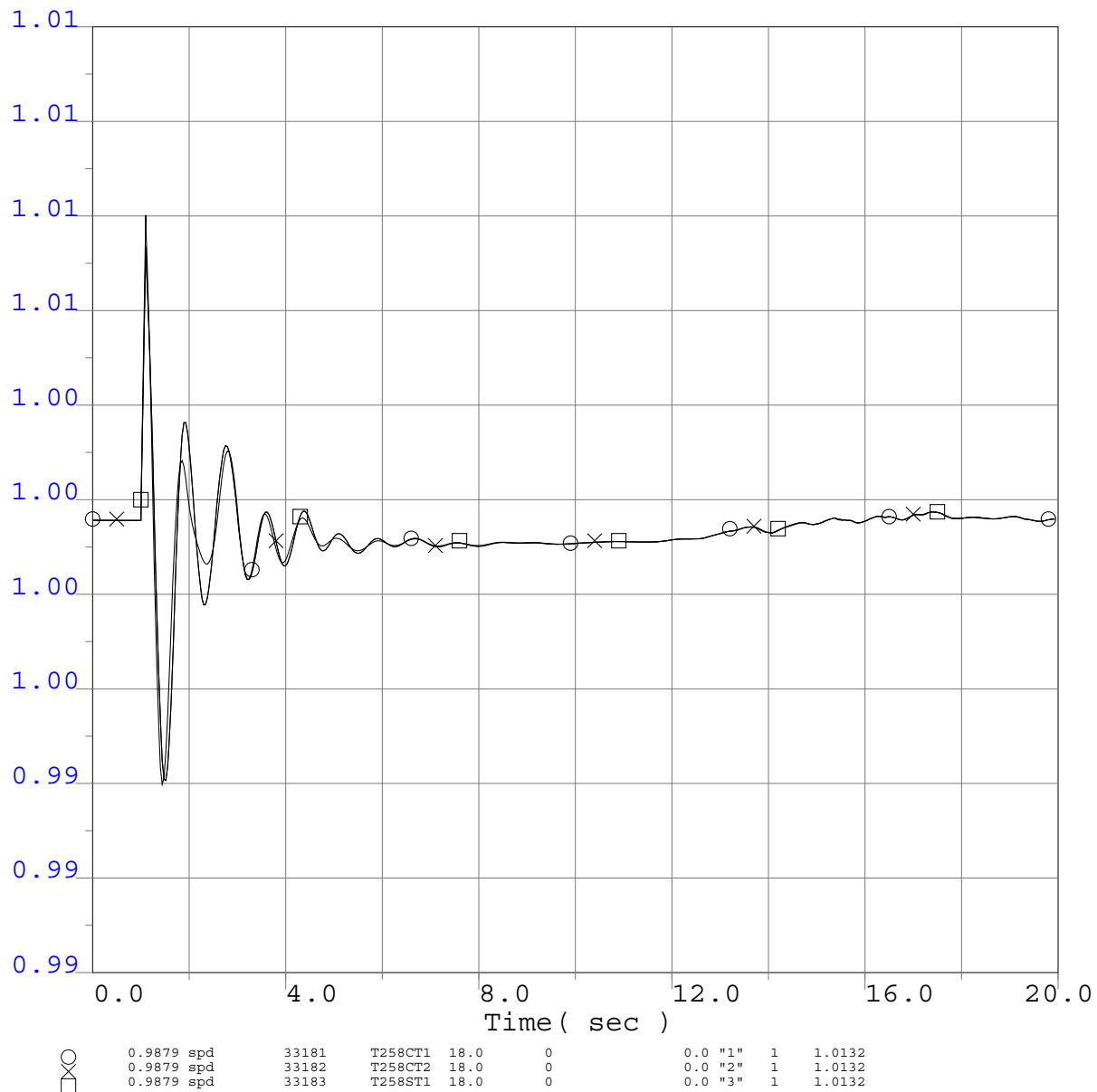


○	0.3700 vt	33184	T305GT1	16.5	0	0.0 "1"	1	1.0900
×	0.3700 vt	33185	T305ST1	13.8	0	0.0 "1"	1	1.0900
□	0.3700 vt	33186	T305GT2	16.5	0	0.0 "2"	1	1.0900
△	0.3700 vt	33187	T305ST2	13.8	0	0.0 "2"	1	1.0900
◇	0.3700 vt	33188	T320GT1	16.5	0	0.0 "1"	1	1.0900
+	0.3700 vt	33189	T320GT2	16.5	0	0.0 "2"	1	1.0900

Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub-Birds Landing 230kV Line Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub-Birds Landing 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

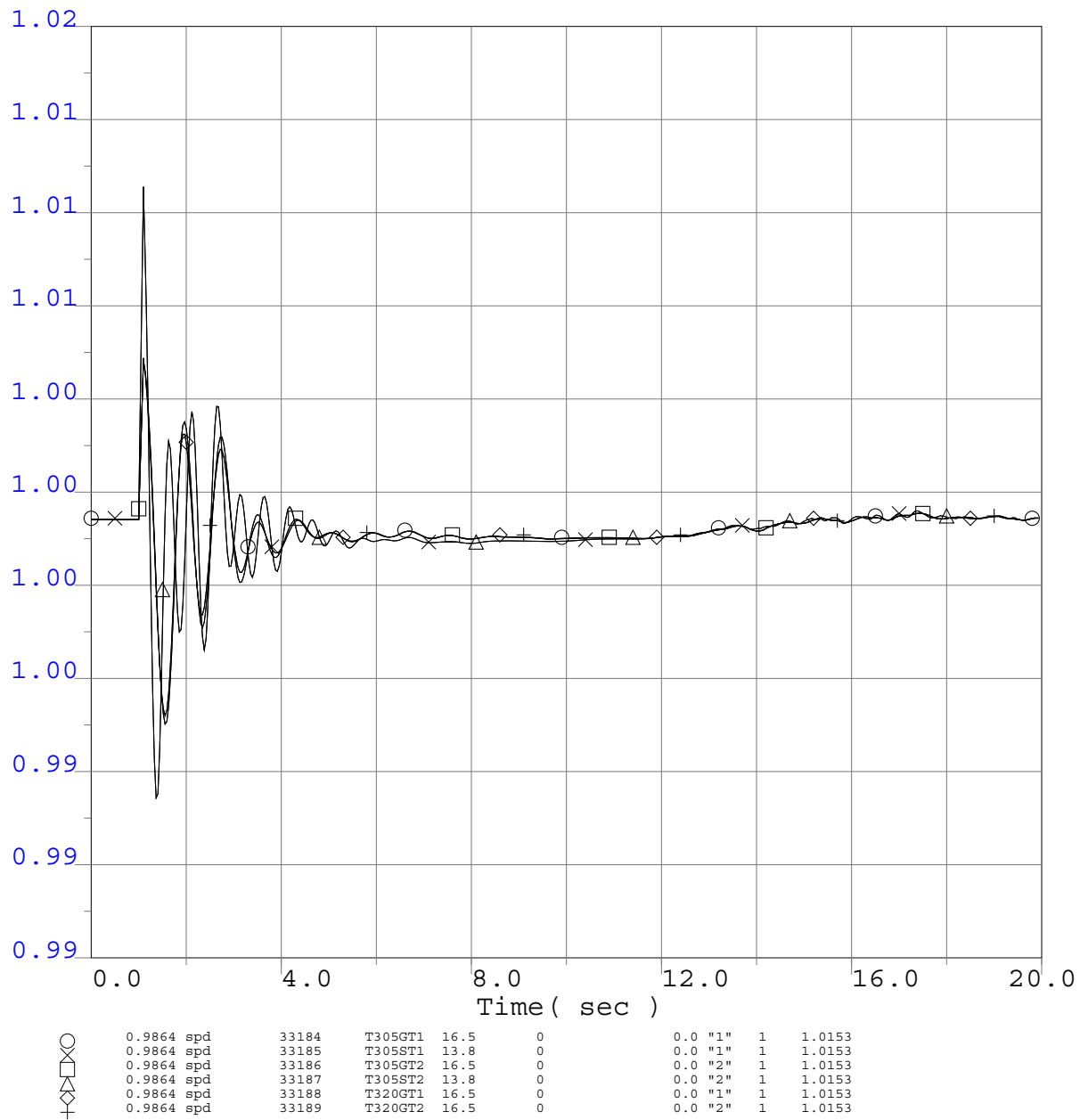
Project Generator Speed (P.U.)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
2013 Greater Bay Area Summer Peak Base Case
Q258 @537MW
CC Sub-Birds Landing 230kV Line Outage
3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub-Birds Landing 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

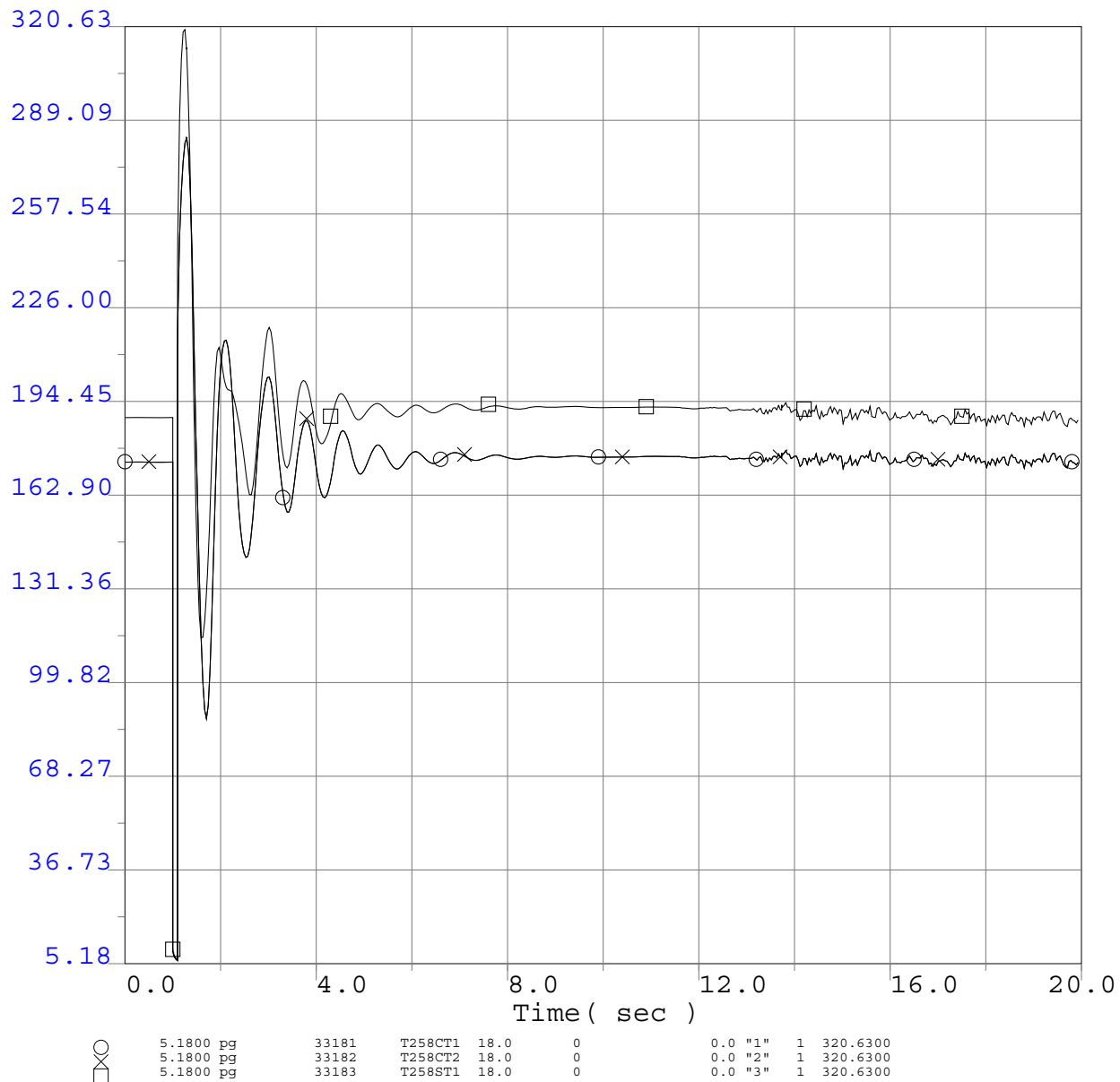
Selected Generator Speed (P.U.)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub-Birds Landing 230kV Line Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub-Birds Landing 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

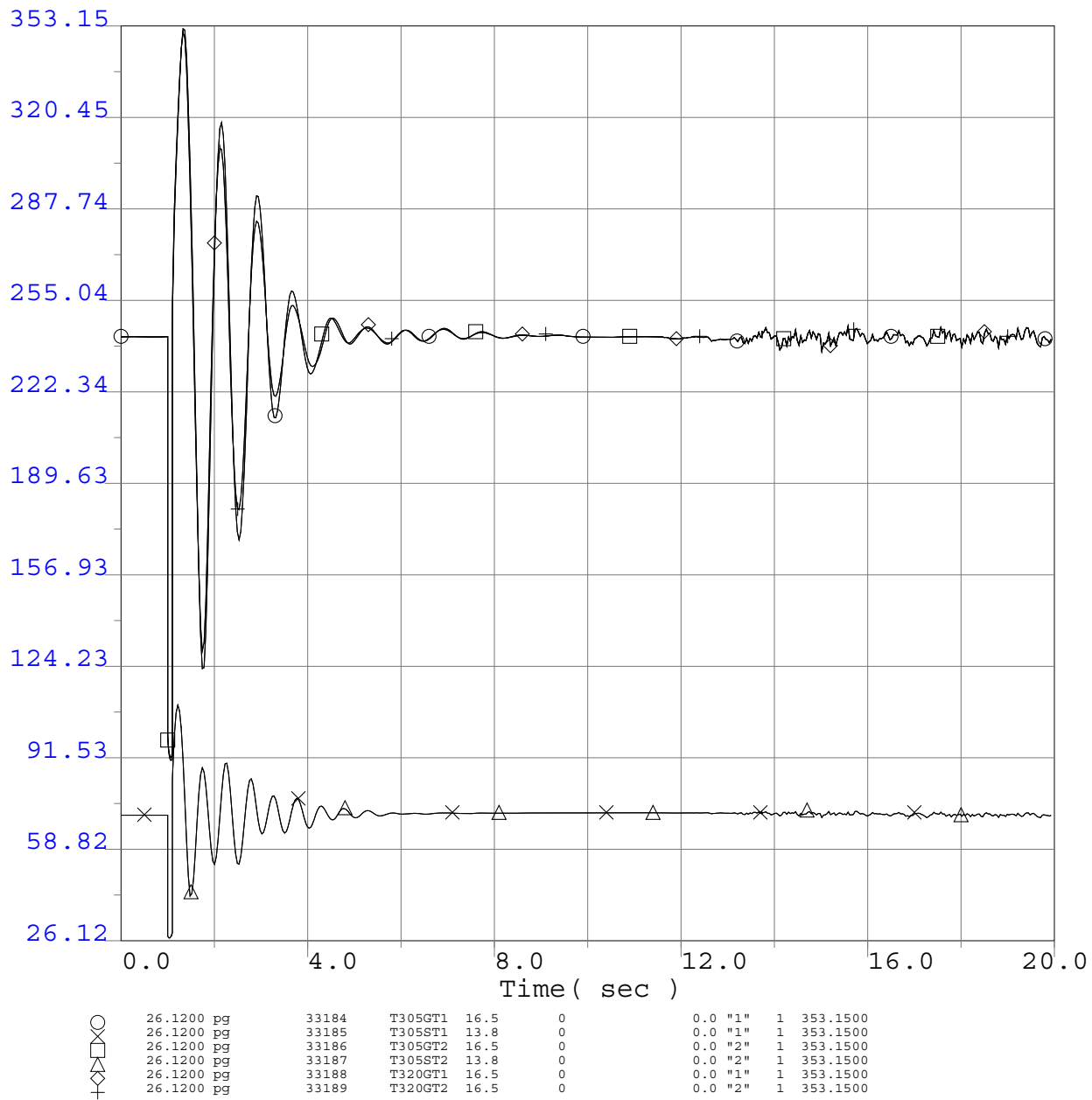
Project Generator Terminal Power (MW)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub-Birds Landing 230kV Line Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub-Birds Landing 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

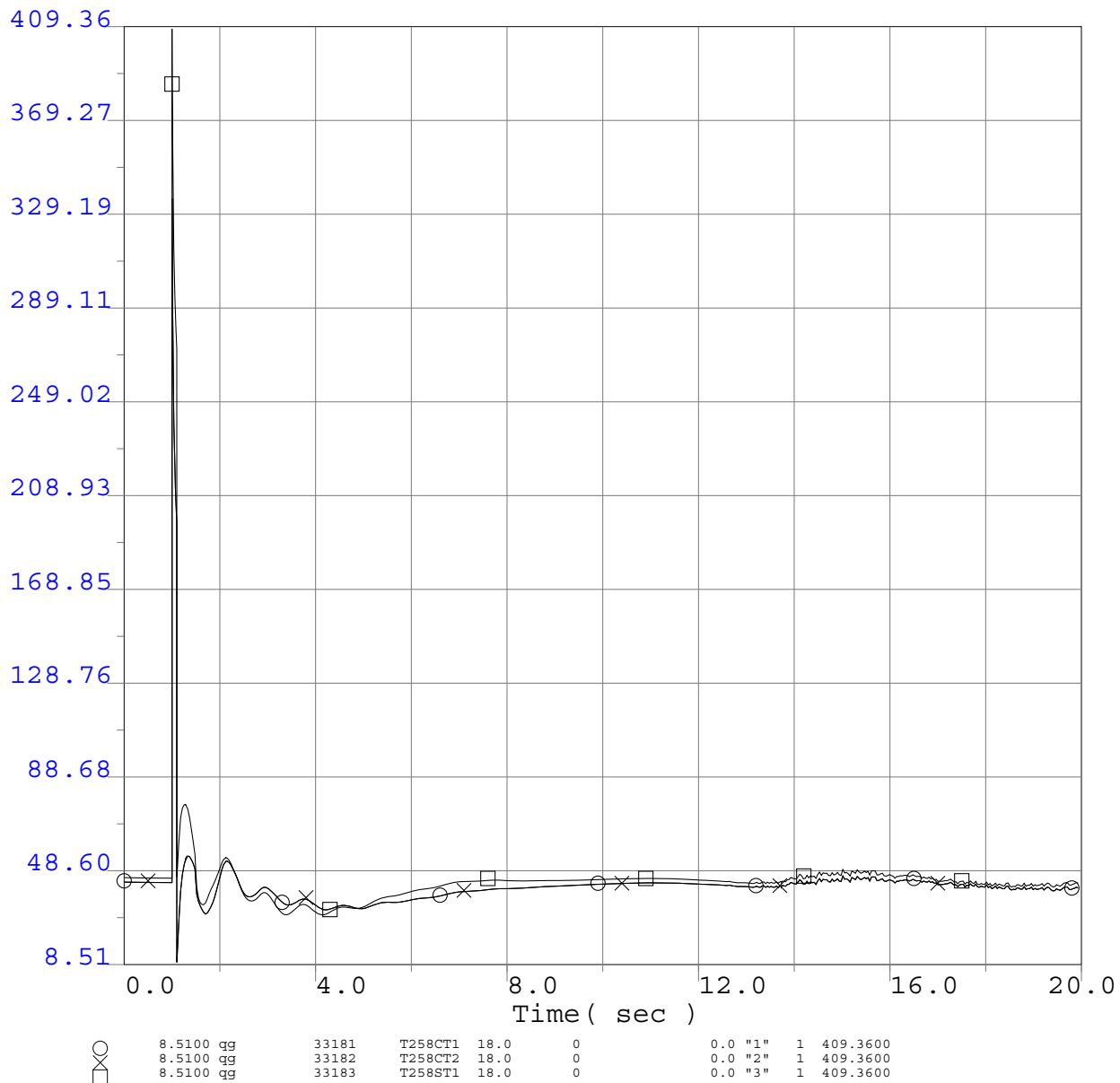
Selected Generator Terminal Power (MW)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub-Birds Landing 230kV Line Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub-Birds Landing 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

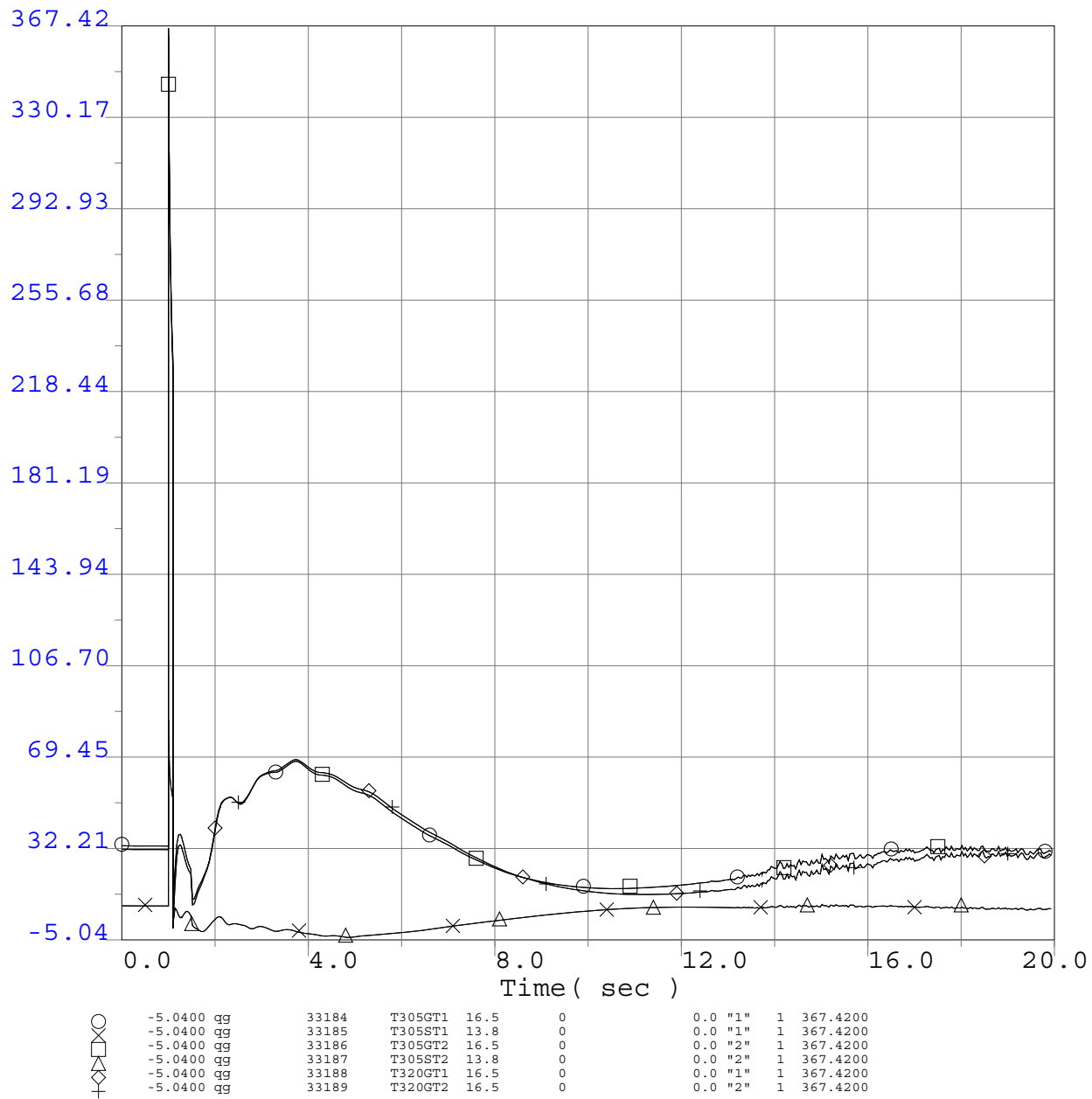
Project Generator Terminal Reactive Power (MVar)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub-Birds Landing 230kV Line Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub-Birds Landing 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

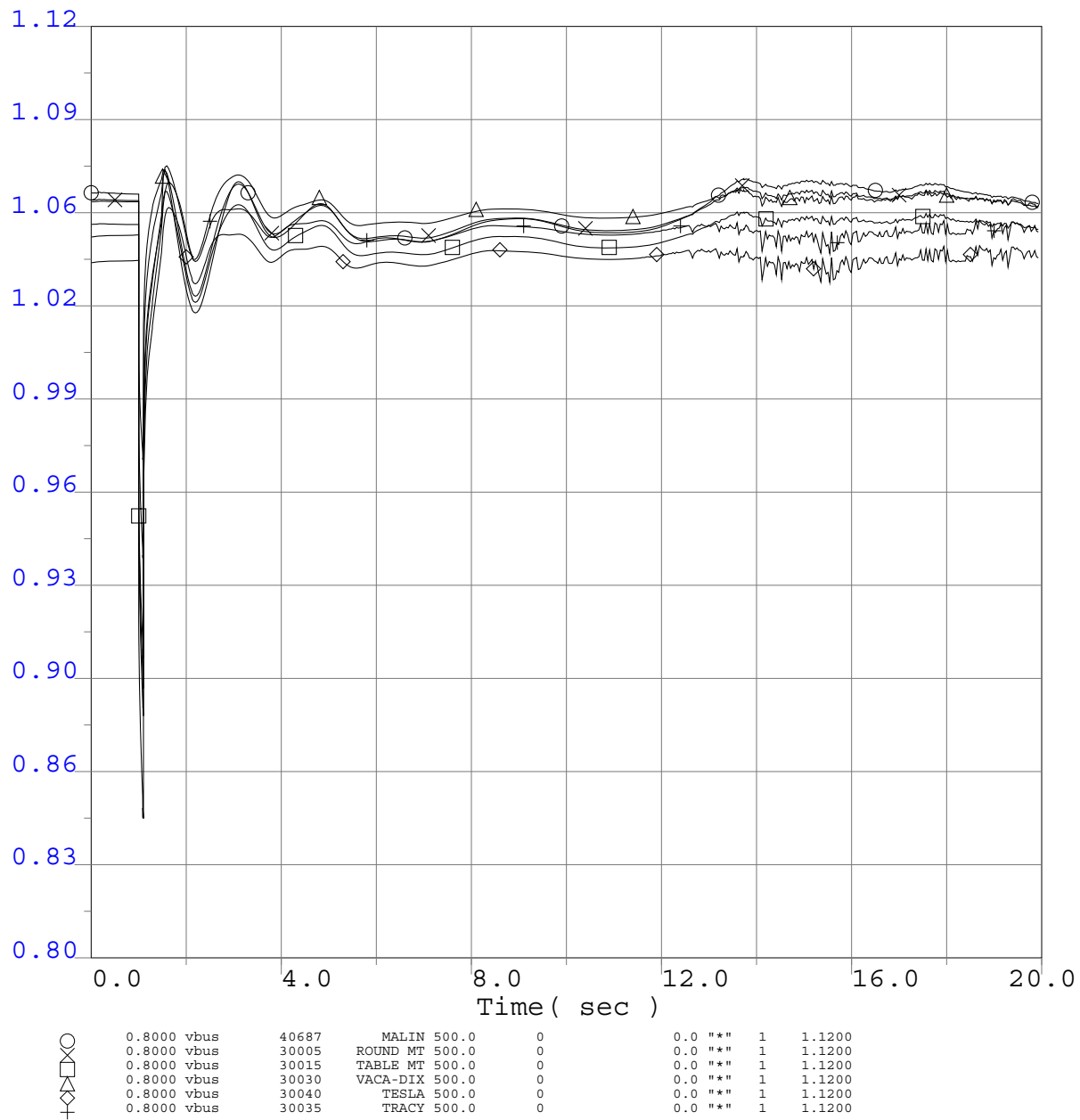
Selected Generator Terminal Reactive Power (MVar)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub-Birds Landing 230kV Line Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub-Birds Landing 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

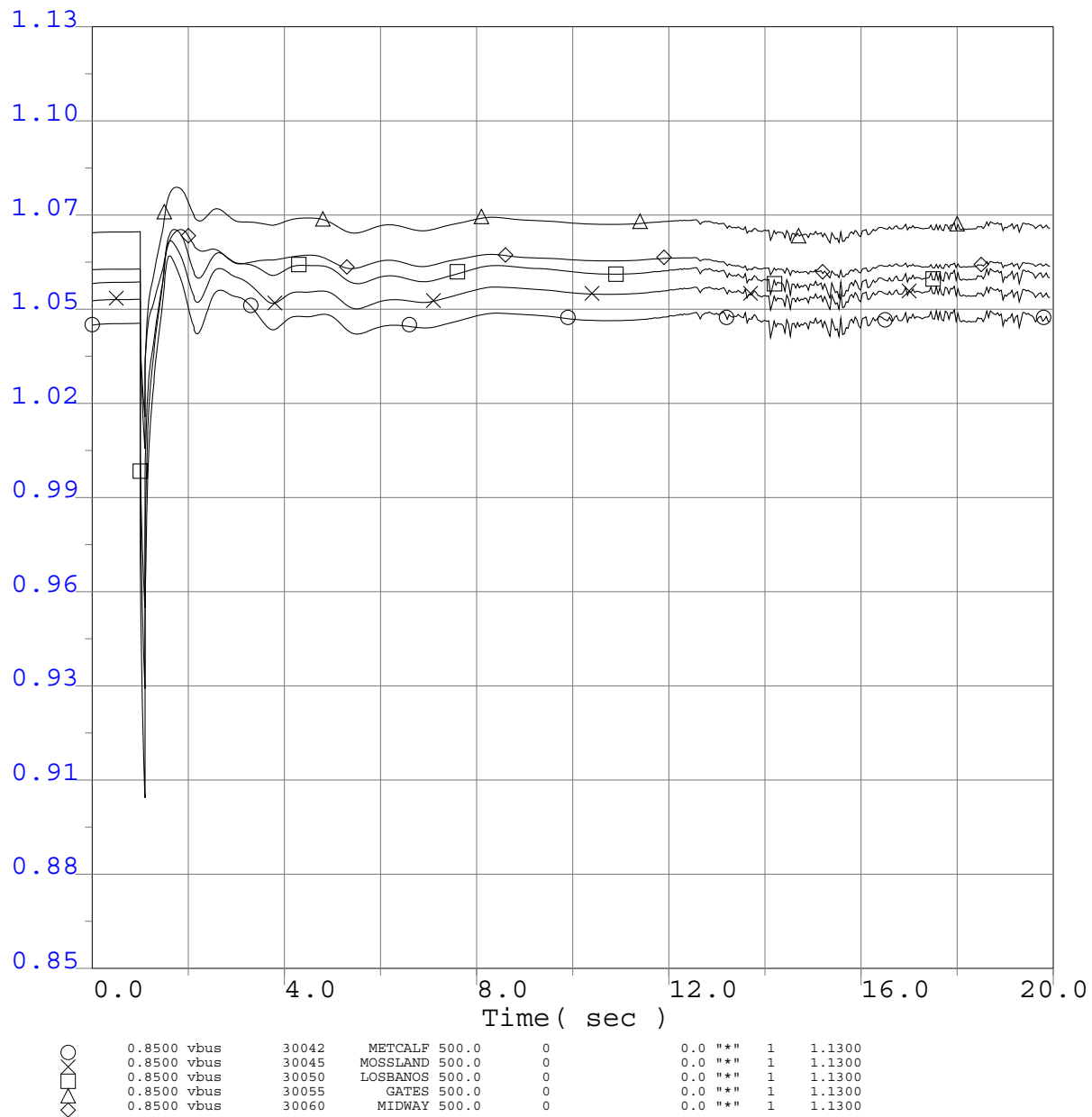
Selected WECC Bus Voltage Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub-Birds Landing 230kV Line Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub-Birds Landing 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

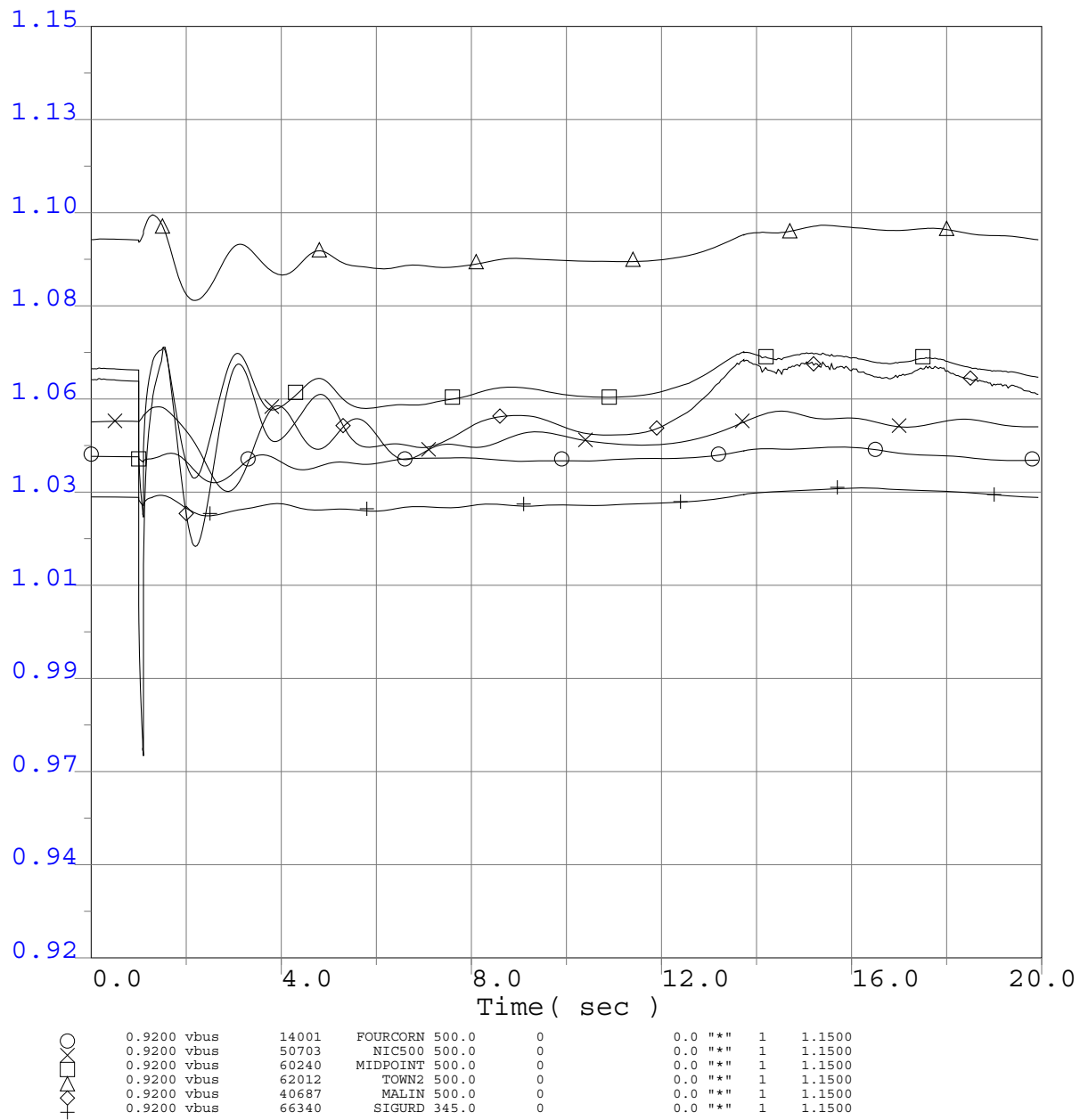
Selected WECC Bus Voltage Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub-Birds Landing 230kV Line Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub-Birds Landing 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

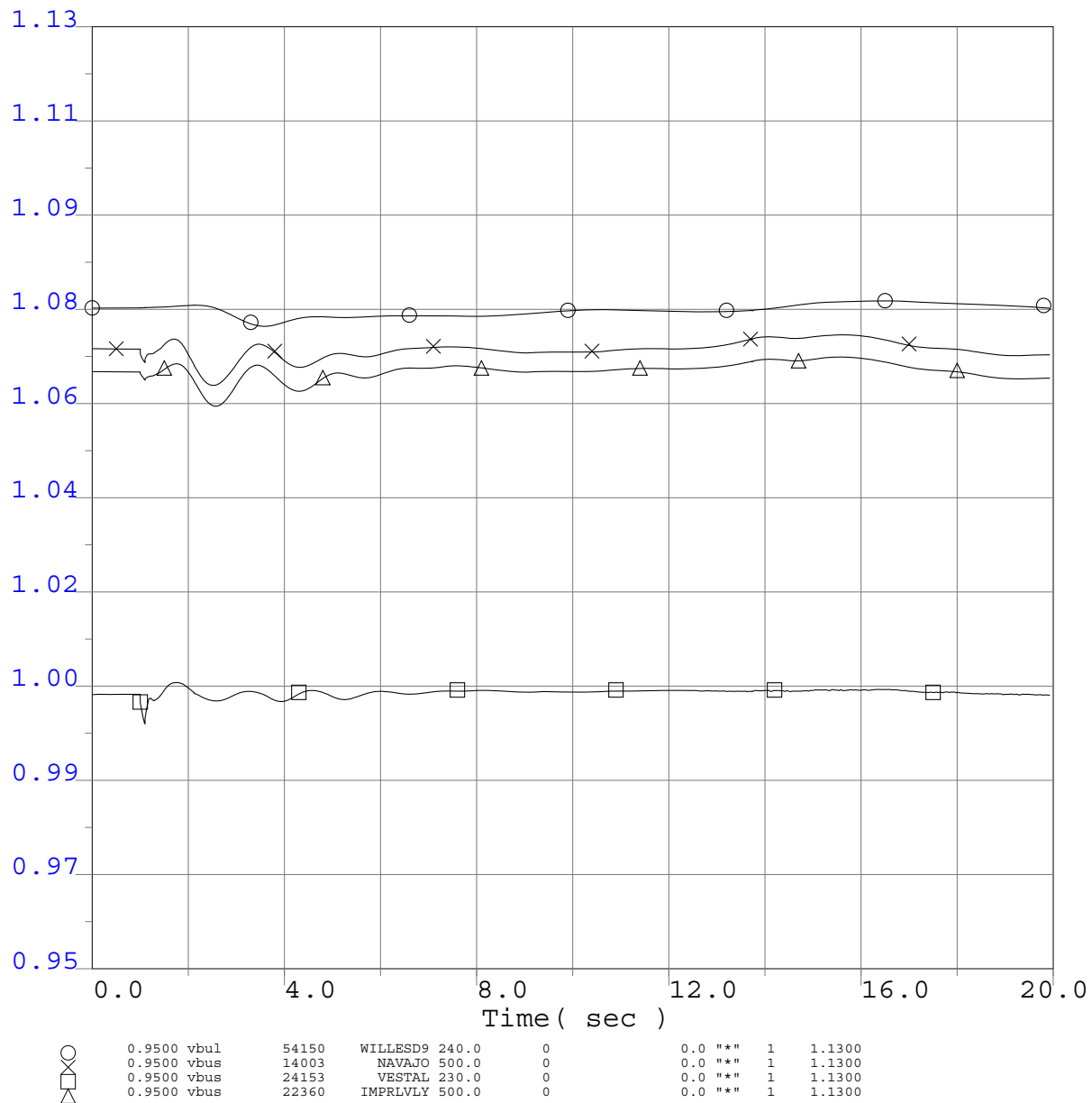
Selected WECC Bus Voltage Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub-Birds Landing 230kV Line Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub-Birds Landing 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

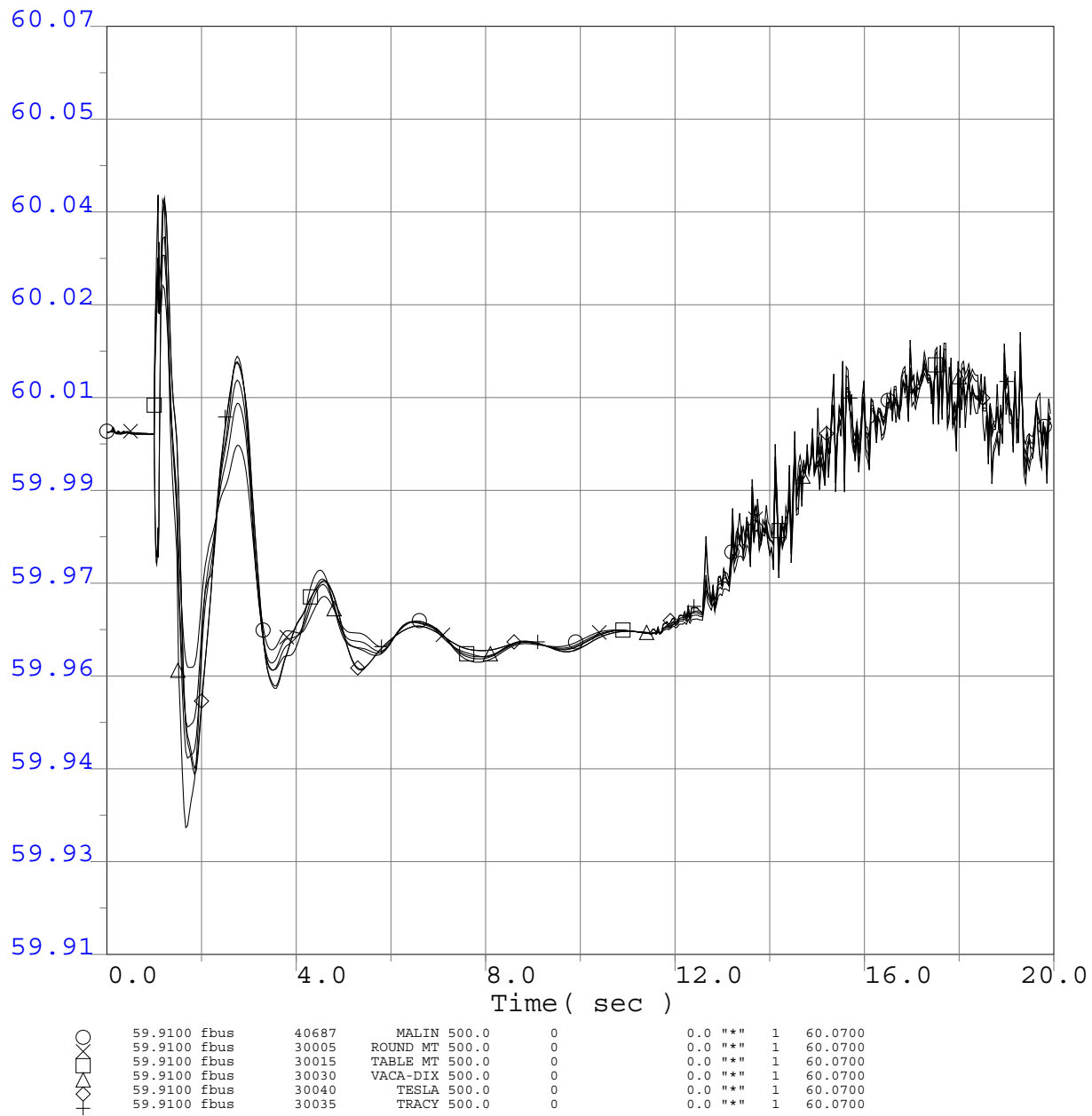
Selected WECC Bus Voltage Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub-Birds Landing 230kV Line Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub-Birds Landing 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

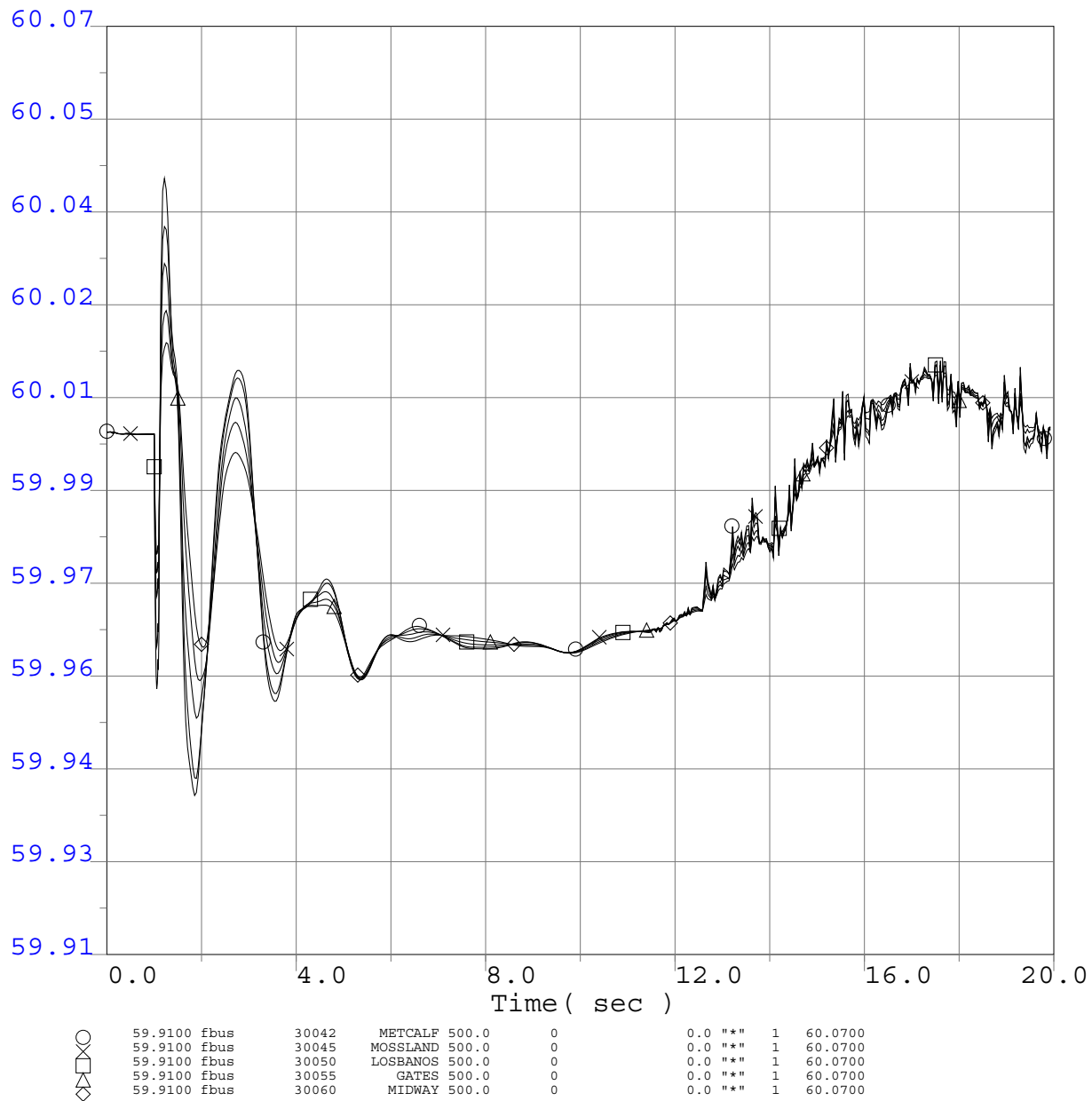
Selected WECC Bus Frequency Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub-Birds Landing 230kV Line Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub-Birds Landing 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

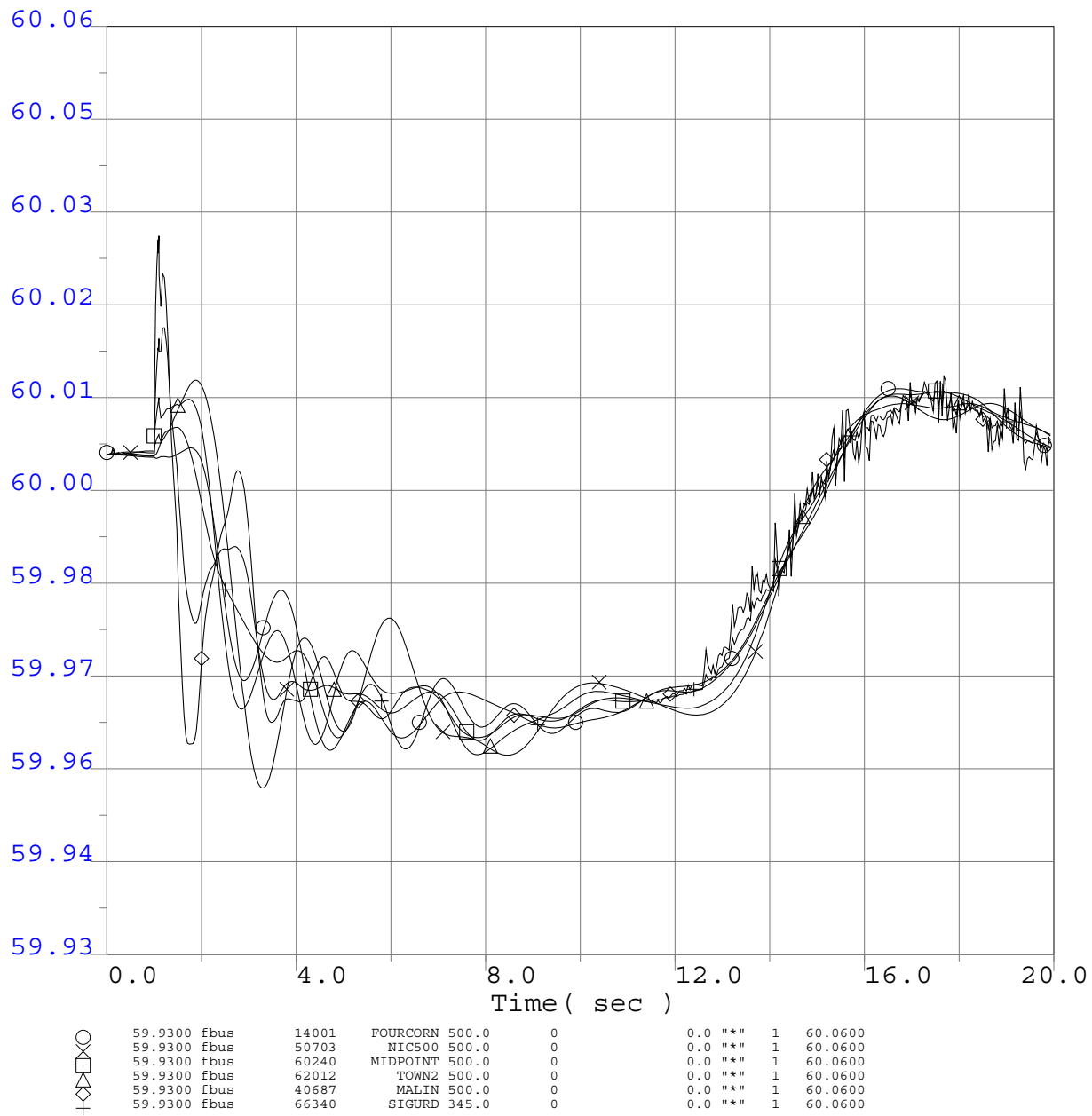
Selected WECC Bus Frequency Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub-Birds Landing 230kV Line Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub-Birds Landing 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

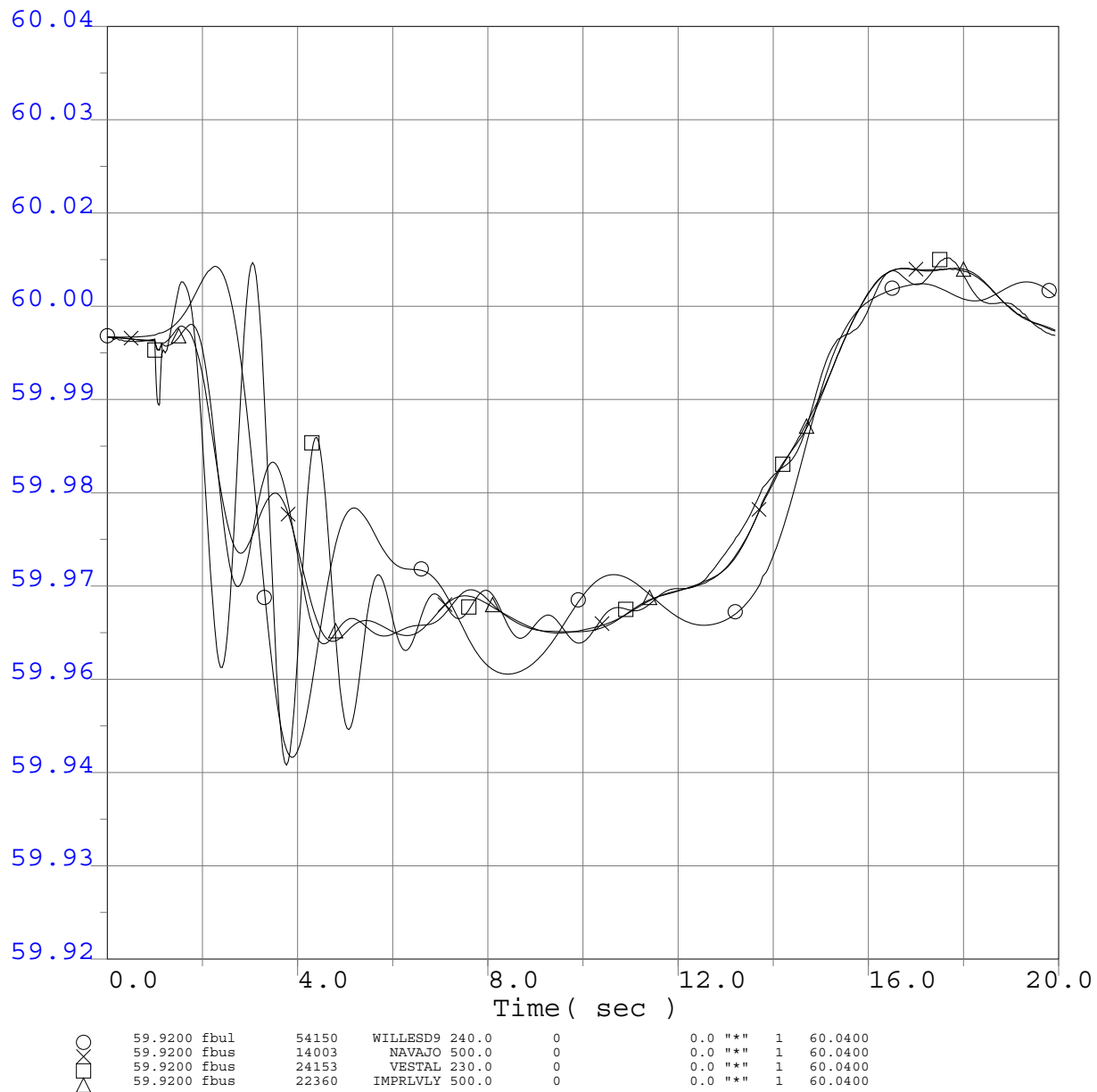
Selected WECC Bus Frequency Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub-Birds Landing 230kV Line Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub-Birds Landing 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

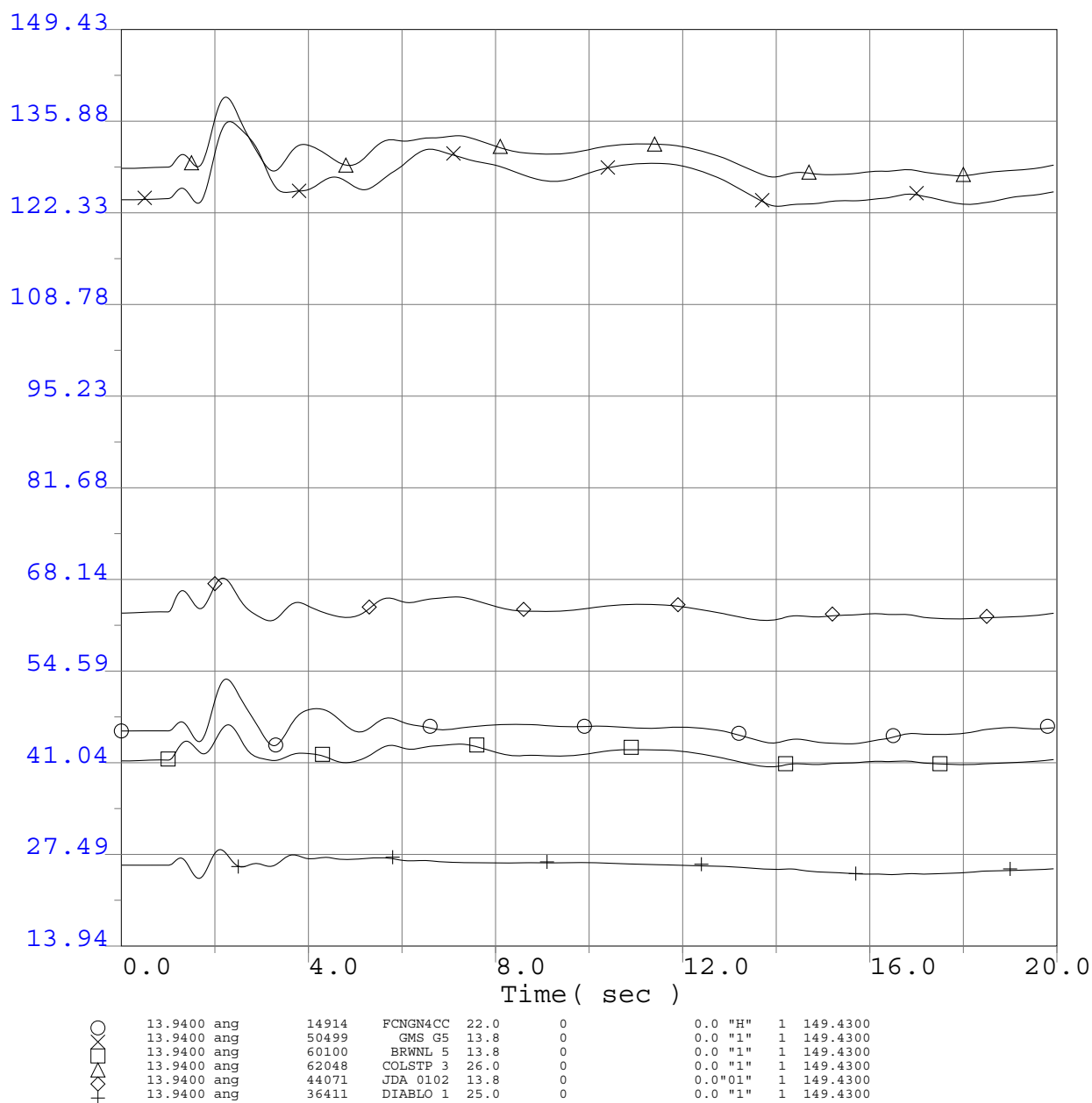
Selected WECC Bus Frequency Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub-Birds Landing 230kV Line Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub-Birds Landing 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

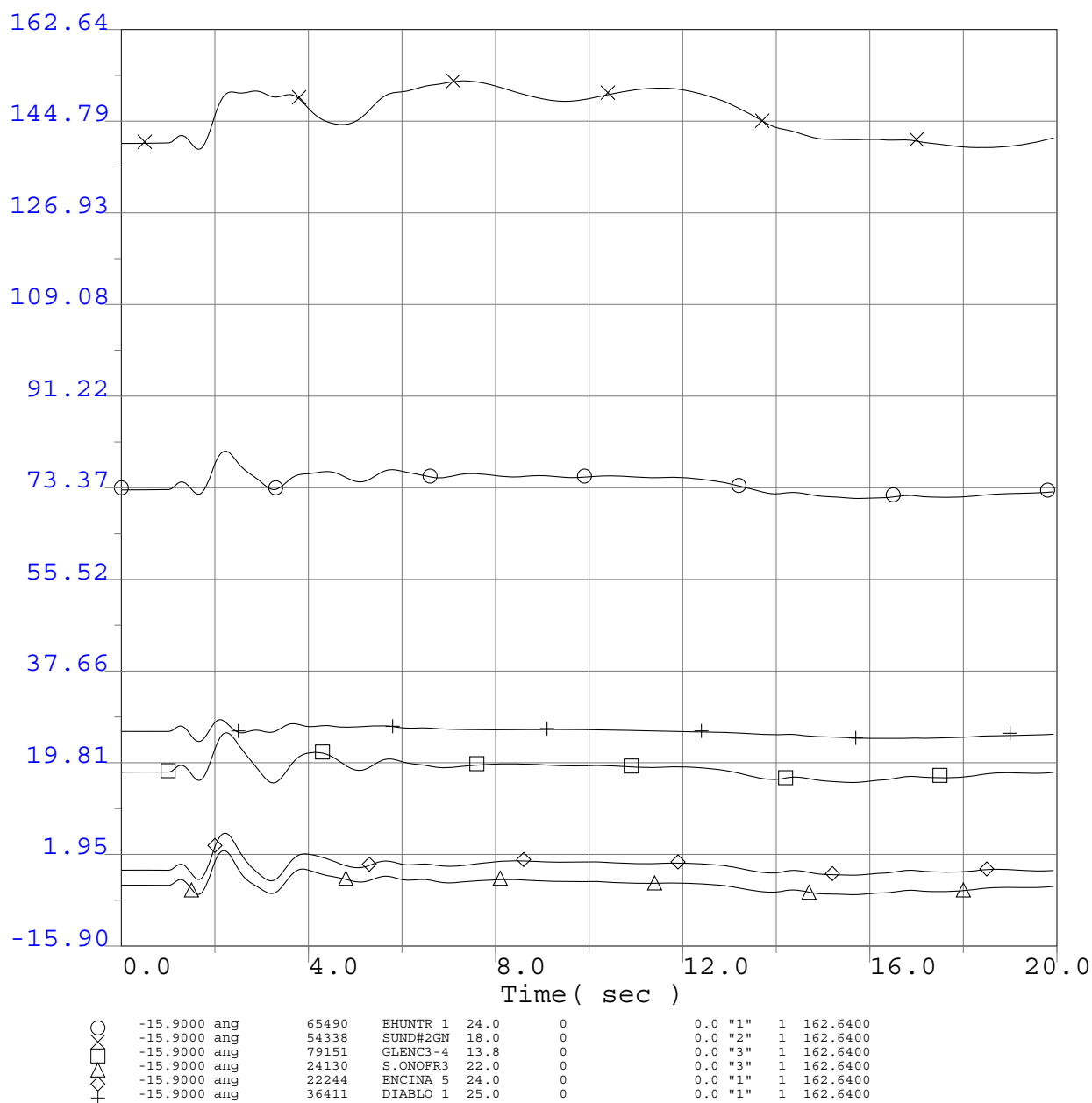
WECC Generator Rotor Angle



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub-Birds Landing 230kV Line Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub-Birds Landing 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

WECC Generator Rotor Angle



Q258 Project GIPR Phase 1 Interconnection System Impact Study

2013 Greater Bay Area Summer Peak Base Case

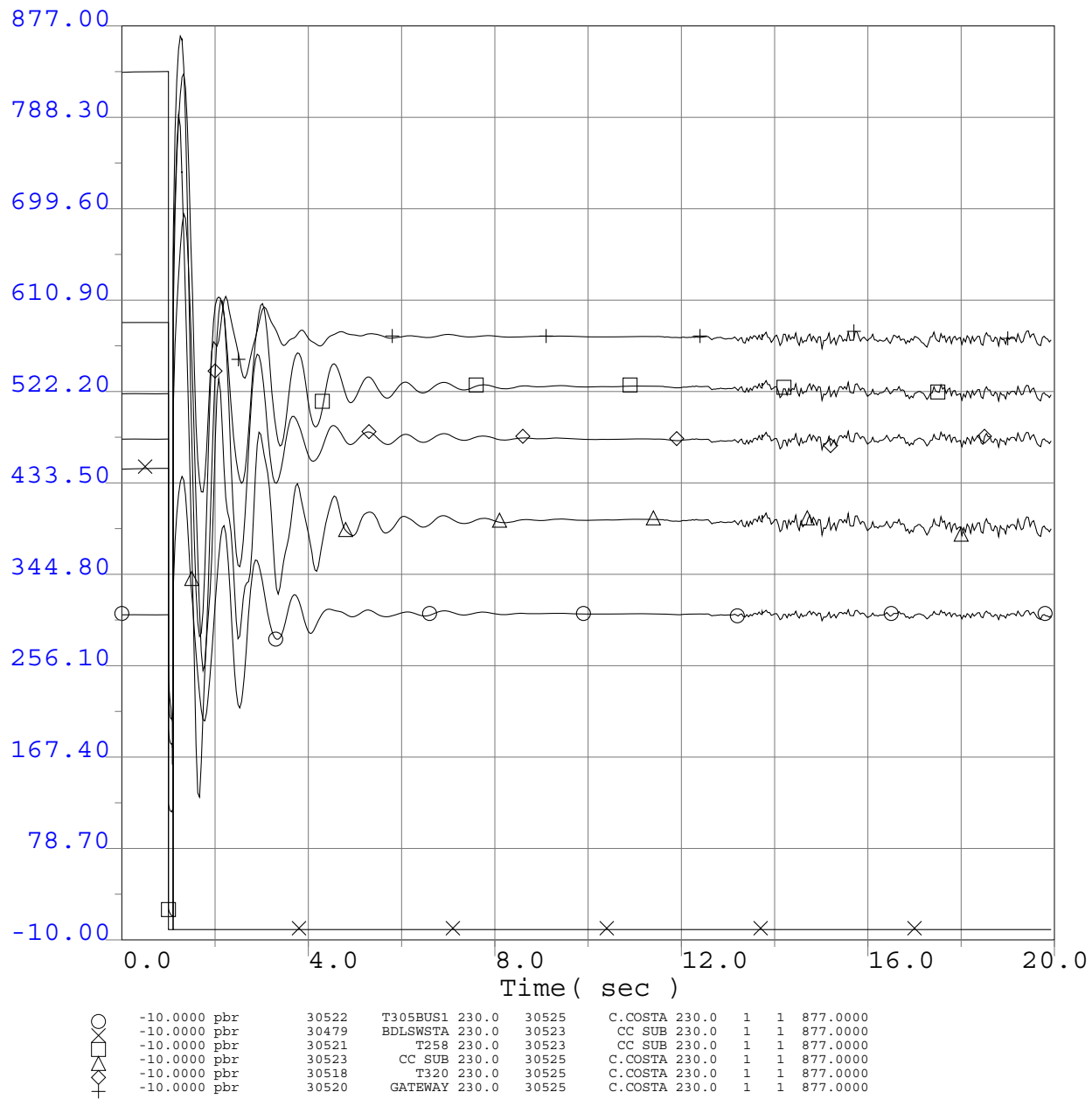
Q258 @537MW

CC Sub-Birds Landing 230kV Line Outage

3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub-Birds Landing 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

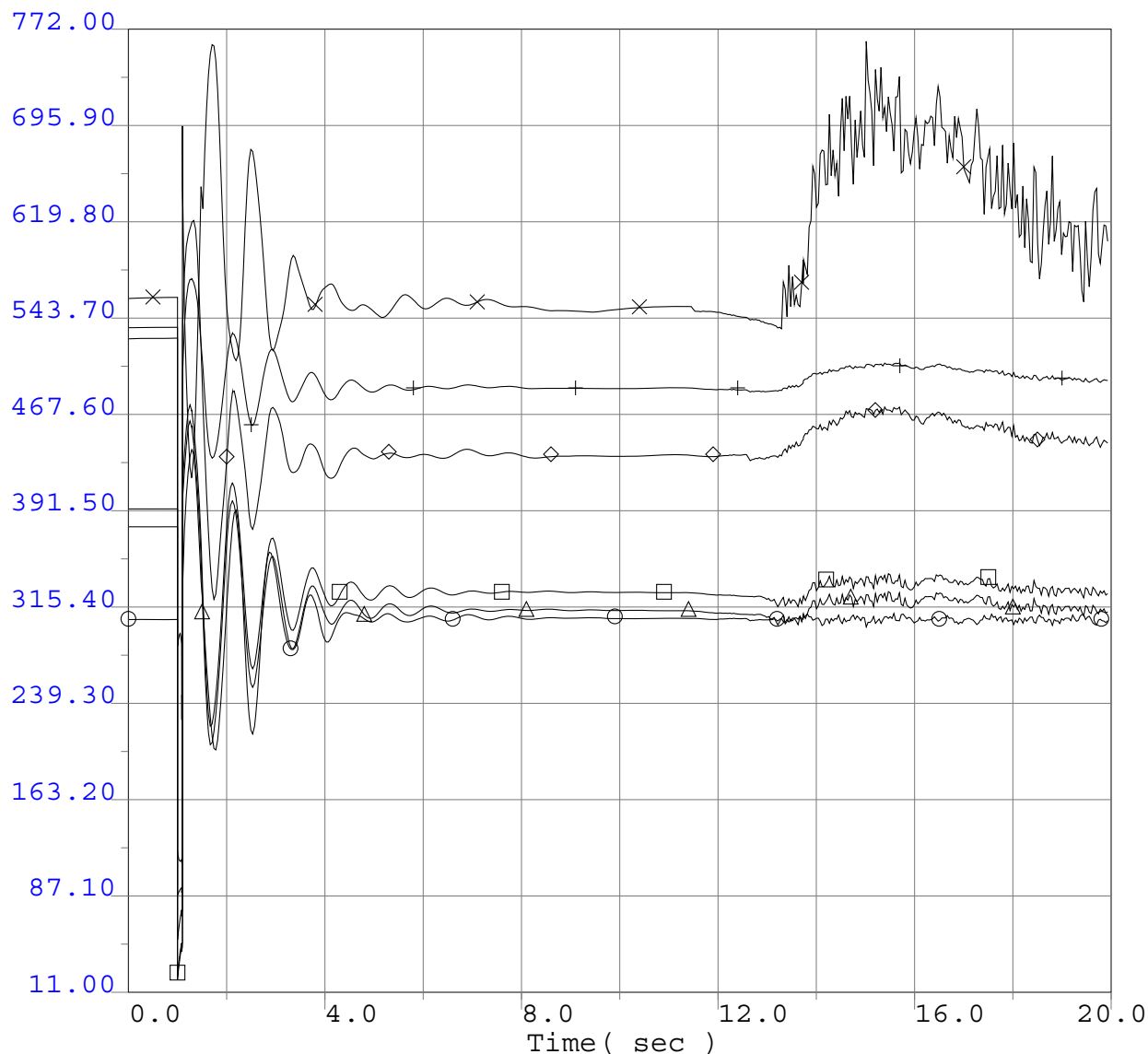
Selected PG&E Transmission Line Flows (MW)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub-Birds Landing 230kV Line Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub-Birds Landing 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

Selected PG&E Transmission Line Flows (MW)



○	11.0000	pbr	30524	T305BUS2	230.0	30525	C.COSTA	230.0	1	1	772.0000
□	11.0000	pbr	30479	BDLSWSTA	230.0	30525	C.COSTA	230.0	1	1	772.0000
△	11.0000	pbr	30525	C.COSTA	230.0	30543	ROSSTAP1	230.0	1	1	772.0000
◇	11.0000	pbr	30525	C.COSTA	230.0	30544	ROSSTAP2	230.0	1	2	772.0000
×	11.0000	pbr	30525	C.COSTA	230.0	30565	BRENTWOD	230.0	1	1	772.0000
+	11.0000	pbr	30525	C.COSTA	230.0	30567	LONETREE	230.0	1	1	772.0000

Q258 Project GIPR Phase 1 Interconnection System Impact Study

2013 Greater Bay Area Summer Peak Base Case

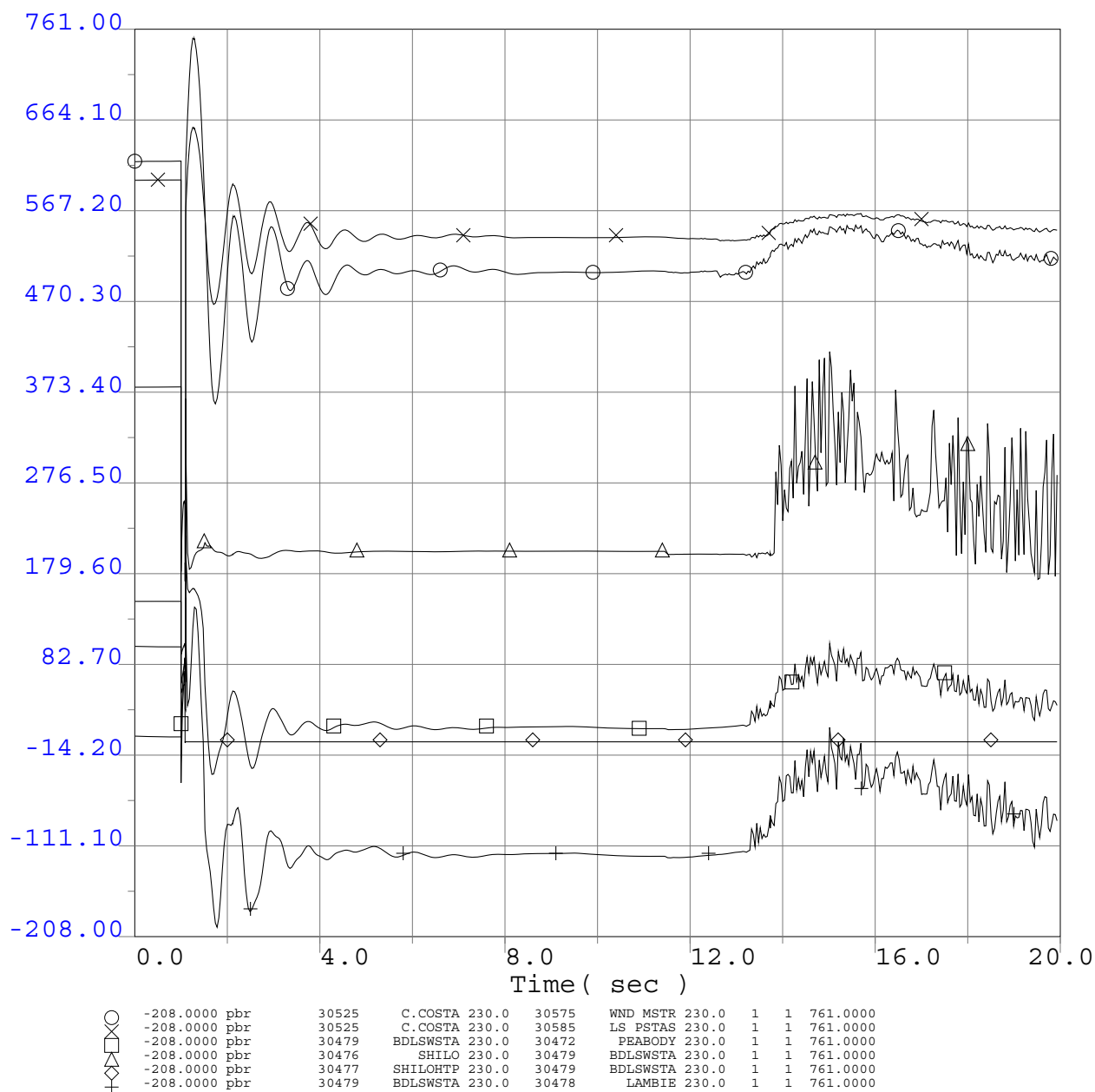
Q258 @537MW

CC Sub-Birds Landing 230kV Line Outage

3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub-Birds Landing 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

Selected PG&E Transmission Line Flows (MW)



Q258 Project GIPR Phase 1 Interconnection System Impact Study

2013 Greater Bay Area Summer Peak Base Case

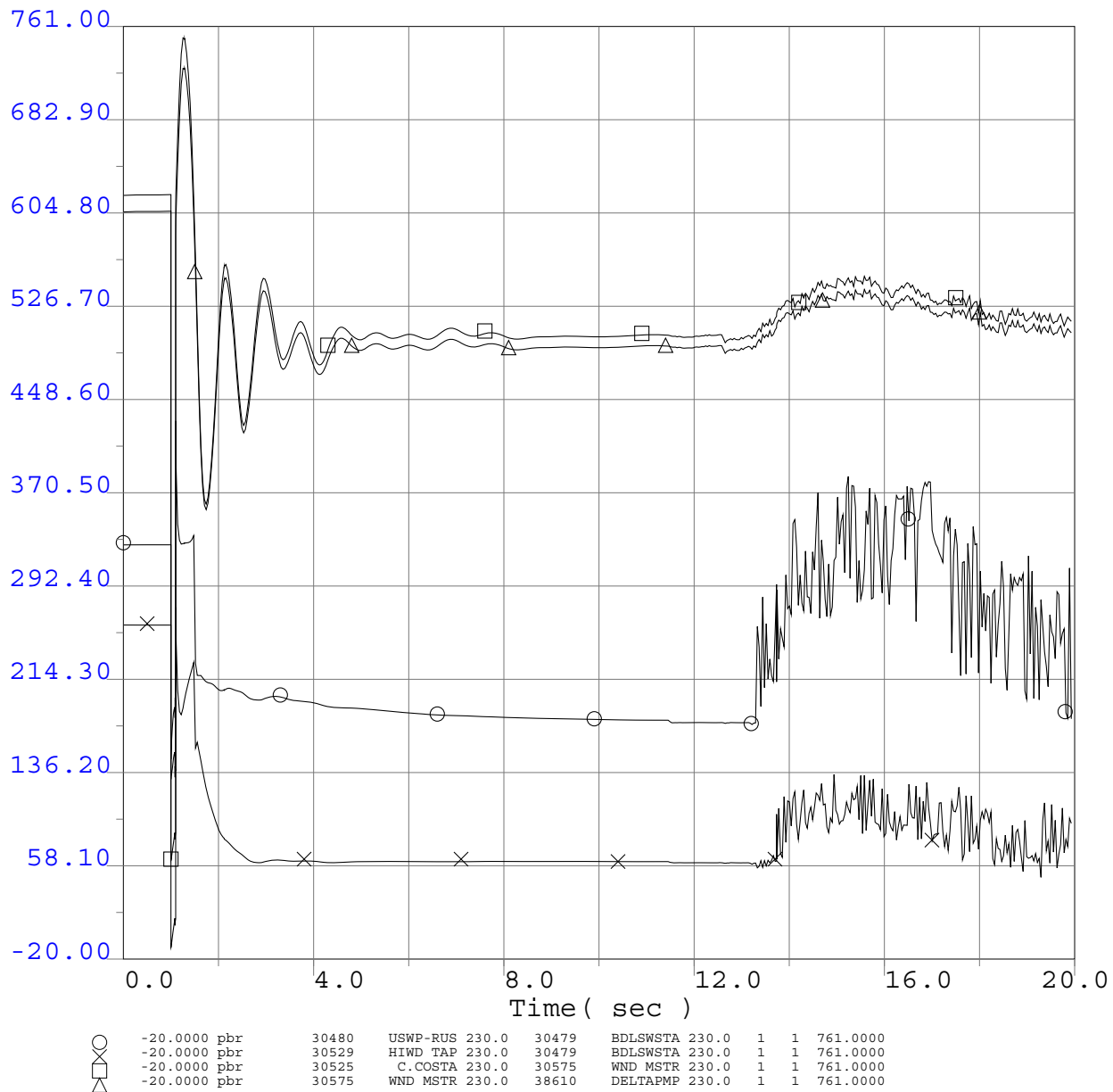
Q258 @537MW

CC Sub-Birds Landing 230kV Line Outage

3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub-Birds Landing 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

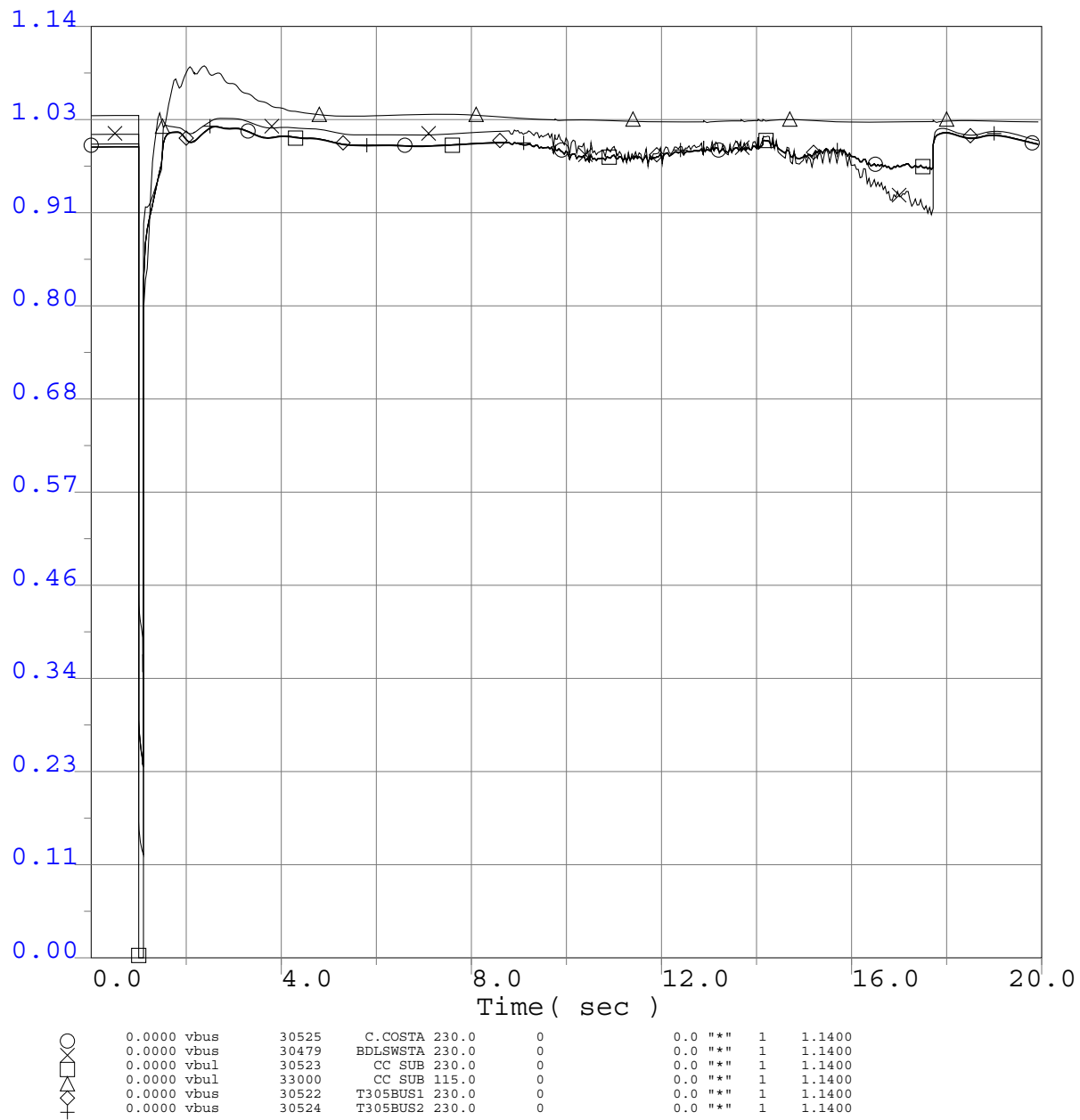
Selected PG&E Transmission Line Flows (MW)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub-Birds Landing 230kV Line Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub-Birds Landing 230kV line

Q258 GIPR Phase 1 Interconnection System Impact Study

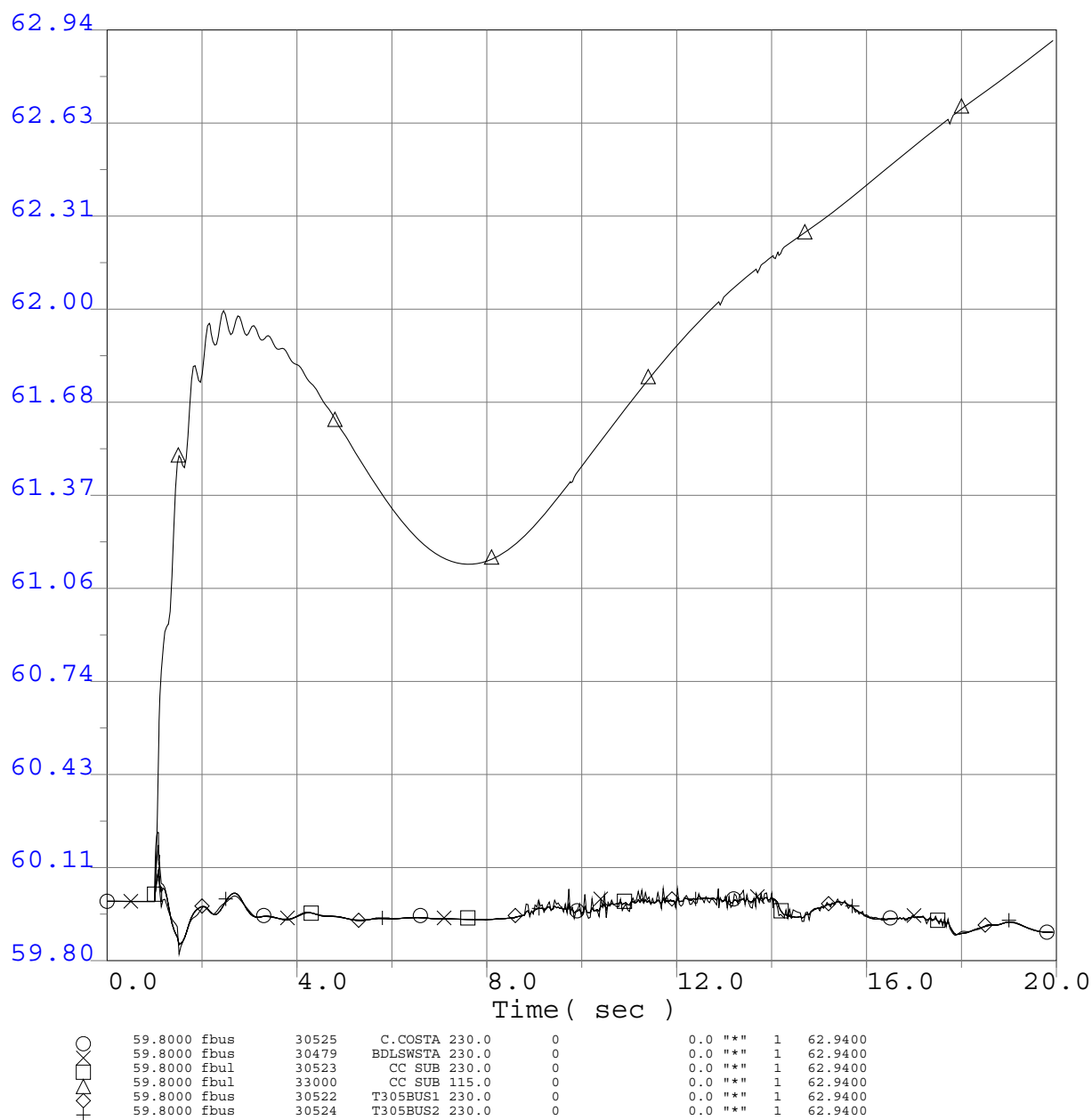
Selected PG&E Bus Voltage Plots Adjacent to Fault



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub 230kV Bus 1 Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub 230kV Bus 1 Outage

Q258 GIPR Phase 1 Interconnection System Impact Study

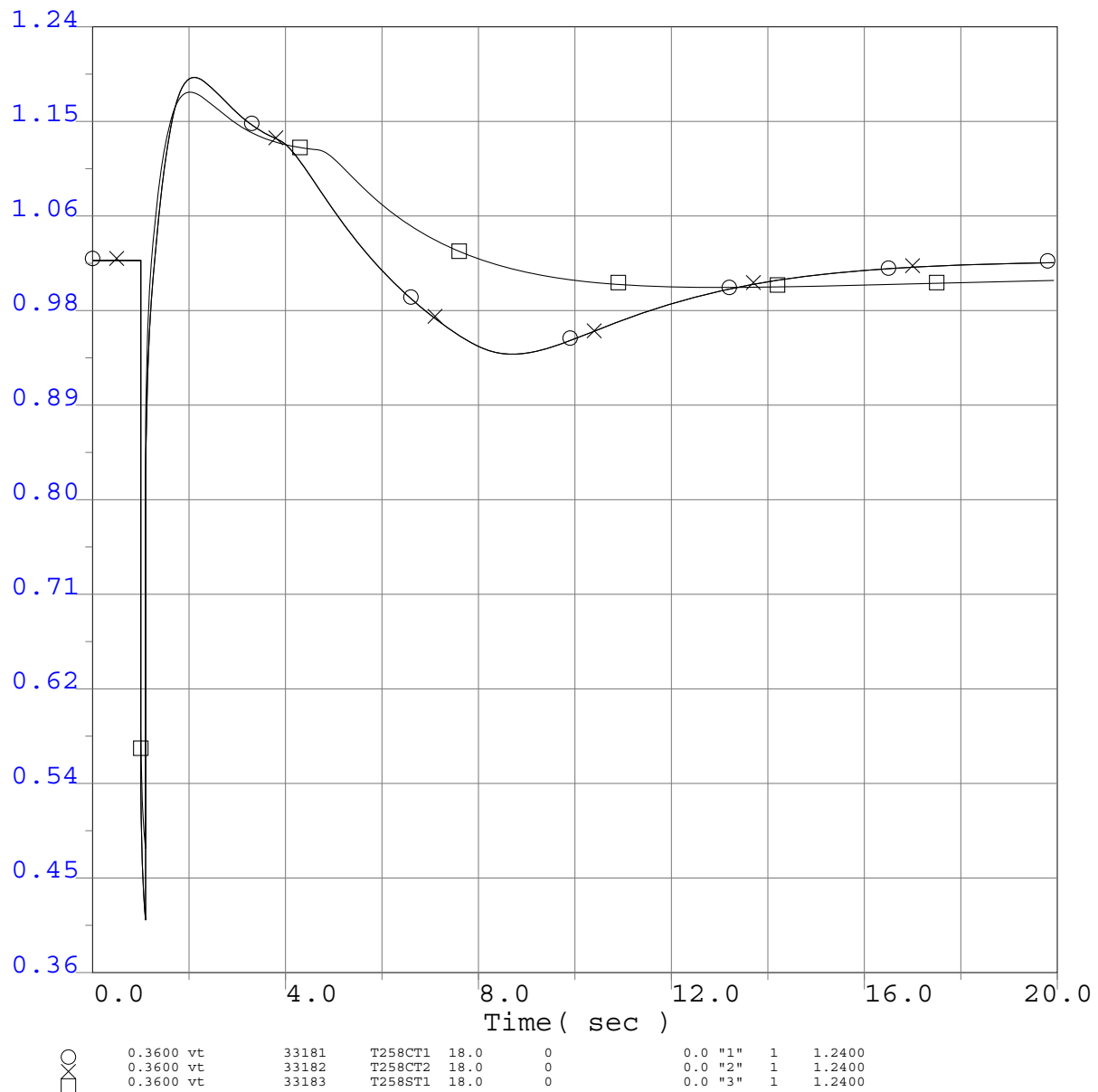
Selected PG&E Bus Frequency Plots Adjacent to Fault



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub 230kV Bus 1 Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub 230kV Bus 1 Outage

Q258 GIPR Phase 1 Interconnection System Impact Study

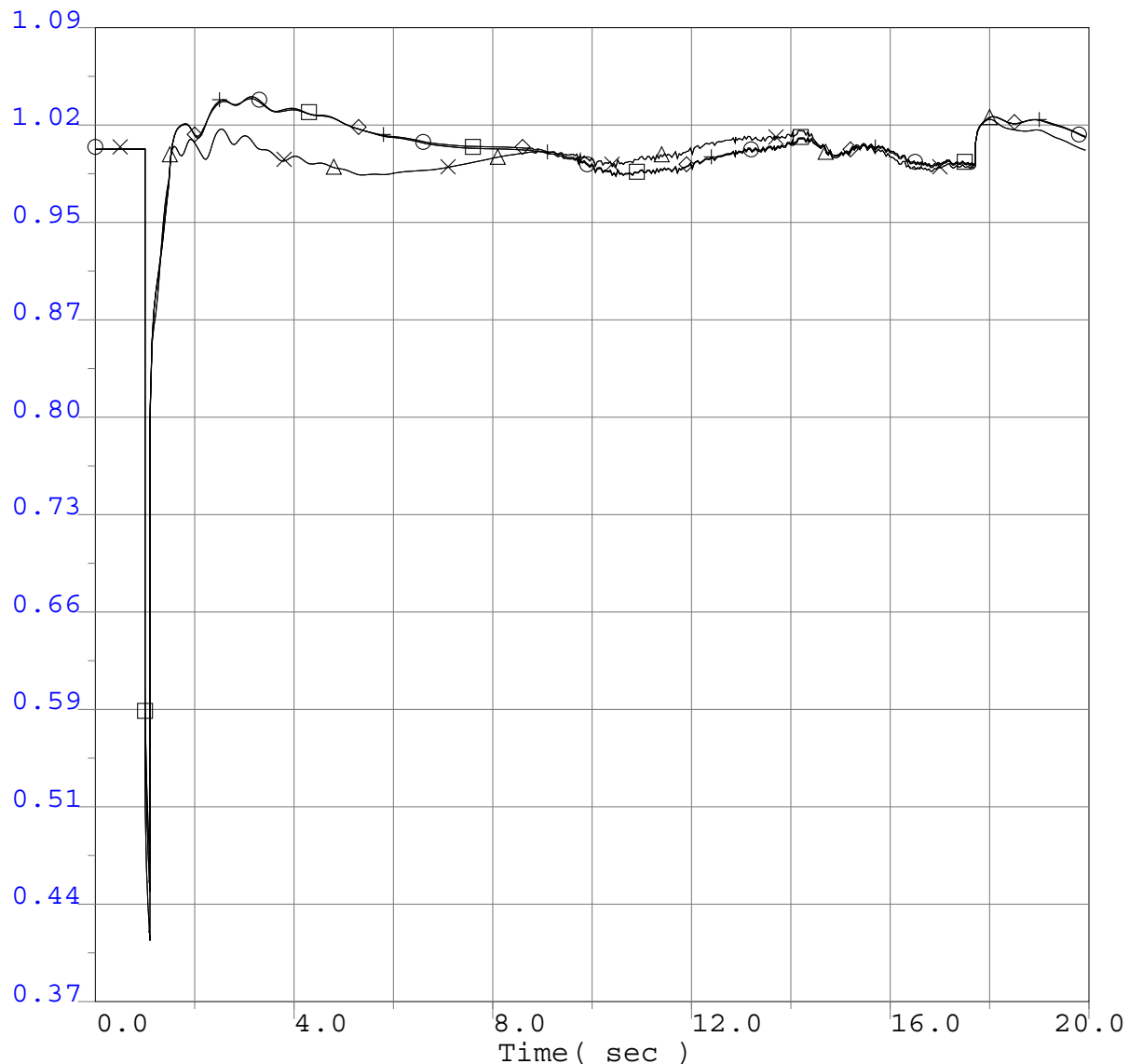
Project Generator Terminal Voltages (P.U.)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub 230kV Bus 1 Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub 230kV Bus 1 Outage

Q258 GIPR Phase 1 Interconnection System Impact Study

Selected Generator Terminal Voltages (P.U.)

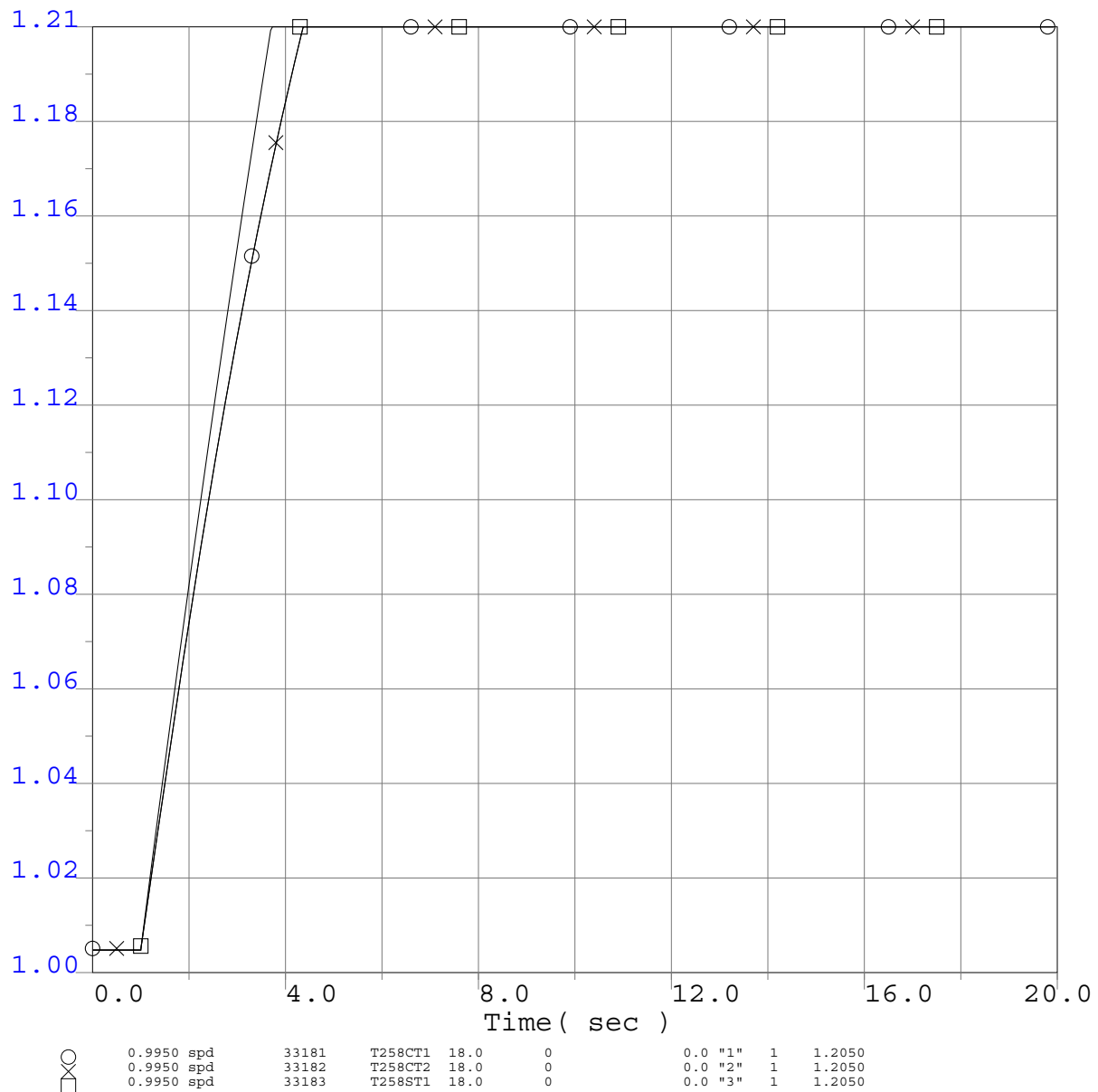


○	0.3700 vt	33184	T305GT1	16.5	0	0.0 "1"	1	1.0900
×	0.3700 vt	33185	T305ST1	13.8	0	0.0 "1"	1	1.0900
□	0.3700 vt	33186	T305GT2	16.5	0	0.0 "2"	1	1.0900
△	0.3700 vt	33187	T305ST2	13.8	0	0.0 "2"	1	1.0900
◇	0.3700 vt	33188	T320GT1	16.5	0	0.0 "1"	1	1.0900
+	0.3700 vt	33189	T320GT2	16.5	0	0.0 "2"	1	1.0900

Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub 230kV Bus 1 Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub 230kV Bus 1 Outage

Q258 GIPR Phase 1 Interconnection System Impact Study

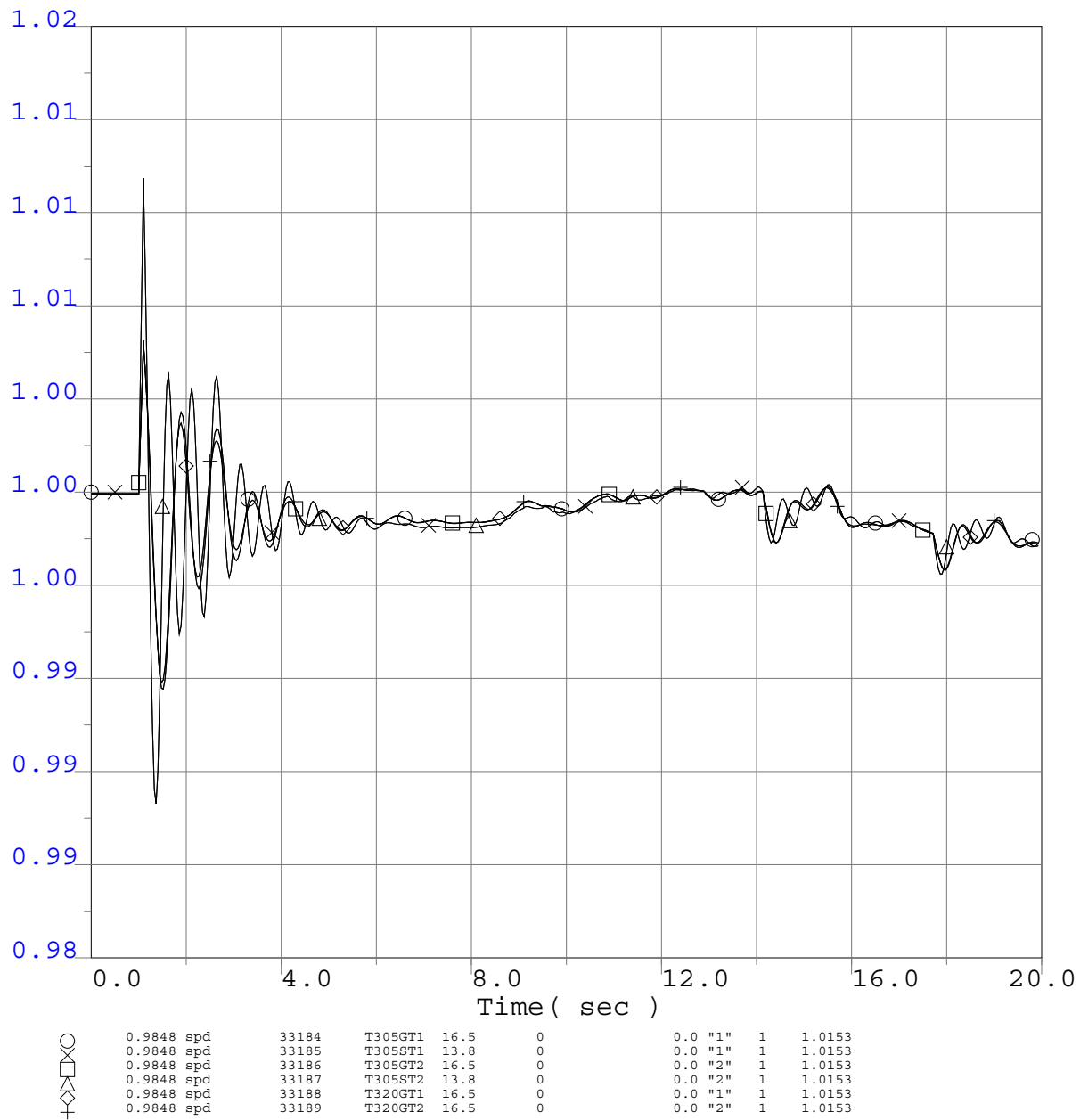
Project Generator Speed (P.U.)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub 230kV Bus 1 Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub 230kV Bus 1 Outage

Q258 GIPR Phase 1 Interconnection System Impact Study

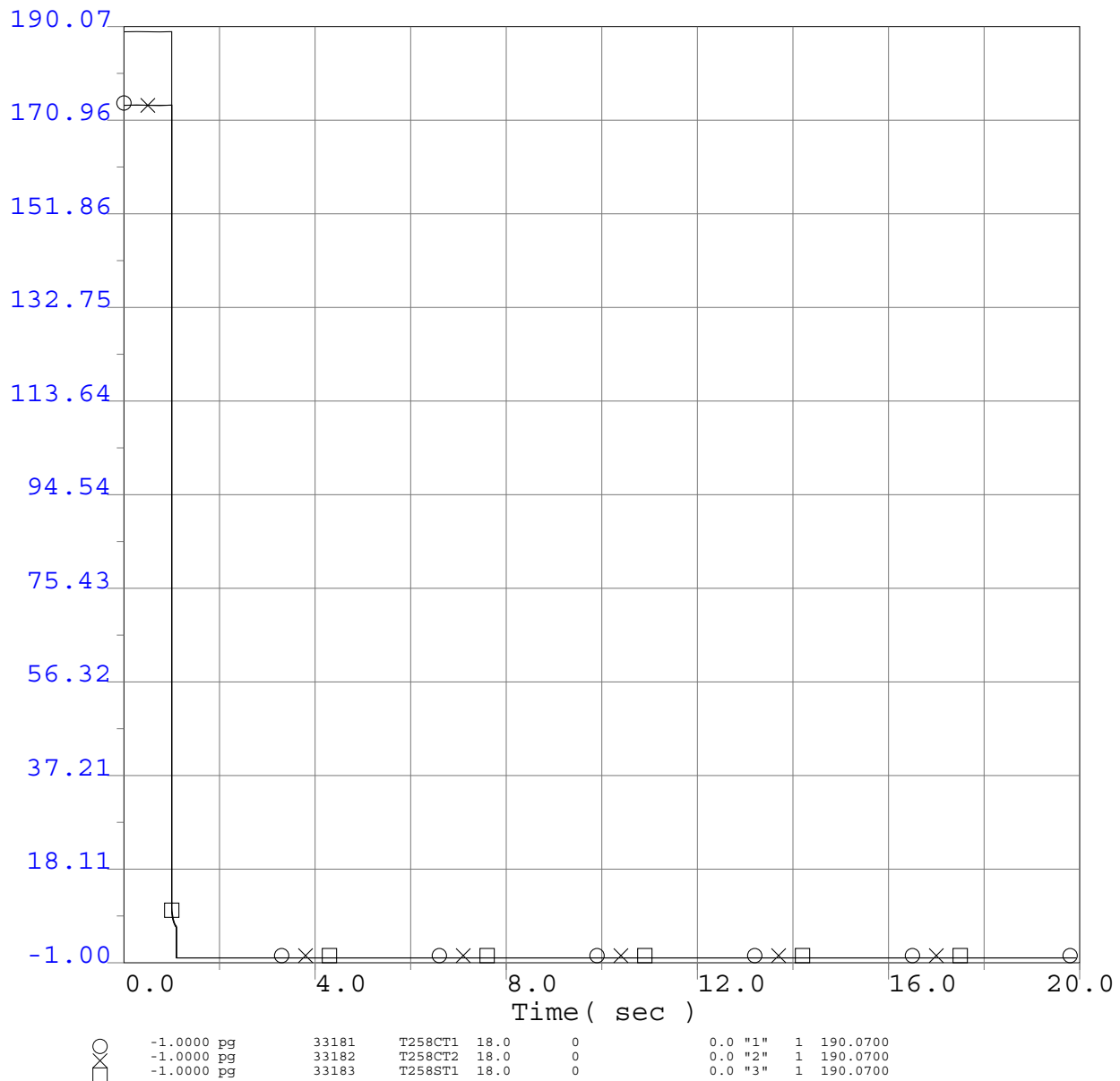
Selected Generator Speed (P.U.)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub 230kV Bus 1 Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub 230kV Bus 1 Outage

Q258 GIPR Phase 1 Interconnection System Impact Study

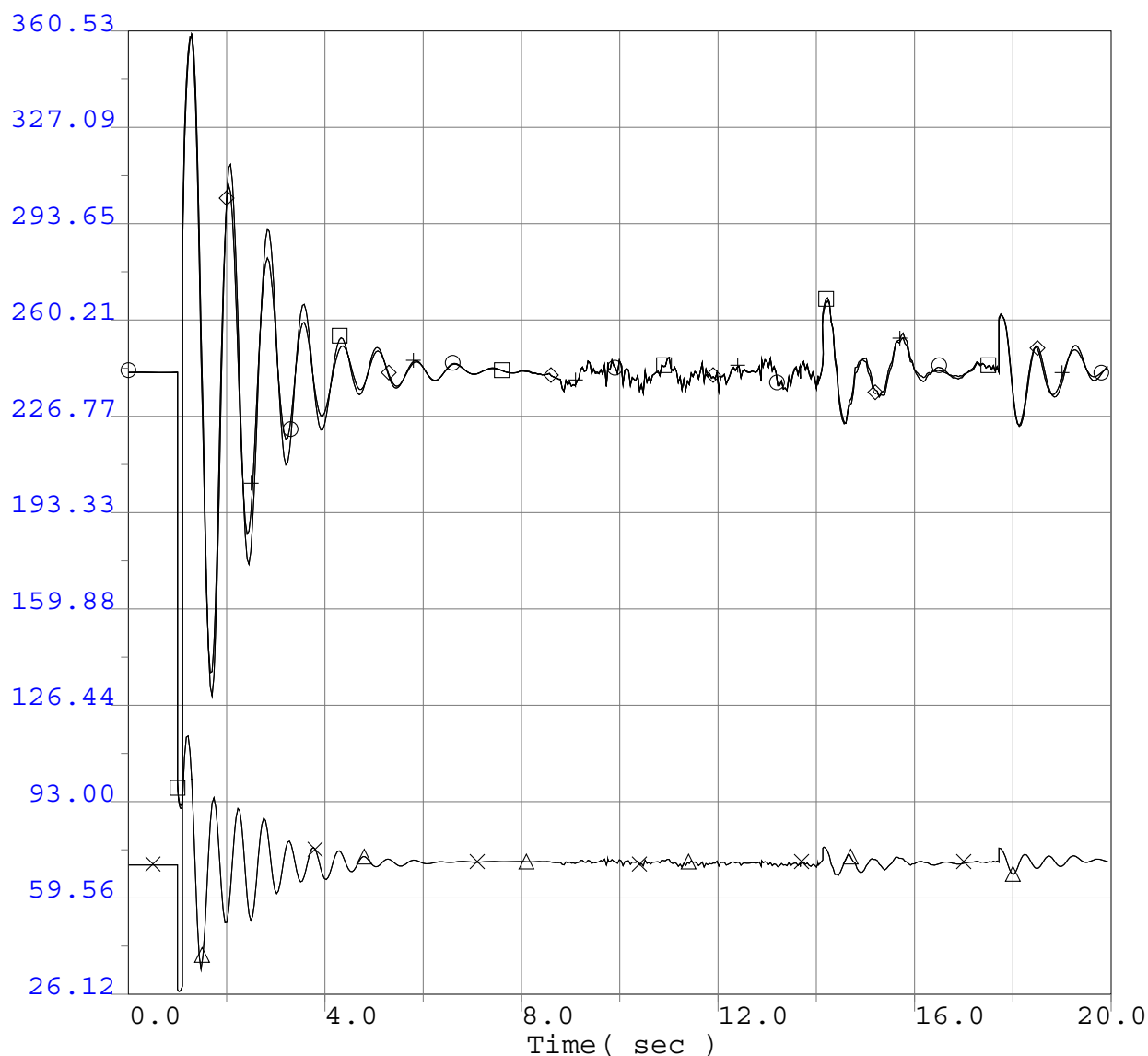
Project Generator Terminal Power (MW)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub 230kV Bus 1 Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub 230kV Bus 1 Outage

Q258 GIPR Phase 1 Interconnection System Impact Study

Selected Generator Terminal Power (MW)

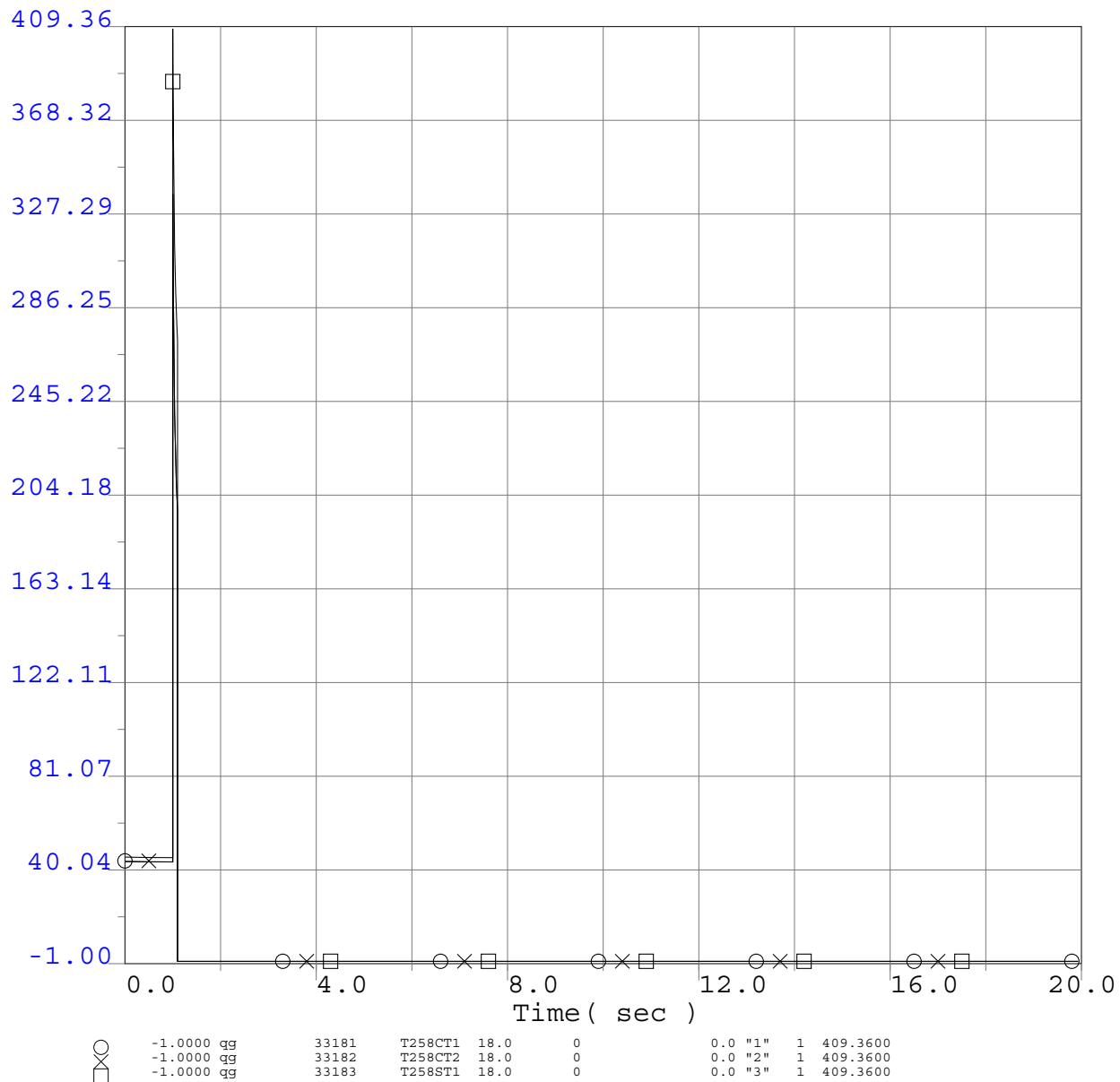


○	26.1200	pg	33184	T305GT1	16.5	0	0.0	"1"	1	360.5300
□	26.1200	pg	33185	T305ST1	13.8	0	0.0	"1"	1	360.5300
◇	26.1200	pg	33186	T305GT2	16.5	0	0.0	"2"	1	360.5300
×	26.1200	pg	33187	T305ST2	13.8	0	0.0	"2"	1	360.5300
△	26.1200	pg	33188	T320GT1	16.5	0	0.0	"1"	1	360.5300
+	26.1200	pg	33189	T320GT2	16.5	0	0.0	"2"	1	360.5300

Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub 230kV Bus 1 Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub 230kV Bus 1 Outage

Q258 GIPR Phase 1 Interconnection System Impact Study

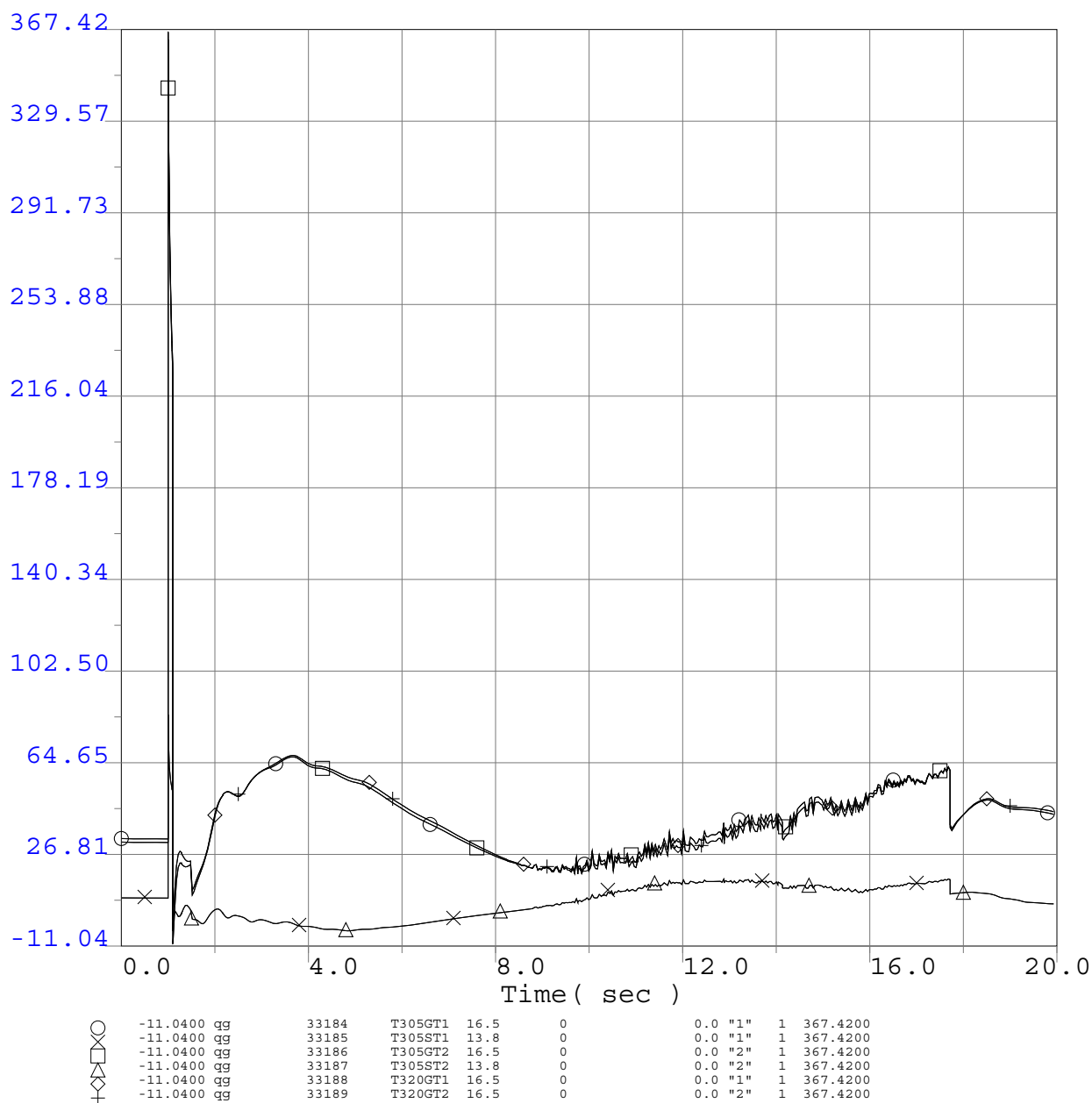
Project Generator Terminal Reactive Power (MVar)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub 230kV Bus 1 Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub 230kV Bus 1 Outage

Q258 GIPR Phase 1 Interconnection System Impact Study

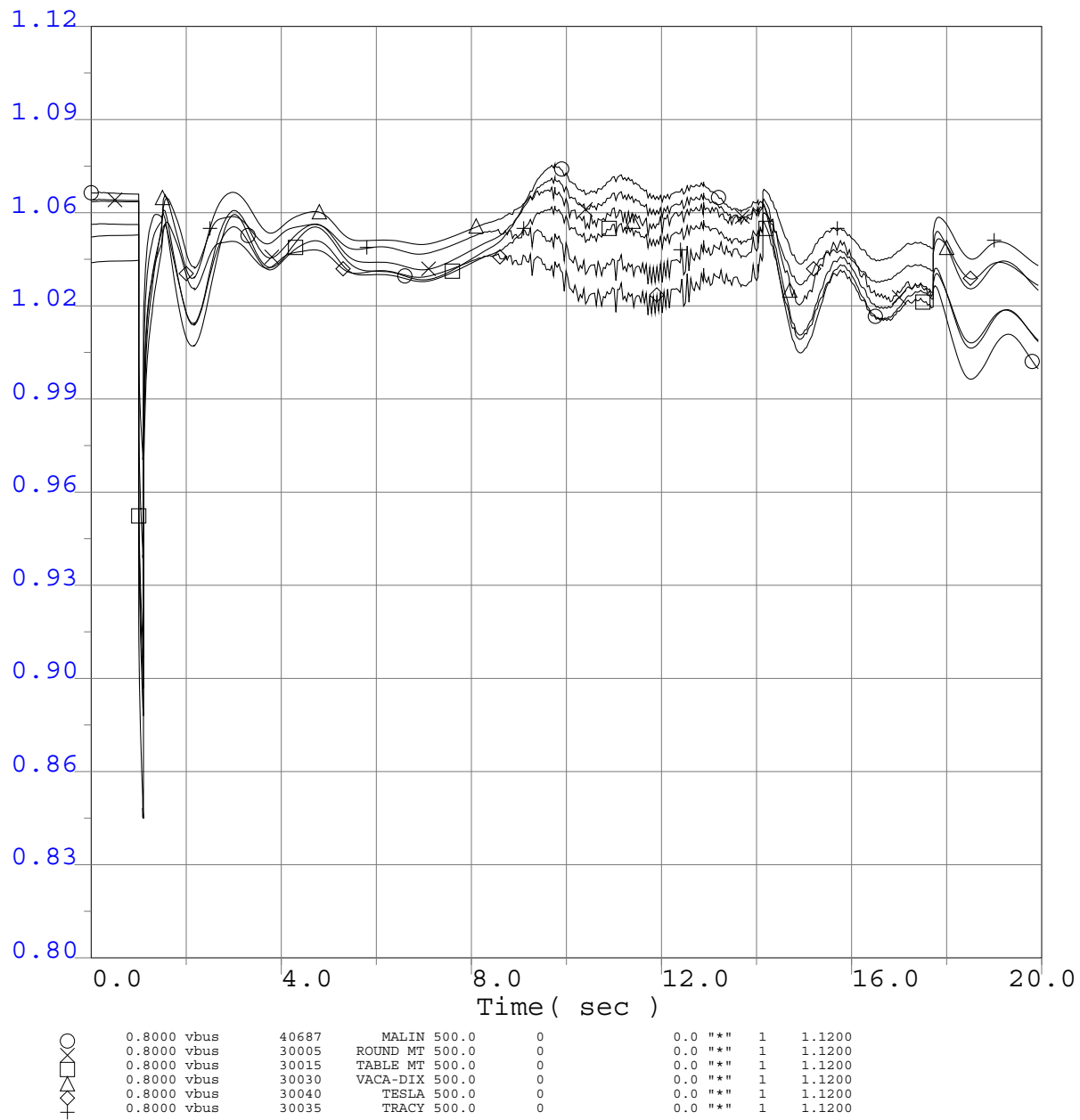
Selected Generator Terminal Reactive Power (MVar)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub 230kV Bus 1 Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub 230kV Bus 1 Outage

Q258 GIPR Phase 1 Interconnection System Impact Study

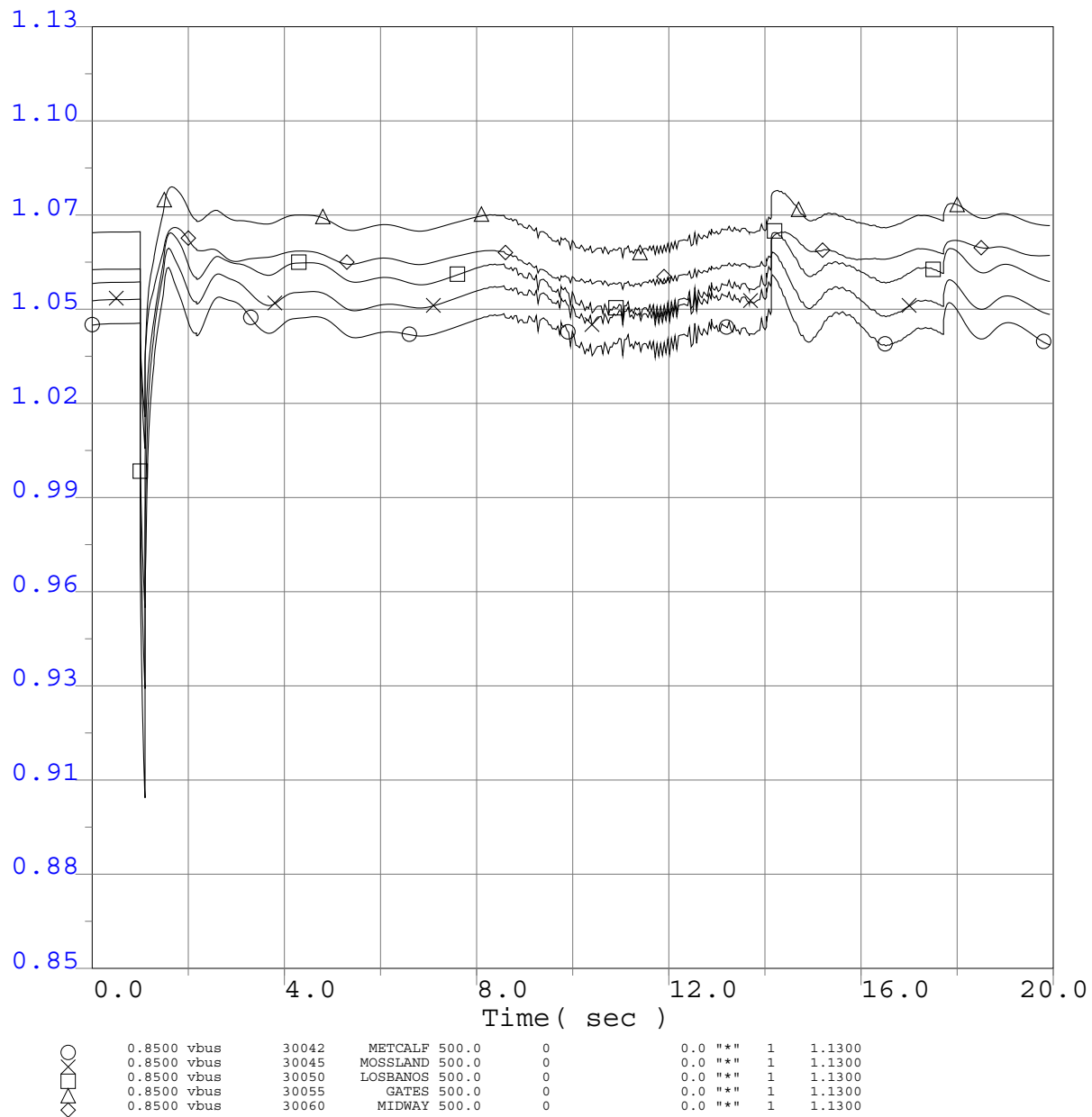
Selected WECC Bus Voltage Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub 230kV Bus 1 Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub 230kV Bus 1 Outage

Q258 GIPR Phase 1 Interconnection System Impact Study

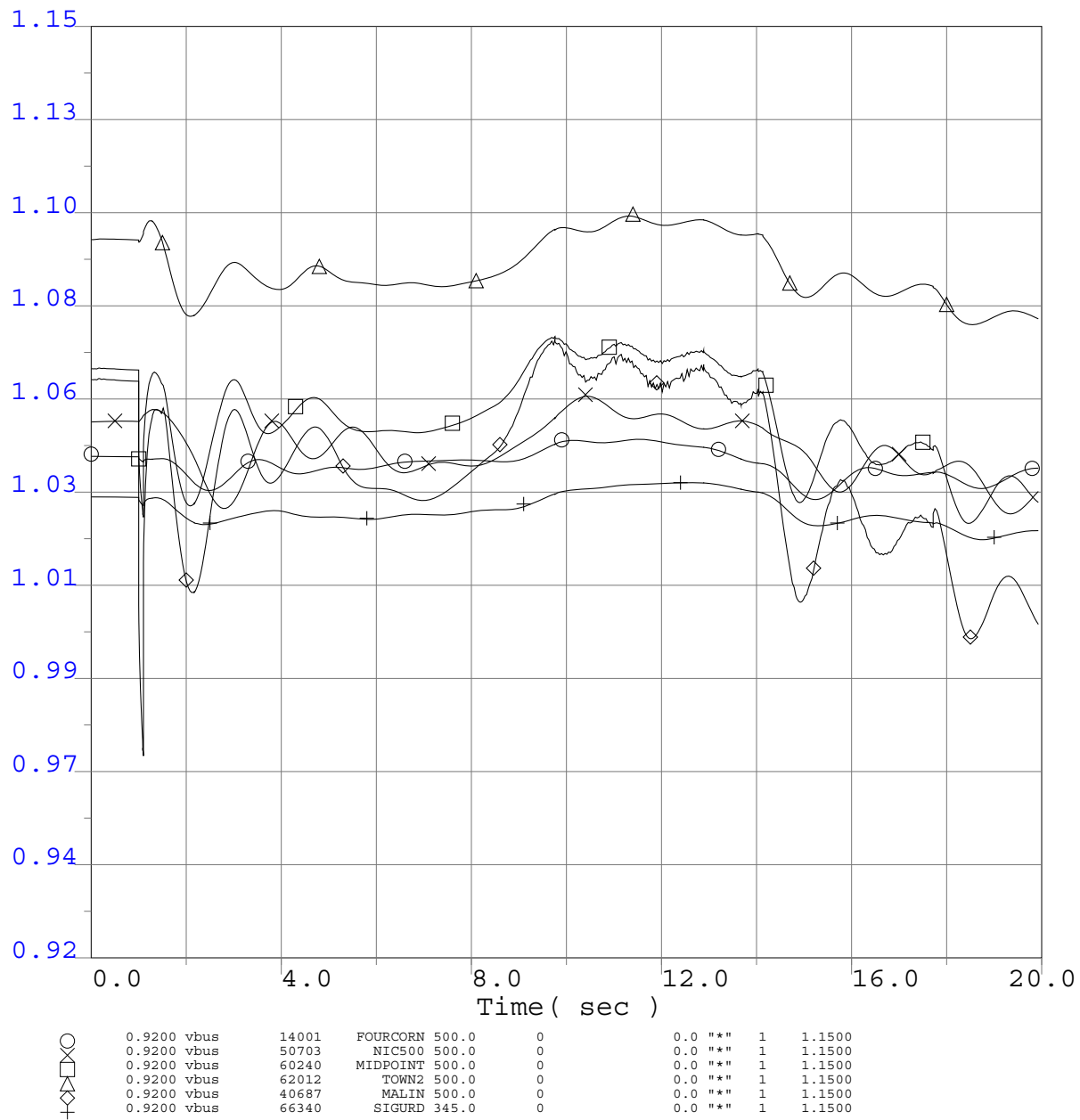
Selected WECC Bus Voltage Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub 230kV Bus 1 Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub 230kV Bus 1 Outage

Q258 GIPR Phase 1 Interconnection System Impact Study

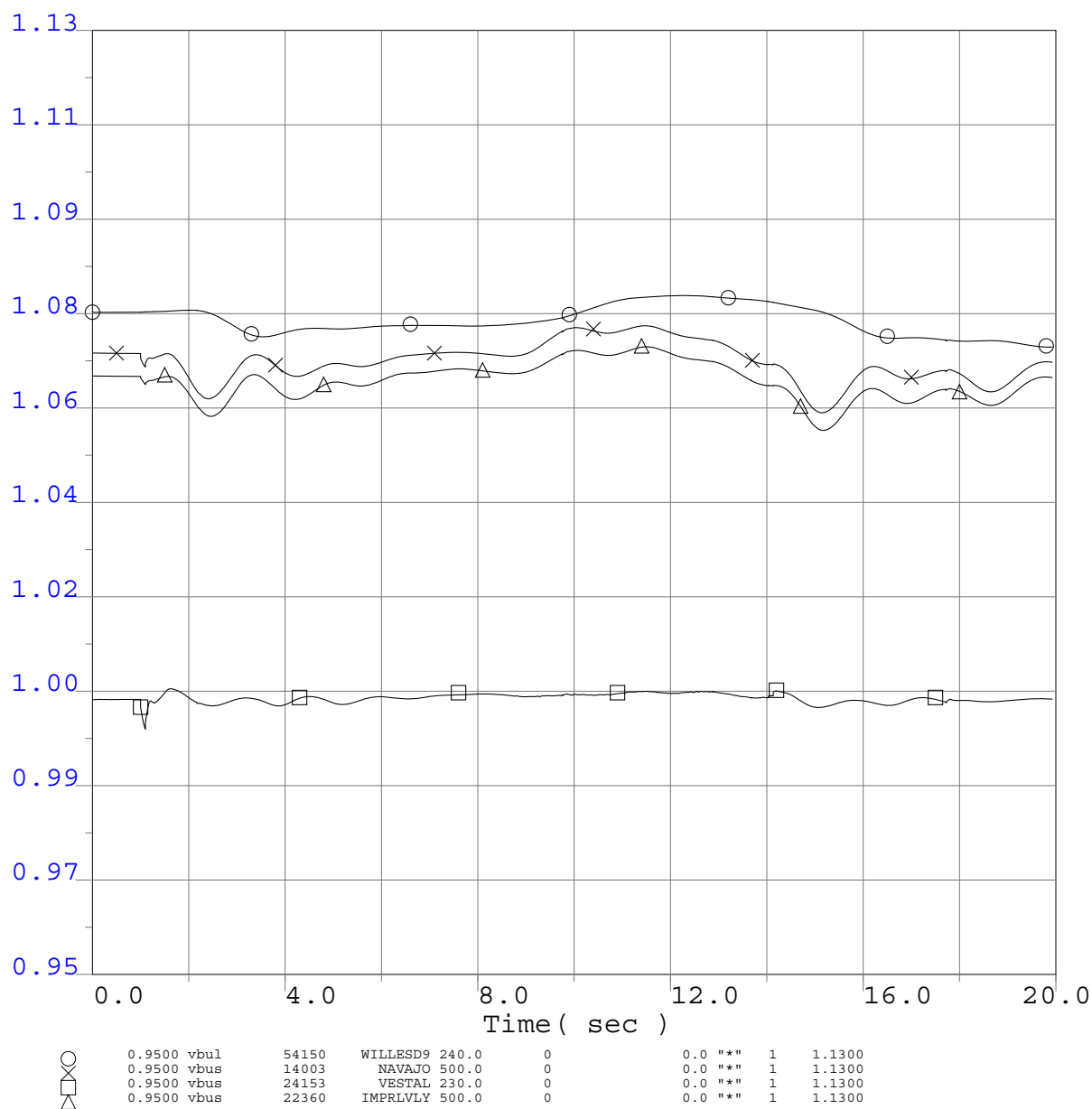
Selected WECC Bus Voltage Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub 230kV Bus 1 Outage
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Q258 GIPR Phase 1 Interconnection System Impact Study

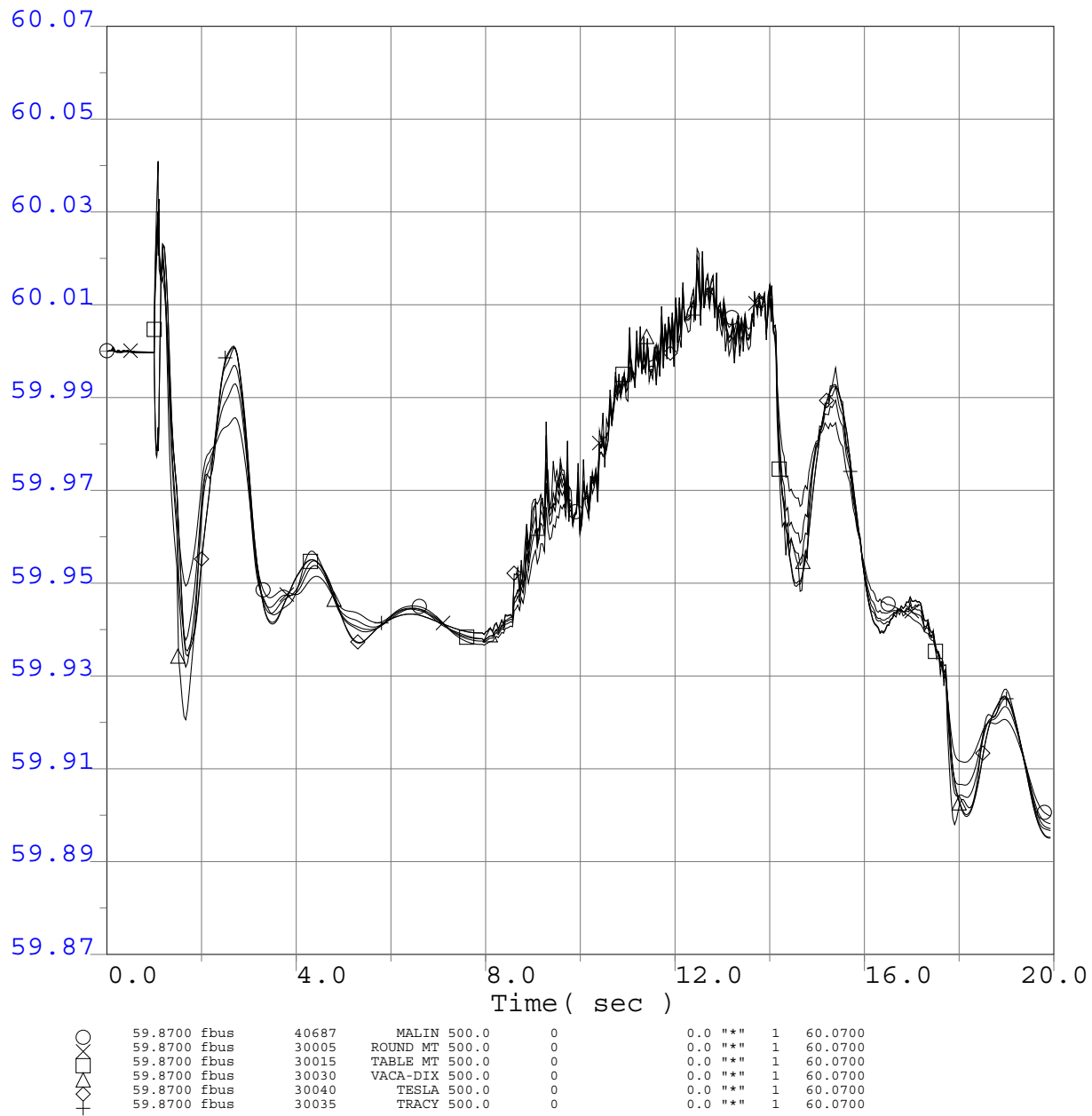
Selected WECC Bus Voltage Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub 230kV Bus 1 Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub 230kV Bus 1 Outage

Q258 GIPR Phase 1 Interconnection System Impact Study

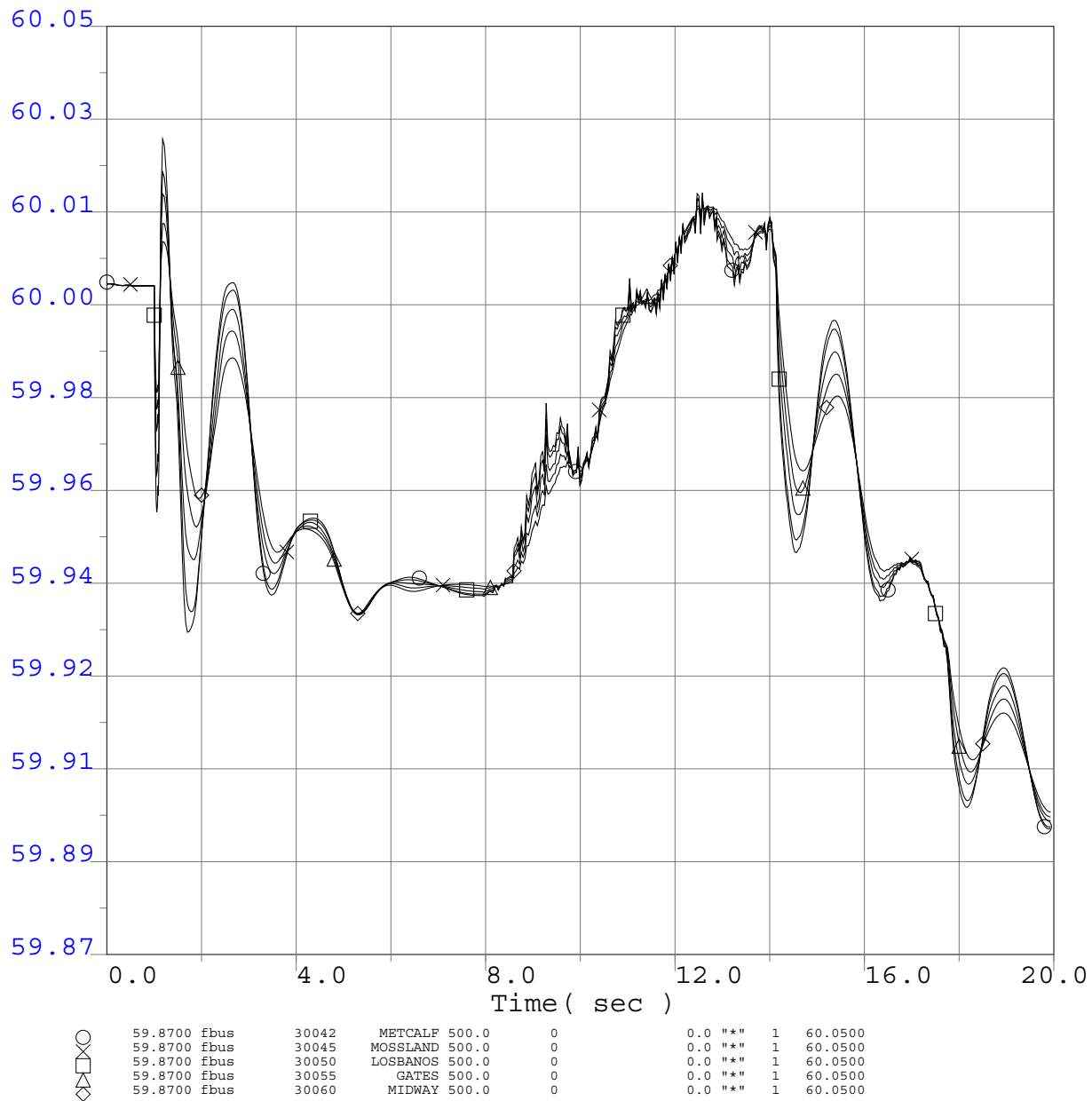
Selected WECC Bus Frequency Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub 230kV Bus 1 Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub 230kV Bus 1 Outage

Q258 GIPR Phase 1 Interconnection System Impact Study

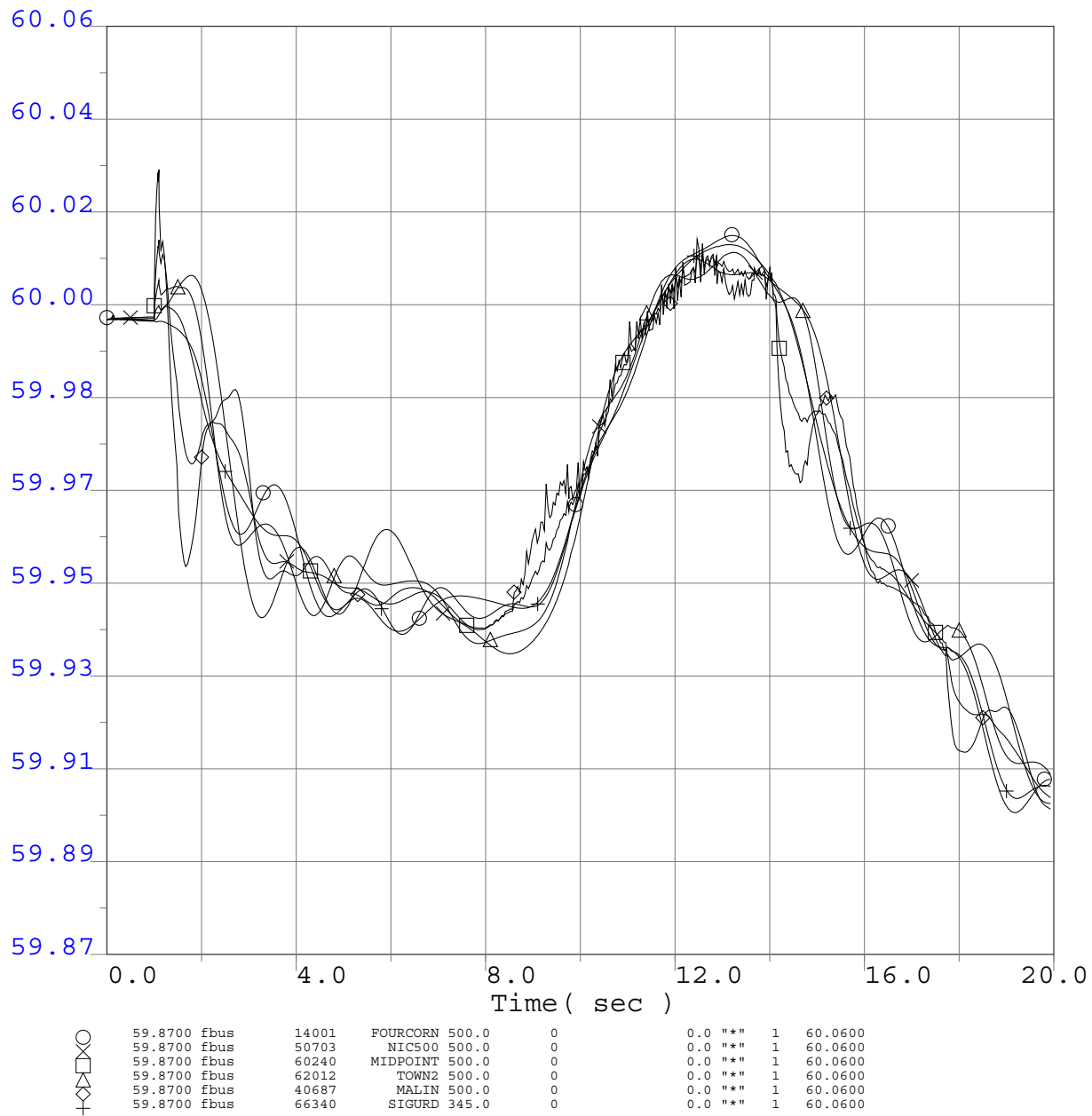
Selected WECC Bus Frequency Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub 230kV Bus 1 Outage
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Q258 GIPR Phase 1 Interconnection System Impact Study

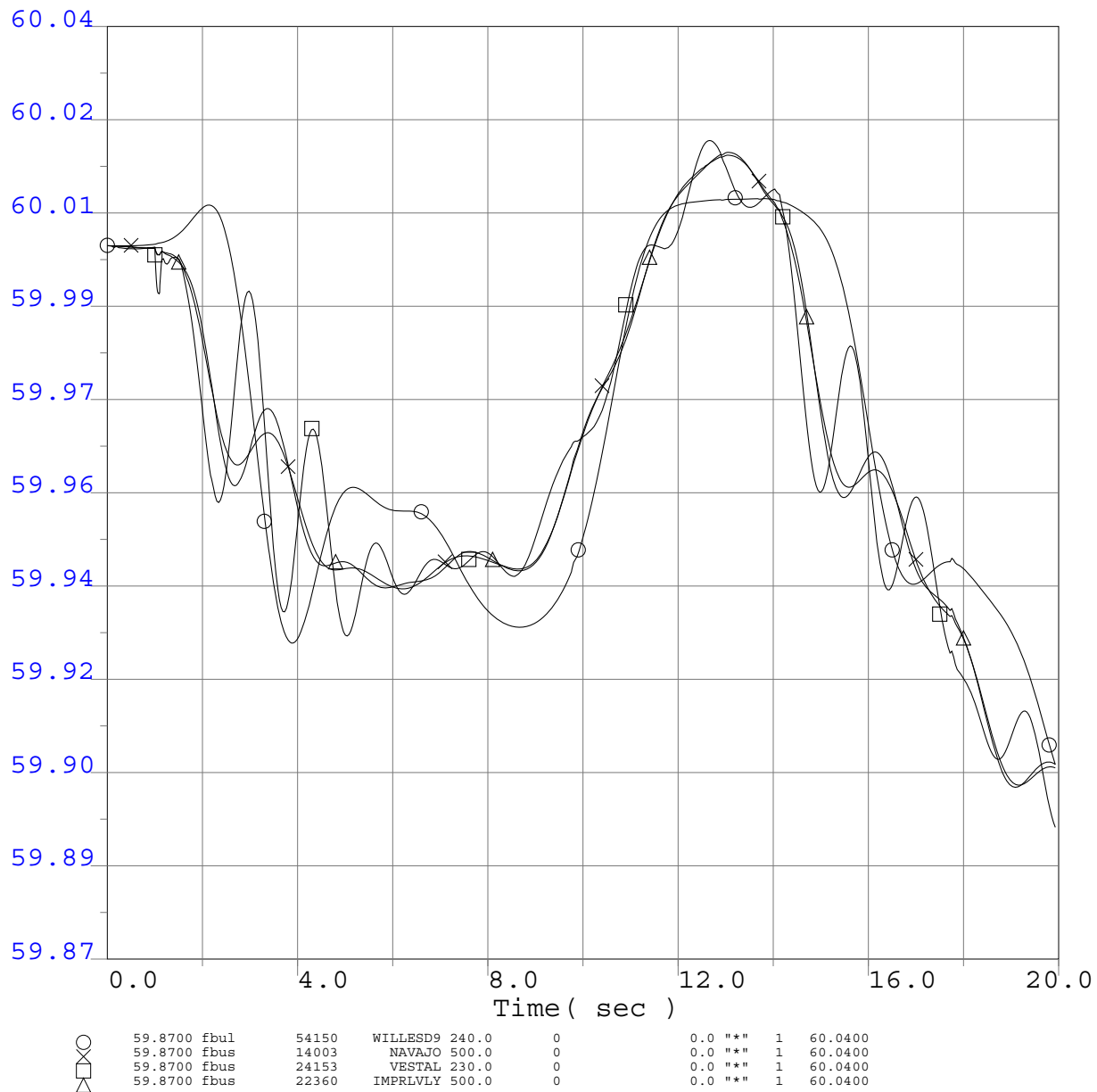
Selected WECC Bus Frequency Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub 230kV Bus 1 Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub 230kV Bus 1 Outage

Q258 GIPR Phase 1 Interconnection System Impact Study

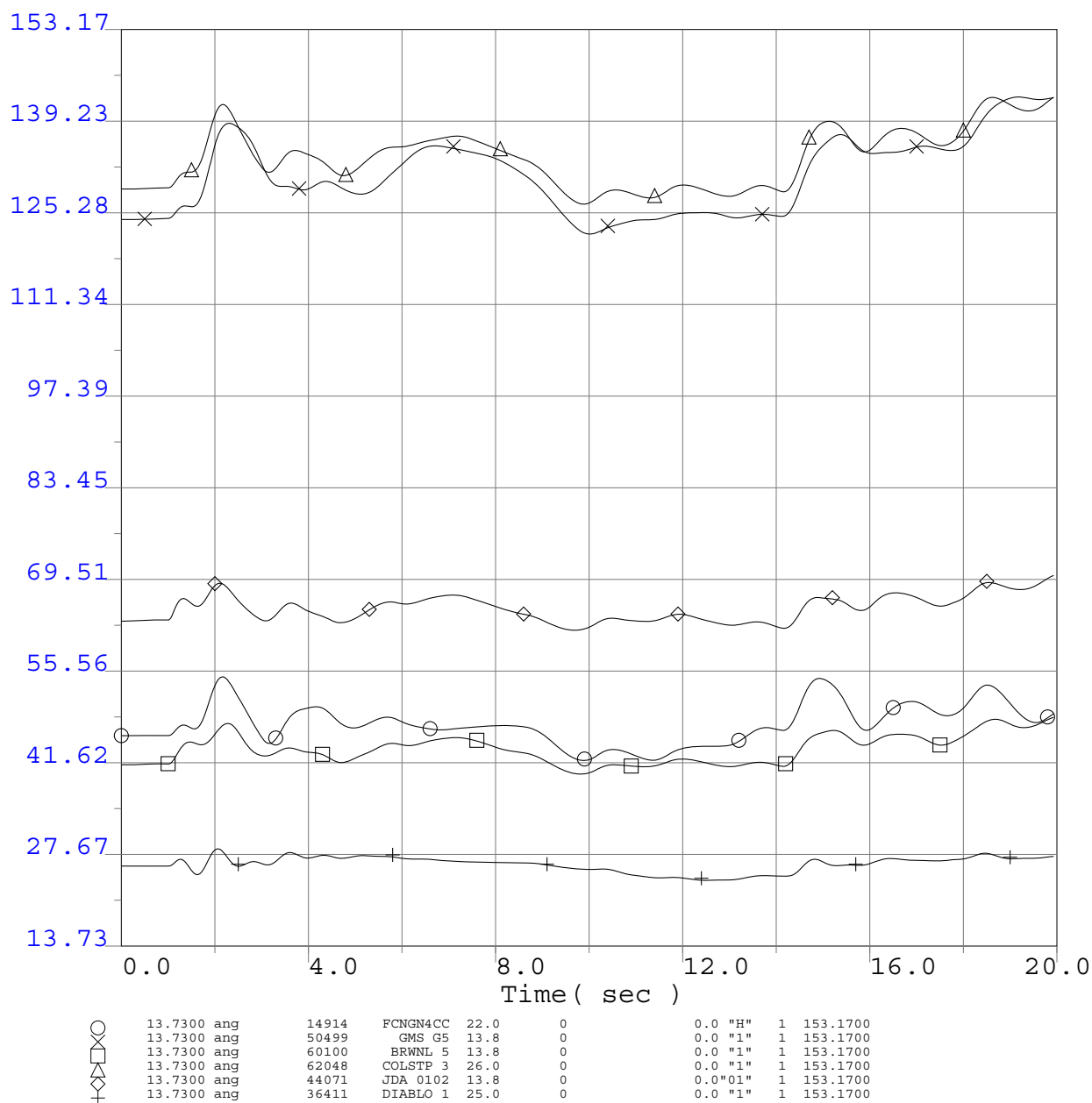
Selected WECC Bus Frequency Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
2013 Greater Bay Area Summer Peak Base Case
Q258 @537MW
CC Sub 230kV Bus 1 Outage
3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub 230kV Bus 1 Outage

Q258 GIPR Phase 1 Interconnection System Impact Study

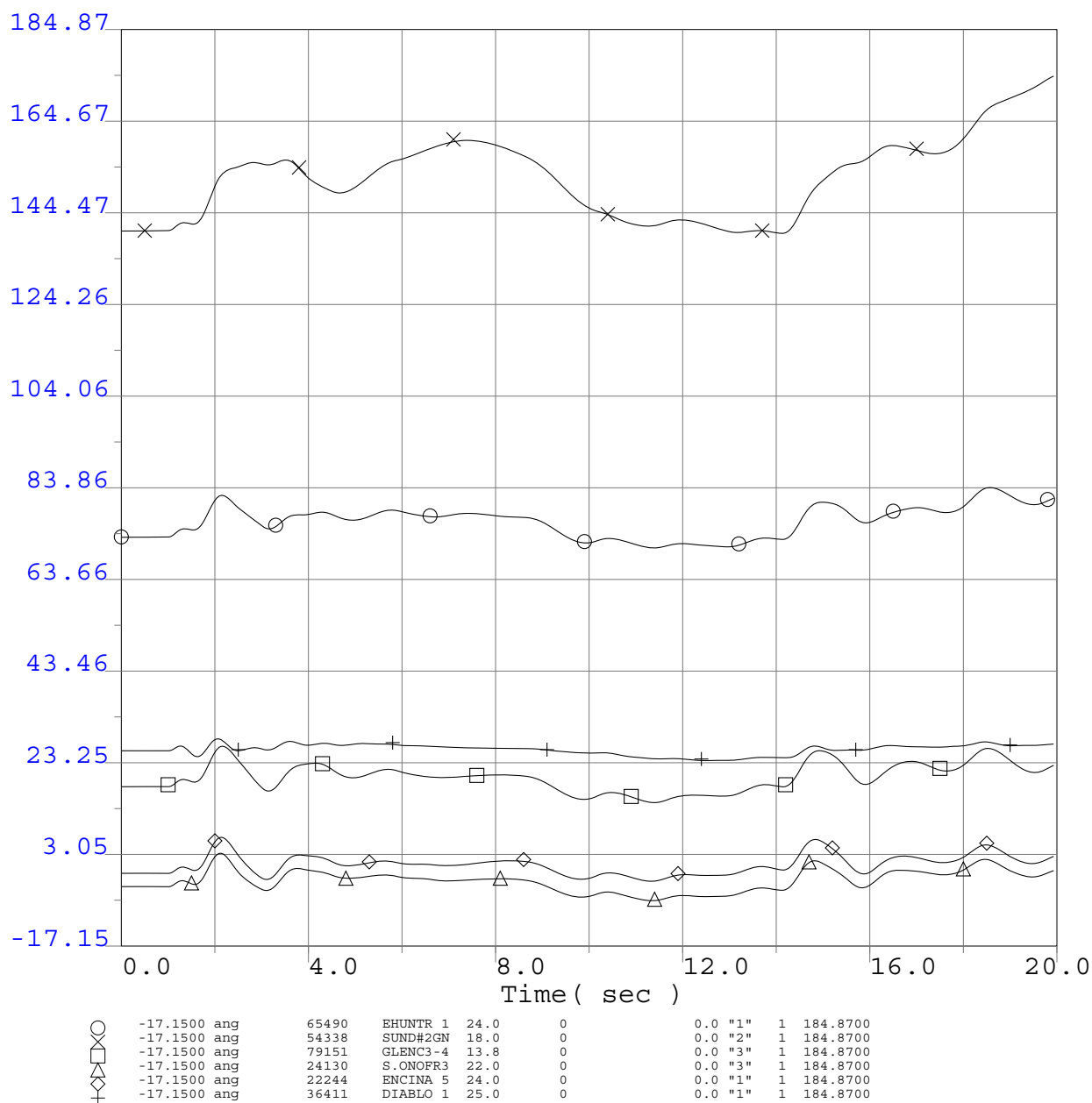
WECC Generator Rotor Angle



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub 230kV Bus 1 Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub 230kV Bus 1 Outage

Q258 GIPR Phase 1 Interconnection System Impact Study

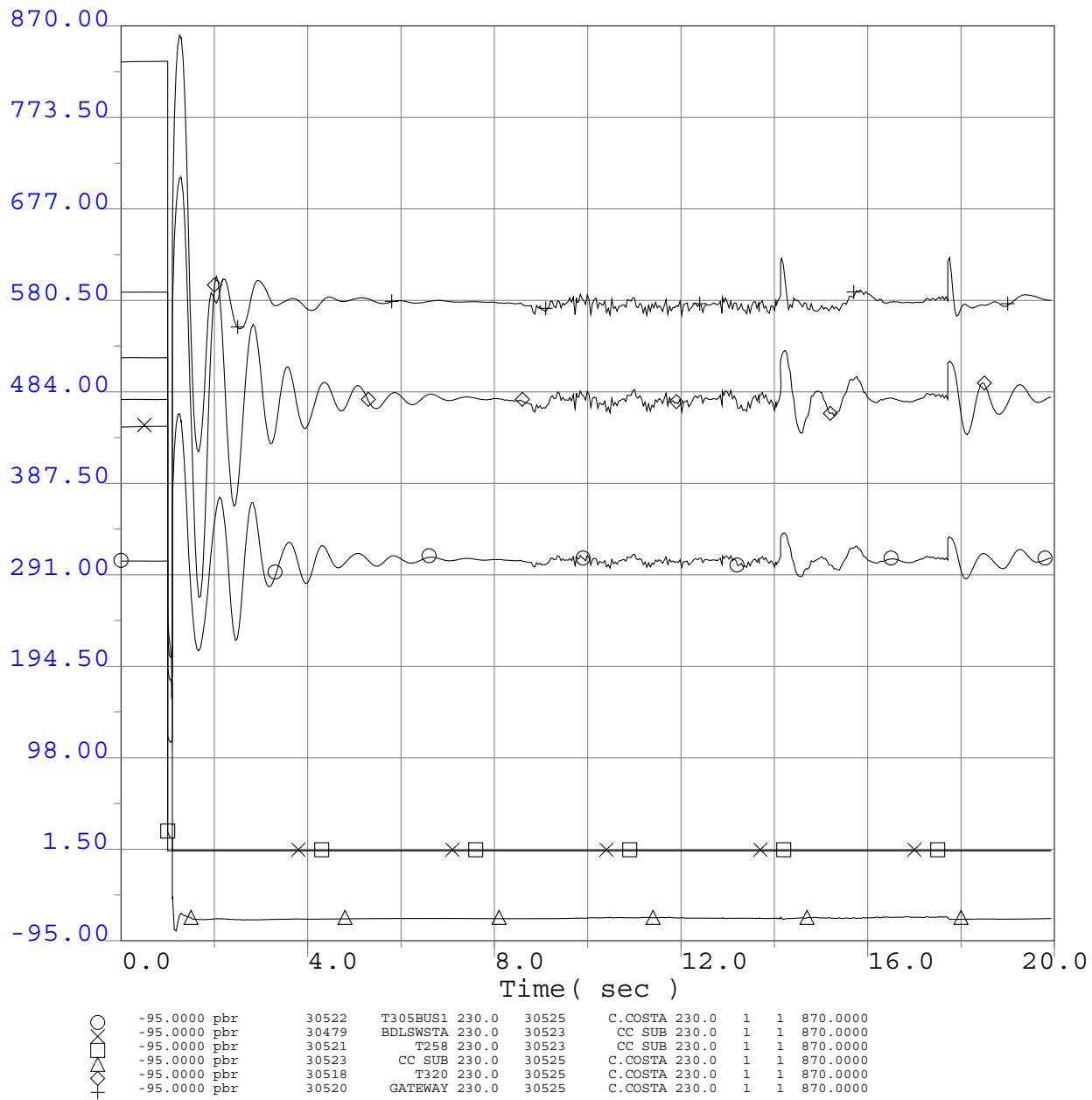
WECC Generator Rotor Angle



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub 230kV Bus 1 Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub 230kV Bus 1 Outage

Q258 GIPR Phase 1 Interconnection System Impact Study

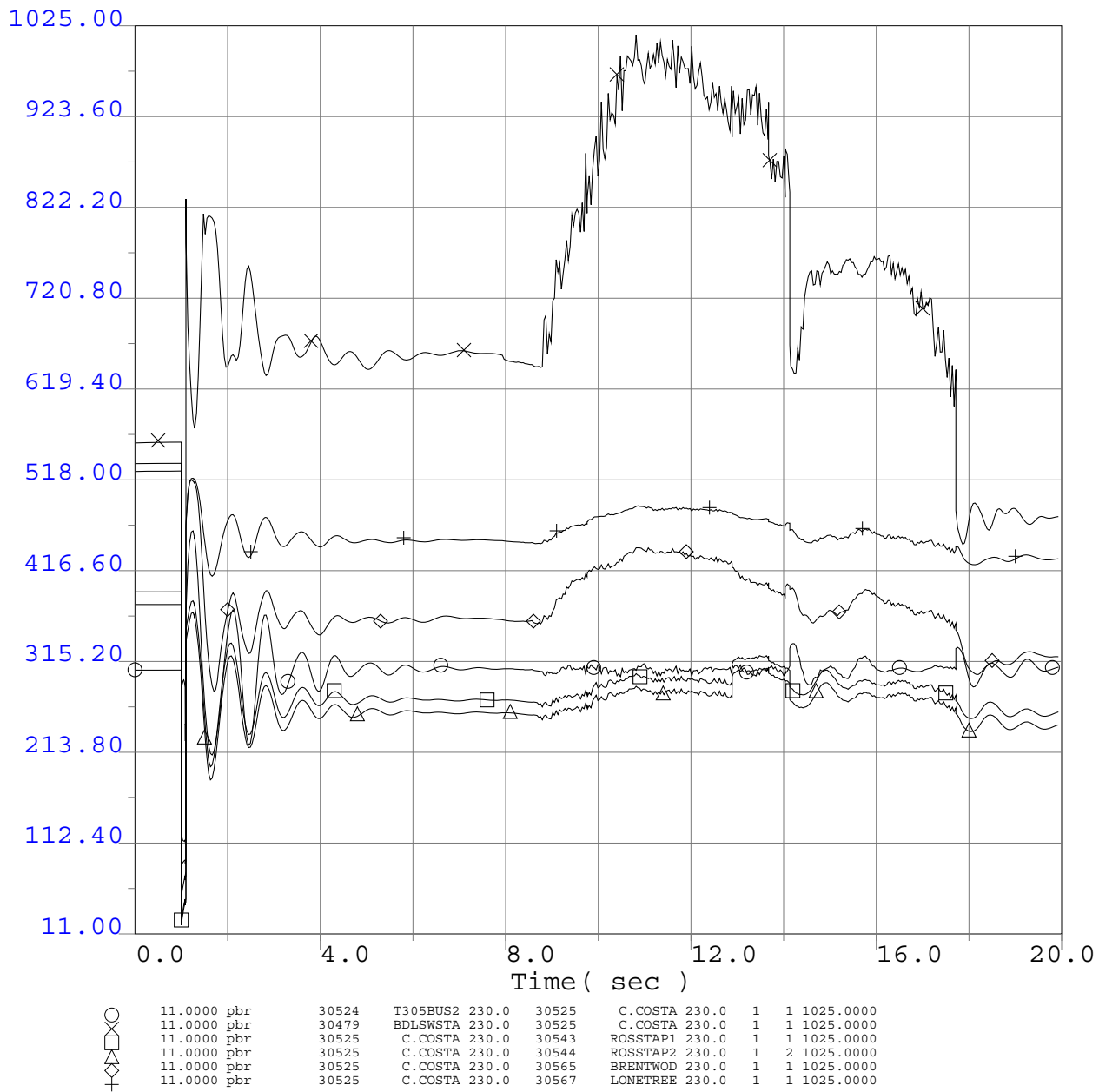
Selected PG&E Transmission Line Flows (MW)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub 230kV Bus 1 Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub 230kV Bus 1 Outage

Q258 GIPR Phase 1 Interconnection System Impact Study

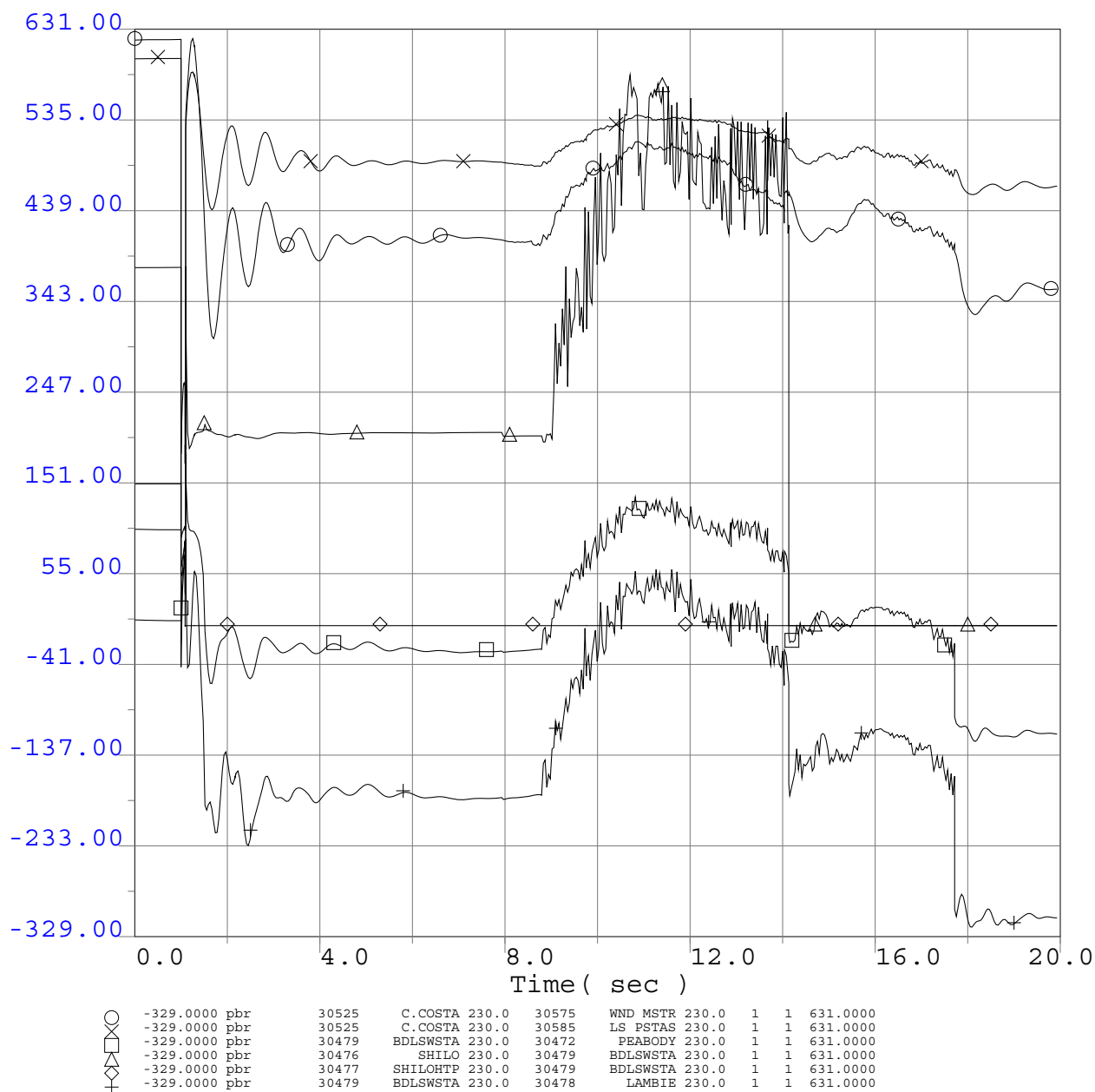
Selected PG&E Transmission Line Flows (MW)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
2013 Greater Bay Area Summer Peak Base Case
Q258 @537MW
CC Sub 230kV Bus 1 Outage
3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub 230kV Bus 1 Outage

Q258 GIPR Phase 1 Interconnection System Impact Study

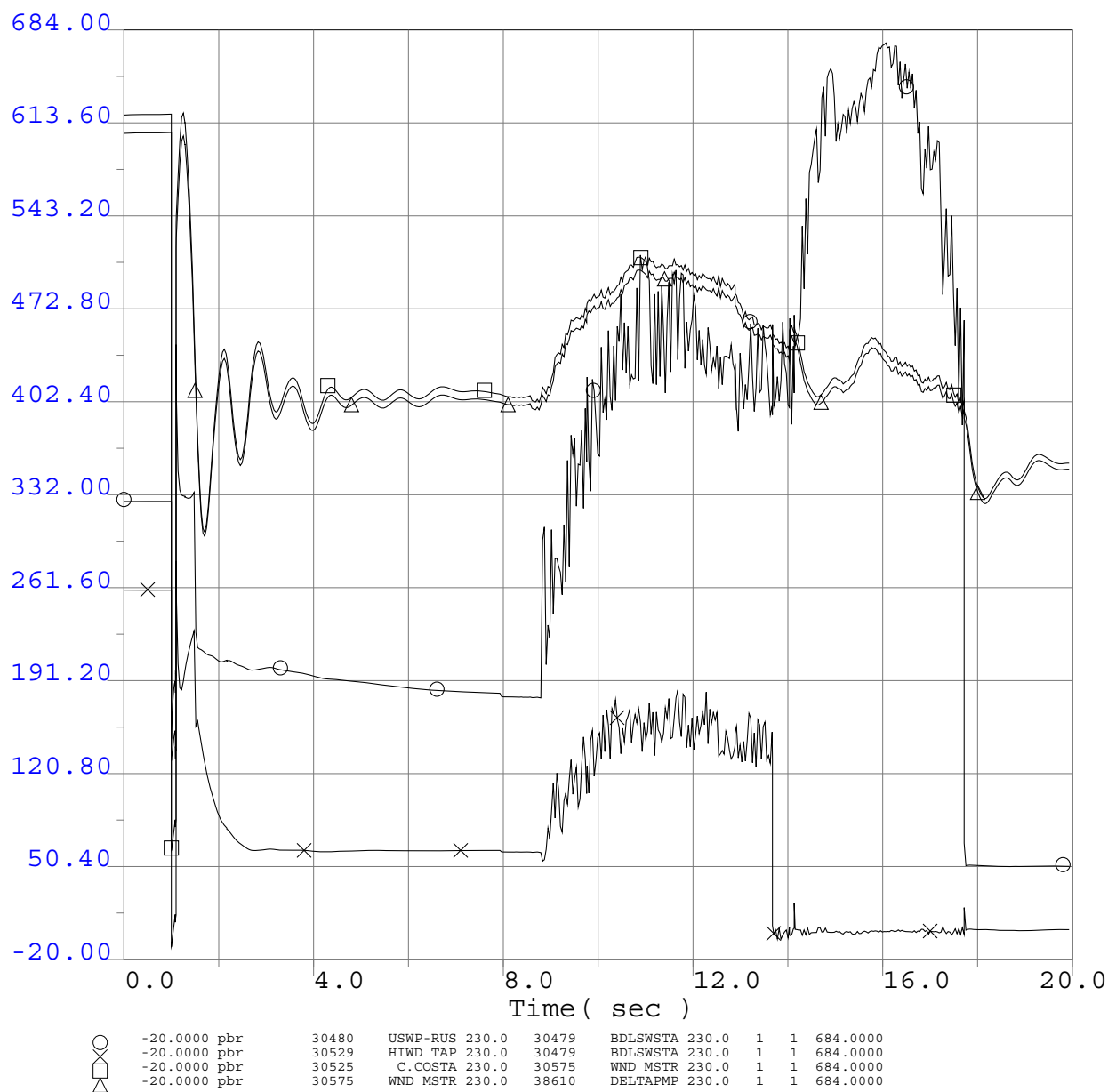
Selected PG&E Transmission Line Flows (MW)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub 230kV Bus 1 Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub 230kV Bus 1 Outage

Q258 GIPR Phase 1 Interconnection System Impact Study

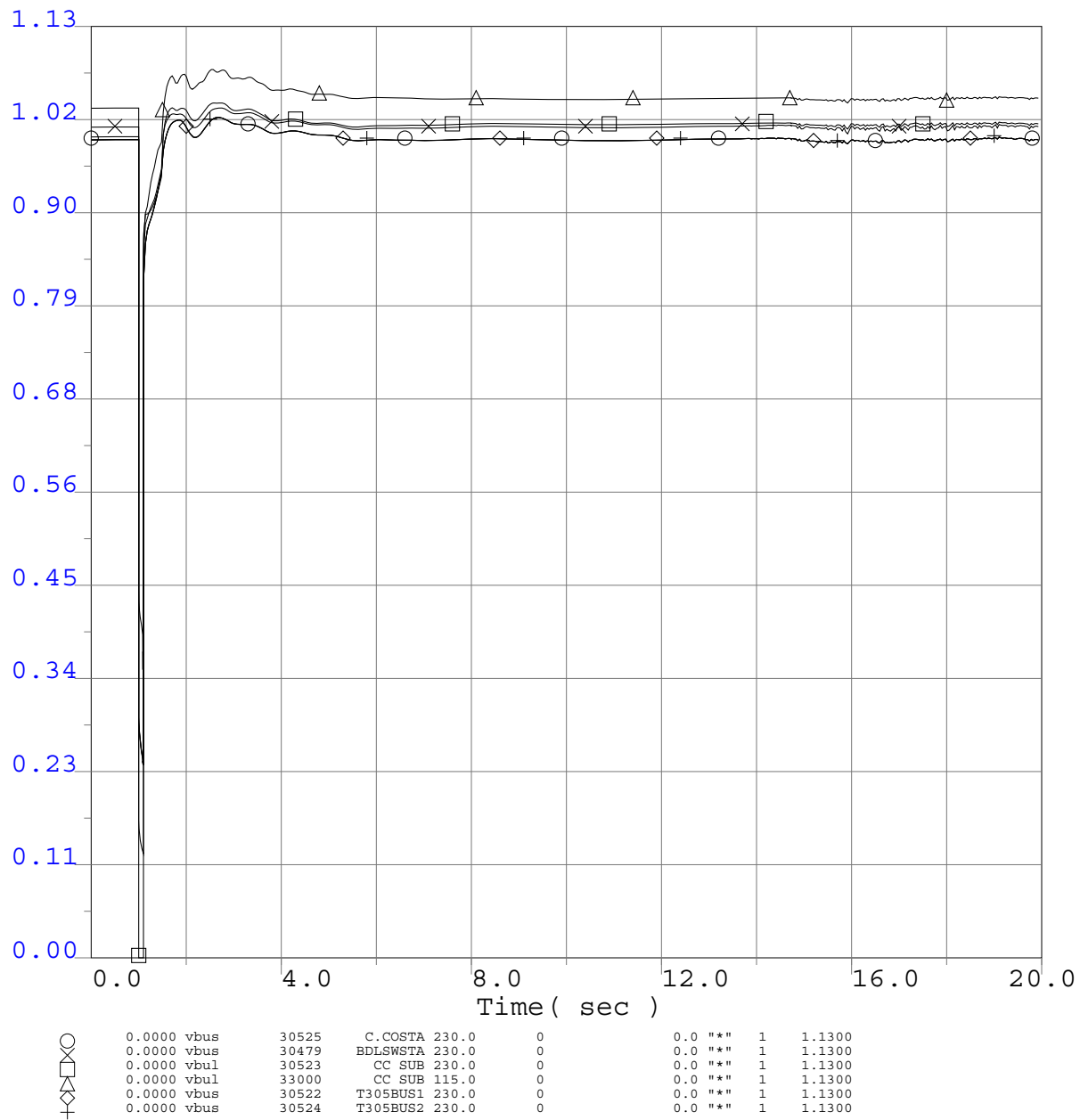
Selected PG&E Transmission Line Flows (MW)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub 230kV Bus 1 Outage
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Q258 GIPR Phase 1 Interconnection System Impact Study

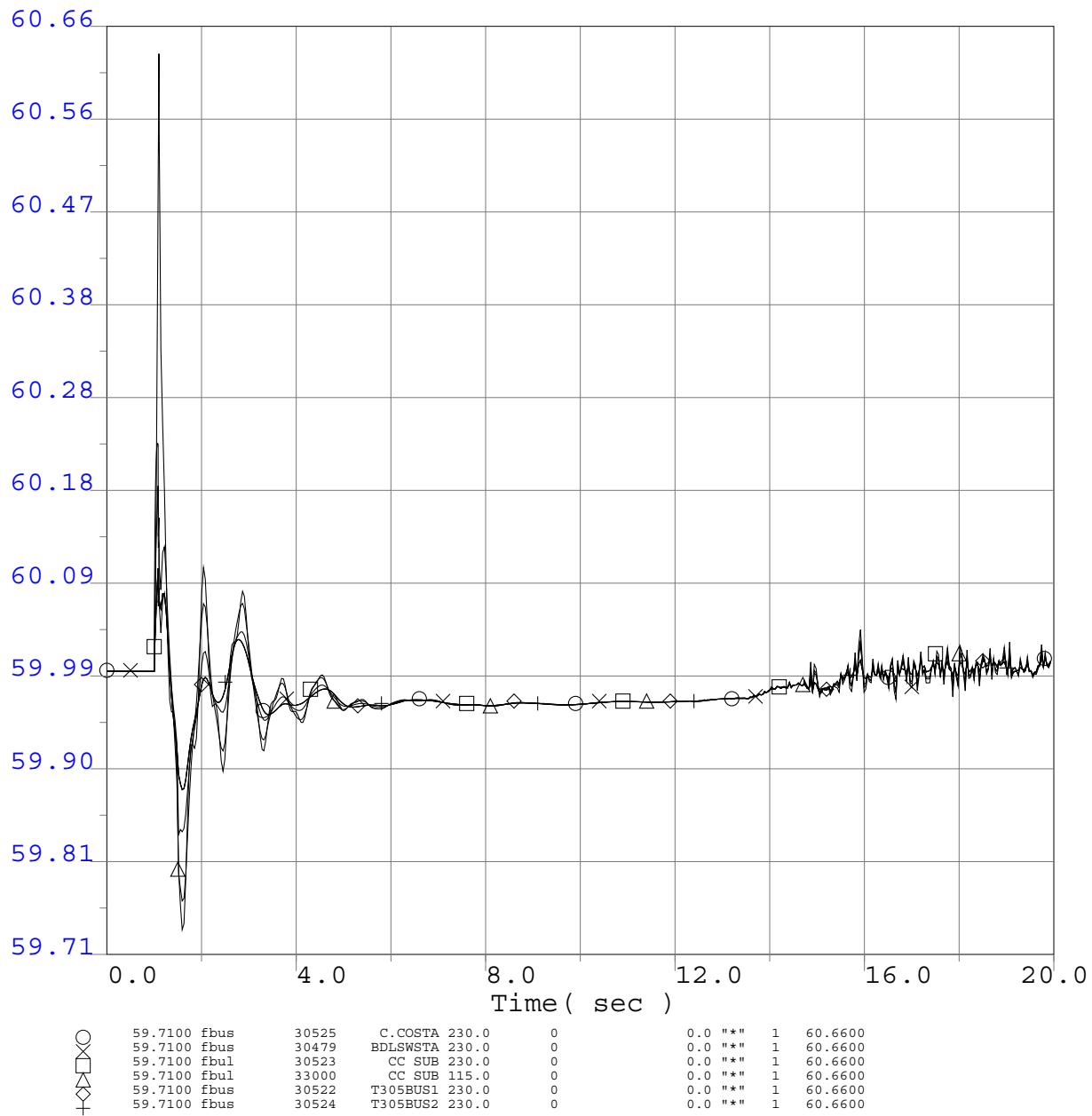
Selected PG&E Bus Voltage Plots Adjacent to Fault



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub 230kV Bus 2 Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub 230kV Bus 2 Outage

Q258 GIPR Phase 1 Interconnection System Impact Study

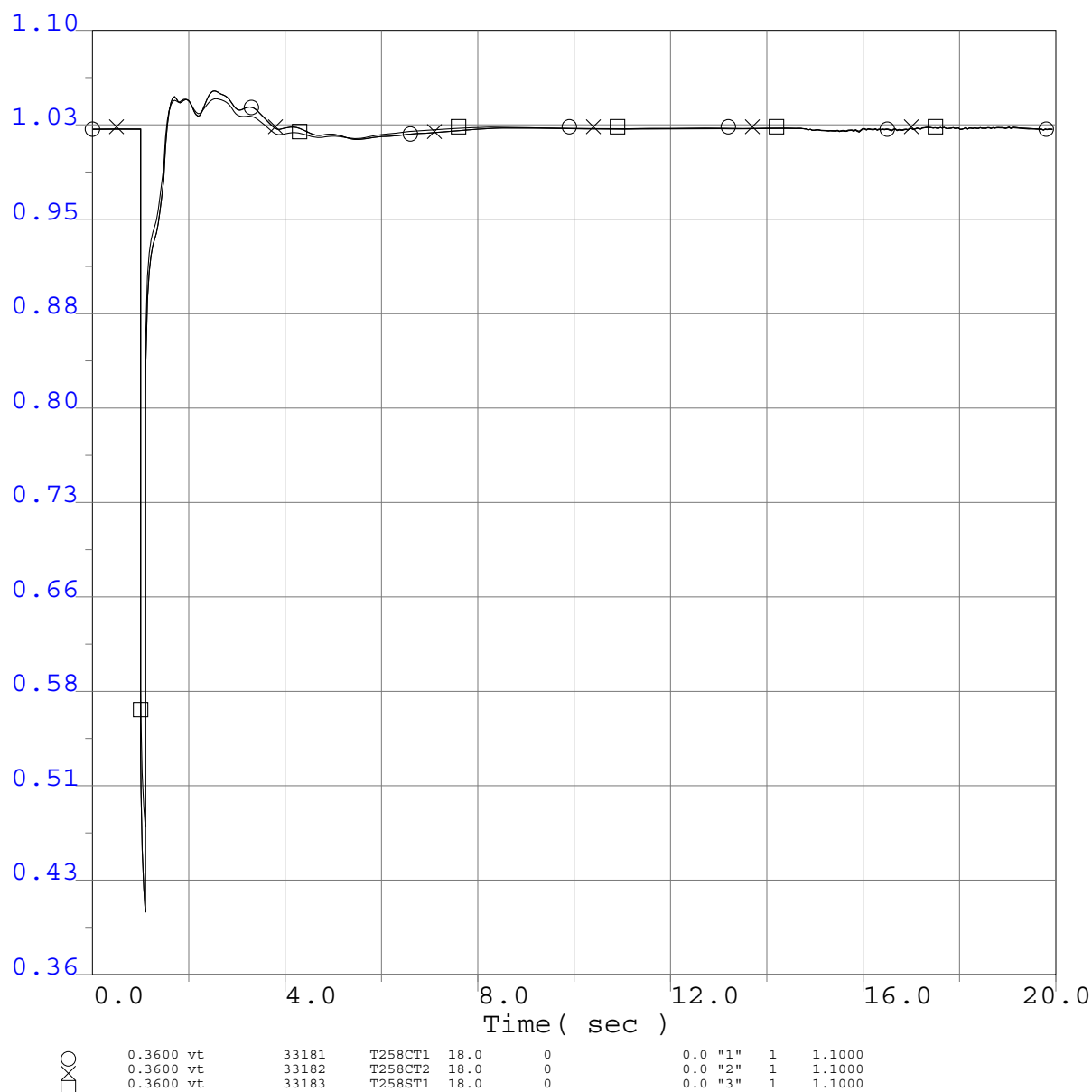
Selected PG&E Bus Frequency Plots Adjacent to Fault



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub 230kV Bus 2 Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub 230kV Bus 2 Outage

Q258 GIPR Phase 1 Interconnection System Impact Study

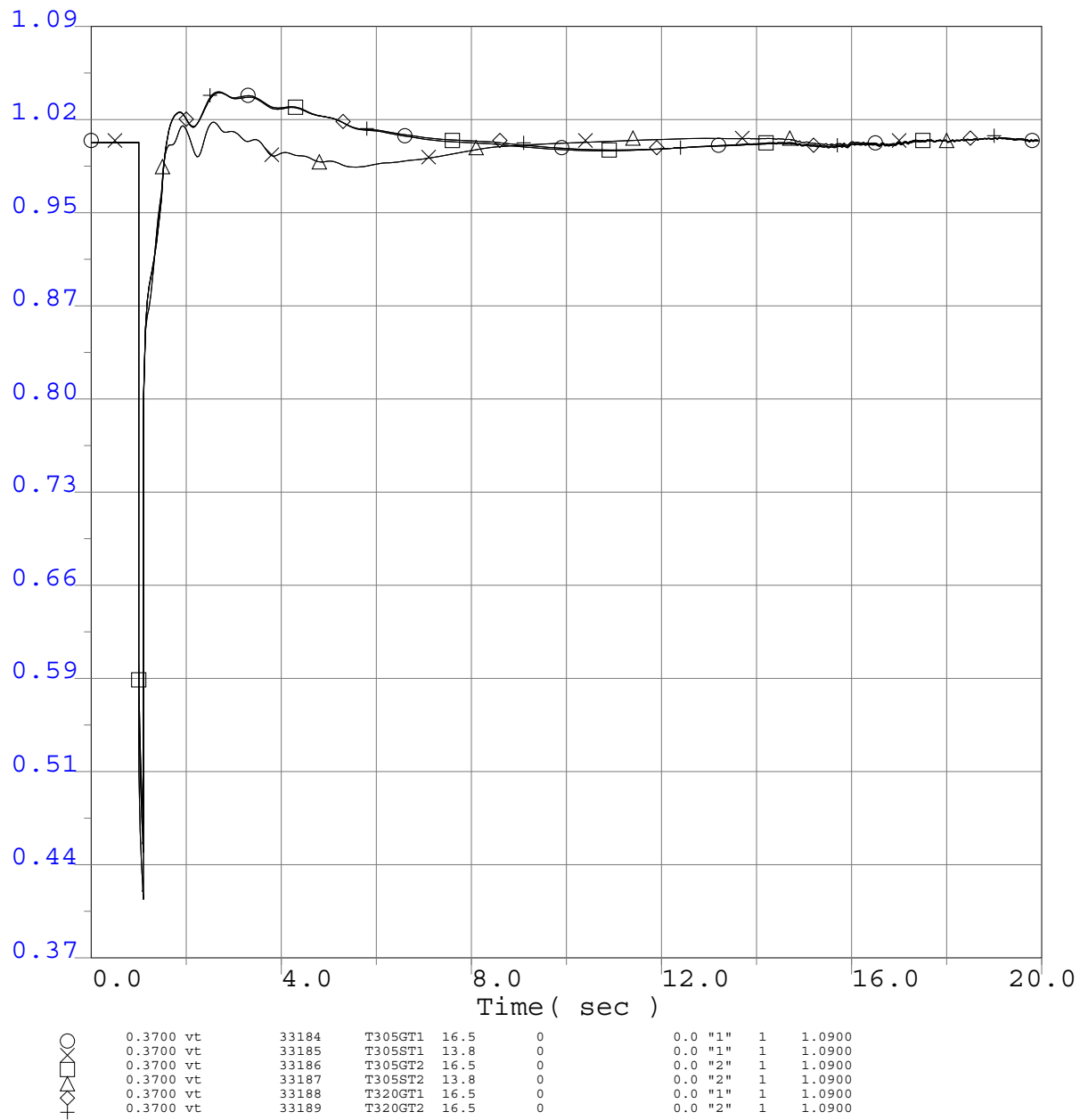
Project Generator Terminal Voltages (P.U.)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub 230kV Bus 2 Outage
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Q258 GIPR Phase 1 Interconnection System Impact Study

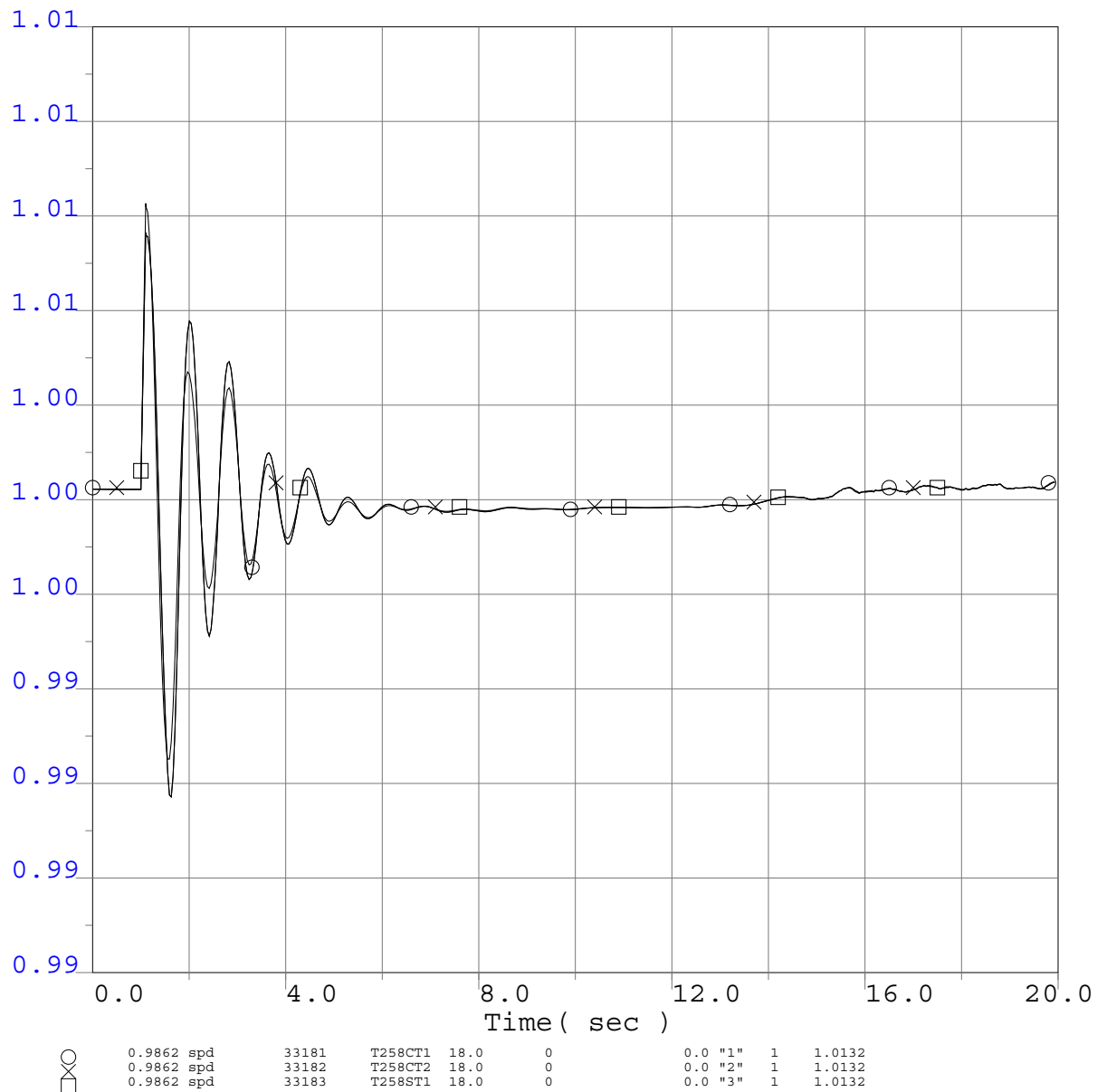
Selected Generator Terminal Voltages (P.U.)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub 230kV Bus 2 Outage
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Q258 GIPR Phase 1 Interconnection System Impact Study

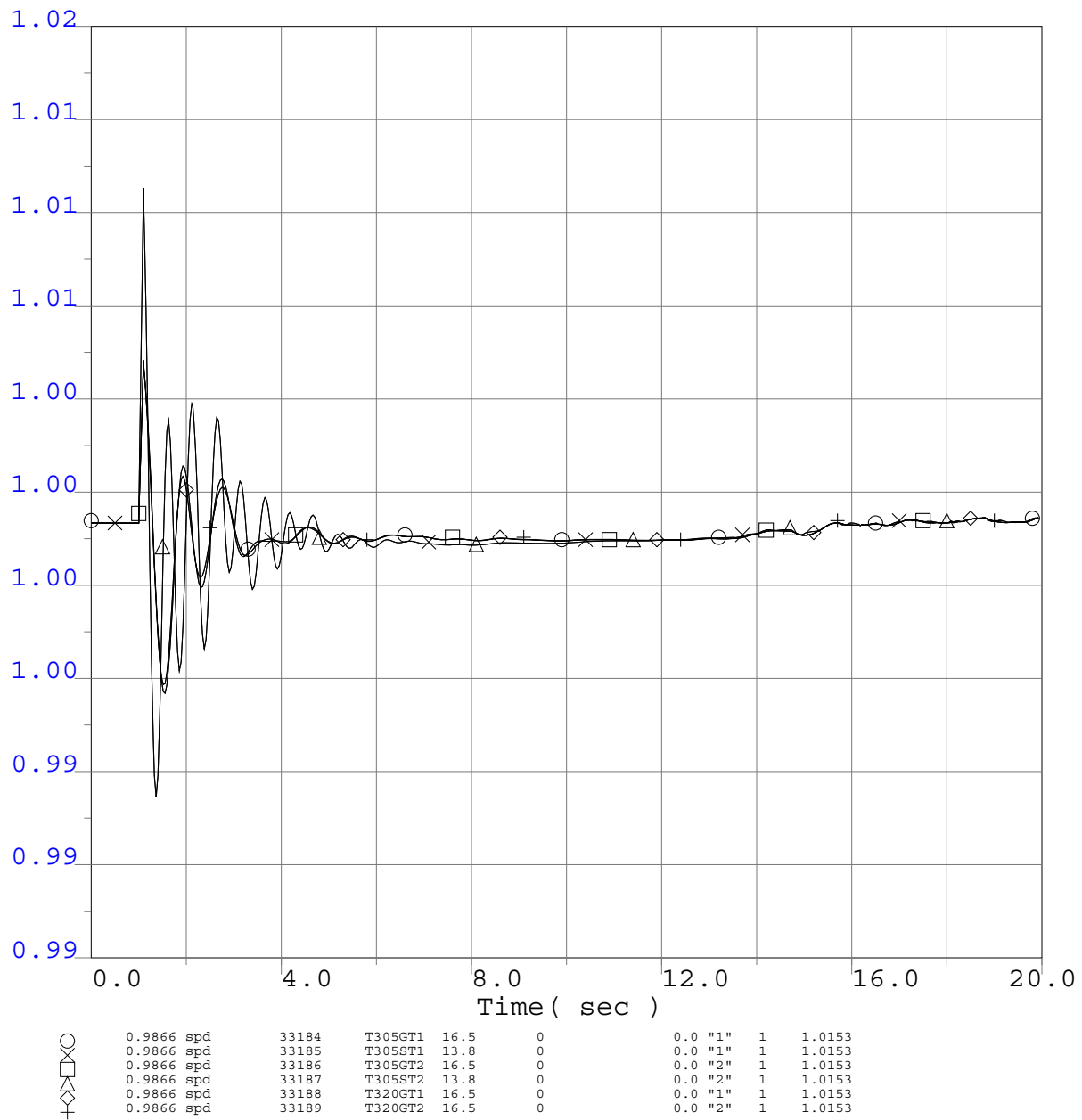
Project Generator Speed (P.U.)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
2013 Greater Bay Area Summer Peak Base Case
Q258 @537MW
CC Sub 230kV Bus 2 Outage
3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub 230kV Bus 2 Outage

Q258 GIPR Phase 1 Interconnection System Impact Study

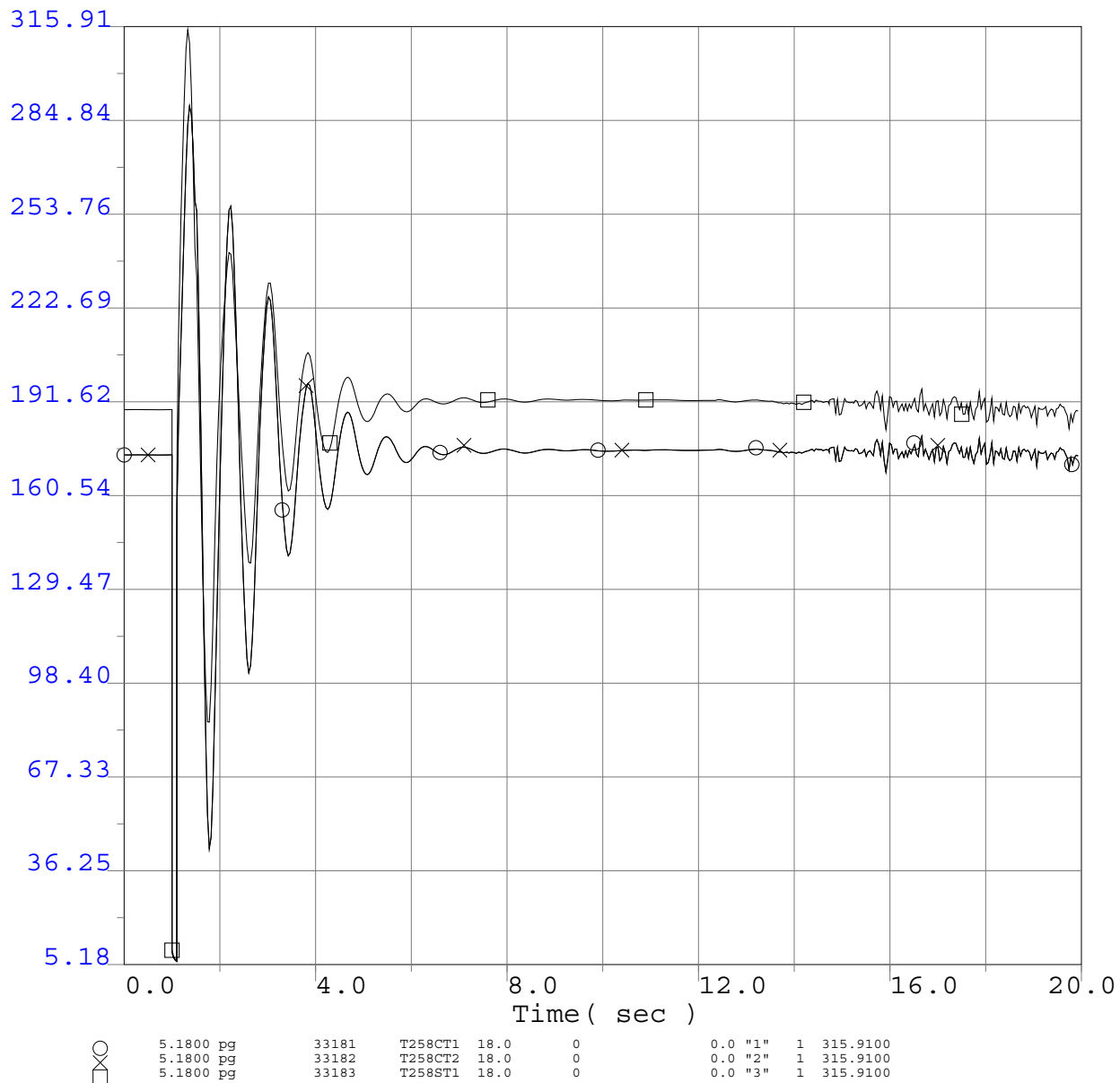
Selected Generator Speed (P.U.)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub 230kV Bus 2 Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub 230kV Bus 2 Outage

Q258 GIPR Phase 1 Interconnection System Impact Study

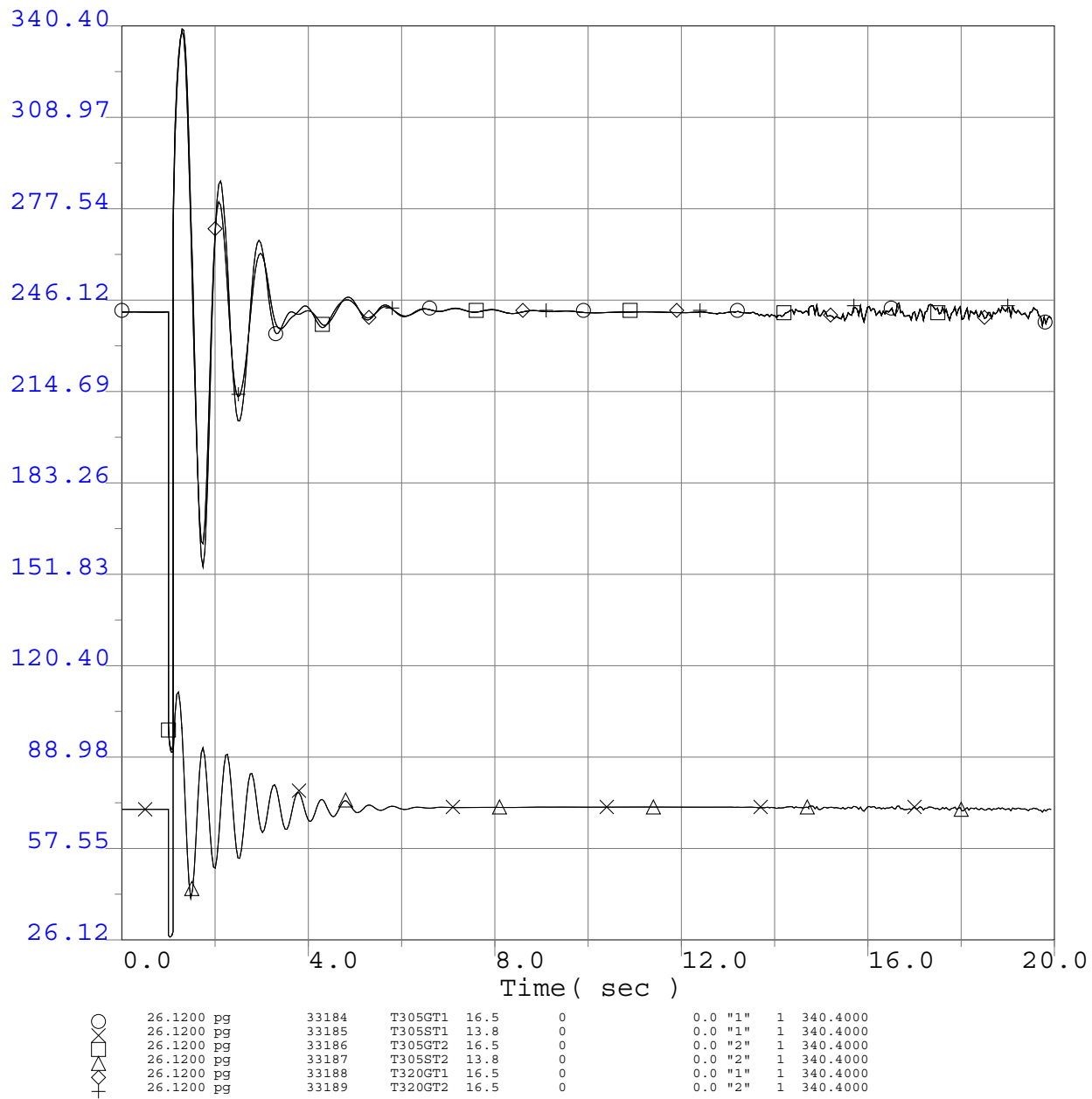
Project Generator Terminal Power (MW)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub 230kV Bus 2 Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub 230kV Bus 2 Outage

Q258 GIPR Phase 1 Interconnection System Impact Study

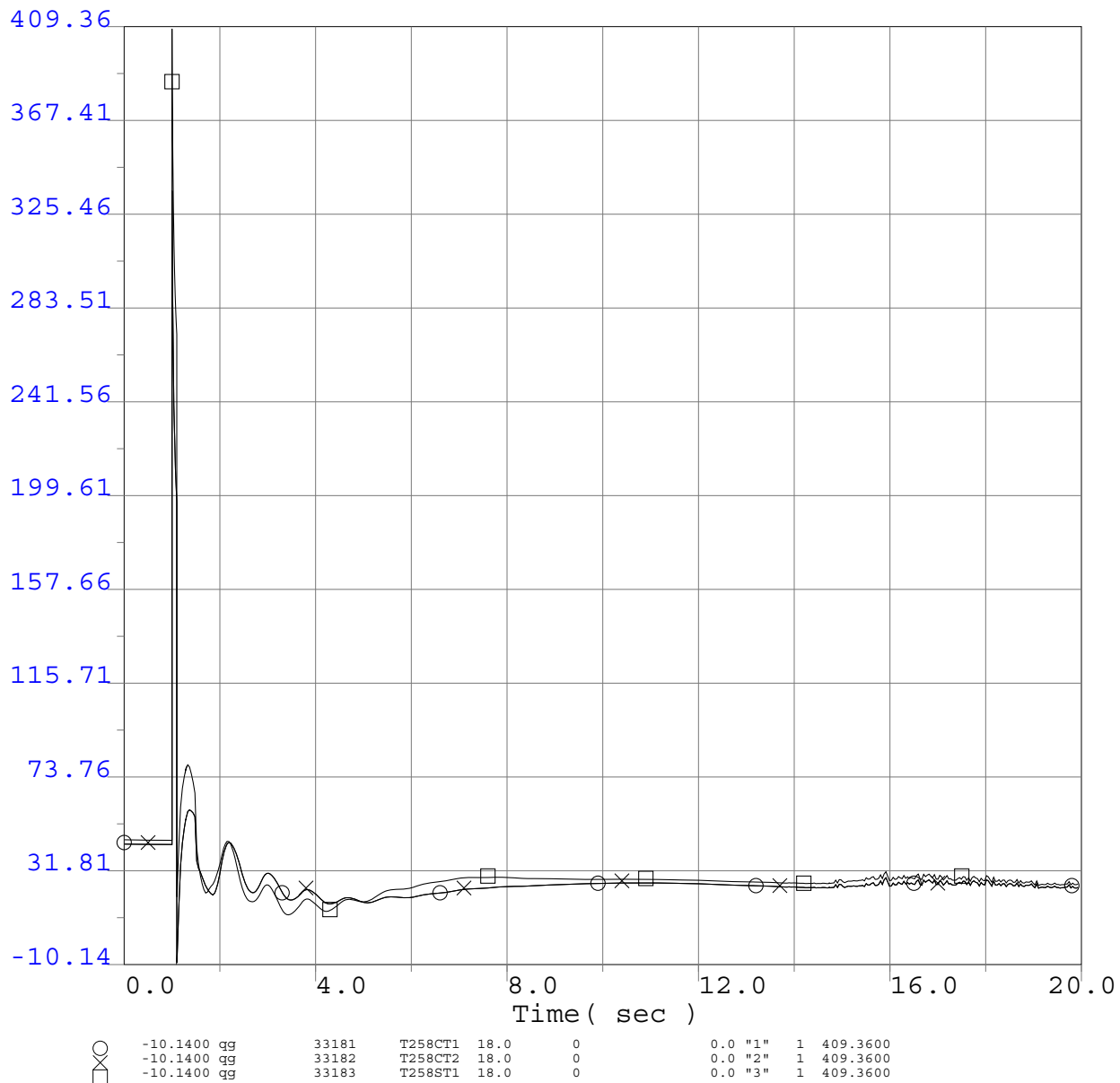
Selected Generator Terminal Power (MW)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub 230kV Bus 2 Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub 230kV Bus 2 Outage

Q258 GIPR Phase 1 Interconnection System Impact Study

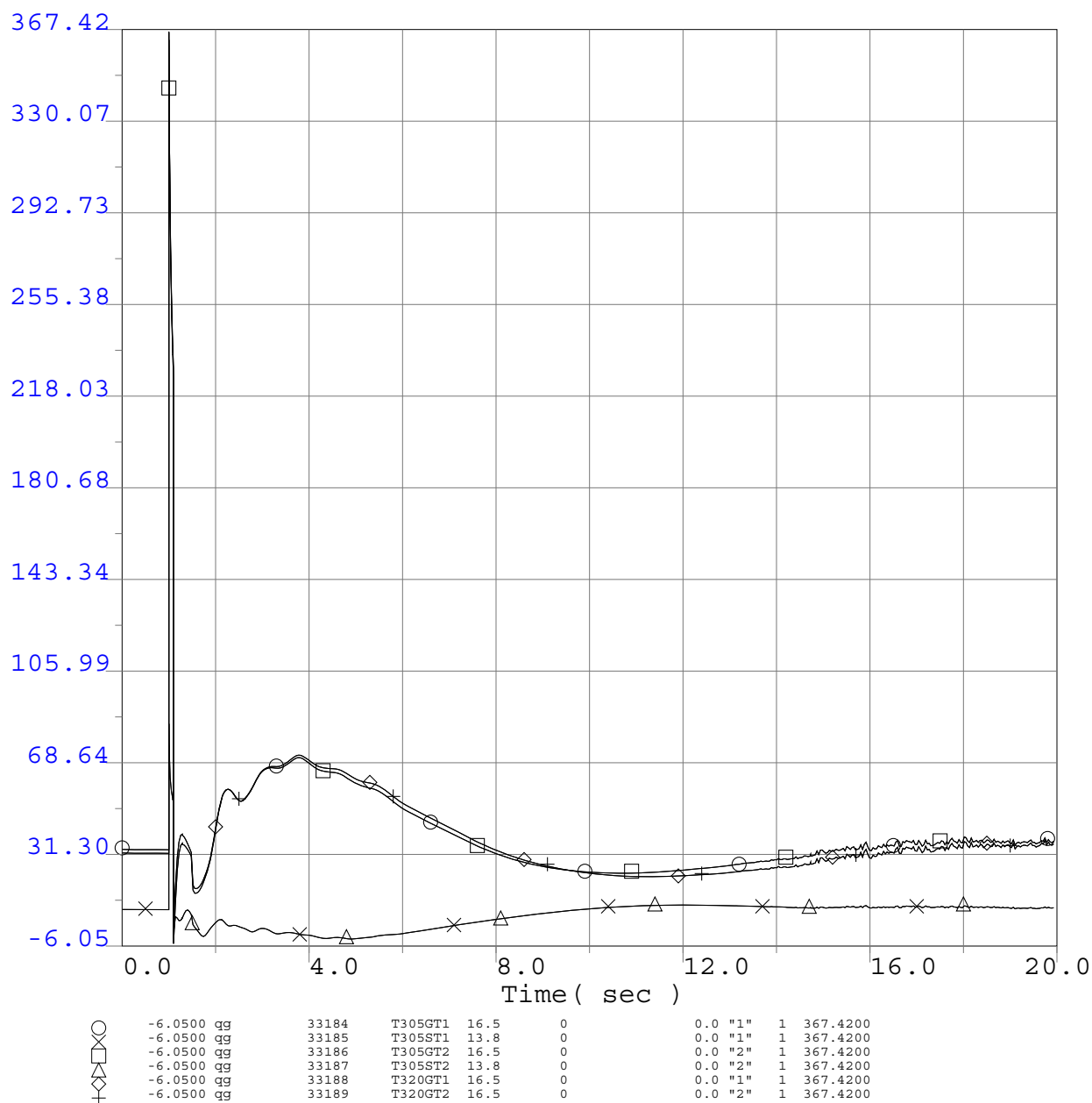
Project Generator Terminal Reactive Power (MVar)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
2013 Greater Bay Area Summer Peak Base Case
Q258 @537MW
CC Sub 230kV Bus 2 Outage
3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub 230kV Bus 2 Outage

Q258 GIPR Phase 1 Interconnection System Impact Study

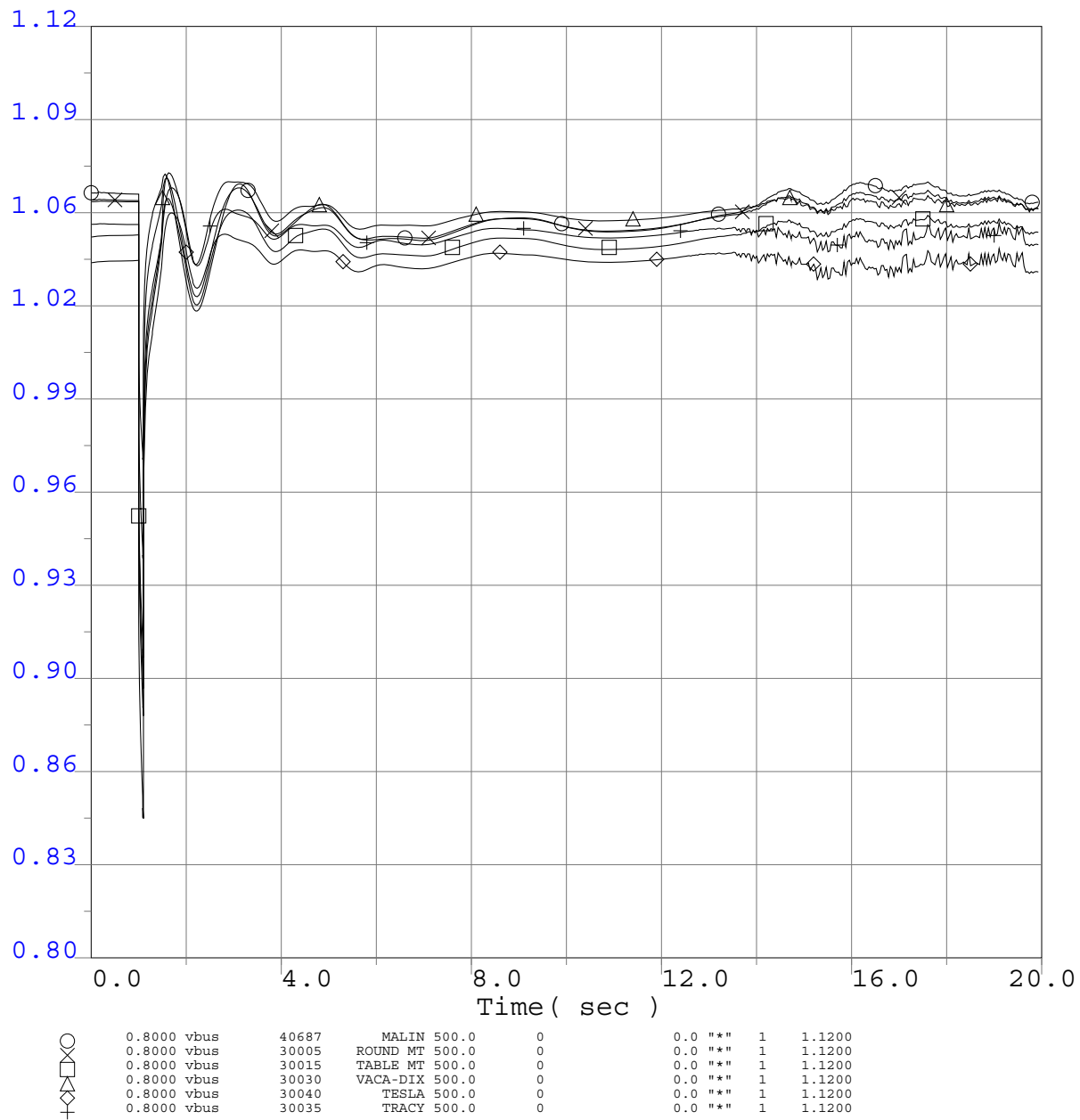
Selected Generator Terminal Reactive Power (MVar)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub 230kV Bus 2 Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub 230kV Bus 2 Outage

Q258 GIPR Phase 1 Interconnection System Impact Study

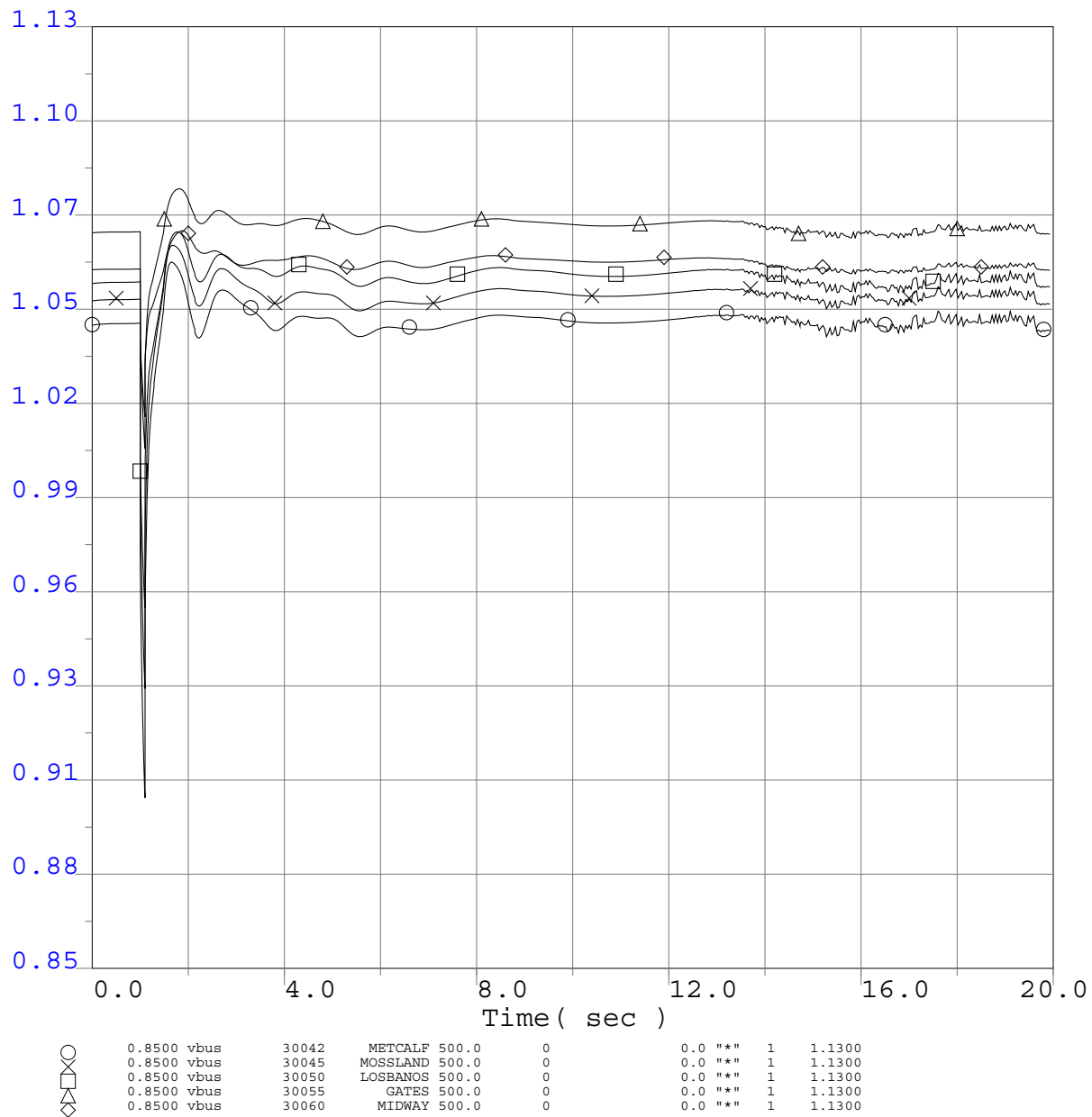
Selected WECC Bus Voltage Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub 230kV Bus 2 Outage
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Q258 GIPR Phase 1 Interconnection System Impact Study

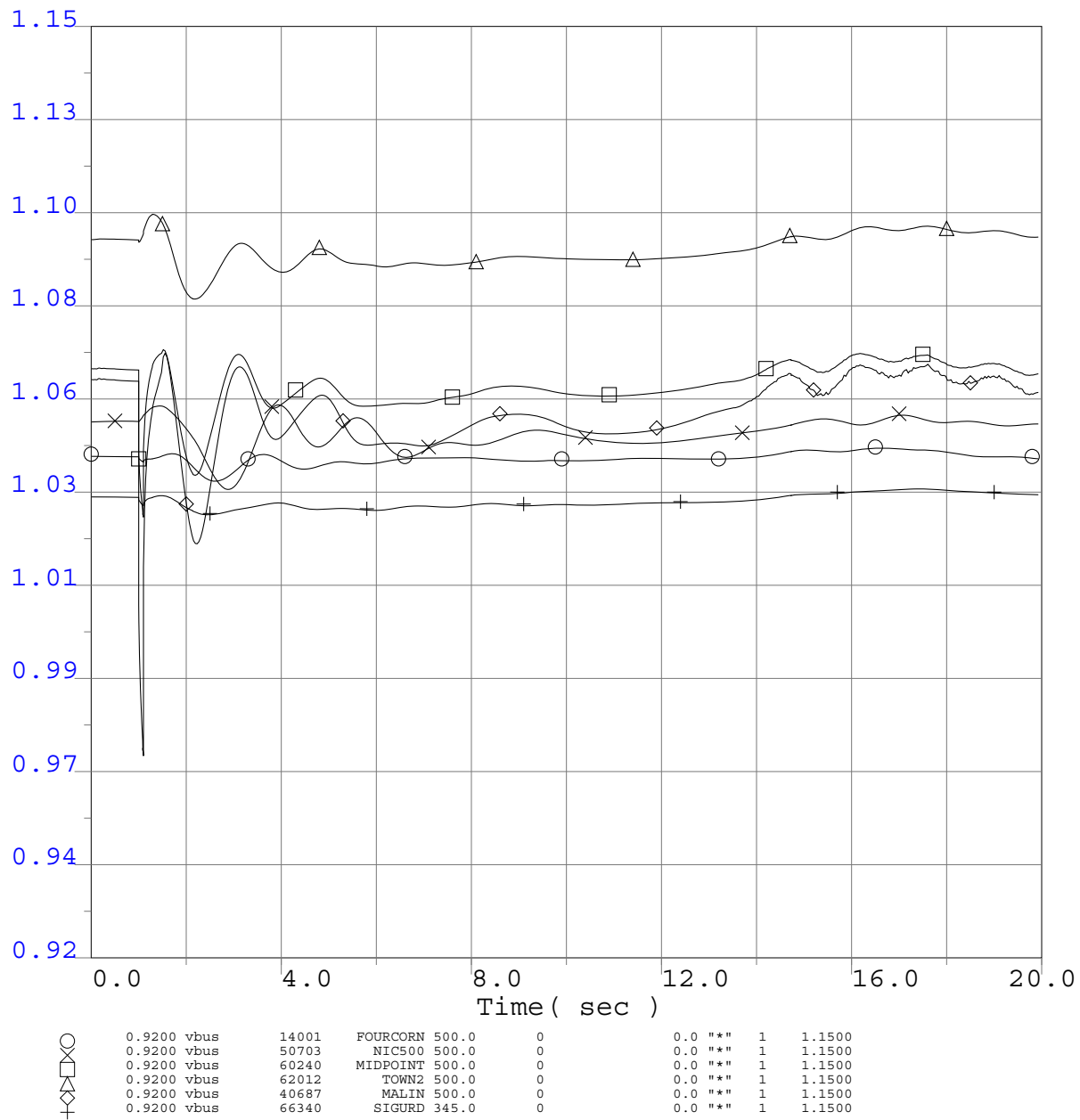
Selected WECC Bus Voltage Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub 230kV Bus 2 Outage
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Q258 GIPR Phase 1 Interconnection System Impact Study

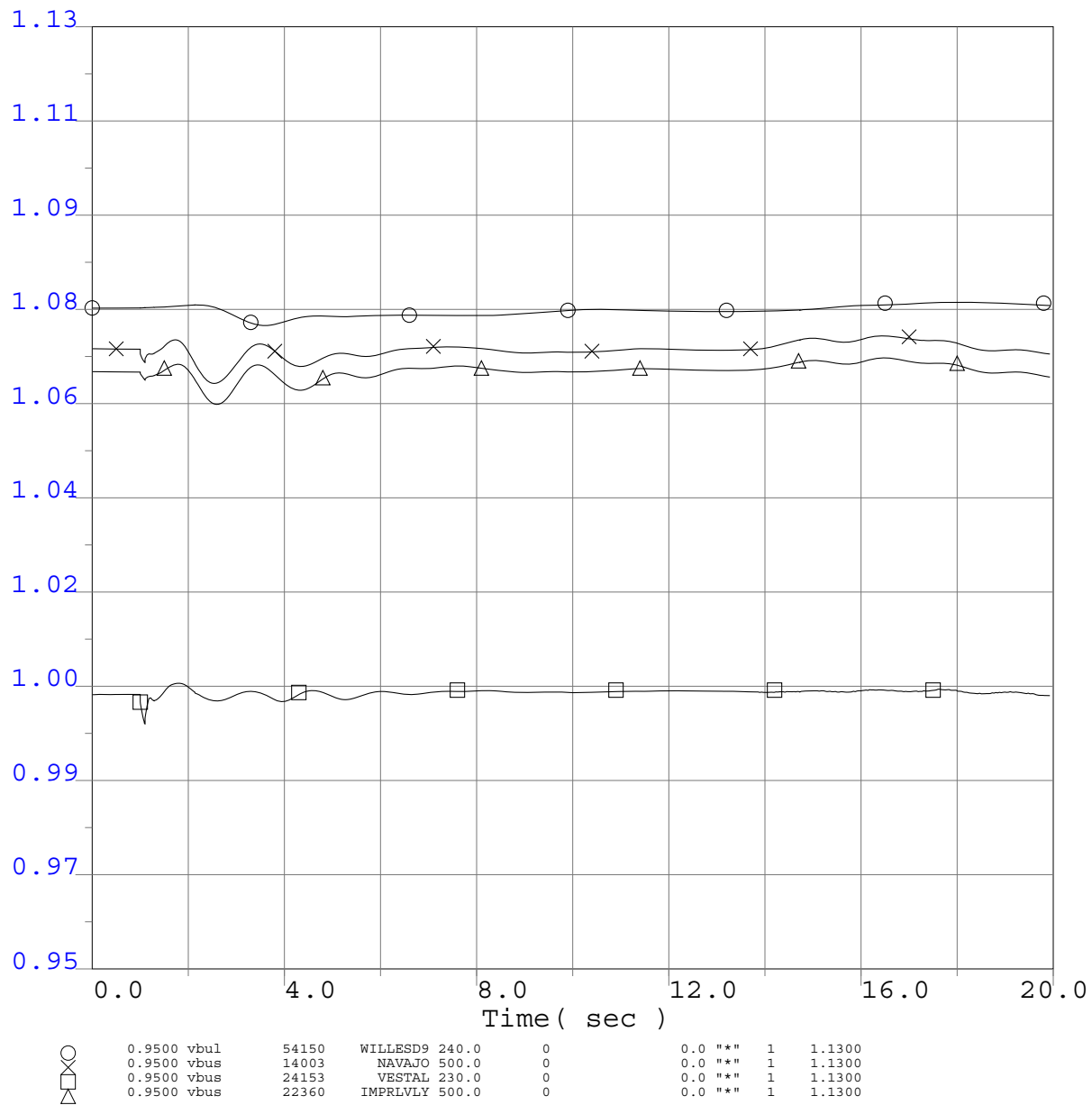
Selected WECC Bus Voltage Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub 230kV Bus 2 Outage
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Q258 GIPR Phase 1 Interconnection System Impact Study

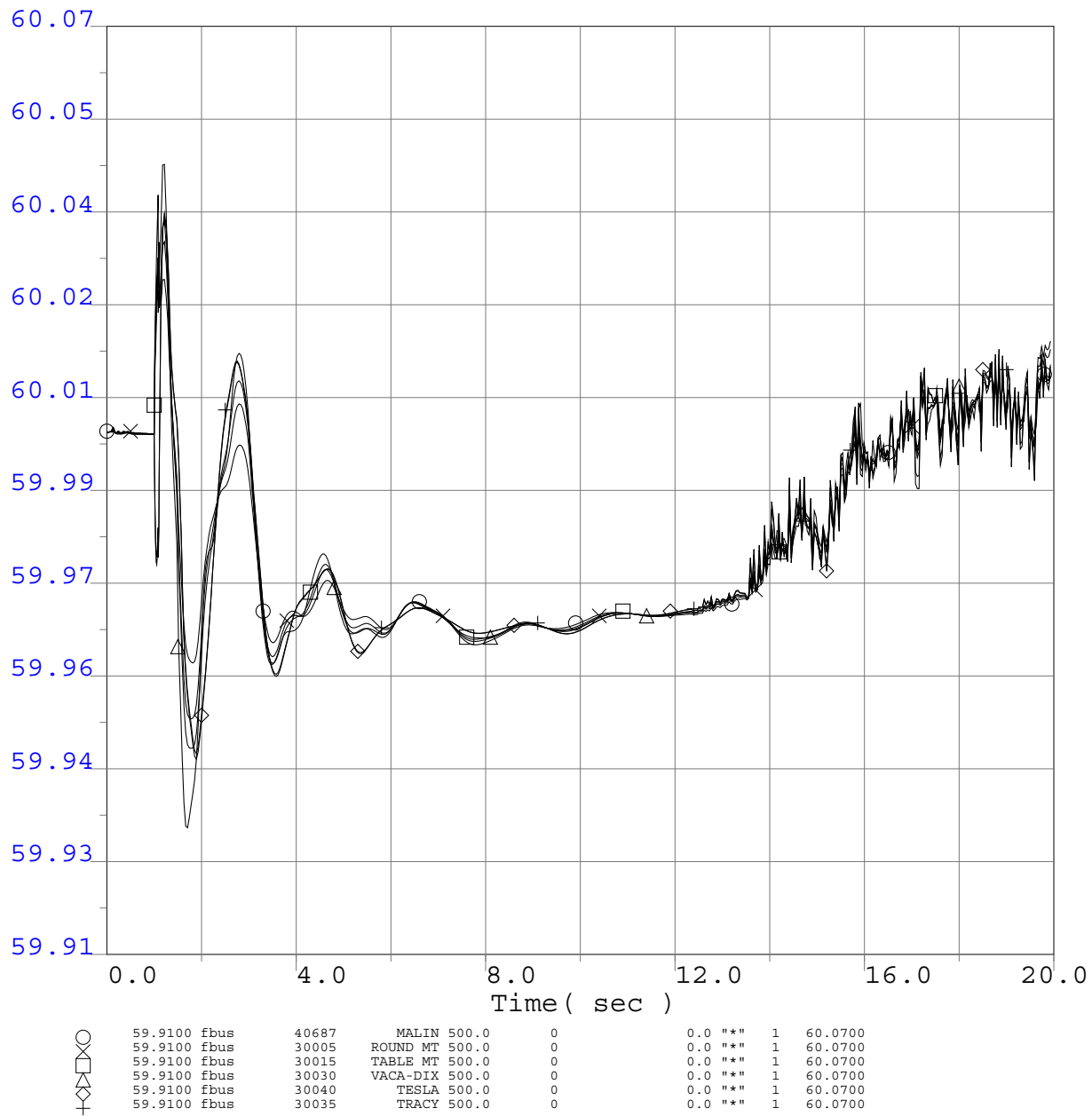
Selected WECC Bus Voltage Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub 230kV Bus 2 Outage
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Q258 GIPR Phase 1 Interconnection System Impact Study

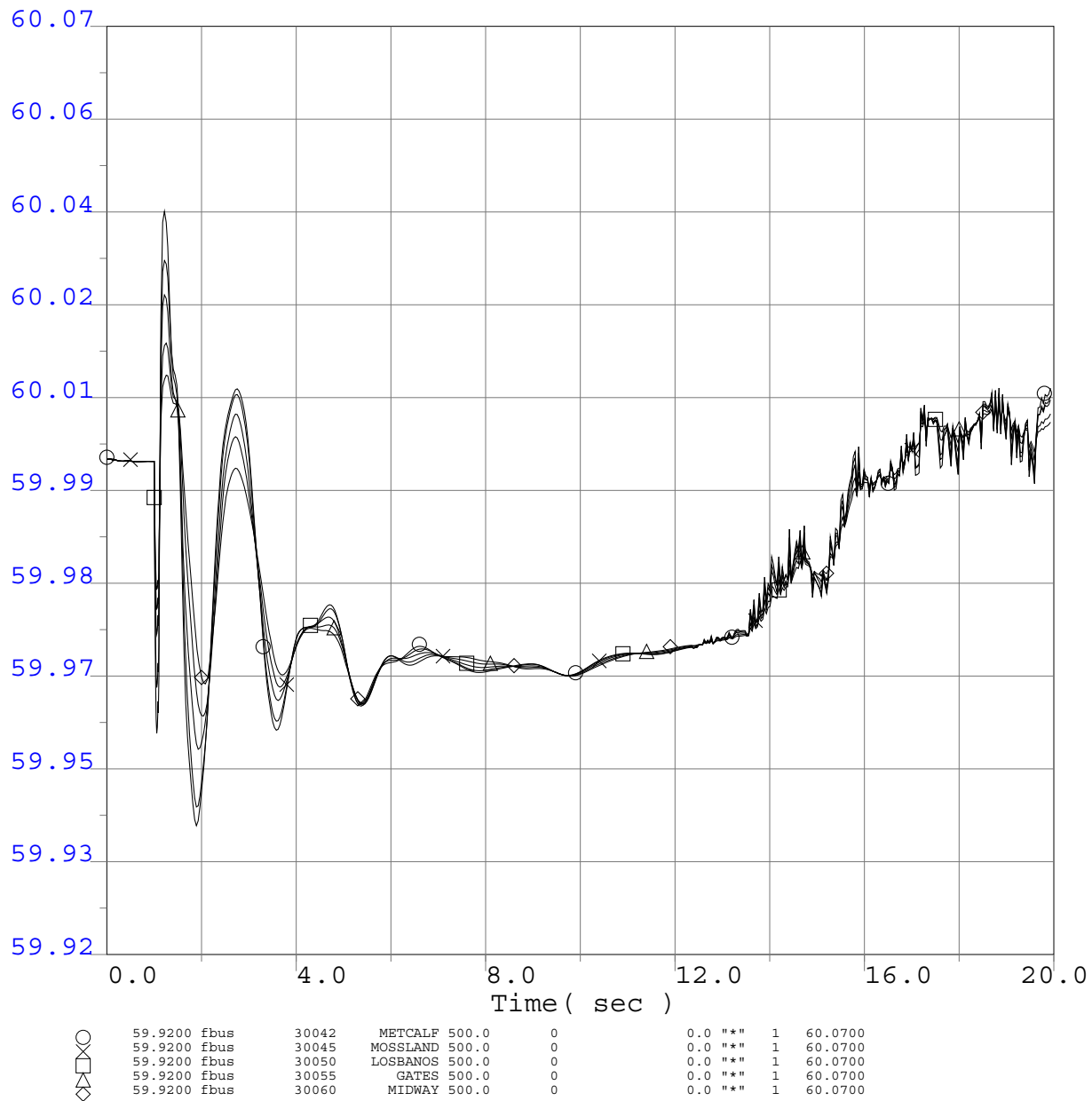
Selected WECC Bus Frequency Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub 230kV Bus 2 Outage
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Q258 GIPR Phase 1 Interconnection System Impact Study

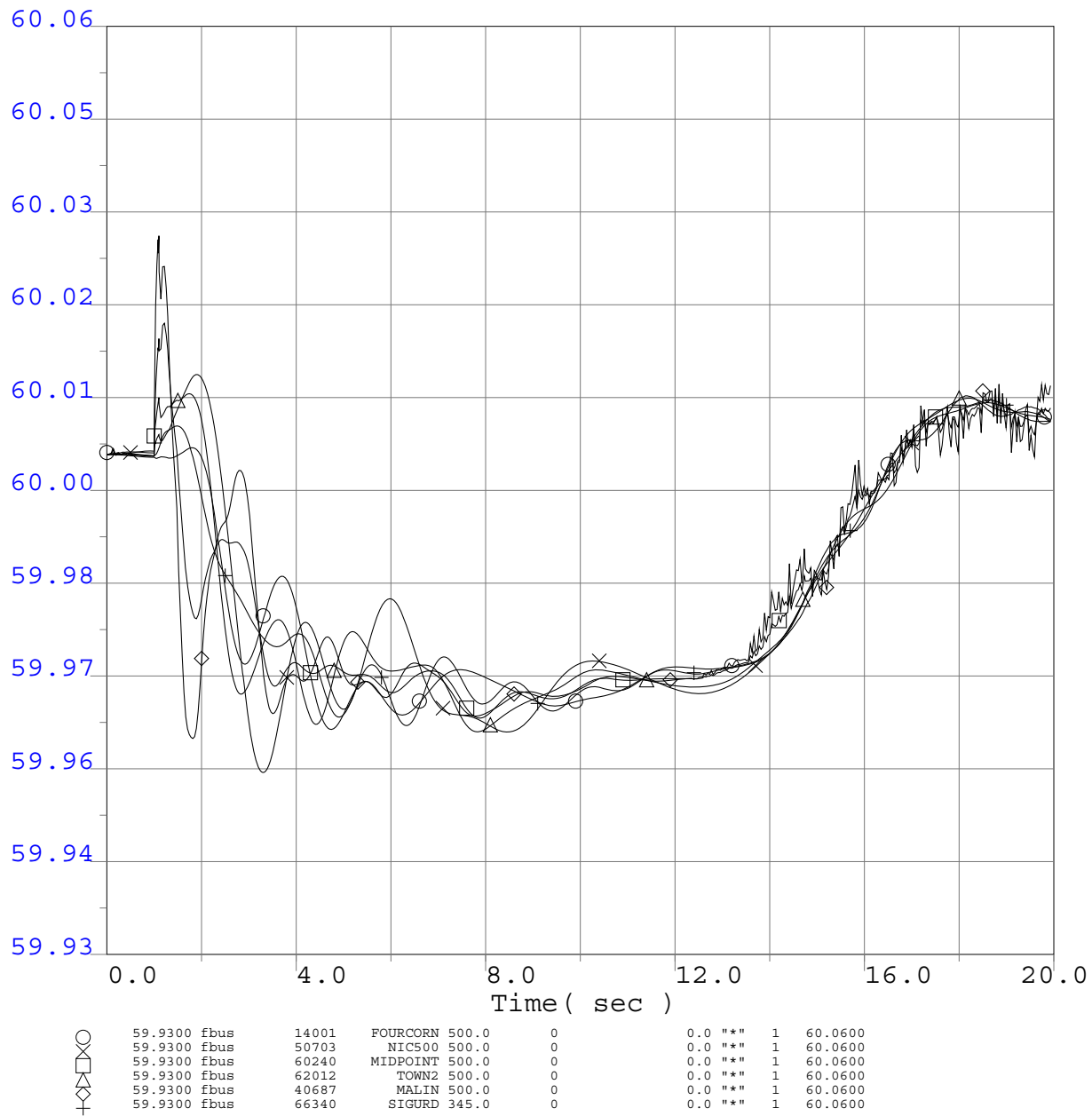
Selected WECC Bus Frequency Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
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Q258 GIPR Phase 1 Interconnection System Impact Study

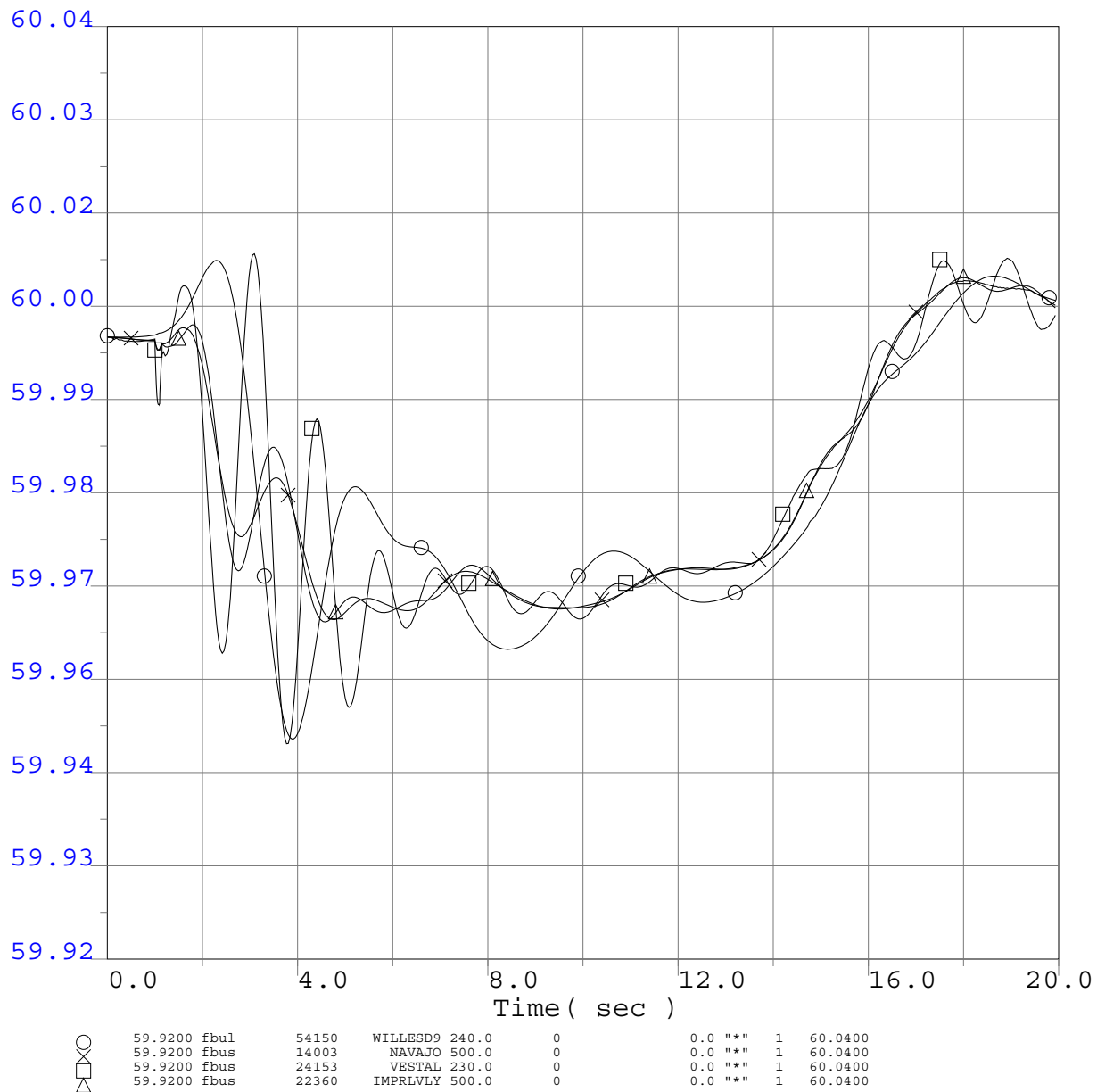
Selected WECC Bus Frequency Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
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Q258 GIPR Phase 1 Interconnection System Impact Study

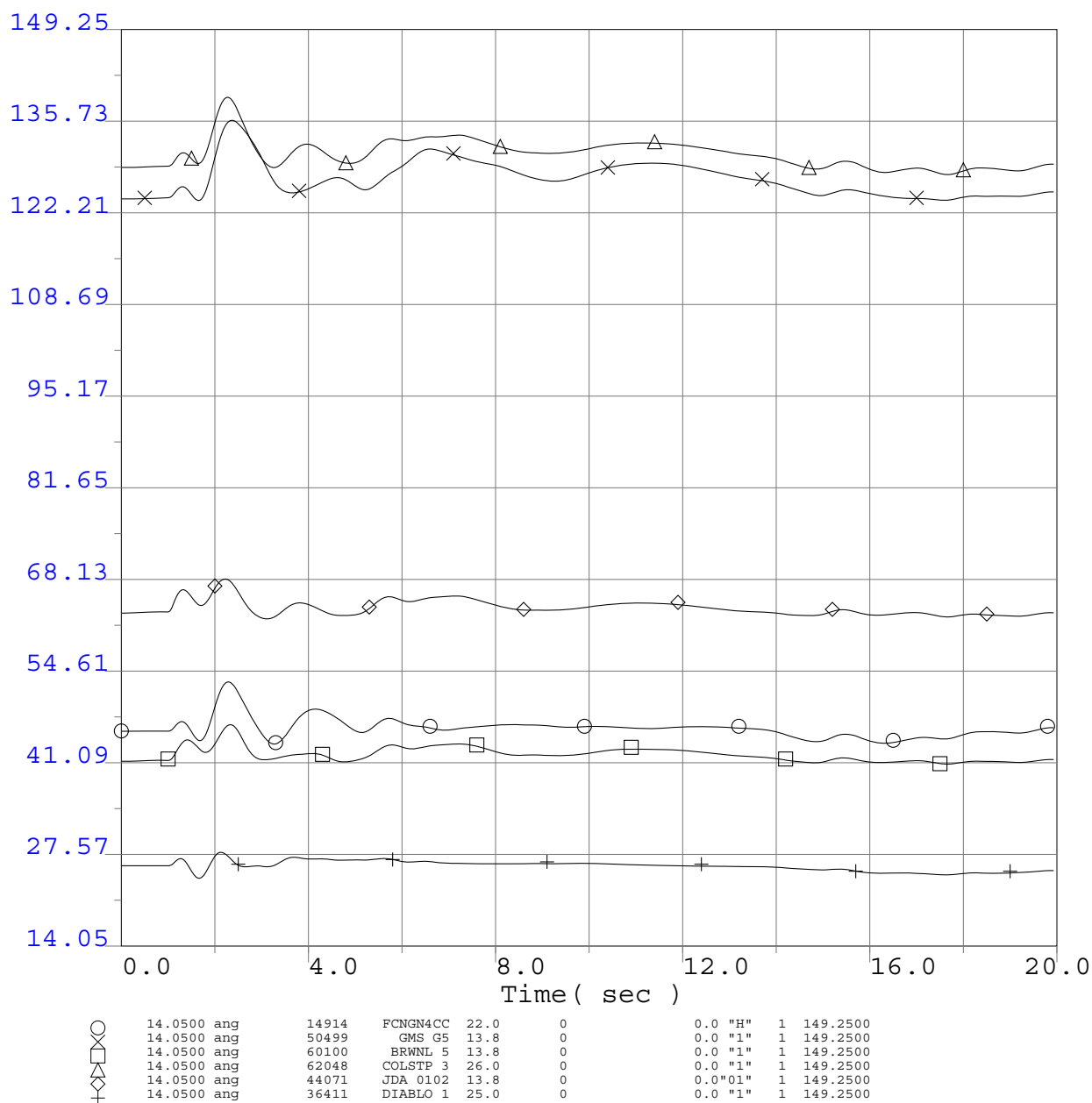
Selected WECC Bus Frequency Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
2013 Greater Bay Area Summer Peak Base Case
Q258 @537MW
CC Sub 230kV Bus 2 Outage
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Q258 GIPR Phase 1 Interconnection System Impact Study

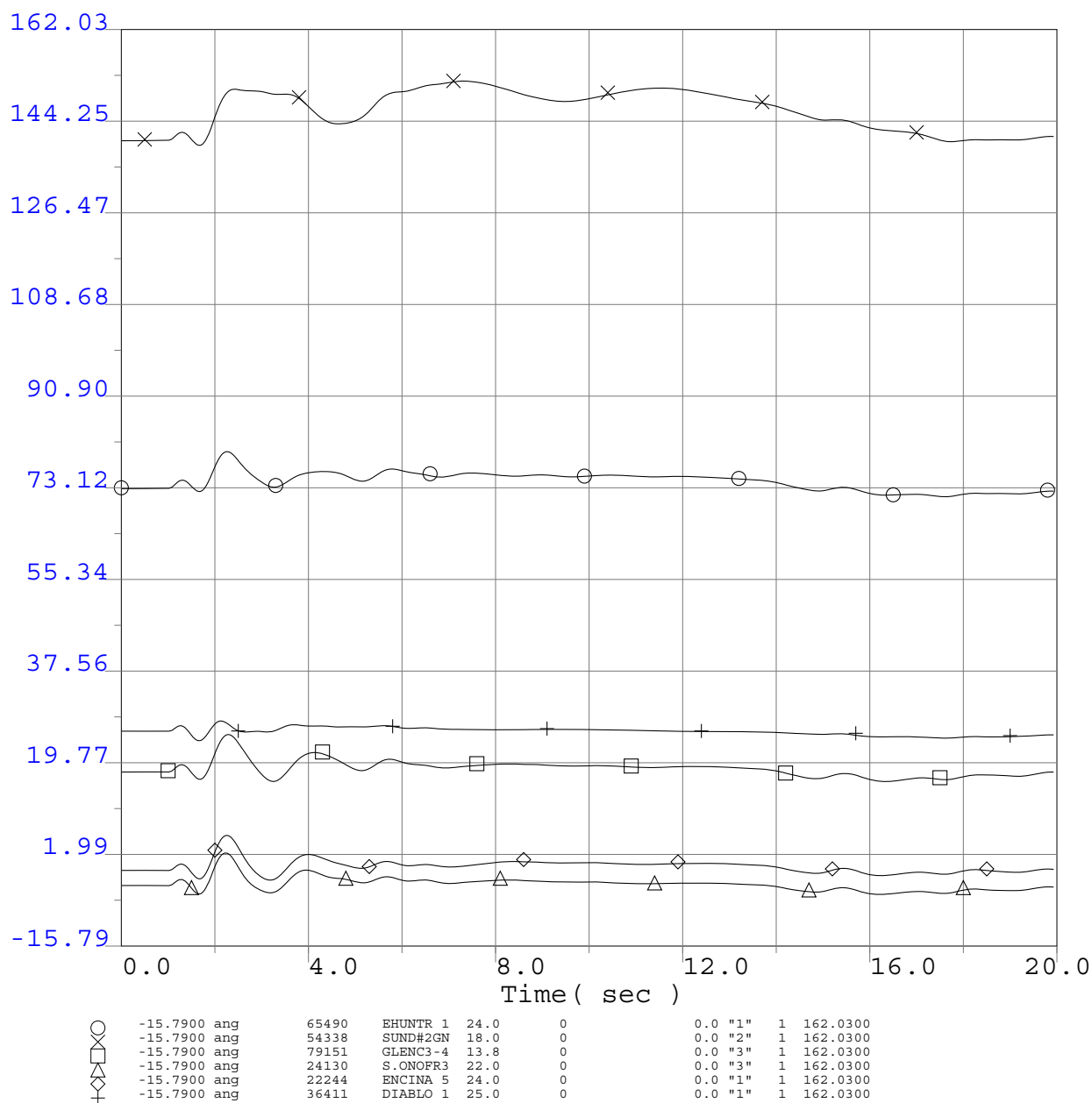
WECC Generator Rotor Angle



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub 230kV Bus 2 Outage
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Q258 GIPR Phase 1 Interconnection System Impact Study

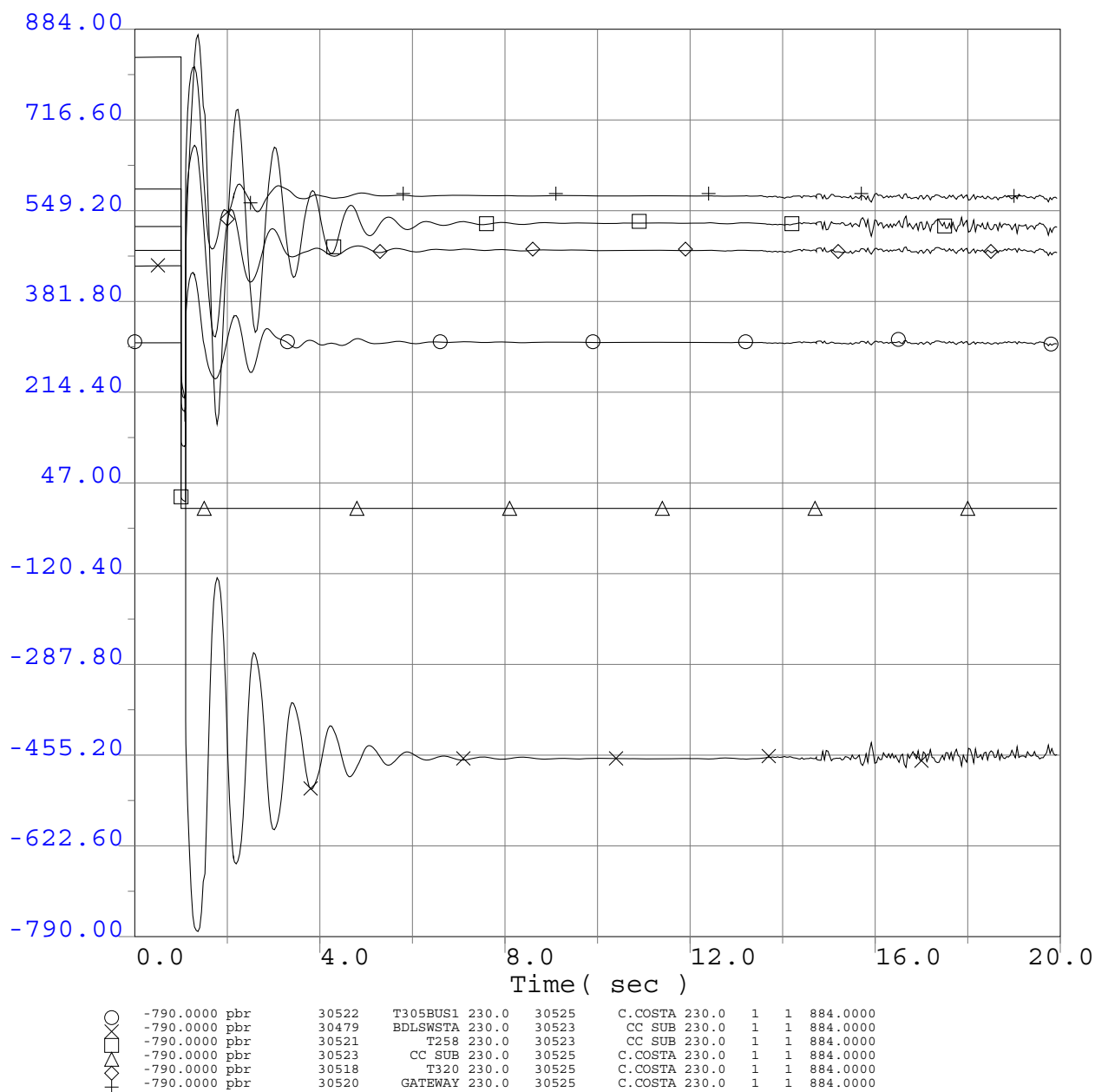
WECC Generator Rotor Angle



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub 230kV Bus 2 Outage
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Q258 GIPR Phase 1 Interconnection System Impact Study

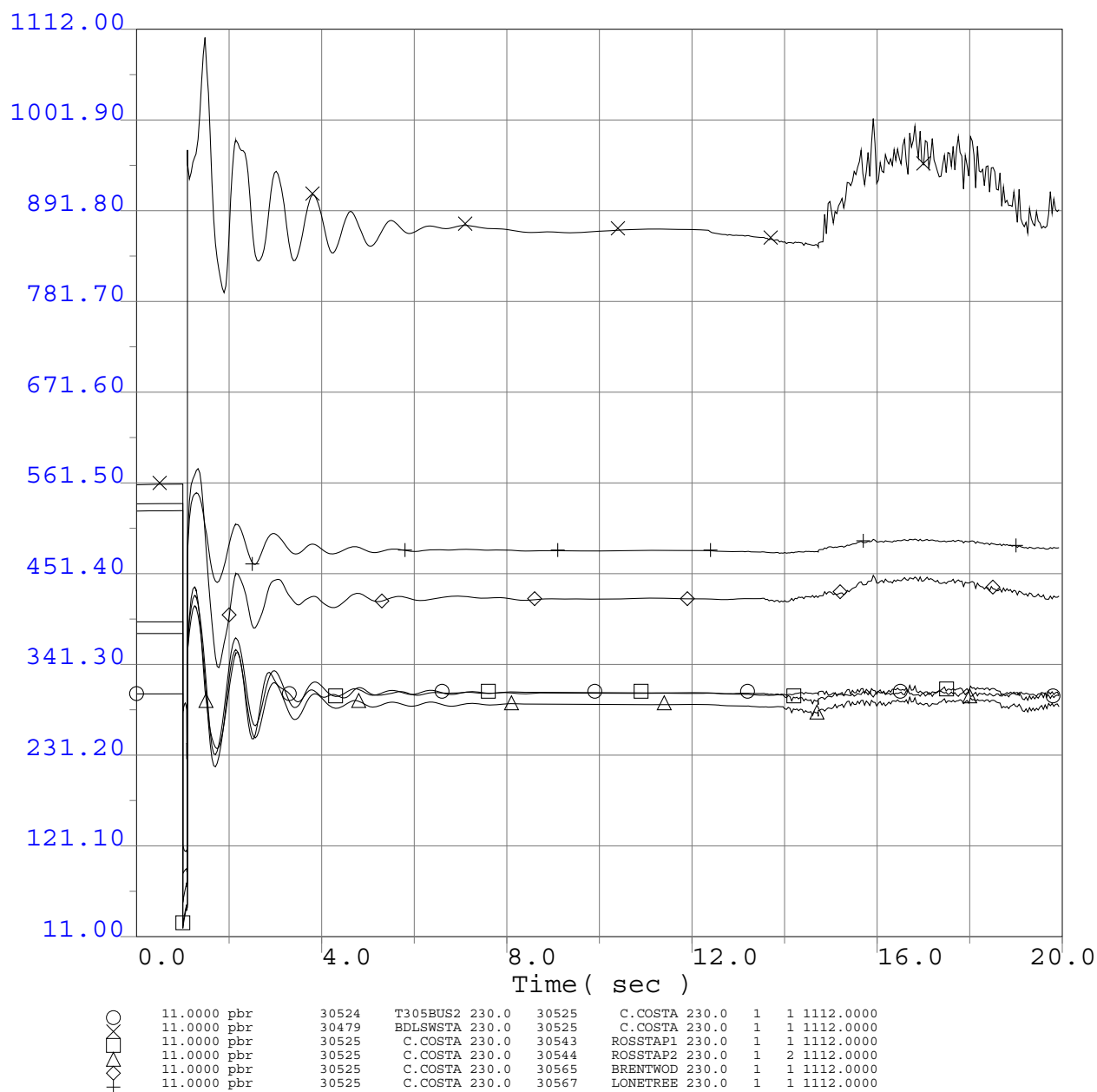
Selected PG&E Transmission Line Flows (MW)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub 230kV Bus 2 Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub 230kV Bus 2 Outage

Q258 GIPR Phase 1 Interconnection System Impact Study

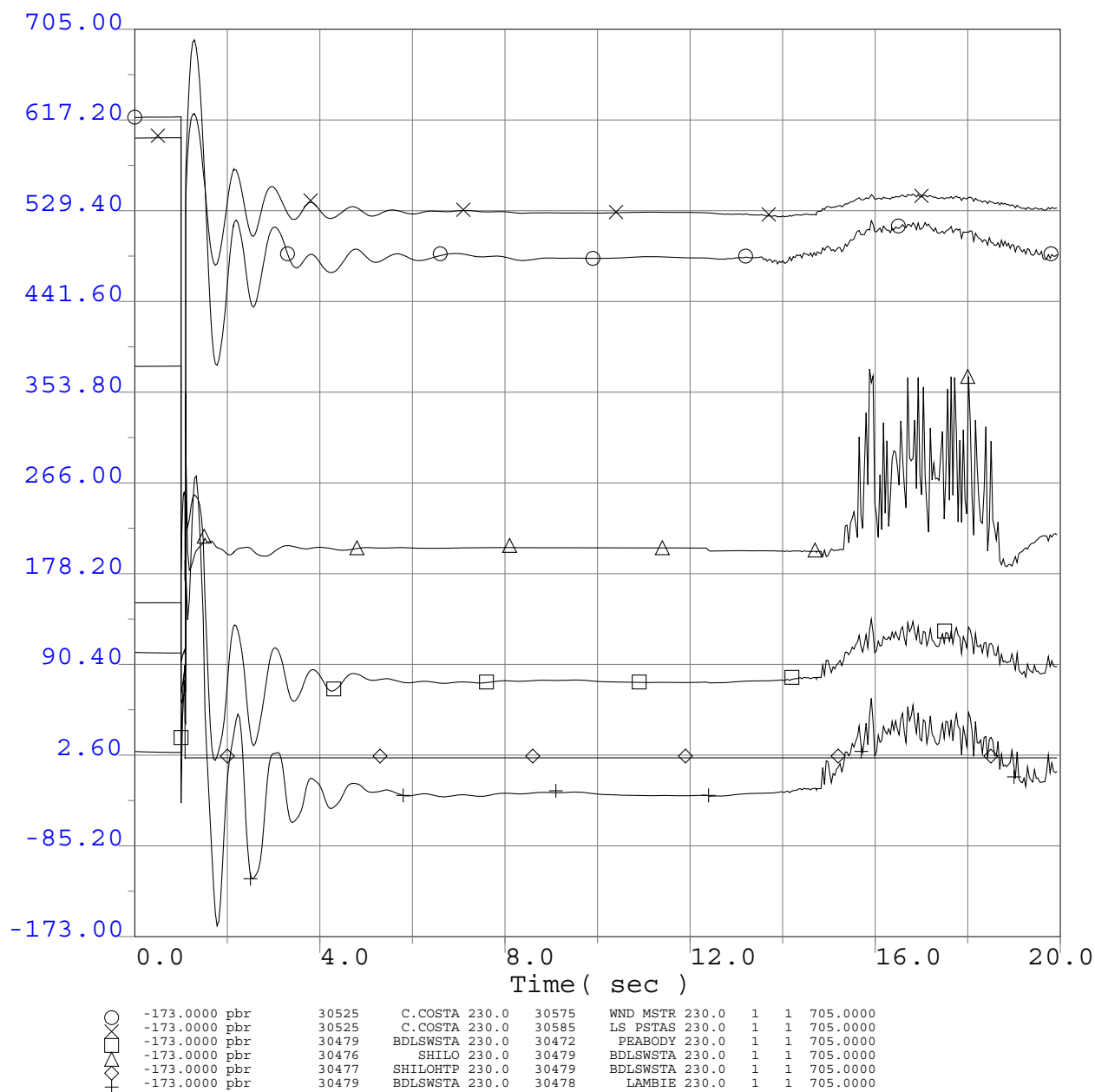
Selected PG&E Transmission Line Flows (MW)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
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 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub 230kV Bus 2 Outage

Q258 GIPR Phase 1 Interconnection System Impact Study

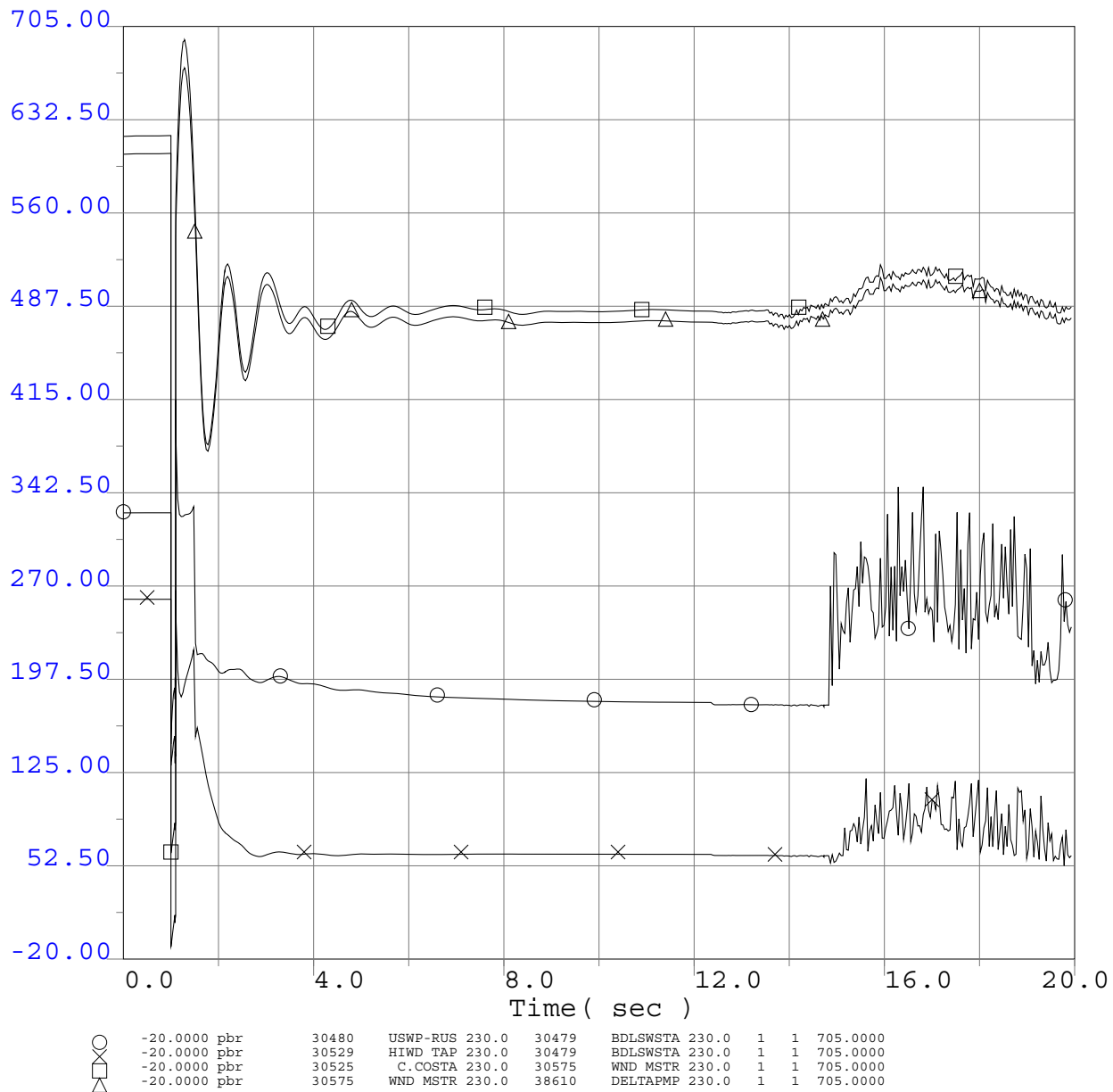
Selected PG&E Transmission Line Flows (MW)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
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Q258 GIPR Phase 1 Interconnection System Impact Study

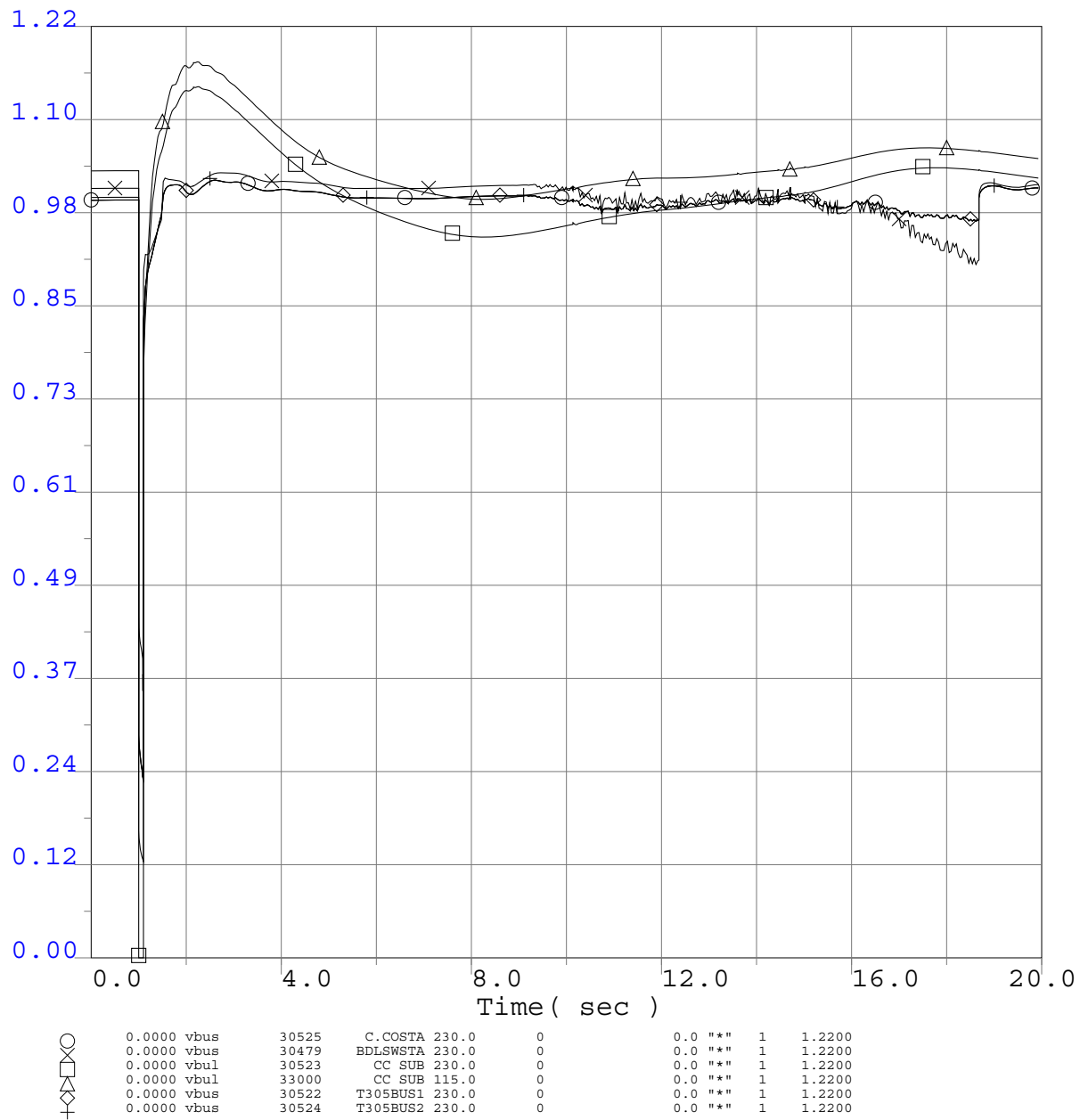
Selected PG&E Transmission Line Flows (MW)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
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Q258 GIPR Phase 1 Interconnection System Impact Study

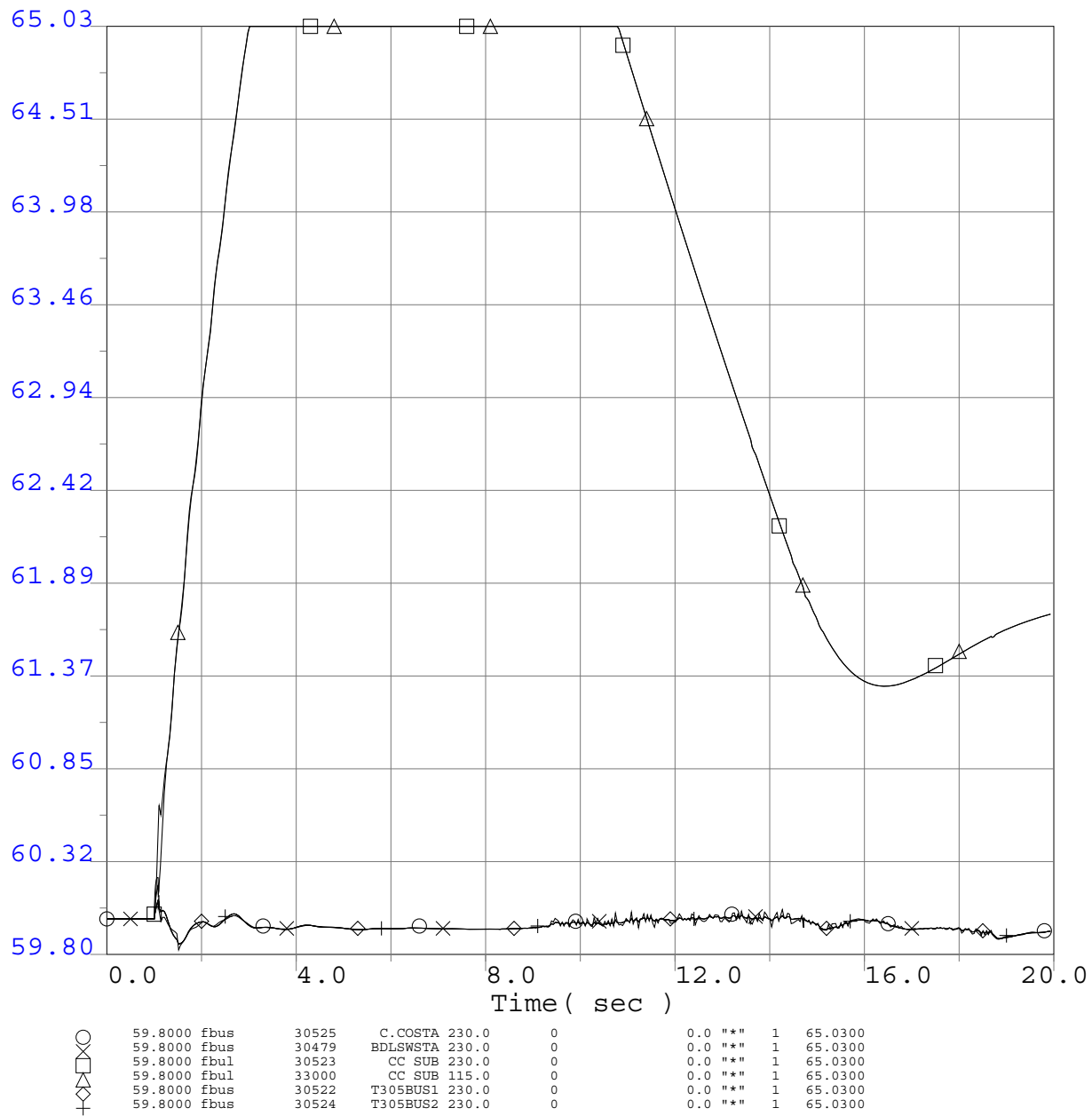
Selected PG&E Bus Voltage Plots Adjacent to Fault



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub-Birds Landing+CC Sub-CCPP 230kV Double Line Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub-Birds Landing+CC Sub-CCP

Q258 GIPR Phase 1 Interconnection System Impact Study

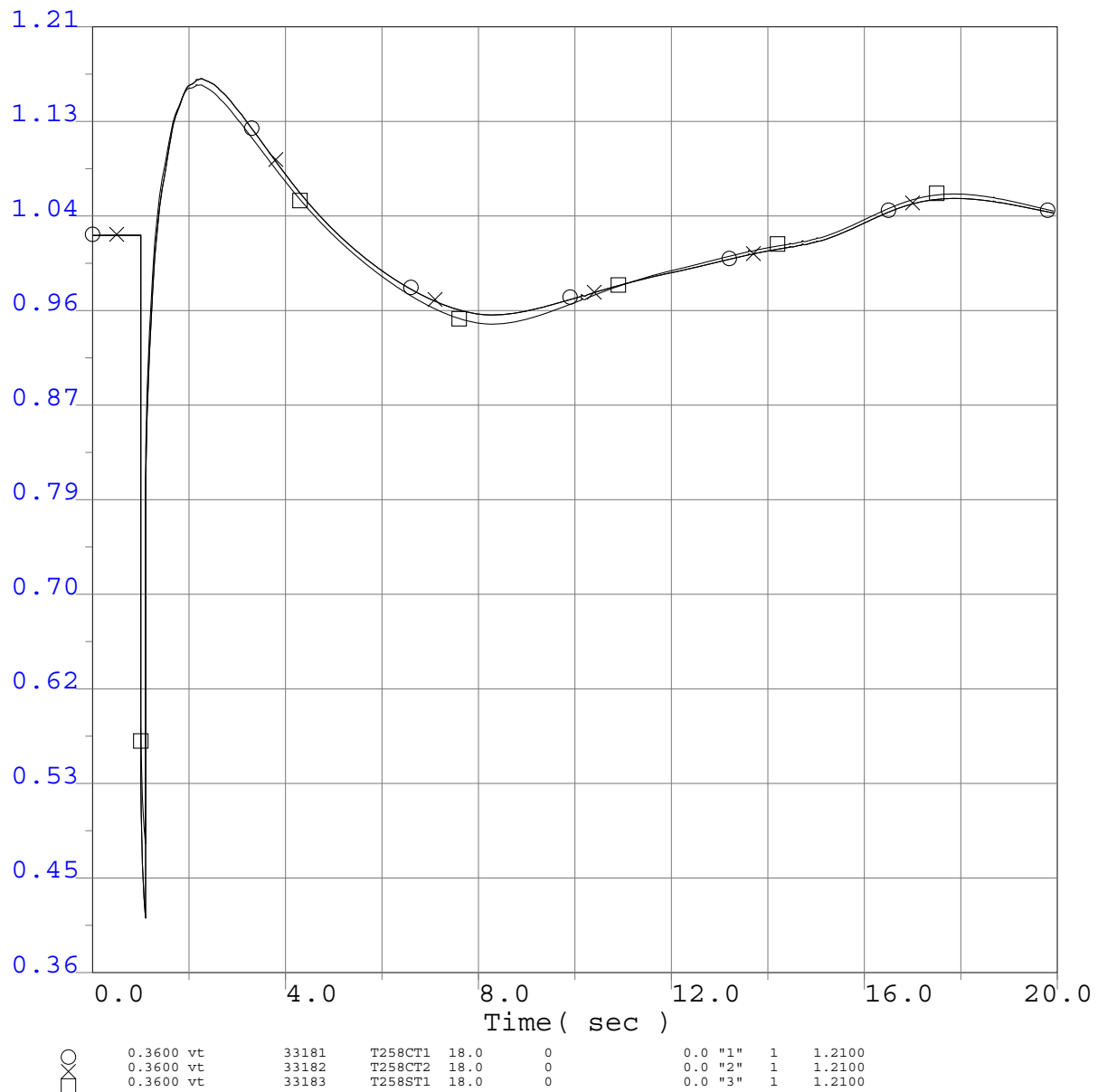
Selected PG&E Bus Frequency Plots Adjacent to Fault



Q258 Project GIPR Phase 1 Interconnection System Impact Study
2013 Greater Bay Area Summer Peak Base Case
Q258 @537MW
CC Sub-Birds Landing+CC Sub-CCPP 230kV Double Line Outage
3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub-Birds Landing+CC Sub-CCPP

Q258 GIPR Phase 1 Interconnection System Impact Study

Project Generator Terminal Voltages (P.U.)



Q258 Project GIPR Phase 1 Interconnection System Impact Study

2013 Greater Bay Area Summer Peak Base Case

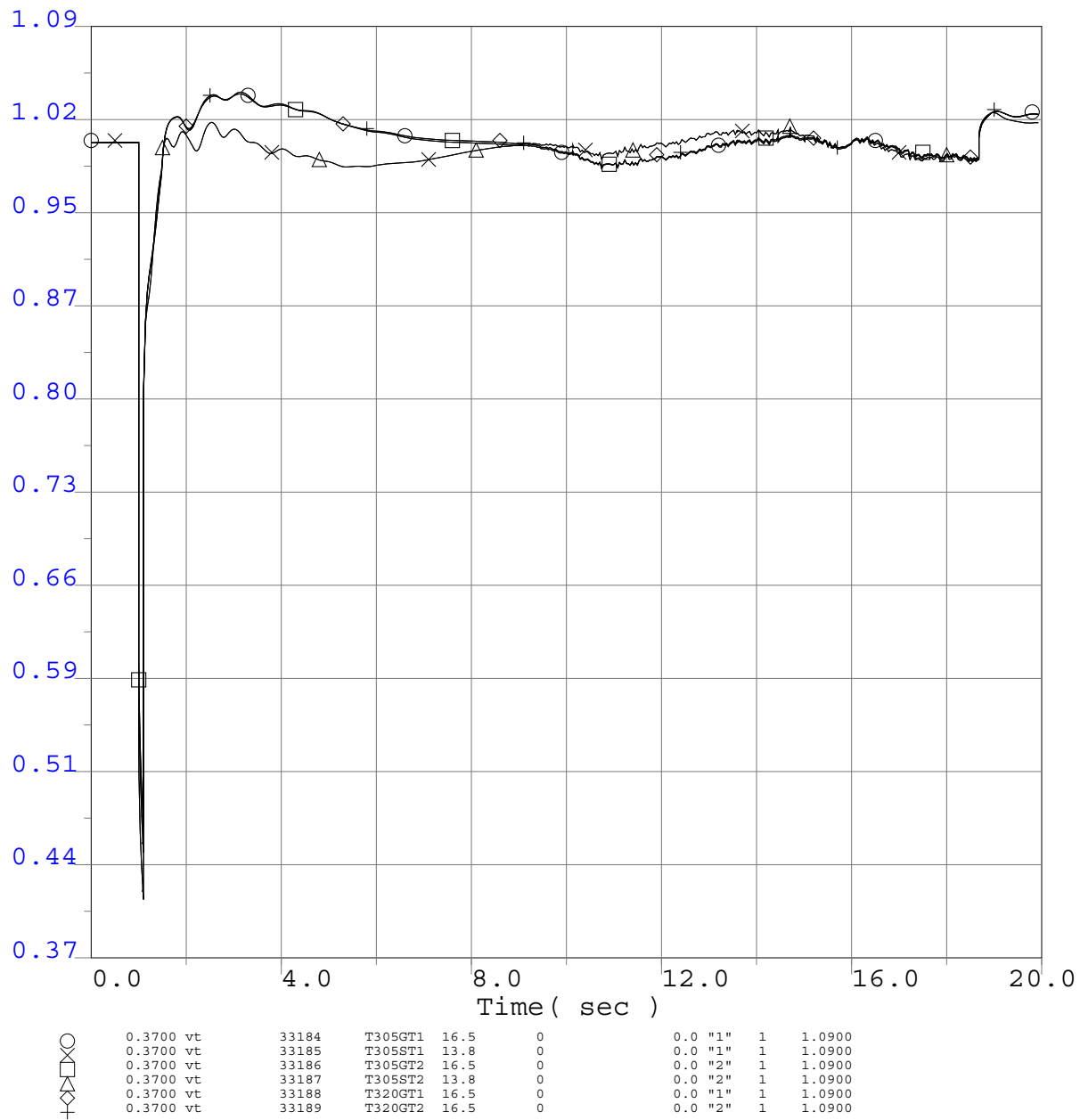
Q258 @537MW

CC Sub-Birds Landing+CC Sub-CCPP 230kV Double Line Outage

3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub-Birds Landing+CC Sub-CCP

Q258 GIPR Phase 1 Interconnection System Impact Study

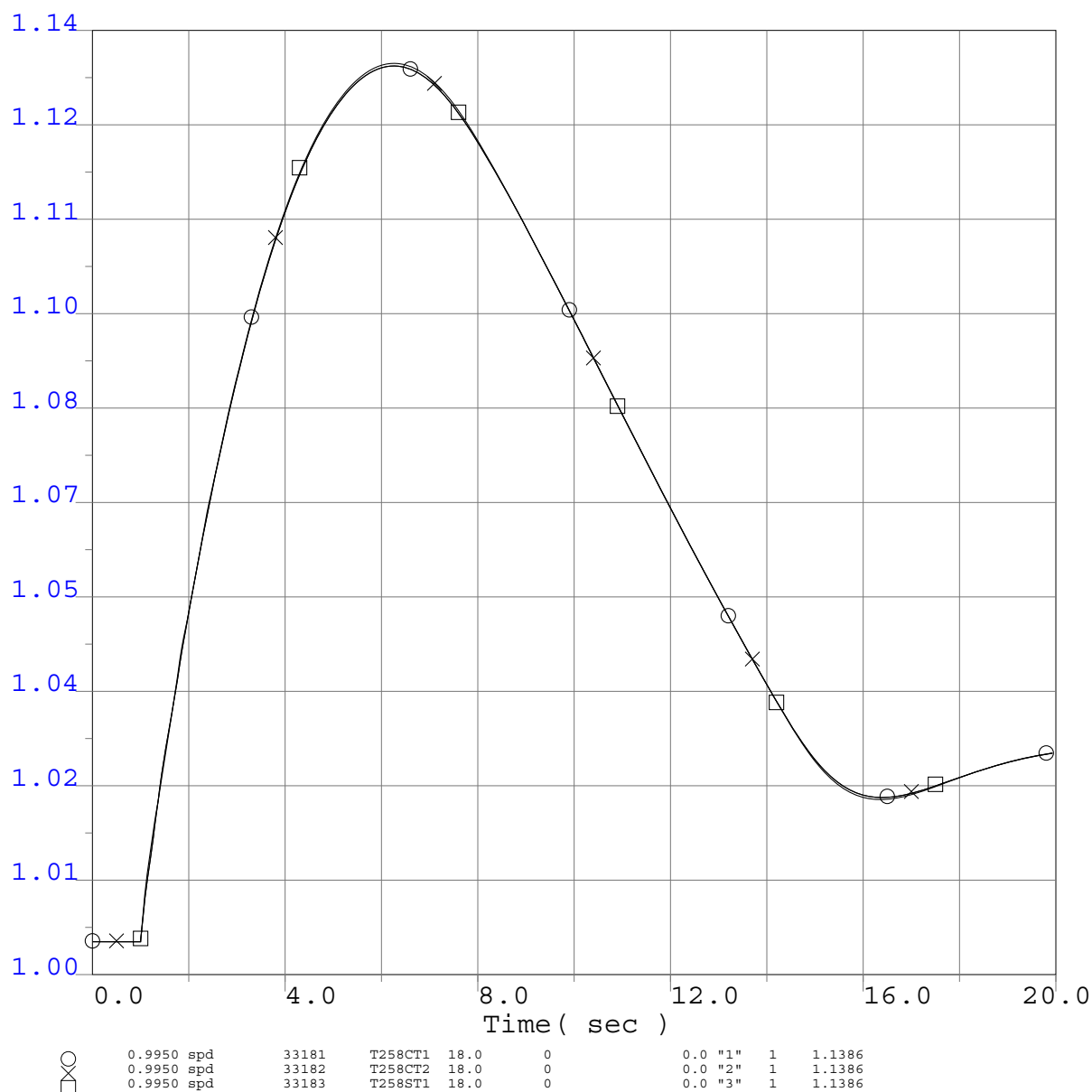
Selected Generator Terminal Voltages (P.U.)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub-Birds Landing+CC Sub-CCPP 230kV Double Line Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub-Birds Landing+CC Sub-CCP

Q258 GIPR Phase 1 Interconnection System Impact Study

Project Generator Speed (P.U.)



Q258 Project GIPR Phase 1 Interconnection System Impact Study

2013 Greater Bay Area Summer Peak Base Case

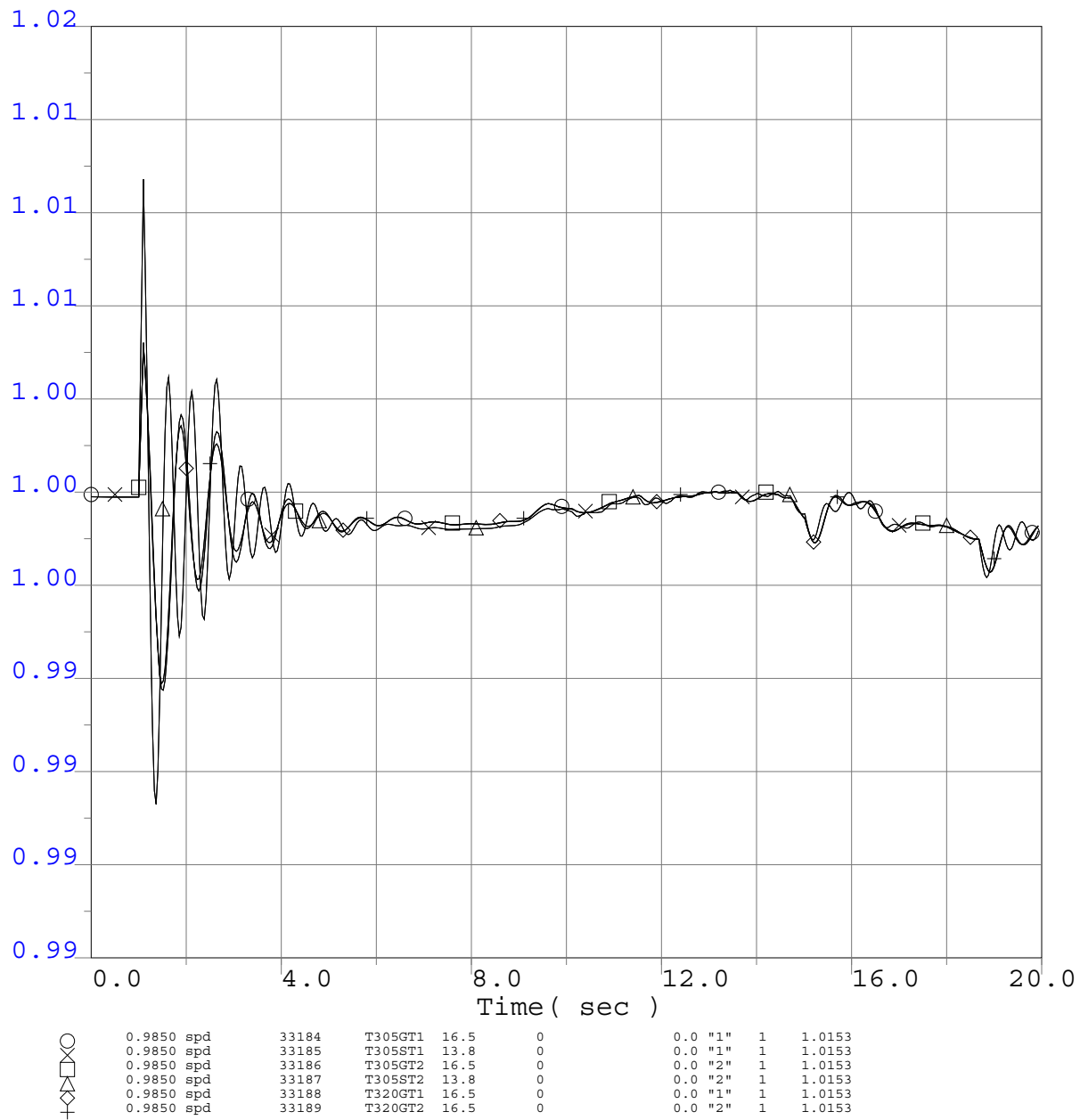
Q258 @537MW

CC Sub-Birds Landing+CC Sub-CCPP 230kV Double Line Outage

3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub-Birds Landing+CC Sub-CCP

Q258 GIPR Phase 1 Interconnection System Impact Study

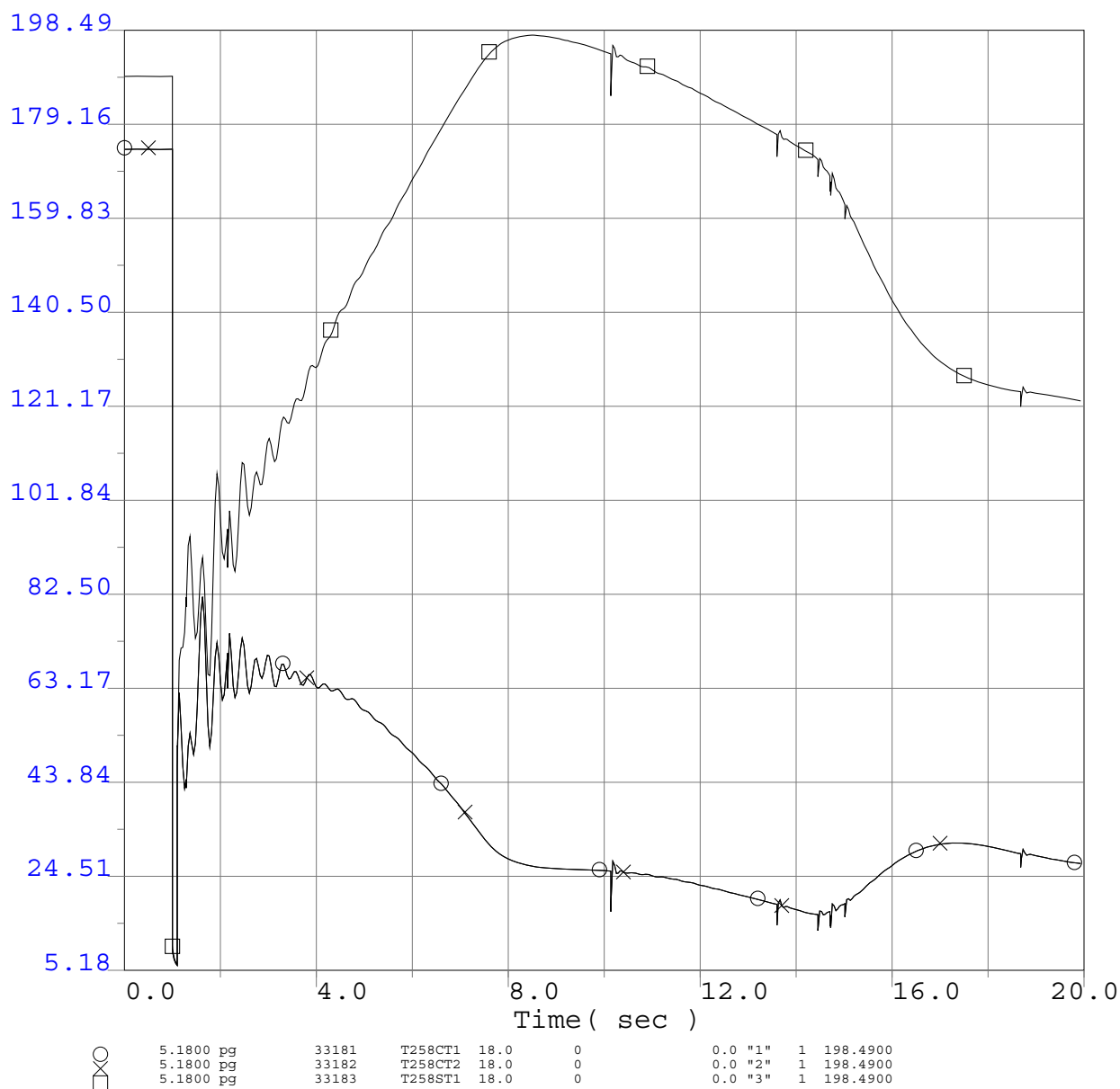
Selected Generator Speed (P.U.)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub-Birds Landing+CC Sub-CCPP 230kV Double Line Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub-Birds Landing+CC Sub-CCP

Q258 GIPR Phase 1 Interconnection System Impact Study

Project Generator Terminal Power (MW)



Q258 Project GIPR Phase 1 Interconnection System Impact Study

2013 Greater Bay Area Summer Peak Base Case

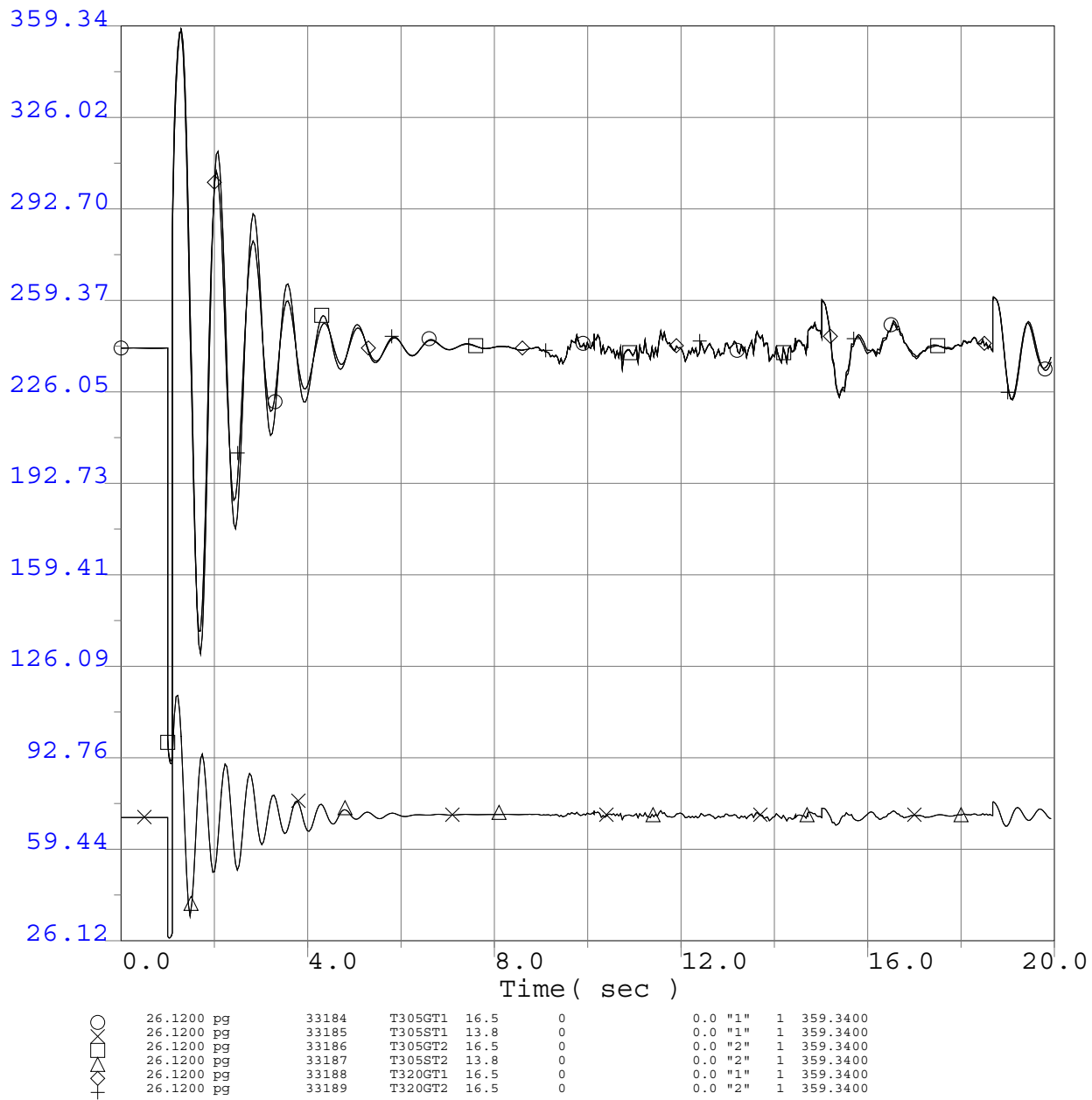
Q258 @537MW

CC Sub-Birds Landing+CC Sub-CCPP 230kV Double Line Outage

3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub-Birds Landing+CC Sub-CCP

Q258 GIPR Phase 1 Interconnection System Impact Study

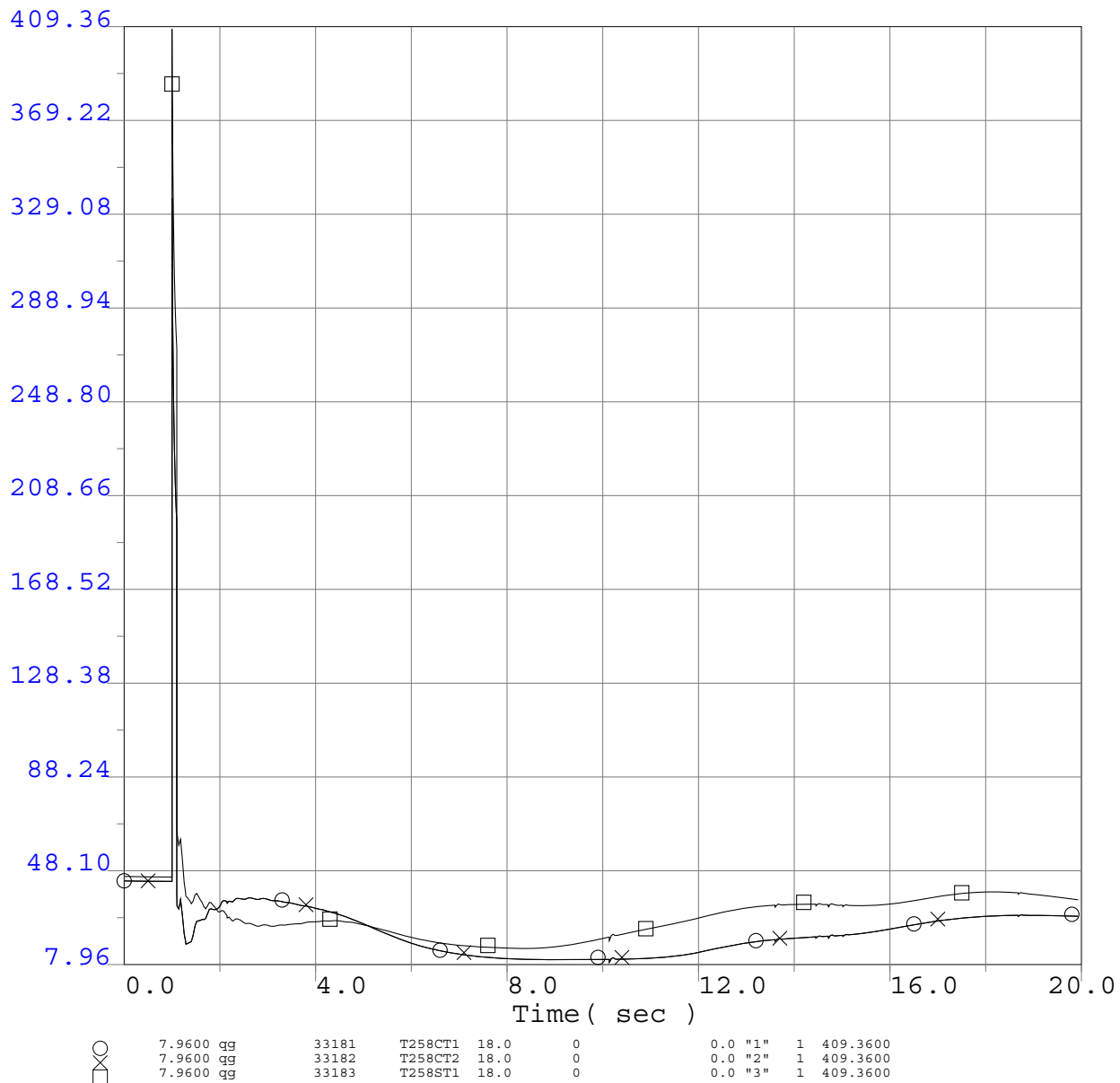
Selected Generator Terminal Power (MW)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub-Birds Landing+CC Sub-CCPP 230kV Double Line Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub-Birds Landing+CC Sub-CCP

Q258 GIPR Phase 1 Interconnection System Impact Study

Project Generator Terminal Reactive Power (MVar)



Q258 Project GIPR Phase 1 Interconnection System Impact Study

2013 Greater Bay Area Summer Peak Base Case

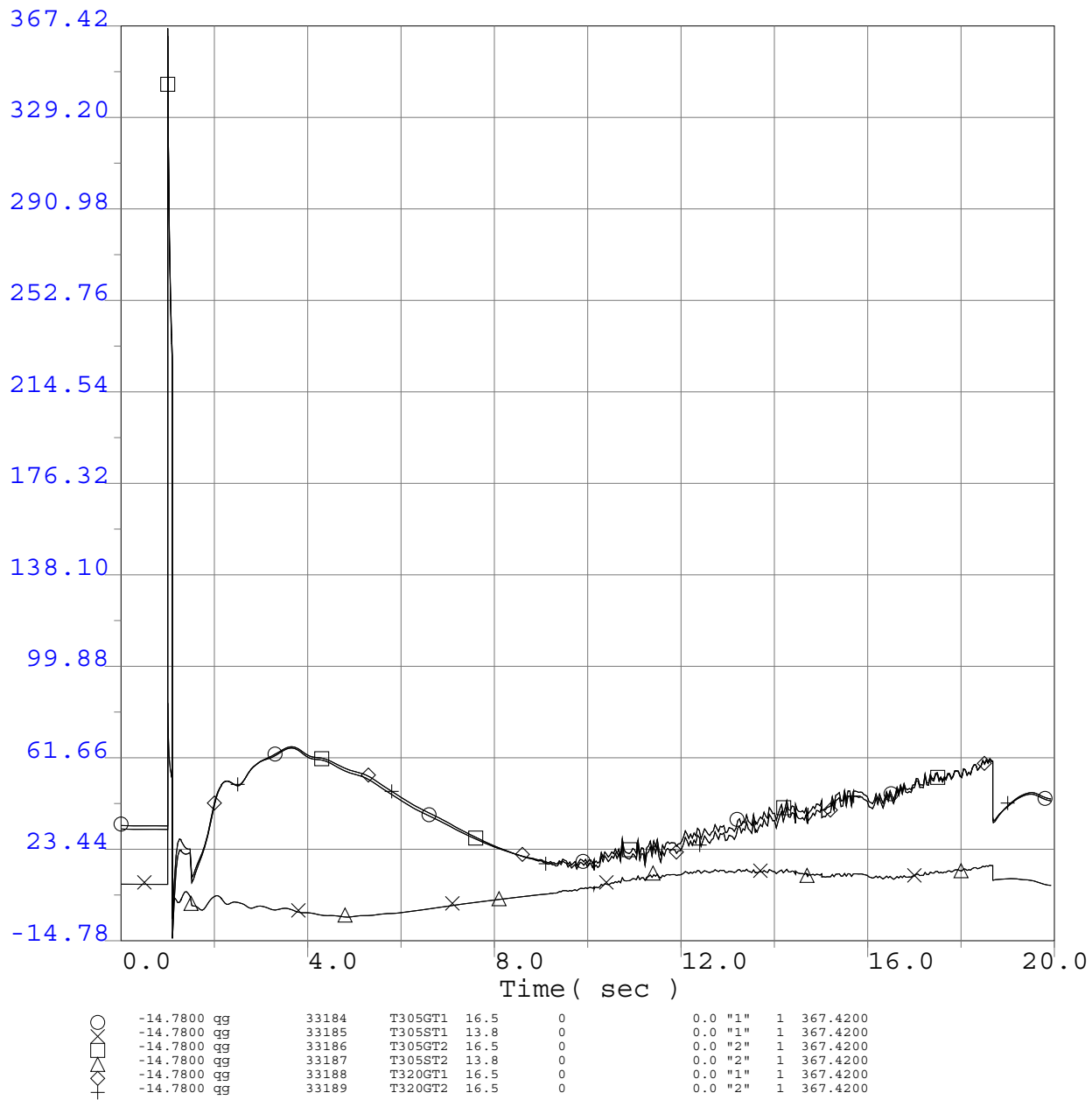
Q258 @537MW

CC Sub-Birds Landing+CC Sub-CCPP 230kV Double Line Outage

3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub-Birds Landing+CC Sub-CCP

Q258 GIPR Phase 1 Interconnection System Impact Study

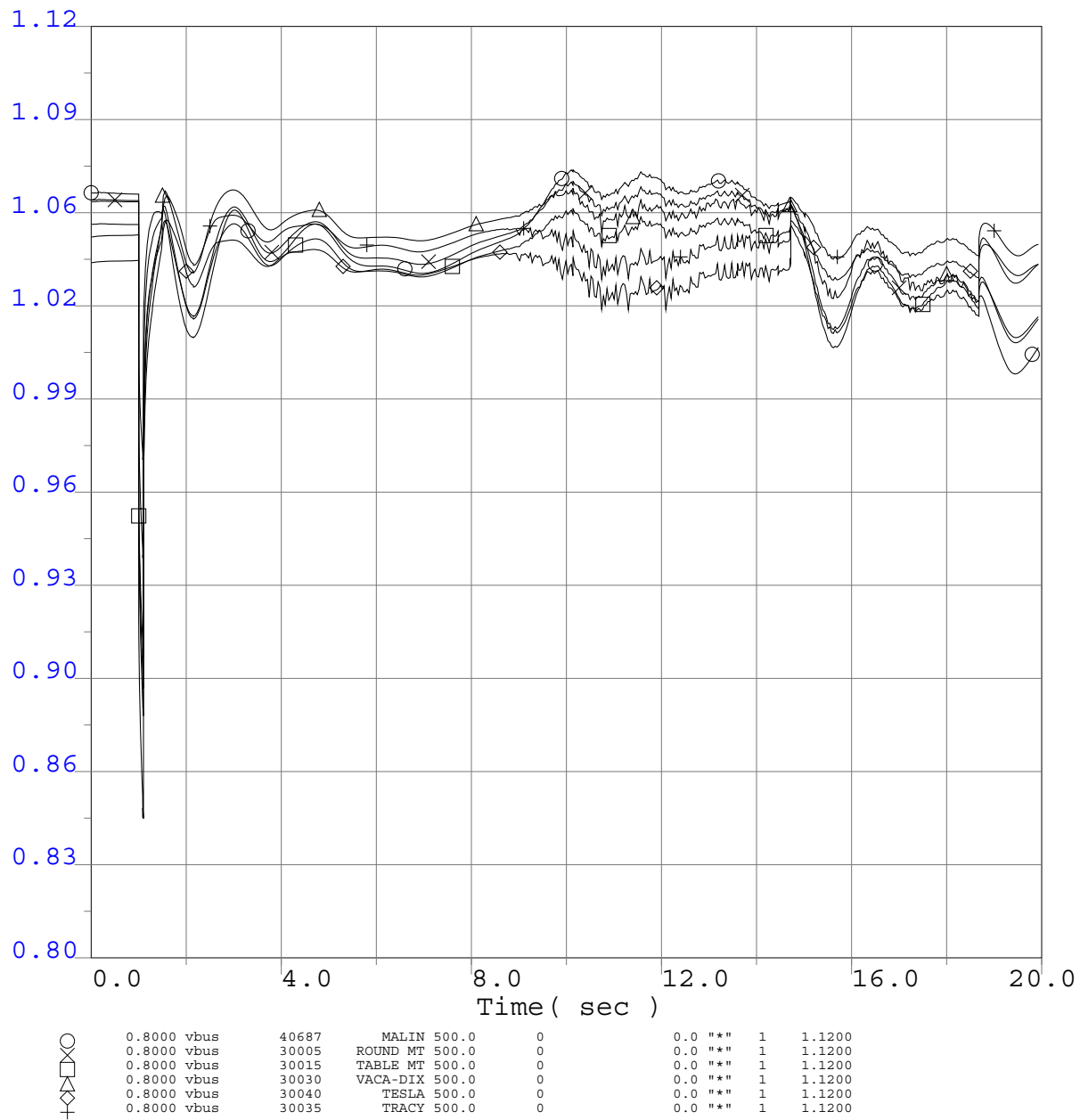
Selected Generator Terminal Reactive Power (MVar)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
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 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub-Birds Landing+CC Sub-CCP

Q258 GIPR Phase 1 Interconnection System Impact Study

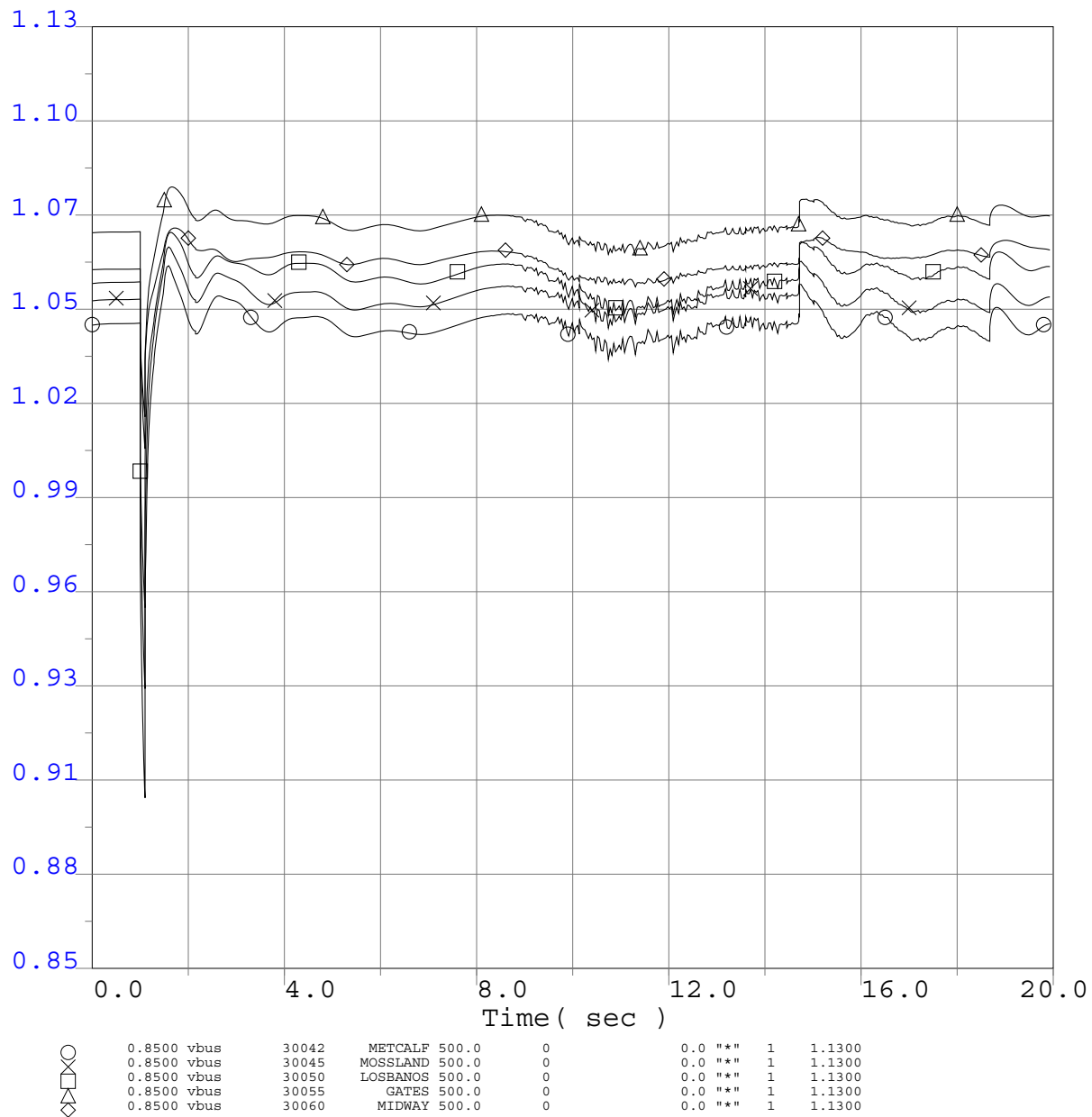
Selected WECC Bus Voltage Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
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 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub-Birds Landing+CC Sub-CCP

Q258 GIPR Phase 1 Interconnection System Impact Study

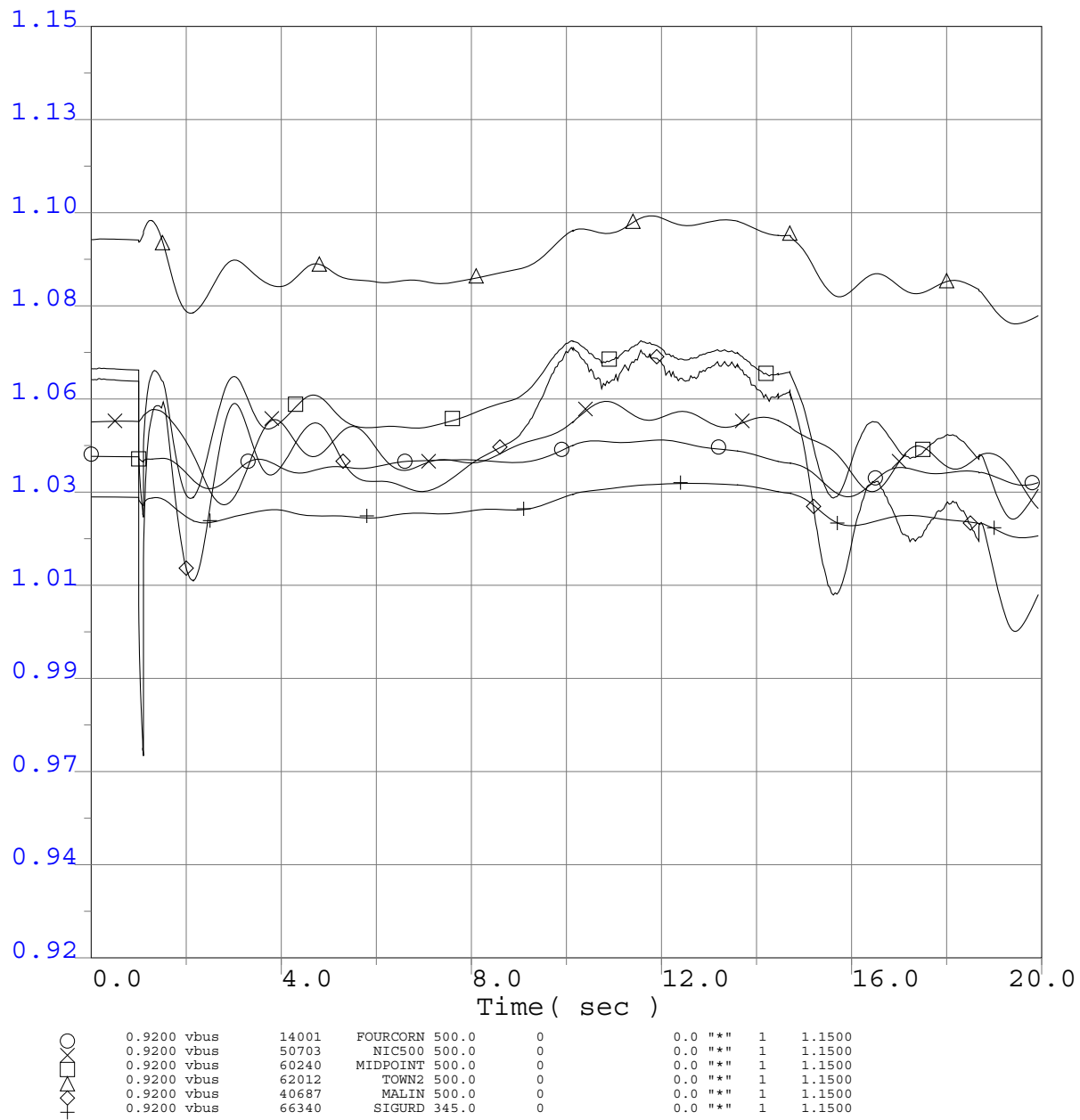
Selected WECC Bus Voltage Plots



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 2013 Greater Bay Area Summer Peak Base Case
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Q258 GIPR Phase 1 Interconnection System Impact Study

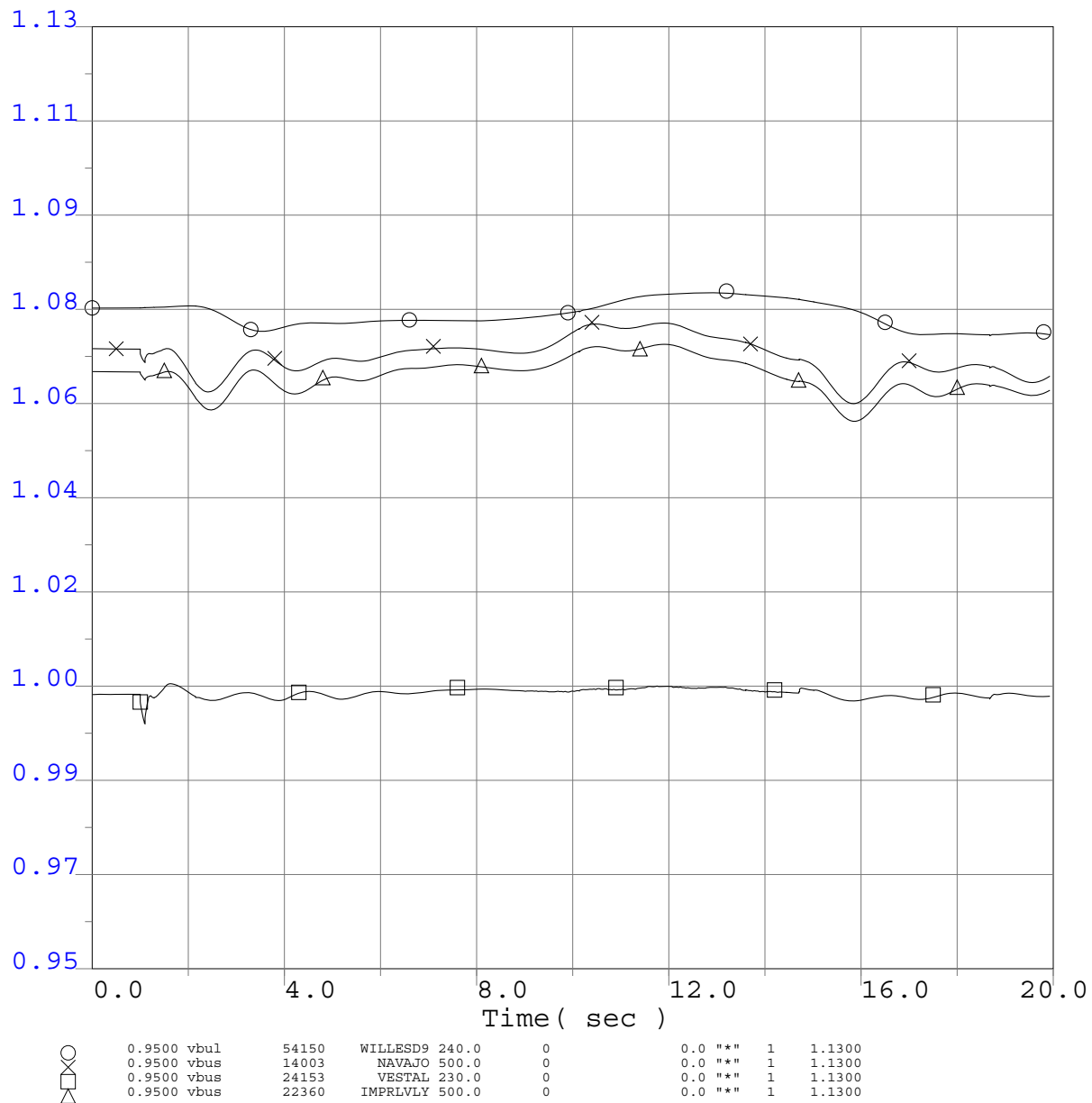
Selected WECC Bus Voltage Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
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Q258 GIPR Phase 1 Interconnection System Impact Study

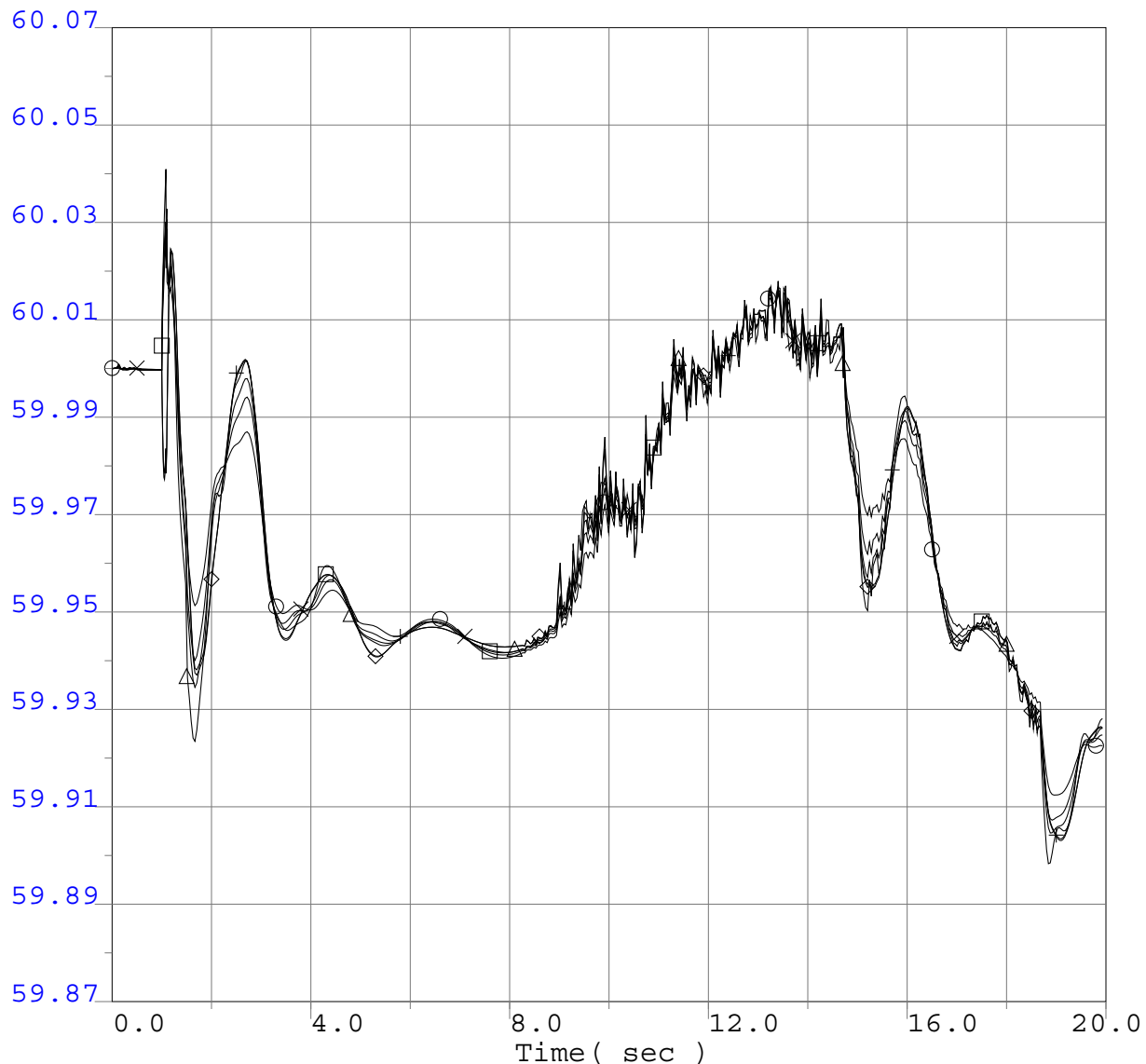
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Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
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Q258 GIPR Phase 1 Interconnection System Impact Study

Selected WECC Bus Frequency Plots

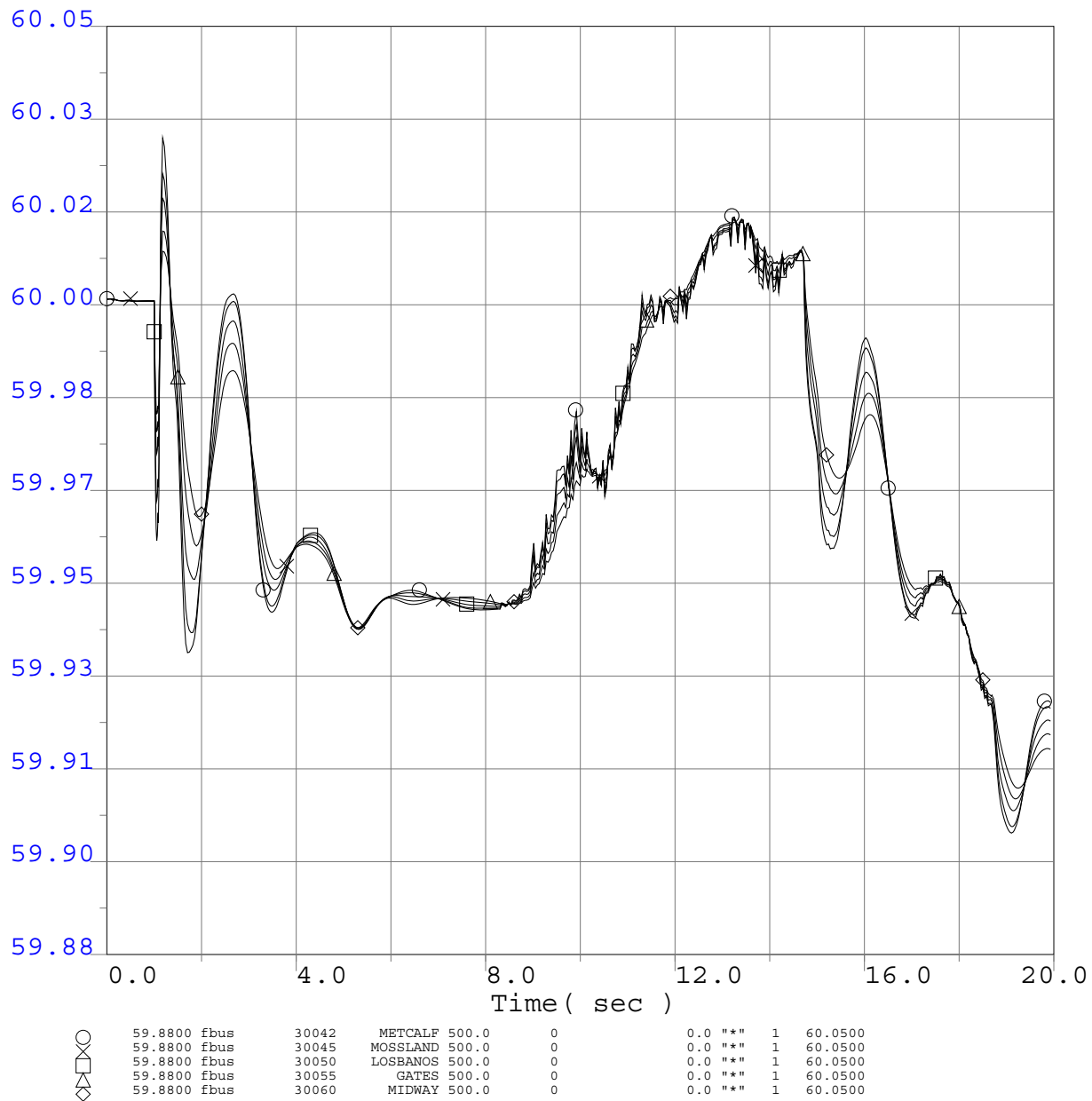


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□	59.8700 fbus	30005	ROUND MT 500.0	0	0.0	"	1	60.0700
△	59.8700 fbus	30015	TABLE MT 500.0	0	0.0	"	1	60.0700
◇	59.8700 fbus	30030	VACA-DIX 500.0	0	0.0	"	1	60.0700
+	59.8700 fbus	30040	TESLA 500.0	0	0.0	"	1	60.0700
	59.8700 fbus	30035	TRACY 500.0	0	0.0	"	1	60.0700

Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
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Q258 GIPR Phase 1 Interconnection System Impact Study

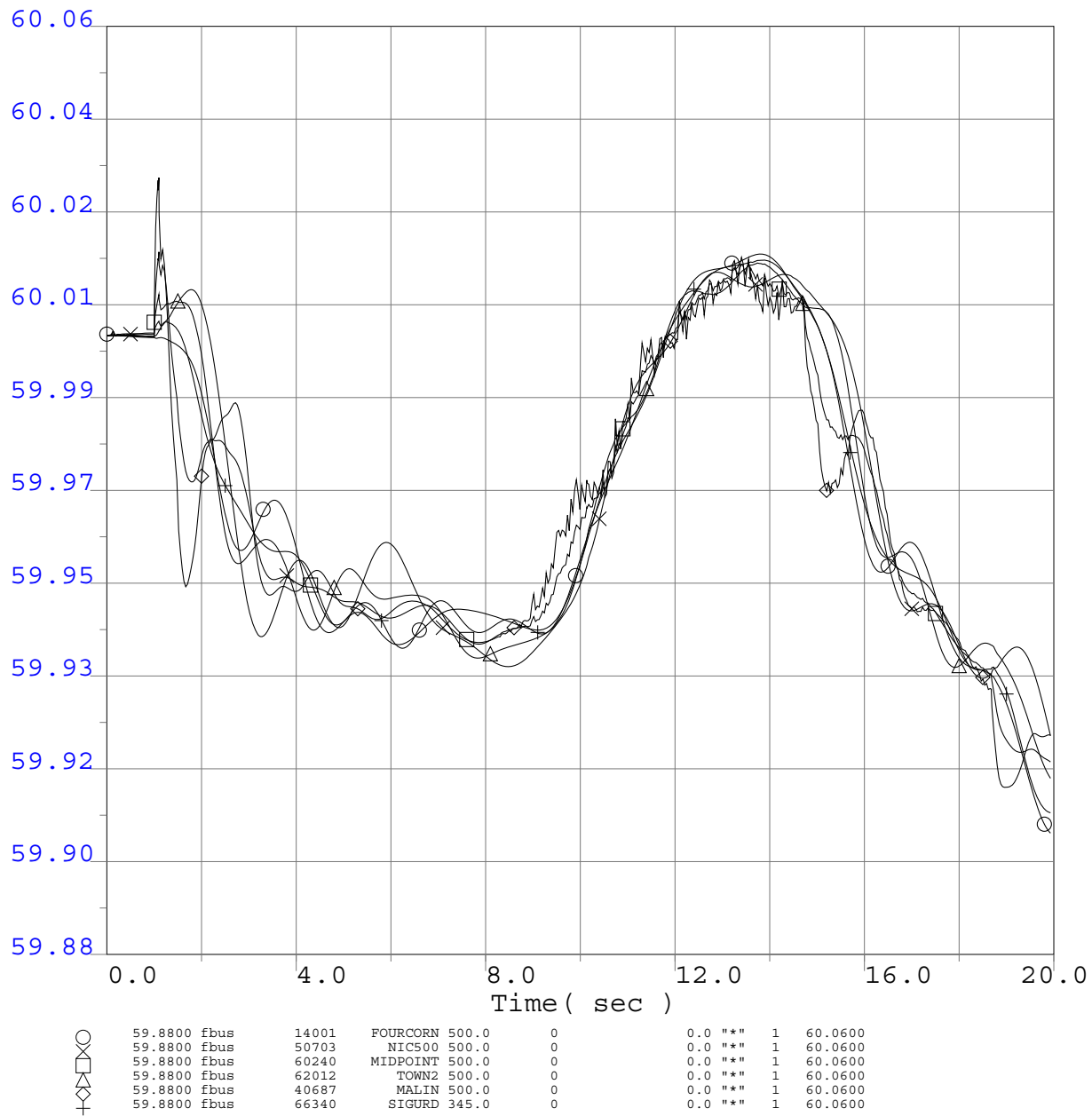
Selected WECC Bus Frequency Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
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Q258 GIPR Phase 1 Interconnection System Impact Study

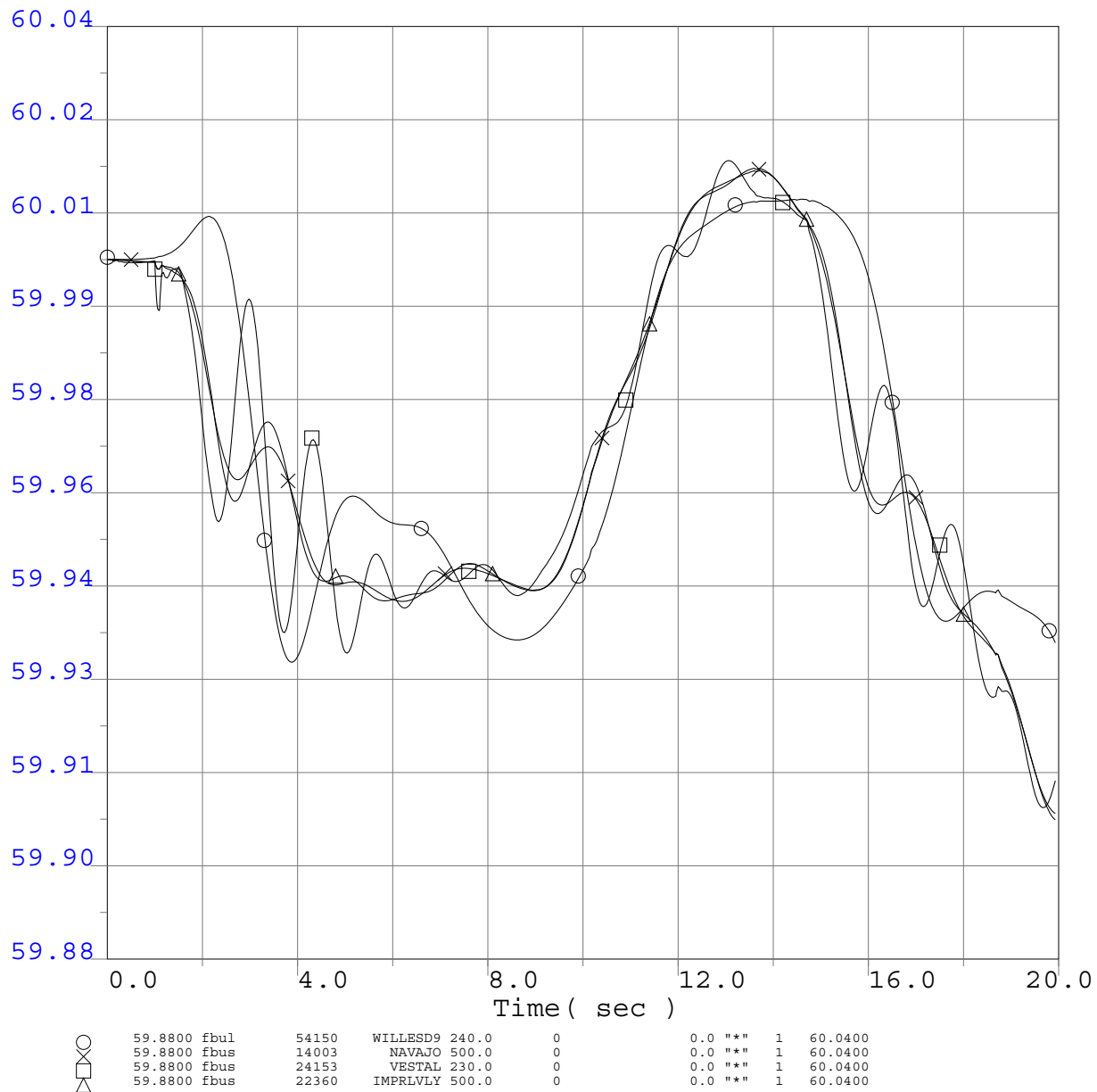
Selected WECC Bus Frequency Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
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Q258 GIPR Phase 1 Interconnection System Impact Study

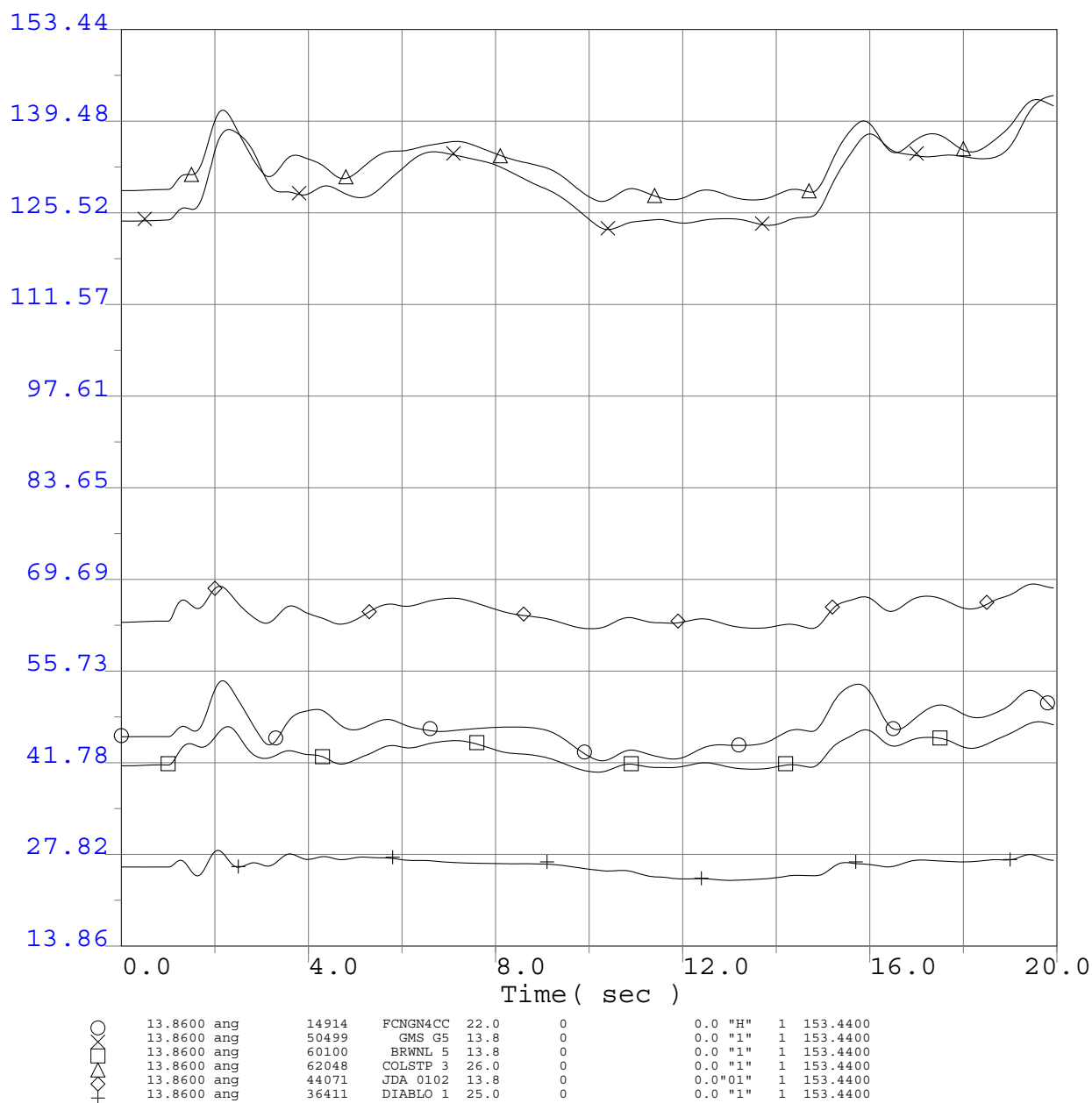
Selected WECC Bus Frequency Plots



Q258 Project GIPR Phase 1 Interconnection System Impact Study
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Q258 GIPR Phase 1 Interconnection System Impact Study

WECC Generator Rotor Angle



Q258 Project GIPR Phase 1 Interconnection System Impact Study

2013 Greater Bay Area Summer Peak Base Case

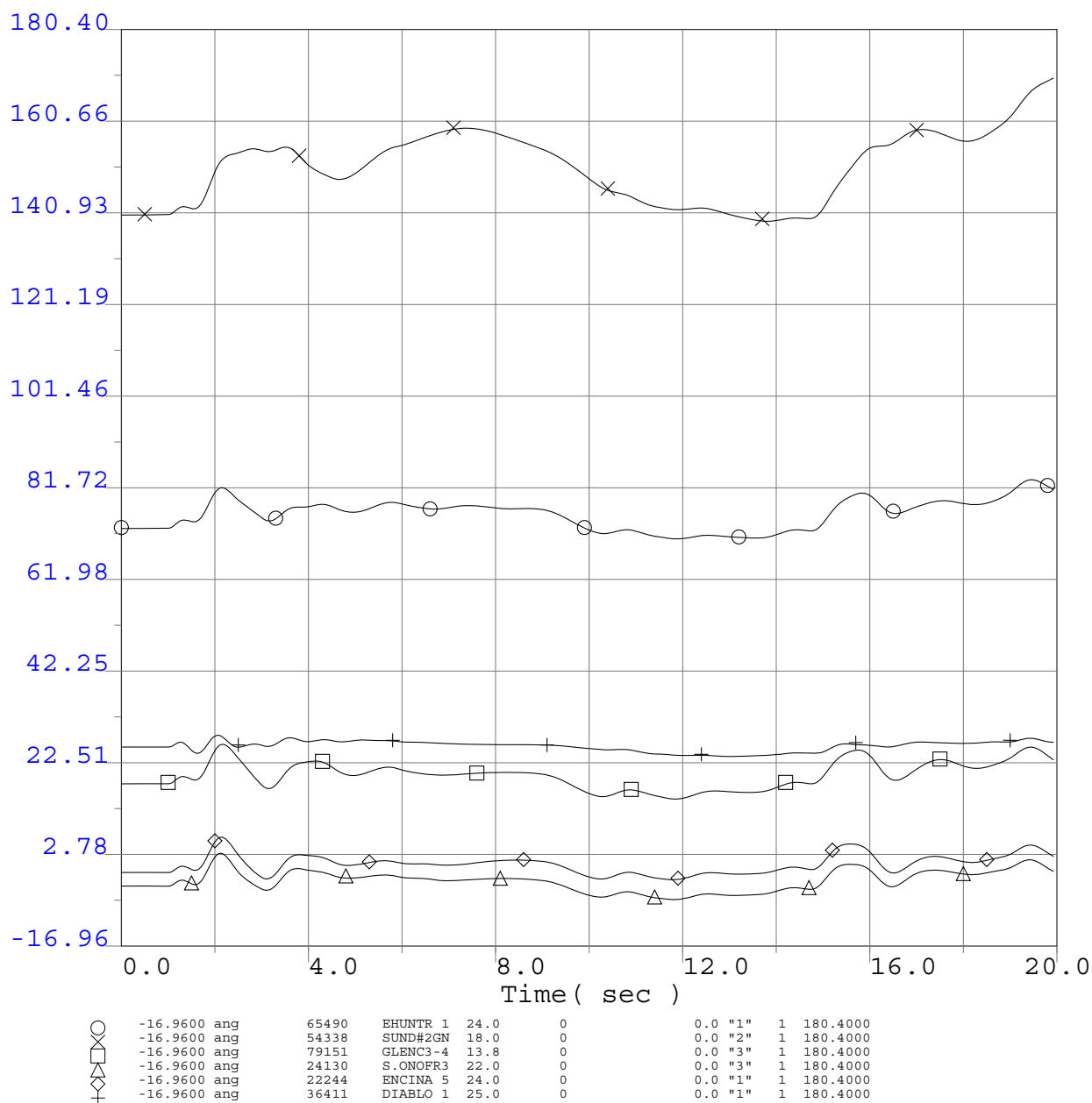
Q258 @537MW

CC Sub-Birds Landing+CC Sub-CCPP 230kV Double Line Outage

3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub-Birds Landing+CC Sub-CCP

Q258 GIPR Phase 1 Interconnection System Impact Study

WECC Generator Rotor Angle



Q258 Project GIPR Phase 1 Interconnection System Impact Study

2013 Greater Bay Area Summer Peak Base Case

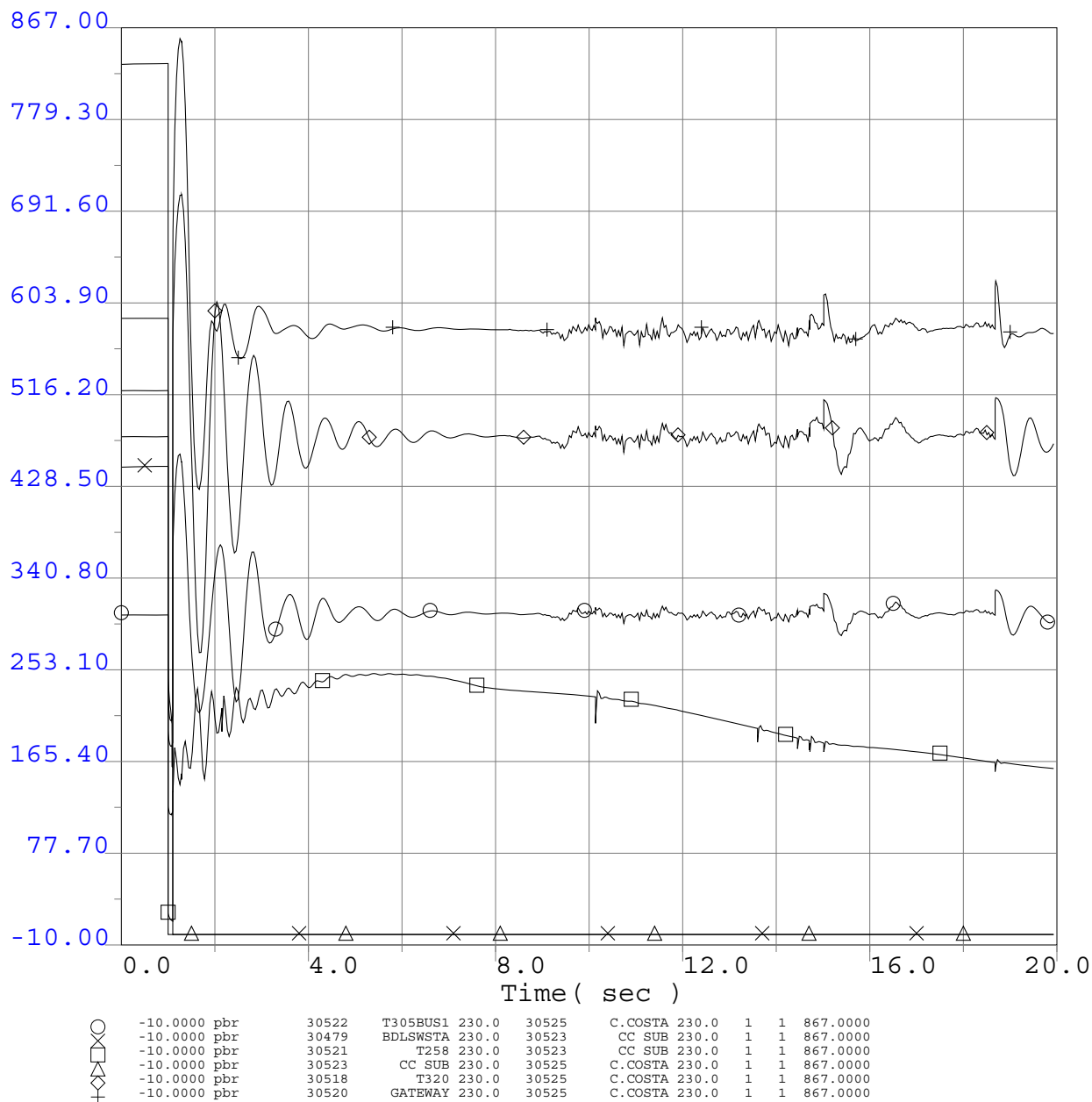
Q258 @537MW

CC Sub-Birds Landing+CC Sub-CCPP 230kV Double Line Outage

3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub-Birds Landing+CC Sub-CCP

Q258 GIPR Phase 1 Interconnection System Impact Study

Selected PG&E Transmission Line Flows (MW)



Q258 Project GIPR Phase 1 Interconnection System Impact Study

2013 Greater Bay Area Summer Peak Base Case

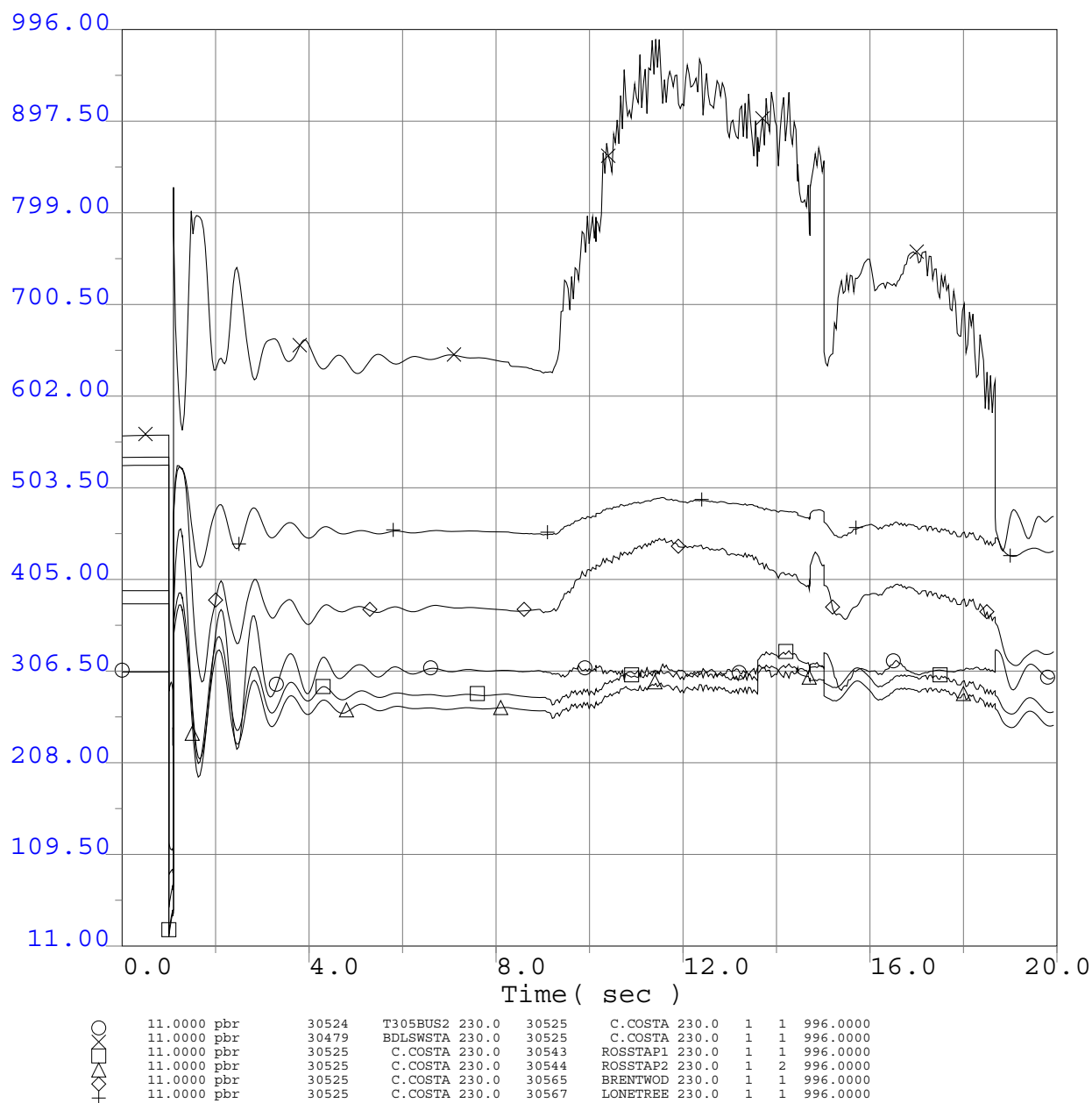
Q258 @537MW

CC Sub-Birds Landing+CC Sub-CCPP 230kV Double Line Outage

3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub-Birds Landing+CC Sub-CCP

Q258 GIPR Phase 1 Interconnection System Impact Study

Selected PG&E Transmission Line Flows (MW)



Q258 Project GIPR Phase 1 Interconnection System Impact Study

2013 Greater Bay Area Summer Peak Base Case

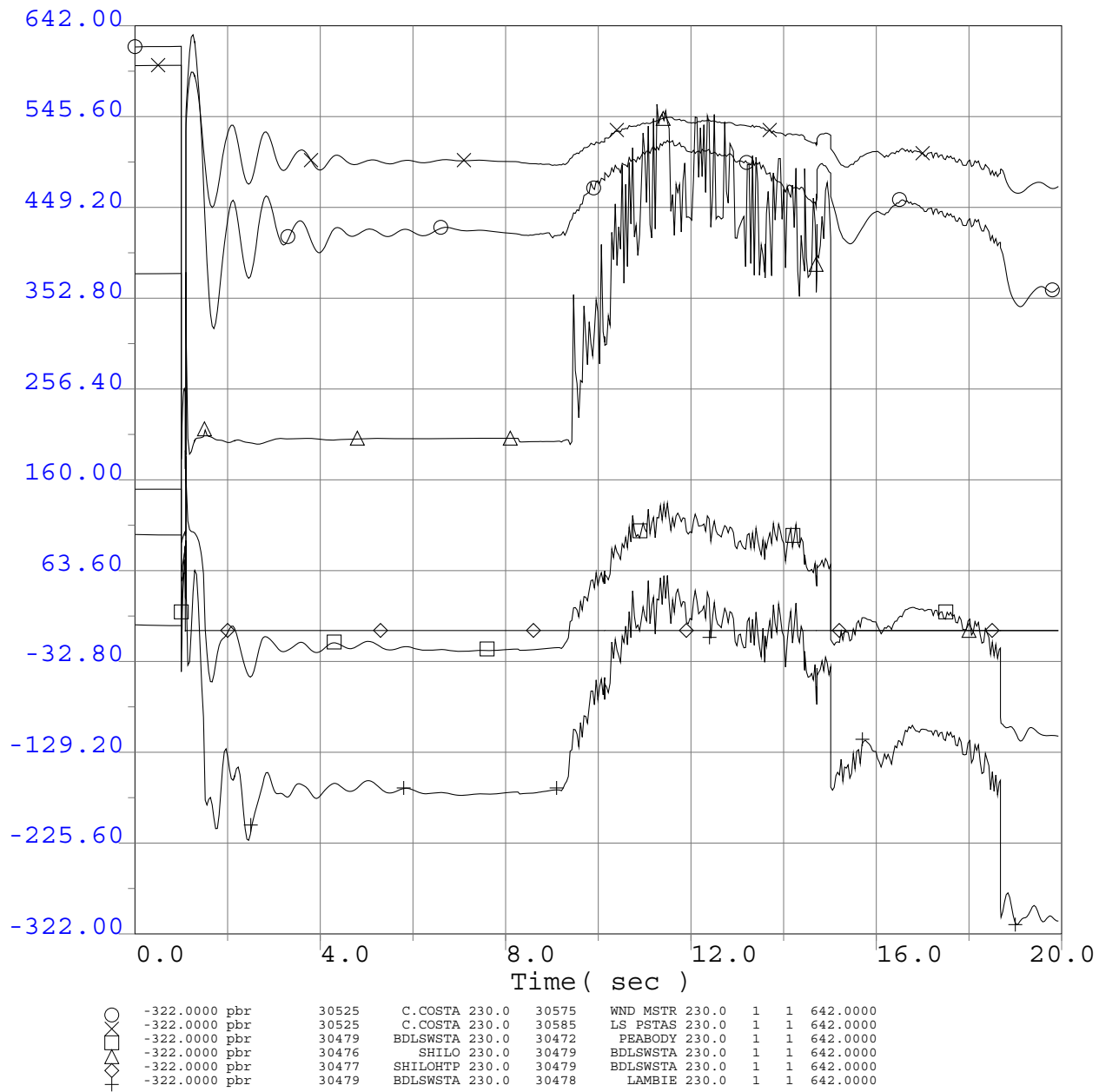
Q258 @537MW

CC Sub-Birds Landing+CC Sub-CCPP 230kV Double Line Outage

3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub-Birds Landing+CC Sub-CCP

Q258 GIPR Phase 1 Interconnection System Impact Study

Selected PG&E Transmission Line Flows (MW)



Q258 Project GIPR Phase 1 Interconnection System Impact Study

2013 Greater Bay Area Summer Peak Base Case

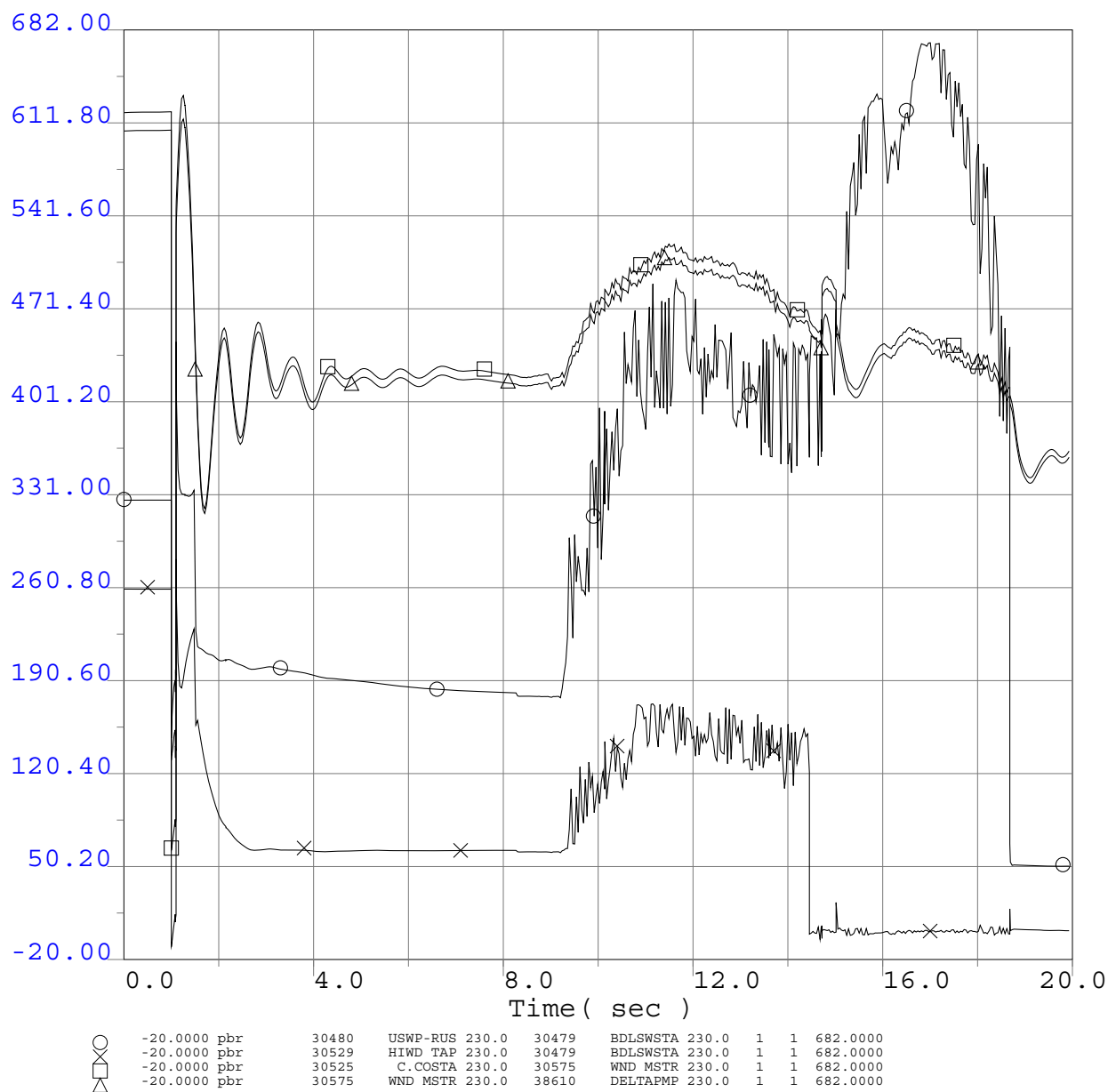
Q258 @537MW

CC Sub-Birds Landing+CC Sub-CCPP 230kV Double Line Outage

3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub-Birds Landing+CC Sub-CCP

Q258 GIPR Phase 1 Interconnection System Impact Study

Selected PG&E Transmission Line Flows (MW)



Q258 Project GIPR Phase 1 Interconnection System Impact Study
 2013 Greater Bay Area Summer Peak Base Case
 Q258 @537MW
 CC Sub-Birds Landing+CC Sub-CCPP 230kV Double Line Outage
 3-ph 6 cyc flt @ the CC Sub 230kV bus & clr the CC Sub-Birds Landing+CC Sub-CCP

Appendix G

Preliminary Protection Requirement

Preliminary Protection Requirements

Q258 Contra Costa Generating Station Project

Assumptions:

GIPR Cluster study includes the following projects:

- Q258 Contra Costa Generating Station Project
- Q320 Marsh Landing Generating Station Simple Cycle Units Project
- Q322 Pittsburg Power Plant Combined Cycle Units Project
- Q378 Los Esteros Critical Energy Facility Expansion Project
- Q417 Tres Vaqueros Wind Farm Project General Information

Preliminary information & bus configurations based on document "Q258 ContraCosta GS_Project General Information.doc"

Fault Duty Summary:

Please refer to attached document "GIPR Preliminary Fault Duties 4-28-2009.xls" for summary of "Before & After" fault duty comparison.

- "Before" fault duties are based on Pge09D.olr Aspen basecase file with the above five generation projects modeled in, but **offline**.
- "After" fault duties are based on Pge09D.olr Aspen basecase file with the above five generation projects modeled in, and **online**.
- Other "future" generation projects were not included.

Protection Requirements:

- PG&E Interconnection Handbook to be used as reference.
- Recommend to provide a dedicated 230kV CB or CB's at generator side of Generator Tie Line.
- Customer to provide one dedicated set of 3000/5MR C1200 CT's on the generator side of the 230kV CB at Contra Costa Sub to be connected to existing Contra Costa Sub 230kV Bus Differential protection scheme.
- Customer to be responsible for providing and demonstrating adequate protection for their Generator Tie Line, 230kV Bus, Generators, Generator step-up transformers, and all associated Circuit Breakers, with overlapping zones of protection.
- PG&E relay coordination review and relay setting changes may be required.

Appendix H

Short Circuit Calculation Results

Sys. Pro. Results			Short Circuit Currents on Selected Busses for the Proposed Project (AMPS)					
28-May-09			Case 1		Case 2		DEVIATION	
Proposed Project: GIRP 2009			GIPR gen OFF		GIPR gen ON		PERCENT INCREASE(+) OR DECREASE(-) (Columns 2 over Columns 1)	
	Bus Name	kV	3LG (A)	1LG (A)	3LG (A)	1LG (A)	3LG %DIFF	1LG %DIFF
44	BAIR	115.kV	21.5E+3	16.4E+3	21.7E+3	16.4E+3	0.9%	0.4%
59	BAYSHORE 1	115.kV	27.6E+3	29.1E+3	27.8E+3	29.2E+3	0.7%	0.5%
60	BAYSHORE 2	115.kV	27.2E+3	29.5E+3	27.4E+3	29.6E+3	0.7%	0.5%
69	BELLOTA	115.kV	19.2E+3	20.1E+3	19.2E+3	20.1E+3	0.2%	0.1%
70	BELLOTA	230.kV	28.9E+3	23.3E+3	29.1E+3	23.4E+3	0.8%	0.4%
77	Bethel STH	230.kV	14.7E+3	10.9E+3	17.4E+3	15.7E+3	18.2%	44.4%
87	BIRDSLANDING	230.kV	17.7E+3	19.7E+3	19.9E+3	21.7E+3	12.3%	10.4%
106	BRENTWOOD	230.kV	17.2E+3	13.1E+3	18.4E+3	13.7E+3	6.8%	4.5%
122	BULLARD EC	230.kV	23.4E+3	22.8E+3	26.0E+3	24.6E+3	11.3%	8.2%
123	BURLINGAME	115.kV	22.4E+3	19.4E+3	22.6E+3	19.5E+3	0.7%	0.4%
200	CLAREMONT K	115.kV	35.9E+3	29.6E+3	36.9E+3	30.0E+3	2.7%	1.5%
204	CLAYTON	115.kV	27.4E+3	20.4E+3	27.9E+3	20.6E+3	1.8%	0.9%
216	COCO SUB	230.kV	29.2E+3	26.9E+3	36.8E+3	36.4E+3	26.3%	35.4%
230	COOLEY LDG	60.kV	25.9E+3	25.0E+3	26.0E+3	25.1E+3	0.5%	0.3%
231	COOLEY LDG 1	115.kV	24.4E+3	21.4E+3	24.6E+3	21.5E+3	1.2%	0.7%
232	COOLEY LDG 2	115.kV	26.8E+3	24.0E+3	27.2E+3	24.2E+3	1.3%	0.8%
260	CPV VIII	230.kV	45.8E+3	48.1E+3	47.2E+3	49.3E+3	3.1%	2.5%
267	CUYAMA	70.kV	2.0E+3	2.0E+3	2.3E+3	2.6E+3	12.5%	29.9%
268	CVEC GEN	230.kV	14.0E+3	13.1E+3	15.1E+3	16.2E+3	8.0%	23.4%
284	DELTA PMPS	230.kV	26.5E+3	21.3E+3	27.4E+3	21.7E+3	3.3%	1.9%
287	DESERT TOPAZ	230.kV	14.0E+3	12.6E+3	15.2E+3	16.5E+3	8.5%	31.0%
333	EAGLE ROCK	115.kV	12.3E+3	11.0E+3	12.9E+3	11.5E+3	5.1%	4.4%
336	EAST NICLS	115.kV	9.9E+3	8.2E+3	10.9E+3	8.8E+3	10.2%	6.9%
337	EAST PORTAL	115.kV	30.0E+3	21.2E+3	30.7E+3	21.5E+3	2.5%	1.2%
339	EASTSHORE	115.kV	21.2E+3	23.6E+3	21.4E+3	23.8E+3	0.8%	0.6%
341	EDENVALE	115.kV	28.9E+3	18.7E+3	29.2E+3	18.8E+3	1.1%	0.4%
350	EL CERRITO G	115.kV	23.1E+3	16.5E+3	23.5E+3	16.6E+3	1.8%	0.9%
353	EL PATIO	115.kV	21.8E+3	16.9E+3	22.4E+3	17.2E+3	2.7%	1.5%
376	FIGRDN BK1	230.kV	18.9E+3	16.7E+3	20.7E+3	17.7E+3	9.4%	5.8%
377	FIGRDN BK2	230.kV	18.5E+3	16.3E+3	20.2E+3	17.3E+3	9.2%	5.7%
382	FMC	115.kV	24.2E+3	17.8E+3	25.2E+3	18.2E+3	4.1%	2.2%
392	FREMONT	115.kV	25.8E+3	18.6E+3	26.4E+3	18.8E+3	2.2%	1.1%
402	FULTON	60.kV	24.6E+3	28.5E+3	24.9E+3	28.7E+3	1.1%	1.0%
403	FULTON	115.kV	20.8E+3	22.9E+3	21.2E+3	23.3E+3	1.9%	1.6%
415	GATEWAY	230.kV	34.8E+3	34.1E+3	43.4E+3	43.8E+3	24.8%	28.3%
426	GOLD HILL	115.kV	19.0E+3	21.0E+3	19.2E+3	21.2E+3	1.2%	0.9%
489	HICKS	230.kV	18.6E+3	16.0E+3	18.8E+3	16.1E+3	1.1%	0.6%
491	HIGH WINDS	230.kV	17.3E+3	19.0E+3	19.4E+3	20.9E+3	12.1%	10.2%
513	HUNTERS PT 4	115.kV	27.7E+3	31.8E+3	27.9E+3	32.0E+3	0.7%	0.5%

520	IGNACIO BUS1	60.kV	19.6E+3	22.1E+3	20.0E+3	22.5E+3	2.3%	2.0%
521	IGNACIO BUS2	60.kV	19.6E+3	22.1E+3	20.0E+3	22.5E+3	2.3%	2.0%
534	JEFFERSON	60.kV	23.2E+3	23.5E+3	23.2E+3	23.5E+3	0.3%	0.2%
566	KIRKER	115.kV	29.5E+3	25.6E+3	30.1E+3	25.9E+3	2.0%	1.3%
575	LAKEVILLE	115.kV	23.1E+3	23.8E+3	23.9E+3	24.4E+3	3.4%	2.7%
576	LAKEVILLE	230.kV	21.0E+3	17.5E+3	22.5E+3	18.4E+3	6.9%	4.7%
579	LAMBIE	230.kV	18.1E+3	15.0E+3	21.4E+3	17.3E+3	18.0%	14.7%
582	LARKIN BUS D	115.kV	21.0E+3	19.5E+3	21.1E+3	19.6E+3	0.5%	0.3%
583	LARKIN BUS E	115.kV	25.6E+3	28.4E+3	25.8E+3	28.6E+3	0.6%	0.5%
618	LOCKF MAIN	60.kV	19.0E+3	20.2E+3	19.0E+3	20.2E+3	0.1%	0.1%
625	LONE TREE	230.kV	19.1E+3	14.7E+3	21.1E+3	15.9E+3	10.5%	7.9%
631	LOS ESTE CAP	115.kV	33.2E+3	33.9E+3	39.2E+3	42.7E+3	18.1%	26.0%
632	LOS ESTEROS	115.kV	37.7E+3	38.5E+3	45.7E+3	50.4E+3	21.1%	30.8%
633	LOS ESTEROS	230.kV	29.3E+3	25.4E+3	32.0E+3	28.6E+3	9.0%	12.8%
646	LTL NEWARK	230.kV	43.5E+3	39.6E+3	46.5E+3	41.7E+3	7.0%	5.3%
647	LUCERNE	115.kV	3.4E+3	3.0E+3	4.1E+3	3.4E+3	19.6%	15.4%
669	MARTIN	115.kV	32.3E+3	38.0E+3	32.6E+3	38.3E+3	0.9%	0.7%
743	MISSION	115.kV	26.6E+3	30.4E+3	26.8E+3	30.6E+3	0.7%	0.5%
751	MONTA VISTA	115.kV	32.6E+3	34.7E+3	33.0E+3	35.0E+3	1.1%	0.8%
752	MONTA VISTA	230.kV	24.3E+3	22.4E+3	24.6E+3	22.6E+3	1.5%	0.9%
753	MONTAGUE	115.kV	22.9E+3	18.8E+3	24.7E+3	19.9E+3	7.9%	5.7%
757	MORAGA B1	230.kV	27.6E+3	22.0E+3	29.3E+3	22.8E+3	6.2%	3.3%
758	MORAGA B2	230.kV	27.6E+3	22.0E+3	29.3E+3	22.7E+3	6.2%	3.3%
759	MORAGA BD1	115.kV	43.7E+3	42.0E+3	45.2E+3	43.0E+3	3.4%	2.2%
760	MORAGA BD2	115.kV	43.7E+3	42.0E+3	45.2E+3	43.0E+3	3.4%	2.2%
761	MORAGA BE1	115.kV	43.7E+3	42.0E+3	45.2E+3	42.9E+3	3.4%	2.2%
762	MORAGA BE2	115.kV	43.6E+3	42.0E+3	45.1E+3	42.9E+3	3.4%	2.2%
791	NEWARK D	115.kV	38.6E+3	40.4E+3	39.7E+3	41.3E+3	3.0%	2.3%
792	NEWARK D1	230.kV	44.8E+3	41.4E+3	48.0E+3	43.6E+3	7.0%	5.3%
793	NEWARK D2	230.kV	44.8E+3	41.4E+3	47.9E+3	43.5E+3	7.0%	5.3%
794	NEWARK E1	115.kV	55.5E+3	55.1E+3	58.3E+3	57.1E+3	5.0%	3.7%
795	NEWARK E1	230.kV	44.8E+3	41.4E+3	48.0E+3	43.6E+3	7.0%	5.3%
796	NEWARK E2	115.kV	55.5E+3	55.1E+3	58.2E+3	57.1E+3	5.0%	3.7%
797	NEWARK E2	230.kV	44.8E+3	41.4E+3	47.9E+3	43.6E+3	7.0%	5.3%
798	NEWARK F	115.kV	55.6E+3	55.1E+3	58.3E+3	57.2E+3	5.0%	3.7%
804	NORTECH	115.kV	30.8E+3	27.1E+3	34.5E+3	30.1E+3	11.9%	11.1%
812	OAKL C	115.kV	31.9E+3	33.6E+3	32.5E+3	34.1E+3	2.2%	1.5%
816	OAKL L BUS C	115.kV	31.9E+3	31.5E+3	32.6E+3	32.0E+3	2.2%	1.5%
817	OAKL L BUS D	115.kV	31.9E+3	31.5E+3	32.6E+3	32.0E+3	2.2%	1.5%
819	OAKLAND D	115.kV	33.8E+3	29.9E+3	34.6E+3	30.3E+3	2.5%	1.4%
820	OAKLAND X	115.kV	32.2E+3	28.5E+3	32.9E+3	28.9E+3	2.3%	1.3%
850	PALO ALTO SW	115.kV	24.7E+3	21.8E+3	25.0E+3	22.0E+3	1.2%	0.7%
860	PAT PASS EC	230.kV	000.0E+0	000.0E+0	21.6E+3	23.0E+3	N/A	N/A
863	PEABODY	230.kV	17.4E+3	12.8E+3	22.7E+3	16.6E+3	31.0%	30.0%
892	PITTSBURG D	115.kV	48.5E+3	55.7E+3	50.1E+3	57.5E+3	3.4%	3.2%
893	PITTSBURG D1	230.kV	51.3E+3	56.6E+3	58.1E+3	65.0E+3	13.4%	14.9%
894	PITTSBURG D2	230.kV	51.2E+3	56.5E+3	58.1E+3	64.9E+3	13.4%	15.0%
895	PITTSBURG E	115.kV	48.3E+3	55.4E+3	50.0E+3	57.2E+3	3.4%	3.2%
896	PITTSBURG E1	230.kV	51.3E+3	56.6E+3	58.1E+3	65.0E+3	13.4%	14.9%
897	PITTSBURG E2	230.kV	51.3E+3	56.5E+3	58.1E+3	64.9E+3	13.3%	14.9%
913	POTRERO	115.kV	28.7E+3	33.4E+3	28.9E+3	33.6E+3	0.7%	0.5%

914	POTRERO E	115.kV	24.0E+3	27.8E+3	24.1E+3	27.9E+3	0.6%	0.5%
926	PV-43 GEN	230.kV	54.5E+3	54.6E+3	57.0E+3	57.6E+3	4.6%	5.4%
934	RAVENSWOOD	115.kV	39.6E+3	39.7E+3	40.5E+3	40.3E+3	2.0%	1.4%
935	RAVENSWOOD	230.kV	31.1E+3	24.9E+3	32.1E+3	25.3E+3	3.2%	1.8%
959	RIO OSO	115.kV	18.9E+3	18.8E+3	24.7E+3	24.7E+3	30.5%	31.4%
965	RIVEROAKS	115.kV	23.7E+3	20.8E+3	26.6E+3	23.2E+3	11.9%	11.2%
972	ROSEDALE	115.kV	23.6E+3	20.3E+3	23.7E+3	20.3E+3	0.4%	0.2%
979	RUSSELL	230.kV	17.5E+3	19.3E+3	19.7E+3	21.2E+3	12.1%	10.1%
982	S JOSE A	115.kV	24.9E+3	21.5E+3	25.9E+3	22.1E+3	3.9%	2.5%
987	SALINAS BUS1	60.kV	18.3E+3	20.5E+3	18.3E+3	20.5E+3	0.0%	0.0%
988	SALINAS BUS2	60.kV	18.3E+3	20.5E+3	18.3E+3	20.5E+3	0.0%	0.0%
996	SAN JOSE B	115.kV	29.1E+3	26.6E+3	30.6E+3	27.5E+3	5.2%	3.5%
1001	SAN LS PMP	230.kV	23.5E+3	21.8E+3	23.9E+3	22.0E+3	1.5%	0.8%
1004	SAN MATEO	60.kV	26.0E+3	26.9E+3	26.2E+3	27.0E+3	0.4%	0.3%
1005	SAN MATEO	115.kV	41.4E+3	44.9E+3	42.0E+3	45.4E+3	1.5%	1.1%
1006	SAN MATEO	230.kV	27.2E+3	25.7E+3	27.8E+3	26.1E+3	2.2%	1.4%
1083	SHILOH II	230.kV	13.1E+3	13.0E+3	14.3E+3	13.9E+3	8.7%	6.4%
1097	SOBRANTE	115.kV	45.5E+3	44.2E+3	47.4E+3	45.6E+3	4.1%	3.1%
1098	SOBRANTE	230.kV	28.8E+3	22.8E+3	31.5E+3	24.2E+3	9.2%	6.2%
1111	STAGG	60.kV	24.0E+3	26.1E+3	24.0E+3	26.2E+3	0.2%	0.1%
1112	STAGG	230.kV	12.9E+3	11.5E+3	12.9E+3	11.5E+3	0.5%	0.2%
1133	STOREY 1	230.kV	12.6E+3	10.5E+3	13.3E+3	11.2E+3	5.5%	6.4%
1134	STOREY 2	230.kV	12.7E+3	11.1E+3	15.4E+3	13.6E+3	20.7%	22.4%
1137	SUBS DE #2	525.kV	12.0E+3	11.8E+3	13.1E+3	12.7E+3	9.9%	8.0%
1138	SUBS DE#1	525.kV	12.0E+3	11.8E+3	13.1E+3	12.7E+3	9.9%	8.0%
1170	TESLA	115.kV	28.5E+3	31.2E+3	28.8E+3	31.4E+3	0.7%	0.6%
1171	TESLA	525.kV	40.9E+3	36.1E+3	43.8E+3	38.5E+3	7.2%	6.6%
1173	TESLA BUS C	230.kV	51.6E+3	53.4E+3	53.6E+3	55.1E+3	3.8%	3.1%
1174	TESLA BUS D	230.kV	61.0E+3	60.9E+3	64.1E+3	63.3E+3	5.0%	4.0%
1175	TESLA BUS E	230.kV	53.9E+3	58.9E+3	55.1E+3	60.0E+3	2.1%	1.8%
1181	TESORO	230.kV	22.9E+3	17.8E+3	24.2E+3	18.3E+3	5.6%	3.2%
1191	THERMALITO	230.kV	18.8E+3	16.8E+3	19.1E+3	17.0E+3	2.0%	1.1%
1199	TRIMBLE	115.kV	30.0E+3	28.2E+3	32.7E+3	30.3E+3	9.1%	7.5%
1224	US WND RSL	230.kV	17.5E+3	19.3E+3	19.7E+3	21.2E+3	12.1%	10.1%
1228	VACA DIXON	60.kV	23.6E+3	27.4E+3	24.1E+3	28.0E+3	2.4%	2.2%
1229	VACA DIXON	115.kV	36.0E+3	39.5E+3	38.9E+3	42.7E+3	8.2%	8.0%
1230	VACA DIXON	230.kV	44.4E+3	42.6E+3	54.9E+3	52.5E+3	23.8%	23.0%
1231	VACA DIXON	525.kV	28.0E+3	20.6E+3	35.3E+3	24.5E+3	26.0%	18.9%
1257	WEBER B D	60.kV	26.2E+3	30.9E+3	26.2E+3	30.9E+3	0.1%	0.0%
1258	WEBER B E	60.kV	26.2E+3	30.9E+3	26.2E+3	30.9E+3	0.1%	0.0%
1271	WESTPARK	115.kV	20.9E+3	17.5E+3	21.0E+3	17.5E+3	0.3%	0.1%
1302	WOODLAND	115.kV	7.6E+3	6.9E+3	8.0E+3	7.1E+3	5.6%	3.4%
1311	YANCEY	70.kV	12.7E+3	10.0E+3	13.7E+3	11.0E+3	8.1%	10.0%

Substation Engineer's Evaluation of Overstressed Breakers

GIPR Cluster Study

The following is a tabulation of selected breakers that were checked to see if they would be overstressed or further overstressed to warrant replacement and if replacement should be paid for by this project. This table was prepared based on PG&E's latest DCM 073133 (Revision 3). Highest close-in fault currents before and after the project were provided by System Protection and were used in the calculations. Breaker interrupting capabilities were based on breaker information on Substation Asset Strategy's Website.

Station Name	Highest Close-in Faults Before Project	Highest Close-in Faults After Project	% Change due to Project	Breaker Number	Nominal Voltage (kV)	Interrupt Capacity (kVA)	Sym. Interrupt Rating (SIR) Amps	Percent Over-stress Before Project	Percent Over-stress After Project	Does Project pay for replacement?
El Cerrito G	21,971	22,368	1.81%	142	115	3500	17600	24.84%	27.09%	No. This breaker was overstressed by 25% before the project
Hillsdale Sub	11,370	11,383	0.11%	Fuse	60	1000	9600	18.44%	18.57%	No. Breaker was overstressed before the project. The added overstressed due to this project was under 5% and the resulting total overstress does not exceed 25%
Martinez E	18,659	18,844	0.99%	322	115	3500	17572	6.19%	7.24%	No. Breaker was overstressed before the project. The added overstressed due to this project was under 5% and the resulting total overstress does not exceed 25%
Oakland C	26,232	26,527	1.12%	172	115	5000	25102	4.50%	5.68%	No. Breaker was overstressed before the project. The added overstressed due to this project was under 5% and the resulting total overstress does not exceed 25%
Pittsburg PP	54,574	62,991	15.42%	492	230	20000	45900	18.90%	37.24%	Yes. This project added more than 5% overstress and the resultant overstress is greater than 25%
Pittsburg PP	46,674	55,133	18.12%	672	230	20000	45900	1.69%	20.12%	Yes. This project added more than 5% overstress to the breaker
Reedley	12,349	12,349	0.00%	22	70	1000	8367	47.59%	47.59%	No. This breaker was overstressed by more than 25% before the project
Reedley	11,705	11,701	-0.03%	32	70	1000	8367	39.89%	39.85%	No. This breaker was overstressed by more than 25% before the project
Reedley	12,112	12,111	-0.01%	72	70	1000	8367	44.76%	44.75%	No. This breaker was overstressed by more than 25% before the project

San Jose "B"	24,545	25,938	5.68%	132	115	5000	24000	2.27%	8.08%	Yes. This project added more than 5% overstress to the breaker
Sanger	25,090	25,405	1.26%	422	115	5000	25102	-0.05%	1.21%	Yes. Breaker was not overstressed before project but would be after the project
Table Mountain	28,382	28,680	1.05%	112	115	5000	25102	13.07%	14.25%	No. Breaker was overstressed before the project. The added overstressed due to this project was under 5% and the resulting total overstress does not exceed 25%
Tesla	39,294	40,645	3.44%	542	500		40000	-1.77%	1.61%	Yes. Breaker was not overstressed before project but would be after the project
Tesla	39,811	41,427	4.06%	612	500		40000	-0.47%	3.57%	Yes. Breaker was not overstressed before project but would be after the project
Tesla	39,294	40,645	3.44%	642	500		40000	-1.77%	1.61%	Yes. Breaker was not overstressed before project but would be after the project
Tesla	59,824	59,761	-0.11%	322	230		50000	19.65%	19.52%	No. Breaker was overstressed before the project. The overstress decreased as a result of this project and the resulting total overstress does not exceed 25%
Tesla	60,549	58,000	-4.21%	332	230		50000	21.10%	16.00%	No. Breaker was overstressed before the project. The overstress decreased as a result of this project and the resulting total overstress does not exceed 25%
Vaca Dixon	41,359	50,191	21.35%	442	230	16766	40000	3.40%	25.48%	Yes. This project added more than 5% overstress and the resultant overstress is greater than 25%
Vaca Dixon	41,569	50,341	21.10%	452	230	36200	36000	15.47%	39.84%	Yes. This project added more than 5% overstress and the resultant overstress is greater than 25%
Vaca Dixon	41,754	50,567	21.11%	462	230	16766	40000	4.38%	26.42%	Yes. This project added more than 5% overstress and the resultant overstress is greater than 25%
Vaca Dixon	43,161	52,155	20.84%	492	230		50000	-13.68%	4.31%	Yes. Breaker was not overstressed before project but would be after the project
COCO PP	41,076	57,879	40.91%	630	230000	20000	45900	-10.51%	26.10%	Yes. Breaker was not overstressed before project but would be after the project

COCO PP	40,790	57,375	40.66%	640	230000		40000	1.97%	43.44%	Yes. This project added more than 5% overstress to the breaker
COCO PP	40,948	58,371	42.55%	650	230000	20000	47715	-14.18%	22.33%	Yes. Breaker was not overstressed before project but would be after the project
COCO PP	39,954	57,225	43.23%	660	230000	20000	47715	-16.27%	19.93%	Yes. Breaker was not overstressed before project but would be after the project
COCO PP	42,198	59,697	41.47%	670	230000	20000	47715	-11.56%	25.11%	Yes. Breaker was not overstressed before project but would be after the project
COCO PP	42,201	59,699	41.46%	680	230000	20000	47715	-11.56%	25.12%	Yes. Breaker was not overstressed before project but would be after the project
COCO PP	43,926	61,669	40.39%	690	230000	20000	47715	-7.94%	29.24%	Yes. Breaker was not overstressed before project but would be after the project
Martinez	18,504	18,613	0.59%	322	115000	3500	17572	5.30%	5.92%	No. Breaker was overstressed before the project. The added overstressed due to this project was under 5% and the resulting total overstress does not exceed 25%
Pittsburg	52,499	59,490	13.32%	452	230000	30000	50204	4.57%	18.50%	Yes. This project added more than 5% overstress to the breaker
Pittsburg	55,397	62,404	12.65%	472	230000	20000	45900	20.69%	35.96%	Yes. This project added more than 5% overstress and the resultant overstress is greater than 25%
Pittsburg	47,411	53,329	12.48%	672	230000	20000	45900	3.29%	16.19%	Yes. This project added more than 5% overstress to the breaker

Short Circuit Currents (Amps)												
	Contra Costa PP 230 kV Bus		Pittsburg PP 230 kV Bus		San Jose 'B' 115 kV Bus		Tesla 230 kV Bus E		Tesla 500kV Bus		Vaca Dixon 230 kV Bus	
	3LG	1LG	3LG	1LG	3LG	1LG	3LG	1LG	3LG	1LG	3LG	1LG
GIPR Projects On	56700	61525	58644	62491	30085	27023	62796	68117	44445	39602	52021	50912
Group 1 Projects												
Q171 Project Off	56494	61441	58620	62472	30081	27021	62765	68078	44074	39278	51130	49478
Difference	206	84	24	19	4	2	31	39	371	324	891	1434
Q222 Project Off	56427	61305	58635	62484	30083	27022	62789	68112	44434	39594	51955	50871
Difference	273	220	9	7	2	1	7	5	11	8	66	41
Q257 Project Off	56640	61477	57996	61990	30080	27020	62776	68102	44412	39578	51809	50773
Difference	60	48	648	501	5	3	20	15	33	24	212	139
Q258 Project Off	53220	57714	58581	62443	30072	27016	62737	68071	44367	39552	51778	50758
Difference	3480	3811	63	48	13	7	59	46	78	50	243	154
Q269 Project Off	56649	61486	58613	62468	30065	27013	58708	61812	43163	37593	51974	50878
Difference	51	39	31	23	20	10	4088	6305	1282	2009	47	34
Q275 Project Off	55929	60913	58549	62418	30076	27006	62604	67962	43981	39196	45748	43987
Difference	771	612	95	73	9	17	192	155	464	406	6273	6925
Q305 Project Off	51333	54165	58551	62420	30065	27013	62711	68051	44338	39535	51765	50750
Difference	5367	7360	93	71	20	10	85	66	107	67	256	162
Q320 Project Off	52356	55322	58559	62434	30069	27015	62728	68065	44360	39549	51818	50738
Difference	4344	6203	85	57	16	8	68	52	85	53	203	174
Q322 Project Off	56614	61457	53101	55942	30067	27014	62750	68082	44385	39567	51972	50880
Difference	86	68	5543	6549	18	9	46	35	60	35	49	32
Q334 Project Off	56648	61484	58636	62484	30082	27022	62749	68074	44399	39566	52012	50906
Difference	52	41	8	7	3	1	47	43	46	36	9	6
Q378 Project Off	56664	61498	58607	62464	29637	26788	62744	68078	44396	39576	52010	50905
Difference	36	27	37	27	448	235	52	39	49	26	11	7
Q417 Project Off	56685	61515	58546	62402	30081	27021	62780	68102	44417	39577	52016	50908
Difference	15	10	98	89	4	2	16	15	28	25	5	4

Group 4 Projects												
Q259 Project Off	56697	61523	58640	62487	30083	27022	62709	68049	44415	39583	52009	50905
Difference	3	2	4	4	2	1	87	68	30	19	12	7
Q379 Project Off	56698	61522	58639	62488	30081	27021	62788	68089	44442	39596	52007	50908
Difference	2	3	5	3	4	2	8	28	3	6	14	4
Group 5 Project												
Q250 Project Off	56691	61517	58640	62487	30085	27022	62789	68112	44429	39588	51858	50798
Difference	9	8	4	4	0	1	7	5	16	14	163	114
Group 6 Project												
Q321 Project Off	56699	61524	58644	62490	30085	27023	62787	68111	44427	39590	51996	50904
Difference	1	1	0	1	0	0	9	6	18	12	25	8

Station	CB	kV	Cost Allocation													TOTAL COST
			Q171	Q222	Q257	Q258	Q269	Q275	Q305	Q320	Q322	Q334	Q378	Q417	Q250	
Contra Costa PP	630	230														
	640	230														
	650	230														
	660	230														
	670	230														
	680	230														
	690	230														
Total Overstressed	7		\$ 1,877,011	\$ 225,241		\$ 1,952,092		\$ 2,365,034	\$ 2,293,708	\$ 1,786,915						\$ 10,500,001
Pittsburg PP	452	230														
	472	230														
	492	230														
	672	230														
	7				\$ 2,908,938						\$ 3,091,062					\$ 6,000,000
San Jose 'B'	132	115														
	1												\$ 1,500,000			\$ 1,500,000
Tesla	542	500														
	612	500														
	642	500														
	3		\$ 1,420,253				\$ 1,054,680	\$ 1,789,519	\$ 1,735,549							\$ 6,000,001
Tesla Bus		230					\$ 11,124,538	\$ 18,875,462								\$ 30,000,000
Vaca Dixon	442	230														
	452	230														
	462	230														
	492	230														
Total Overstressed	4		\$ 869,061		\$ 999,421	\$ 903,824		\$ 1,095,017	\$ 1,061,993	\$ 827,346					\$ 243,337	\$ 5,999,999
TOTAL			\$ 4,166,325	\$ 225,241	\$ 3,908,359	\$ 2,855,916	\$ 12,179,218	\$ 24,125,032	\$ 5,091,250	\$ 2,614,261	\$ 3,091,062	\$ -	\$ 1,500,000	\$ -	\$ 243,337	\$ 60,000,001

Cost/230 KV Breaker	\$ 1,500,000
Cost/500 KV Breaker	\$ 2,000,000
Cost to rearrange 230 kV lines at Tesla	\$ 30,000,000

Check	\$ 60,000,001
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Appendix I

Deliverability Study Results

Deliverability Study Results for Transition Cluster Projects in the Greater Bay Area

1. 2013 Summer Peak Conditions

Overloaded Facility	Worst Loading	Worst Contingency	Cat g	Generators responsible
30575 WND MSTR 230.00 kV to 38610 DELTAPMP 230.00 kV CCT 1	148%	30569 KELSO 230.0 kV To: 30570 USWP-RLF 230.0 kV Ckt 1 30570 USWP-RLF 230.0 kV To: 30571 ALTALAND 230.0 kV Ckt 1 30570 USWP-RLF 230.0 kV To: 30625 TESLA D 230.0 kV Ckt 1	B	T320GT1,T275GT1,T257GT1,T322GT1,T222,T258CT1,T305GT1,T334CT1,T171WG1
30525 C.COSTA 230.00 kV to 30575 WND MSTR 230.00 kV CCT 1	146%	30569 KELSO 230.0 kV To: 30570 USWP-RLF 230.0 kV Ckt 1 30570 USWP-RLF 230.0 kV To: 30571 ALTALAND 230.0 kV Ckt 1 30570 USWP-RLF 230.0 kV To: 30625 TESLA D 230.0 kV Ckt 1	B	T322GT1,T320GT1,T305GT1,T258CT1,T257GT1,T222,T171WG1,T275GT1,T334CT1
30452 T275SWST 230.00 kV to 30460 VACA-DIX 230.00 kV CCT 2	115%	30452 T275SWST 230.0 kV To: 30460 VACA-DIX 230.0 kV Ckt 1	B	T275GT1,T258CT1,T222,T305GT1,T320GT1,T334CT1
30452 T275SWST 230.00 kV to 30460 VACA-DIX 230.00 kV CCT 1	115%	30452 T275SWST 230.0 kV To: 30460 VACA-DIX 230.0 kV Ckt 2	B	T275GT1,T258CT1,T222,T305GT1,T320GT1,T334CT1
30525 C.COSTA 230.00 kV to 30543 ROSSTAP1 230.00 kV CCT 1	102%	30525 C.COSTA 230.0 kV To: 30544 ROSSTAP2 230.0 kV Ckt 2 30544 ROSSTAP2 230.0 kV To: 30550 MORAGA 230.0 kV Ckt 2	B	T275GT1,T320GT1,T305GT1,T258CT1,T222,T334
30540 SOBRANTE 230.00 kV to 33010 SOBRANTE 115.00 kV CCT 2	104%	30540 SOBRANTE 230.00 kV to 33010 SOBRANTE 115.00 kV CCT 1	B	T257GT1,T322GT1
30540 SOBRANTE 230.00 kV to 33010 SOBRANTE 115.00 kV CCT 1	107%	30540 SOBRANTE 230.00 kV to 33010 SOBRANTE 115.00 kV CCT 2	B	T257GT1,T322GT1
30523 CC SUB 230.00 kV to 30525 C.COSTA 230.00 kV CCT 1	106%	30452 T275SWST 230.0 kV To: 30460 VACA-DIX 230.0 kV Ckt 1 30452 T275SWST 230.0 kV To: 30460 VACA-DIX 230.0 kV Ckt 2	C	T258CT1,T275GT1,T222
30570 USWP-RLF 230.00 kV to 30625 TESLA D 230.00 kV CCT 1	144%	30452 T275SWST 230.0 kV To: 30460 VACA-DIX 230.0 kV Ckt 1 30452 T275SWST 230.0 kV To: 30460 VACA-DIX 230.0 kV Ckt 2	C	T320GT1,T305GT1,T258CT1,T257GT1,T275GT1,T222,T322GT1,T334CT1
30569 KELSO 230.00 kV to 30570 USWP-RLF 230.00 kV CCT 1	139%	30452 T275SWST 230.0 kV To: 30460 VACA-DIX 230.0 kV Ckt 1 30452 T275SWST 230.0 kV To: 30460 VACA-DIX 230.0 kV Ckt 2	C	T334CT1,T322GT1,T320GT1,T305GT1,T258CT1,T275GT1,T257GT1,T222
30525 C.COSTA 230.00 kV to 30565 BRENTWOD 230.00 kV CCT 1	125%	30452 T275SWST 230.0 kV To: 30460 VACA-DIX 230.0 kV Ckt 1 30452 T275SWST 230.0 kV To: 30460 VACA-DIX 230.0 kV Ckt 2	C	T305GT1,T258CT1,T320GT1,T275GT1,T257GT1,T222,T322GT1,T334

30580 ALTM MDW 230.00 kV to 30625 TESLA D 230.00 kV CCT 1	135%	30452 T275SWST 230.0 kV To: 30460 VACA-DIX 230.0 kV Ckt 1 30452 T275SWST 230.0 kV To: 30460 VACA-DIX 230.0 kV Ckt 2	C	T305GT1,T258CT1,T320GT1,T275GT1,T257GT1,T171WG1,T322GT1,T222
30585 LS PSTAS 230.00 kV to 30630 NEWARK D 230.00 kV CCT 1	135%	30565 BRENTWOD 230.0 kV To: 30569 KELSO 230.0 kV Ckt 1 30525 C.COSTA 230.0 kV To: 30575 WND MSTR 230.0 kV Ckt 1 30575 WND MSTR 230.0 kV To: 38610 DELTAPMP 230.0 kV Ckt 1	C	T275GT1,T320GT1,T305GT1, T258CT1,T222
32990 MARTNZ D 115 33016 ALHAMTP2 115 1	108%	32765 ELCRTJ1 115.0 kV To: 33010 SOBRANTE 115.0 kV Ckt 1 32765 ELCRTJ1 115.0 kV To: 32766 EL CRRTO 115.0 kV Ckt 1 32766 EL CRRTO 115.0 kV To: 33010 SOBRANTE 115.0 kV Ckt 2	C	T322GT1
35107 DUMBARTN 115.00 kV to 35120 NEWARK D 115.00 kV CCT 1	138%	30700 SANMATEO 230.0 kV To: 30527 PITSBG E 230.0 kV Ckt 1 30560 E. SHORE 230.0 kV To: 30700 SANMATEO 230.0 kV Ckt 1	C	(RCECSTG1,ESEC),T322GT1,T257GT1
35105 EASTSHRE 115.00 kV to 35107 DUMBARTN 115.00 kV CCT 1	105%	30700 SANMATEO 230.0 kV To: 30527 PITSBG E 230.0 kV Ckt 1 30560 E. SHORE 230.0 kV To: 30700 SANMATEO 230.0 kV Ckt 1	C	T322GT1
30530 CAYETANO 230.00 kV to 30537 NDUBLIN 230.00 kV CCT 1	118%	30525 C.COSTA 230.0 kV To: 30565 BRENTWOD 230.0 kV Ckt 1 30525 C.COSTA 230.0 kV To: 30575 WND MSTR 230.0 kV Ckt 1 30575 WND MSTR 230.0 kV To: 38610 DELTAPMP 230.0 kV Ckt 1	C	T305GT1,T258CT1,T320GT1,T275GT1,T222,
30567 LONETREE 230.00 kV to 30590 USWP-JRW 230.00 kV CCT 1	119%	30525 C.COSTA 230.0 kV To: 30565 BRENTWOD 230.0 kV Ckt 1 30525 C.COSTA 230.0 kV To: 30575 WND MSTR 230.0 kV Ckt 1 30575 WND MSTR 230.0 kV To: 38610 DELTAPMP 230.0 kV Ckt 1	C	T222,T275GT1,T258CT1,T305GT1,T320GT1
30537 NDUBLIN 230.00 kV to 35224 VINEYD_D 230.00 kV CCT 1	113%	30525 C.COSTA 230.0 kV To: 30565 BRENTWOD 230.0 kV Ckt 1 30525 C.COSTA 230.0 kV To: 30575 WND MSTR 230.0 kV Ckt 1 30575 WND MSTR 230.0 kV To: 38610 DELTAPMP 230.0 kV Ckt 1	C	T305GT1,T258CT1,T320GT1,T275GT1,T222
30630 NEWARK D 230.00 kV to 35219 VINEYARD 230.00 kV CCT 1	108%	30525 C.COSTA 230.0 kV To: 30565 BRENTWOD 230.0 kV Ckt 1 30525 C.COSTA 230.0 kV To: 30575 WND MSTR 230.0 kV Ckt 1 30575 WND MSTR 230.0 kV To: 38610 DELTAPMP 230.0 kV Ckt 1	C	T305GT1,T258CT1,T320GT1,T275GT1,T222
30525 C.COSTA 230.00 kV to 30585 LS PSTAS 230.00 kV CCT 1	104%	30525 C.COSTA 230.0 kV To: 30565 BRENTWOD 230.0 kV Ckt 1 30525 C.COSTA 230.0 kV To: 30575 WND MSTR 230.0 kV Ckt 1 30575 WND MSTR 230.0 kV To: 38610 DELTAPMP 230.0 kV Ckt 1	C	T275GT1,T320GT1,T305GT1, T258CT1,T222
30530 CAYETANO 230.00 kV to 30590 USWP-JRW 230.00 kV CCT 1	120%	30452 T275SWST 230.0 kV To: 30460 VACA-DIX 230.0 kV Ckt 1 30452 T275SWST 230.0 kV To: 30460 VACA-DIX 230.0 kV Ckt 2	C	T222,T275GT1,T258CT1,T305GT1,T320GT1

30580 ALTM MDW 230.00 kV to 38610 DELTAPMP 230.00 kV CCT 1	125%	30452 T275SWST 230.0 kV To: 30460 VACA-DIX 230.0 kV Ckt 1 30452 T275SWST 230.0 kV To: 30460 VACA-DIX 230.0 kV Ckt 2	C	T305GT1,T258CT1,T320GT1,T275GT1,T257GT1,T171WG1,T322GT1,T222,T334
30550 MORAGA 230.00 kV to 30554 CASTROVL 230.00 kV CCT 1	104%	30525 C.COSTA 230.0 kV To: 30585 LS PSTAS 230.0 kV Ckt 1 30525 C.COSTA 230.0 kV To: 30567 LONETREE 230.0 kV Ckt 1	C	T275GT1,T320GT1,T305GT1, T258CT1,T222,T257GT1,T322GT1
30554 CASTROVL 230.00 kV to 30631 NEWARK E 230.00 kV CCT 1	104%	30525 C.COSTA 230.0 kV To: 30585 LS PSTAS 230.0 kV Ckt 1 30525 C.COSTA 230.0 kV To: 30567 LONETREE 230.0 kV Ckt 1	C	T275GT1,T320GT1,T305GT1, T258CT1,T222,T257GT1,T322GT1
33010 SOBRANTE 115.00 kV to 33020 MORAGA 115.00 kV CCT 1	116%	32740 HILLSIDE 115.0 kV To: 33006 GRIZLYJ1 115.0 kV Ckt 1 33006 GRIZLYJ1 115.0 kV To: 33010 SOBRANTE 115.0 kV Ckt 1 33006 GRIZLYJ1 115.0 kV To: 33012 EST PRTL 115.0 kV Ckt 1 32740 HILLSIDE 115.0 kV To: 32770 GRIZZLY2 115.0 kV Ckt 1 327	C	T257GT1,T322GT1
35612 TRIMBLE 115.00 Kv to 35616 SJ B E 115.00 Kv CCT 1	107%	35620 EL PATIO 115.0 kV To: 35621 IBM-HR J 115.0 kV Ckt 1 35621 IBM-HR J 115.0 kV To: 35642 MTCALF D 115.0 kV Ckt 1 35620 EL PATIO 115.0 kV To: 35651 BAILY J3 115.0 kV Ckt 2 35642 MTCALF D 115.0 kV To: 35651 BAILY J3 115.0 kV Ckt 2	C	T378ST1

2. 2013 Summer Off-Peak Conditions

Overloaded Facility	Worst Loading	Worst Contingency	Cat g	Generators responsible
BDLSWSTA 230 - C.COSTA 230 CKT 1	114.3%	Birds Landing - Contra Costa Sub 230 kV Line and Gateway PP	B	T222, T171
BDLSWSTA 230 - CC SUB 230 CKT 1	111.5%	Birds Landing - Contra Costa 230 kV Line and Gateway PP	B	T222, T171
BDLSWSTA 230 - C.COSTA 230 CKT 1	109.6%	BUS FAULT 30523 "CC SUB" Contra Costa Sub 230 kV Bus Section 1 (Opens Contra Costa sub-Birds Landing 230 kV line and Contra Costa sub 230/115 kV txmr)	C	T222, T172
BDLSWSTA 230 - CC SUB 230 CKT 1	106.7%	BUS FAULT 30525 "C.COSTA" Contra Costa 230 kV Bus Section 2D (Opens Contra Costa-Birds Landing 230 kV line)	C	T222, T173

3. Sensitivity Analysis without the largest Network Upgrade

Upgrades	Group	Deliverable MW w/o the Highest Cost Component			
	Gen ID	Component	On Peak Deliverable MW and % of NQC	Mw curtailed	total MW
Reconductor WND MSTR - DELTAPMP 230 kV line with 1113 ACSS conductor	T171WG1	Reconductor WND MSTR - DELTAPMP 230 kV line with 1113 ACSS conductor	2567	1335	3901.6
	T222		66%		
	T257GT1				
	T258CT1				
	T275GT1				
	T305GT1				
	T320GT1				
	T322GT1				
	T334CT1				
Reconductor C.COSTA -WND MSTR 230 kV line with 1113 ACSS conductor	T171WG1	Reconductor C.COSTA - WND MSTR 230 kV line with 1113 ACSS conductor	2567	1335	3901.6
	T222		66%		
	T257GT1				
	T258CT1				
	T275GT1				
	T305GT1				
	T320GT1				
	T322GT1				
	T334CT1				
Reconductor T275SWST -VACA-DIX 230 kV line #1 with 2-795 ACSS conductor	T222	Reconductor T275SWST - VACA-DIX 230 kV line #1 with 2-795 ACSS conductor	1356	1105	2460.6
	T258CT1		55%		
	T275GT1				
	T305GT1				
	T320GT1				
	T334CT1				
Reconductor T275SWST -VACA-DIX 230 kV line #2 with 2-795 ACSS conductor	T222	Reconductor T275SWST - VACA-DIX 230 kV line #2 with 2-795 ACSS conductor	1356	1105	2460.6
	T258CT1		55%		
	T275GT1				
	T305GT1				
	T320GT1				
	T334CT1				

Loop C.COSTA -ROSSTAP1 230 kV line into CC Sub	T222	Loop C.COSTA - ROSSTAP1 230 kV line into CC Sub	2104	357	2460.6
	T258CT1		85%		
	T275GT1				
	T305GT1				
	T320GT1				
	T334CT1				
Add new 230/115 kV transformer #3 at Sobrante substation	T257GT1	Add new 230/115 kV transformer #3 at Sobrante substation	892	294	1186
	T322GT1		75%		
Reconductor USWP-RLF- TESLA D 230 kV line with 1113 ACSS conductor	T222	Reconductor USWP-RLF- TESLA D 230 kV line with 1113 ACSS conductor	2458	1189	3646.6
	T257GT1		67%		
	T258CT1				
	T275GT1				
	T305GT1				
	T320GT1				
	T322GT1				
	T334CT1				
Reconductor KELSO-USWP-RLF 230 kV line with 1113 ACSS conductor	T222	Reconductor KELSO-USWP-RLF 230 kV line with 1113 ACSS conductor	2628	1019	3646.6
	T257GT1		72%		
	T258CT1				
	T275GT1				
	T305GT1				
	T320GT1				
	T322GT1				
	T334CT1				
Reconductor C.COSTA-BRENTWOD 230 kV line with 954 ACSS conductor	T222	Reconductor C.COSTA-BRENTWOD 230 kV line with 954 ACSS conductor	2182	1271	3453
	T257GT1		63%		
	T258CT1				
	T275GT1				
	T305GT1				
	T320GT1				
	T322GT1				
Reconductor ALTM MDW-TESLA D 230 kV line with 1113 ACSS conductor	T171WG1	Reconductor ALTM MDW-TESLA D 230 kV line with 1113 ACSS conductor	2728	980	3708
	T222		74%		
	T257GT1				
	T258CT1				
	T275GT1				
	T305GT1				

	T320GT1				
	T322GT1				
Reconductor ALTM MDW- DELTAPMP 230 kV line with 1113 ACSS conductor	T171WG1	Reconductor ALTM MDW- DELTAPMP 230 kV line with 1113 ACSS conductor	2932	970	3901.6
	T222		75%		
	T257GT1				
	T258CT1				
	T275GT1				
	T305GT1				
	T320GT1				
	T322GT1				
	T334CT1				
Reconductor MORAGA-CASTROVL 230 kV line with 795 ACSS conductor	T222	Reconductor MORAGA- CASTROVL 230 kV line with 795 ACSS conductor	2940	513	3453
	T257GT1		85%		
	T258CT1				
	T275GT1				
	T305GT1				
	T320GT1				
	T322GT1				
Reconductor CASTROVL-NEWARK E 230 kV line with 795 ACSS conductor	T222	Reconductor CASTROVL- NEWARK E 230 kV line with 795 ACSS conductor	2940	513	3453
	T257GT1		85%		
	T258CT1				
	T275GT1				
	T305GT1				
	T320GT1				
	T322GT1				
Reconductor SOBRANTE-MORAGA 115 kV line with 2-477 ACSS conductor	T257GT1	Reconductor SOBRANTE- MORAGA 115 kV line with 2-477 ACSS conductor	840	346	1186
	T322GT1		71%		
Reconductor TRIMBLE-SJB E 115 kV line with 477 ACSS conductor or use SPS to drop generation	T378ST1	Reconductor TRIMBLE-SJB E 115 kV line with 477 ACSS conductor or use SPS to drop generation	17	106	123
			14%		
Construct two new switching stations in the North Dublin, Vineyard areas and loop several transmission lines as shown in the attached map in and	T222	North Dublin switching station	1467	800	2267
	T258CT1		65%		

out of these switching stations to relieve overloading of several transmission lines with limiting underground	T275GT1					
	T305GT1					
	T320GT1					

Appendix J

Allocation of Network Upgrades For Cost Estimates

Note: (1) Delivery Network Upgrades are shared based on the flow impact of each project on the Network Upgrade
(2) Reliability Network Upgrades are shared based on the MW size of each project on the Network Upgrade

Cost Allocation factors for Transition Cluster Projects in the Greater Bay Area

Upgrades	Type	Needed For	Group	Flow Impact on Network Upgrade (MW)	Cost Allocation Factor	
			Gen ID		Total Flow Impact (MW)	Cost Share
Reconductor WND MSTR - DELTAPMP 230 kV line with 1113 ACSS conductor	Delivery	Mitigation of Category B overload under several contingencies		6	390	1.4%
				2		0.6%
				30		7.7%
			T258CT1	90		22.9%
				39		9.9%
				109		27.9%
				86		22.1%
				29		7.3%
				0		0.1%
Reconductor C.COSTA -WND MSTR 230 kV line with 1113 ACSS conductor	Delivery	Mitigation of Category B overload under several contingencies		6	390	1.4%
				2		0.6%
				30		7.7%
			T258CT1	90		22.9%
				39		9.9%
				109		27.9%
				86		22.1%
				29		7.3%
				0		0.1%
Reconductor T275SWST -VACA-DIX 230 kV line #1 with 2-795 ACSS conductor	Delivery	Mitigation of Category B overload under several contingencies		3	449	0.8%
			T258CT1	64		14.2%
				245		54.6%
				72		16.0%
				57		12.7%
				8		1.8%
Reconductor T275SWST -VACA-DIX 230 kV line #2 with 2-795 ACSS conductor	Delivery	Mitigation of Category B overload under several contingencies		3	449	0.8%
			T258CT1	64		14.2%
				245		54.6%
				72		16.0%

				57		12.7%
				8		1.8%
Loop C.COSTA -ROSSTAP1 230 kV line into CC Sub	Delivery	Mitigation of Category B overloads of Contra Costa-Rosstap1 and Contra Costa- Contra Costa Sub lines under several contingencies		1	200	0.7%
			T258CT1	66		33.2%
				9		4.3%
				65		32.4%
				51		25.7%
				7		3.7%
Add new 230/115 kV transformer #3 at Sobrante substation	Delivery	Mitigation of Category B overload of existing transformer #1 and #2		44	62	70.6%
				18		29.4%
Reconductor USWP-RLF- TESLA D 230 kV line with 1113 ACSS conductor	Delivery	Mitigation of Normal and Category C overload under several contingencies		2	444	0.4%
				24		5.3%
			T258CT1	70		15.7%
				30		6.8%
				85		19.1%
				67		15.2%
				22		5.0%
				144		32.5%
Reconductor KELSO-USWP-RLF 230 kV line with 1113 ACSS conductor	Delivery	Mitigation of Normal and Category C overload under several contingencies		2	445	0.4%
				24		5.3%
			T258CT1	70		15.7%
				30		6.8%
				85		19.1%
				67		15.1%
				22		5.0%
				145		32.5%
Reconductor C.COSTA-BRENTWOD 230 kV line with 954 ACSS conductor	Delivery	Mitigation of Normal and Category C overload under several contingencies		2	301	0.6%
				24		7.9%
			T258CT1	70		23.3%
				30		10.0%
				85		28.3%
				67		22.4%
				22		7.4%
Reconductor ALTM MDW-TESLA D 230 kV line with 1113 ACSS conductor	Delivery	Mitigation of Category C overload under several contingencies		6	390	1.4%
				2		0.6%
				30		7.7%
			T258CT1	90		23.0%
				39		9.9%

				109		27.9%
				86		22.1%
				29		7.3%
Reconductor ALTM MDW-DELTAPMP 230 kV line with 1113 ACSS conductor	Delivery	Mitigation of Category C overload under several contingencies		6	390	1.4%
				2		0.6%
				30		7.7%
			T258CT1	90		22.9%
				39		9.9%
				109		27.9%
				86		22.1%
				29		7.3%
				0		0.1%
				1	144	0.5%
Reconductor MORAGA-CASTROVL 230 kV line with 795 ACSS conductor	Delivery	Mitigation of Category C overload under several contingencies		31		21.6%
			T258CT1	24		16.3%
				21		14.4%
				25		17.7%
				20		14.0%
				22		15.5%
				1	144	0.5%
Reconductor CASTROVL-NEWARK E 230 kV line with 795 ACSS conductor	Delivery	Mitigation of Category C overload under several contingencies		31		21.6%
			T258CT1	24		16.3%
				21		14.4%
				25		17.7%
				20		14.0%
				22		15.5%
Reconductor SOBRANTE-MORAGA 115 kV line with 2-477 ACSS conductor	Delivery	Mitigation of Category C overload under several contingencies		68	109	62.1%
				41		37.9%
Reconductor TRIMBLE-SJB E 115 kV line with 477 ACSS conductor or use SPS to drop generation	Delivery	Mitigation of Category C overload under several contingencies		123	123	100.0%
Construct two new switching stations in the North Dublin, Vineyard areas and loop several transmission lines as shown in the attached map in and out of these switching stations to relieve overloading of several	Delivery	Mitigation of Normal, Category B and Category C overloads of the following circuits under several contingencies. 1. LS PSTAS-NEWARK D 230 KV 2. LONETREE-USWP-JRW 230 KV 3. NDUBLIN-VINEYD_D 230 KV		9	1302	0.7%
			T258CT1	357		27.4%
				151		11.6%

transmission lines with limiting underground cables. Also upgrade overhead looped lines with 954 ACSS conductors		4. NEWARK-VINEYARD 230 KV 5. C.COSTA-LS PSTAS 230 KV 6. CAYETANO-USWP-JRW 230 KV 7. LS PSTAS-NEWARK 230 KV 8. CAYETANO-NDUBLIN 230 KV		438		33.6%
				347		26.6%

Upgrades	Type	Needed For	Group	MW Size	Cost Allocation Factor	
			Gen ID		Total MW	Cost Share
Install SPS	Reliability	Mitigation of Overloading of MARTNZ D-ALHAMTP2 115 kV line under several contingencies		611	611	100.0%
Install SPS	Reliability	Mitigation of Overloading of EASTSHRE-DUMBARTN 115 kV line under several contingencies		611	611	100.0%
Install SPS	Reliability	Mitigation of Overloading of Birds Landing-Contra Costa 230 kV line in the off-peak case under several contingencies		500	1190	42.0%
				60		5.0%
				630		52.9%
Install SPS	Reliability	Mitigation of Overloading of Birds Landing-Contra Costa Sub 230 kV line in the off-peak case under several contingencies		500	1190	42.0%
				60		5.0%
				630		52.9%