
System Impact Study

Study Report

Mirant Marsh Landing, LLC
Marsh Landing Generating Station
Interconnection into PG&E's Contra Costa Substation

Preliminary Findings

September 15, 2008

Table of Contents

Introduction	3
Project Information	3
Power Flow Base Case Assumptions	3
1. Starting Power-flow Case.....	3
2. Load Pattern	3
3. Generation Pattern	3
4. Marsh Landing Project	3
5. CAISO Transmission Projects	4
6. Major California Bulk Paths.....	4
Technical Study Scope	4
Steady State Power Flow Analysis	4
Dynamic Stability Analysis	4
System Protection Analysis.....	5
Reactive Power Deficiency Analysis.....	5
Results of 2013 Summer Peak Power Flow Studies	5
Category A (All-lines-In-Service; No Contingencies)	5
Category B (N-1 Contingencies)	5
Category C (N-2 DCTL Contingencies)	5
Per-Unit Voltage Results	6
Potential Interconnection Thermal Overload Transmission Mitigation	6
1. Normally Overloaded Transmission Lines	6
2. N-1 Contingency Driven Transmission Line Overloads.....	7
3. N-2 Contingency Driven Overloads.....	7
4. Overall Potential Thermal Overload Mitigation.....	8

APPENDIX 1 – Schematics of Marsh Landing Generation Interconnection	9
APPENDIX 2 – Notable Generator Projects Modeled in Study	14
APPENDIX 3 – Detailed PG&E (Area 30) Power-flow Case Generation Information	15
APPENDIX 4 – Contingencies Evaluated in Study	24
1. [G-1] Contingencies (ISO Category “B”)	24
2. [N-1] Contingencies (ISO Category “B”)	26
3. [T-1] Contingencies (ISO Category “B”)	33
4. [N-2] Contingencies (ISO Category “C”)	35
APPENDIX 5 – Detailed Results of 2013 Summer Peak Power Flow Studies	38
APPENDIX 6 – Detailed PG&E (Area 30) Power-flow Case Load Information	61
APPENDIX 7 – Power-flow Diagrams of Detailed Results of 2013 Summer Peak Power Flow Studies	80

Introduction

Mirant Marsh Landing, LLC has requested that a comprehensive third party system interconnection study (SIS) be conducted and submitted to the California Energy Commission (CEC). The study utilizes a power-flow case developed by Pacific Gas & Electric (PG&E) and the California Independent System Operator (CAISO). Every attempt has been made to diligently follow the requirements set by the CEC for third party system impact studies. This SIS, submitted by Mirant Marsh Landing, LLC analyzes the system impacts with and without the 930MW¹ Mirant Marsh Landing Generating Station (MLGS) ultimately demonstrating conformance or non-conformance with the applicable reliability and planning criteria.

Project Information

Appendix 1 provides information on the physical layout of the proposed MLGS. The new facility houses two combustion turbine generators (208MW each) and two combined cycle generators in a 1 X 1 configuration (208MW combustion turbine and 61MW steam turbine). The project is directly interconnected to the Contra Costa Substation. A total of 930MW of net generation is expected for summer operations leaving the Marsh Landing plant total power generated (Pgen) at 954MW with an on-site load of 24MW. It is expected that all units of the proposed MLGS would be fully operational during the year 2012, with 2013 being the first full year of commercial operation for all units of the MLGS.

Power Flow Base Case Assumptions

One power flow case was used to evaluate the impacts of the proposed interconnection of the Mirant Marsh Landing generation interconnection into the PG&E's Contra Costa 230 kV Substation. The base cases represent extreme loading² and generation conditions for the Bay Area.

1. Starting Power-flow Case

A 2013 Summer Peak Full-Loop Base Case, which was developed from PG&E's 2008 Assessment base case series and reviewed by the CAISO was used as a starting case.

2. Load Pattern

Area loads were developed using the latest information available from CAISO and PG&E representing a summer 2013 1-in-10-year heat wave Bay area load level. For detailed loading information please see Appendix 6.

3. Generation Pattern

The power-flow case used in this analysis assumes that all licensed generators located in the Bay Area under construction or not under construction are available. Appendix 2 lists the notable generation projects that were included in the base cases with detailed Generation information listed in Appendix 3.

4. Marsh Landing Project

The "proposed system" configuration cases modeled Marsh Landing generation project as two, 1x1

¹ This is a net value (Pgen -Aux Loads etc.)

² PG&E Load forecast of 1 in 10 year heat wave Peak for the year 2013

combined-cycle units with two additional combustion turbines tied directly to the Contra Costa Substation by short 230kV ties. Please see Appendix 1 for detailed interconnection schematic.

5. CAISO Transmission Projects

All approved CAISO transmission project slated for release of operations by the year 2013 are modeled.

6. Major California Bulk Paths

In both pre and post project cases, every attempt was made to keep California Oregon Intertie (COI) at 4800MW(North-South) with Path 26(North-South) at 4000MW with the Pacific DC Intertie (PDCI) at 3100MW(North-South).

Technical Study Scope

The specific technical studies that were conducted are outlined in this section.

Steady State Power Flow Analysis

The base case was used to evaluate the existing system and with the proposed system configuration addition of the MLGS for normal operating conditions, as well as numerous single- and multiple-outage contingencies. Because during on-peak times, the Greater Bay Area is almost always a net import area, the study focused on the transmission facilities within the Bay Area as well as transmission facilities that interconnect overall Bay Area to the greater PG&E transmission grid. Please note that for study purposes generation tied to Contra Costa, Pittsburg, and San Francisco generation collector systems were committed and raised to full output to help aid in determining any limitations regarding the addition of the new MLGS. Additionally, generation located in the southern portion of the Bay Area and at Moss Landing was decreased to most stress the Newark – Metcalf transmission corridor.

The single (ISO Category “B”) and selected multiple (ISO Category “C”) contingencies evaluated in this study are listed in Appendix 4. These contingencies include the following types of outages:

ISO Category “B”

- ✓ All single generator outages within the Bay Area.
- ✓ All single transmission circuit outages within the Bay Area. This includes 500 kV³, 230 kV and 115 kV and 60 kV circuits.
- ✓ All single transformer outages within the Bay Area.

ISO Category “C”

- ✓ Outages of double-circuit tower lines (115 and 230 kV) within the Bay area.

Dynamic Stability Analysis

Dynamic stability studies were not required by the CEC for this phase of study and were not conducted as part of this interconnection study.

³ Bulk 500kV outages were studied in this power-flow analysis in an effort to provide added perspective. Post-Transient analysis is the preferred method of study of Bulk 500kV outages.

System Protection Analysis

Short-circuit studies were not required by the CEC for this phase of study and were not conducted as part of this interconnection study.

Reactive Power Deficiency Analysis

Post-transient studies were not required by the CEC for this phase of study and were not conducted as part of this interconnection study; however, pre- and post-contingency per-unit voltages were noted in both pre and post project power flow cases.

Results of 2013 Summer Peak Power Flow Studies

The 2013 base case developed to study the proposed interconnection of the MLGS into the Contra Costa Substation was evaluated under all-lines-in-service conditions (Category A) and under a comprehensive set of Category B and C contingencies listed in Appendix 4. Detailed results of the power flow studies are presented in Appendices 4 for 2013 Summer Peak conditions.

Category A (All-lines-In-Service; No Contingencies)

In reviewing the detailed 2013 Summer Peak Power-flow analysis results, four Category A normal overloads were noted in the post-project results and not in the existing pre-project results.

OVERLOADED ELEMENT	PRE N PCT	POST N PCT	N DELTA	N RATE	UNIT	ELEMENT TYPE
CONTRA COSTA-BRENTWOOD 230kV LINE	80.0	108.7	28.8	826	Amps	Line
CONTRA COSTA-WIND MASTER 230kV LINE	80.0	104.8	24.9	826	Amps	Line
DELTA PUMP-WIND MASTER 230kV LINE	80.0	104.5	24.6	826	Amps	Line
LAS POSITAS-NEWARK D 230kV LINE	80.0	101.1	21.2	743	Amps	Line

Category B (N-1 Contingencies)

The 2013 Summer Peak Power-flow analysis found only three Category B overloads that were not present in the existing, pre-project system.

OUTAGE DESCRIPTION	OVERLOADED ELEMENT	PRE E PCT	POST E PCT	E DELTA	E RATE	UNIT	ELEMENT TYPE
N-1 CONTRA COSTA-LS PSTAS 230kV LINE	CAYETANO-USWP-JRW 230kV LINE	81.5	103.6	22.2	1005	Amps	Line
N-1 CONTRA COSTA-LS PSTAS 230kV LINE	LONETREE-USWP-JRW 230kV LINE	81.7	103.9	22.1	1005	Amps	Line
N-1 LONETREE-CONTRA COSTA 230kV LINE	LAS POSITAS-NEWARK D 230kV LINE	80.0	110.4	30.4	851	Amps	Line
N-1 CAYETANO-LONETREE 230kV LINE		80.0	106.7	26.7	851	Amps	Line
N-1 CAYETANO-NDUBLIN 230kV LINE		80.0	105.5	25.5	851	Amps	Line
N-1 NDUBLIN-VINYARD 230kV LINE		80.0	104.3	24.3	851	Amps	Line

Category C (N-2 DCTL Contingencies)

As a part of the 2013 Summer Peak Power-flow analysis several Category C type contingencies or N-2's were modeled. Many contingency overloads were found in the 2013 Summer Peak Power-flow analysis – in both pre-project and post-project power flow cases. (The entire list of Category C contingency overloads is given in Appendix 5.) The following table below lists emergency overloads relating to the modeling of Category C contingencies noted only in the post-project case results.

OUTAGE DESCRIPTION	OVERLOADED ELEMENT	PRE E PCT	POST E PCT	E DELTA	E RATE	UNIT	ELEMENT TYPE
N-2 C.COSTA - MORAGA 230kV #1 & #2 LINES	DELTA PUMP-ALTM MDW 230kV LINE	80.0	108.6	28.6	1130	Amps	Line
N-2 CONTRA COSTA - LOS PSTAS & CONTRA COSTA - CAYETANO 230kV LINES		80.0	118.1	38.1	1130	Amps	Line
N-2 NORTH DUBLIN - VINYARD & CONTRA COSTA - LOS PASITAS 230kV LINES		80.0	112.4	32.4	1130	Amps	Line
N-2 NORTH DUBLIN - VINYARD & LOS PASITAS - NEWARK 230kV LINES		80.0	103.8	23.8	1130	Amps	Line
N-2 C.COSTA - MORAGA 230kV #1 & #2 LINES	ALTM MDW-TESLA D 230kV LINE	80.0	108.5	28.5	1130	Amps	Line
N-2 CONTRA COSTA - LOS PSTAS & CONTRA COSTA - CAYETANO 230kV LINES		80.0	118.0	38.0	1130	Amps	Line
N-2 NORTH DUBLIN - VINYARD & CONTRA COSTA - LOS PASITAS 230kV LINES		80.0	112.4	32.4	1130	Amps	Line
N-2 NORTH DUBLIN - VINYARD & LOS PASITAS - NEWARK 230kV LINES		80.0	103.7	23.7	1130	Amps	Line
N-2 C.COSTA - MORAGA 230kV #1 & #2 LINES	CONTRA COSTA-BRENTWOOD 230kV LINE	80.0	105.0	25.0	1130	Amps	Line
N-2 CONTRA COSTA - LOS PSTAS & CONTRA COSTA - CAYETANO 230kV LINES		80.0	112.5	32.5	1130	Amps	Line
N-2 NORTH DUBLIN - VINYARD & CONTRA COSTA - LOS PASITAS 230kV LINES		80.0	108.1	28.1	1130	Amps	Line
N-2 NORTH DUBLIN - VINYARD & LOS PASITAS - NEWARK 230kV LINES		80.0	101.2	21.2	1130	Amps	Line
N-2 C.COSTA - MORAGA 230kV #1 & #2 LINES	CONTRA COSTA-WIND MASTER 230kV LINE	80.0	108.9	28.9	1130	Amps	Line
N-2 CONTRA COSTA - LOS PSTAS & CONTRA COSTA - CAYETANO 230kV LINES		80.0	118.4	38.4	1130	Amps	Line
N-2 LS PSTAS - NEWARK & VINEYARD - NEWARK 230kV LINES		80.0	100.2	20.2	1130	Amps	Line
N-2 NORTH DUBLIN - VINYARD & CONTRA COSTA - LOS PASITAS 230kV LINES		80.0	112.8	32.8	1130	Amps	Line
N-2 NORTH DUBLIN - VINYARD & LOS PASITAS - NEWARK 230kV LINES	CASTROVL-MORAGA 230kV LINE	80.0	104.1	24.1	1130	Amps	Line
N-2 CONTRA COSTA - LOS PSTAS & CONTRA COSTA - CAYETANO 230kV LINES		82.2	101.2	19.0	1021	Amps	Line
N-2 C.COSTA - MORAGA 230kV #1 & #2 LINES	CAYETANO-NDUBLIN 230kV LINE	80.0	101.7	21.7	1004	Amps	Line
N-2 C.COSTA - MORAGA 230kV #1 & #2 LINES	CAYETANO-USWP-JRW 230kV LINE	82.8	107.2	24.4	1005	Amps	Line
N-2 TESLA - KELSO & TESLA - DELTAPUMP 230kV LINES		80.0	104.8	24.8	1005	Amps	Line
N-2 EI CERETO - SOBRANTE 115kV #1 & #2 LINES	CHRISTIE-SOBRANTE 115kV LINE	98.8	100.7	2.0	523	Amps	Line
N-2 C.COSTA - MORAGA 230kV #1 & #2 LINES	DELTA PUMP-WIND MASTER 230kV LINE	80.0	108.8	28.8	1130	Amps	Line
N-2 CONTRA COSTA - LOS PSTAS & CONTRA COSTA - CAYETANO 230kV LINES		80.0	118.3	38.3	1130	Amps	Line
N-2 LS PSTAS - NEWARK & VINEYARD - NEWARK 230kV LINES		80.0	100.0	20.0	1130	Amps	Line
N-2 NORTH DUBLIN - VINYARD & CONTRA COSTA - LOS PASITAS 230kV LINES		80.0	112.7	32.7	1130	Amps	Line
N-2 NORTH DUBLIN - VINYARD & LOS PASITAS - NEWARK 230kV LINES	LONETREE 230-USWP-JRW 230kV LINE	80.0	104.0	24.0	1130	Amps	Line
N-2 C.COSTA - MORAGA 230kV #1 & #2 LINES		83.1	107.5	24.4	1005	Amps	Line
N-2 TESLA - KELSO & TESLA - DELTAPUMP 230kV LINES	LAS POSITAS-NEWARK D 230kV LINE	80.0	105.0	25.0	1005	Amps	Line
N-2 C.COSTA - MORAGA 230kV #1 & #2 LINES		81.3	115.9	34.7	851	Amps	Line
N-2 CASTROVL - NEWARK & TASSAJAR - NEWARK 230kV LINES		80.0	100.2	20.2	851	Amps	Line
N-2 CAYETANO - NDUBLIN & CONTRA COSTA - CAYETANO 230kV LINES		80.0	108.5	28.5	851	Amps	Line
N-2 LOS ESTEROS - METCALF & TESLA - NEWARK 230kV #2 LINES		80.0	101.2	21.2	851	Amps	Line
N-2 TESLA - KELSO & TESLA - DELTAPUMP 230kV LINES		80.0	113.5	33.5	851	Amps	Line
N-2 TESLA - NEWARK & TESLA - RAVENSWOOD 230kV LINES	SAN JOSE B E-TRIMBLE 115kV LINE	80.0	101.6	21.6	851	Amps	Line
N-2 METCALF - EVERGREEN - STONE - GE #2 & METCALF-EVERGREEN #1 115kV LINES		99.5	105.1	5.6	924	Amps	Line
N-2 NORTHERN - SCOTT #1 & #2 115kV LINES		95.5	104.3	8.8	924	Amps	Line

Per-Unit Voltage Results

Although post-transient studies are typically the best when analyzing voltage for true transmission grid performance; however, both reactive margin and detailed voltage analysis were not completed or a part of this study. Review of per-unit voltages both pre and post contingency and both pre- and post-project is noted while post-processing the power-flow results. Detailed information regarding voltage can be found in Appendix 5 under per-unit voltage results section. As expected, the addition of the 930MW MLGS adds a significant amount of dynamic reactive capability to the Bay Area ultimately improving voltages.

Potential Interconnection Thermal Overload Transmission Mitigation

Information outlined in this section describes potential transmission overload mitigation options for transmission overloads associated with the MLGS interconnection.

1. Normally Overloaded Transmission Lines

Power-flow study results show the Contra Costa – Brentwood 230kV Line, Contra Costa -Wind Master-Delta Pump 230kV Line, and the Las Positas – Newark 230kV Line power flows above their respective normal equipment ratings under all-lines-in-service conditions (no contingencies). Mitigation of normally overloaded transmission elements such as transmission lines typically involves a request for a re-rate of the equipment. In this case, PG&E would determine the technical feasibility of a re-rate request. In the event the transmission line re-rate request is infeasible, then the next step could involve reconductoring

the normally overloaded transmission line or de-rating the overall MLGS plant size. PG&E and the CAISO have three tools in their normal rating overload mitigation tool box⁴:

- ✓ Transmission line re-rates
- ✓ Re-conductor the normally overloaded element
- ✓ De-rate the overall size of the power plant

2. N-1 Contingency Driven Transmission Line Overloads

The mitigation for power-flows in excess of a transmission element's emergency equipment rating resulting from a single contingency takes a very similar path as mitigation described above for normal overloaded transmission lines; with the additional added option of employing a special protection scheme (SPS) or remedial action scheme (RAS). SPS and RAS are only potentially available when equipment overloads are not normal all-lines-in-service and their application is consistent with the CAISO planning guidelines. The power-flow study results show power-flows on the Cayetano – Lone Tree 230kV line in excess of the lines emergency ratings resulting from the N-1 contingency of the Contra Costa - Las Positas 230kV Line. In the event a re-rate or SPS/RAS is infeasible, reconductoring of the Cayetano - Lone Tree 230kV Line or a decrease in overall Marsh Landing Plant size may be required.

3. N-2 Contingency Driven Overloads

N-2 contingency drive overloads were noted in the post project case results, but not in the pre-project case results. Typically, mitigation for N-2 does not involve re-conductoring, but could require operation mitigation or a special protection scheme.

Delta Pump-Altamira 230kV Line

Altamira -Telsa D 230kV Line

Contra Costa-Brentwood 230kV Line⁵

Contra Costa -Wind Master- Delta Pump 230kV Line⁶

Castro Valley-Moraga 230kV Line

Cayetano-NDublin 230kV Line

Cayetano-USWP-JRW- Lonetree 230kV Line⁷

Christie-Sobrante 115kV Line

Delta Pump- Wind Master 230kV Line

Las Positas – Newark 230kV Line⁸

San Jose B E-Trimble 115kV Line

⁴ Please note this stated from a very high level. Other options such as transmission re-configuration are also available.

⁵ The Contra Costa-Brentwood 230kV transmission line is identified earlier noting post-project flows exceeding both normal and emergency transmission line ratings under all-lines-in-service (N-0) and single contingencies (N-1).

⁶ Contra Costa -Wind Master- Delta Pump 230kV transmission line is identified earlier noting post-project flows exceeding its normal transmission line rating under all-lines-in-service (N-0).

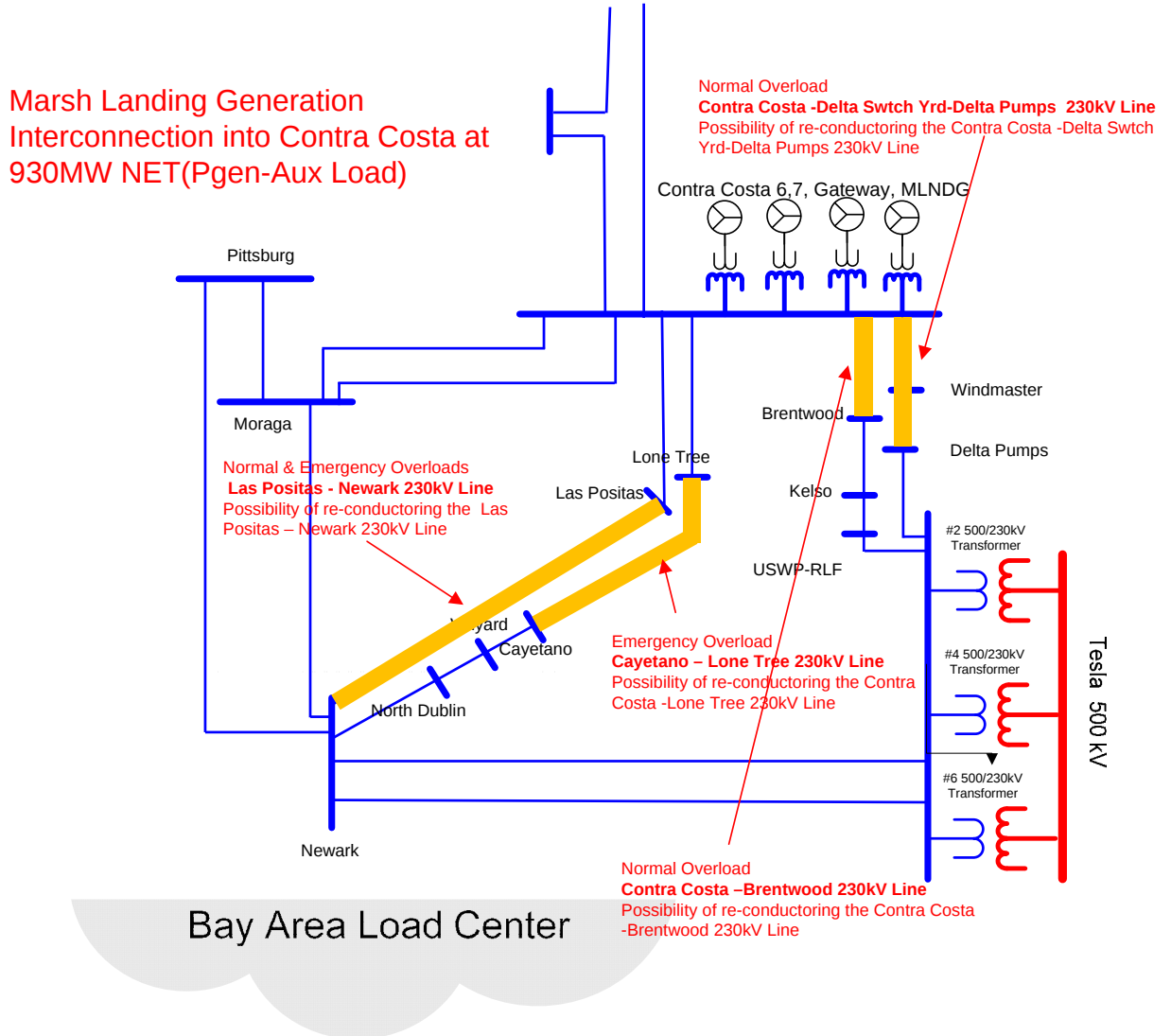
⁷ The Cayetano-Lonetree 230kV transmission line is identified earlier noting post-project flows exceeding emergency transmission line ratings under single contingencies (N-1).

⁸ The Las Positas – Newark 230kV transmission line is identified earlier noting post-project flows exceeding both normal and emergency transmission line ratings under all-lines-in-service (N-0) and single contingencies (N-1).

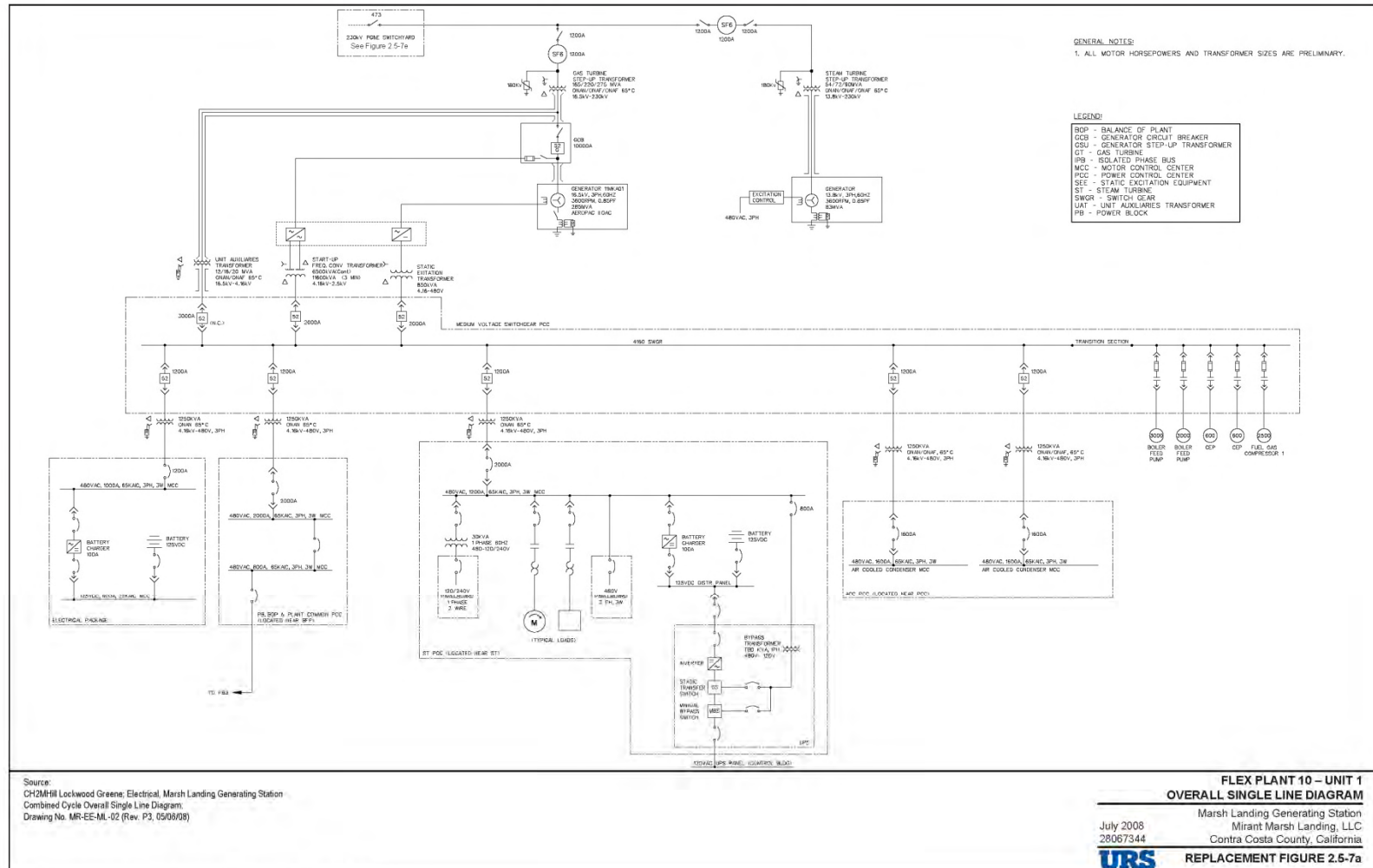
4. Overall Potential Thermal Overload Mitigation

The following transmission lines, outlined in the sketch below, will very likely require mitigation as noted above up to and possibly including reconductoring:

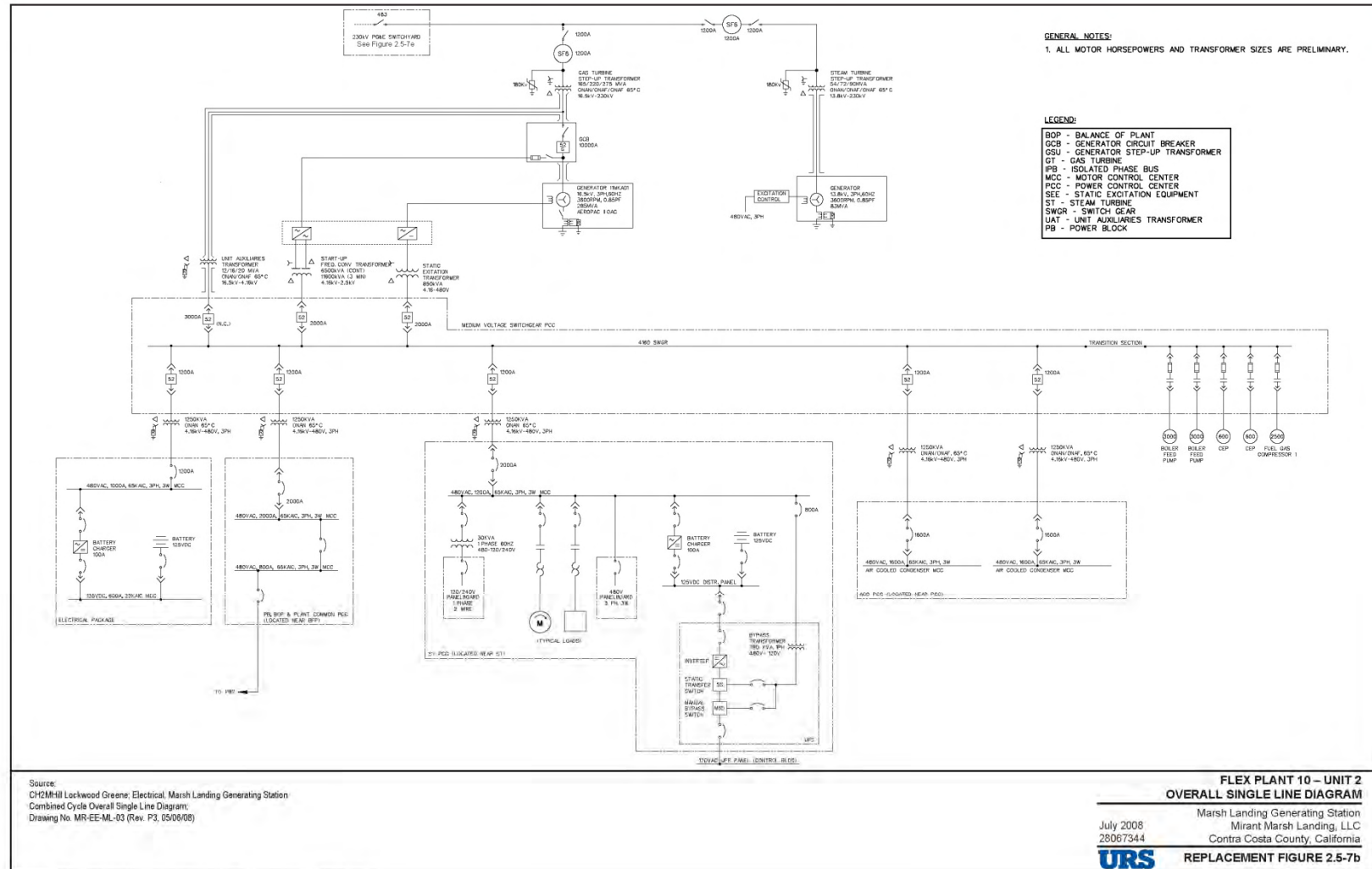
- Cayetano-USWP-JRW- Lonetree 230kV Line
- Contra Costa – Brentwood 230kV Line
- Contra Costa -Wind Master- Delta Pump 230kV Line
- Las Positas – Newark 230kV Line



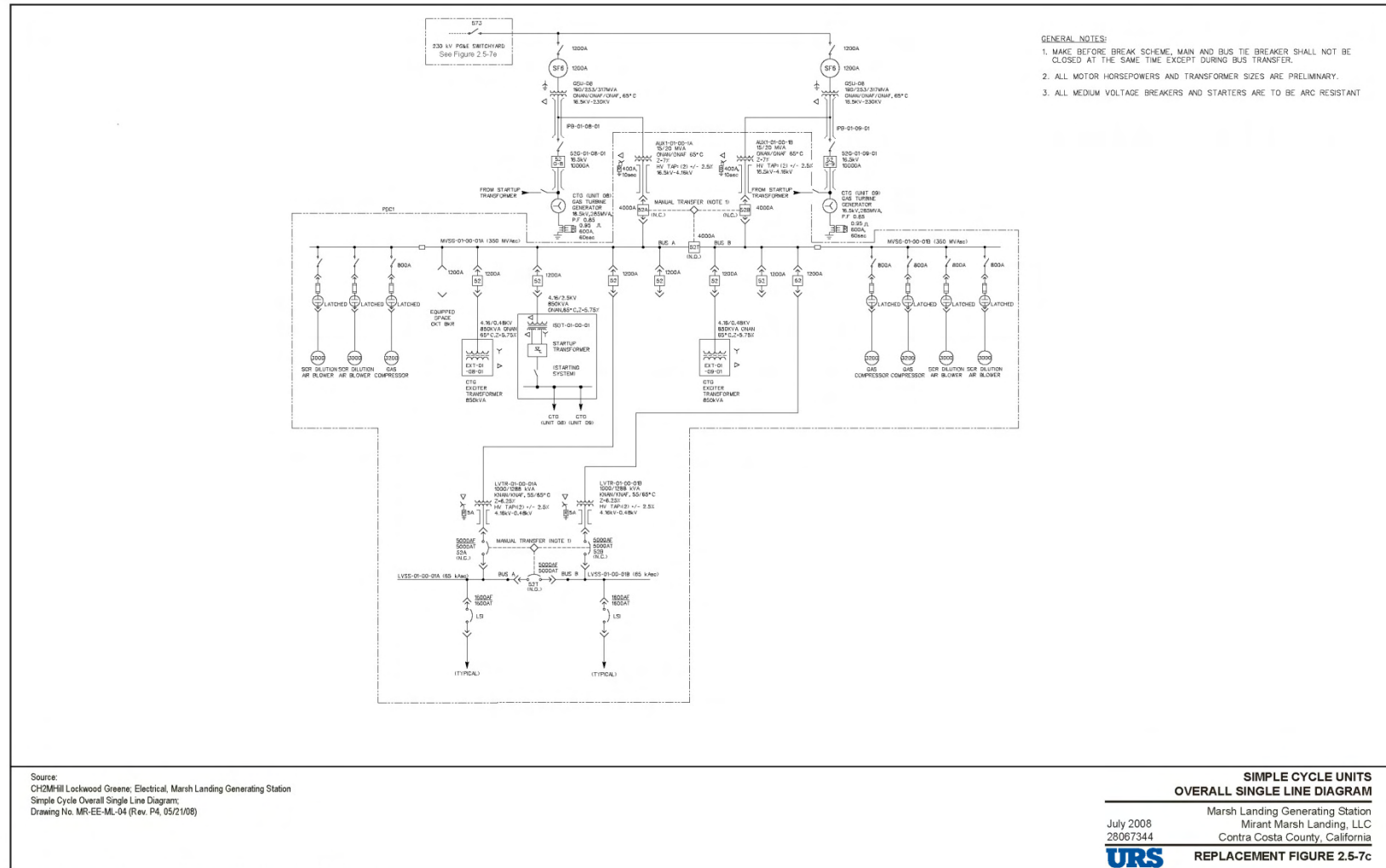
APPENDIX 1 – Schematics of Marsh Landing Generation Interconnection



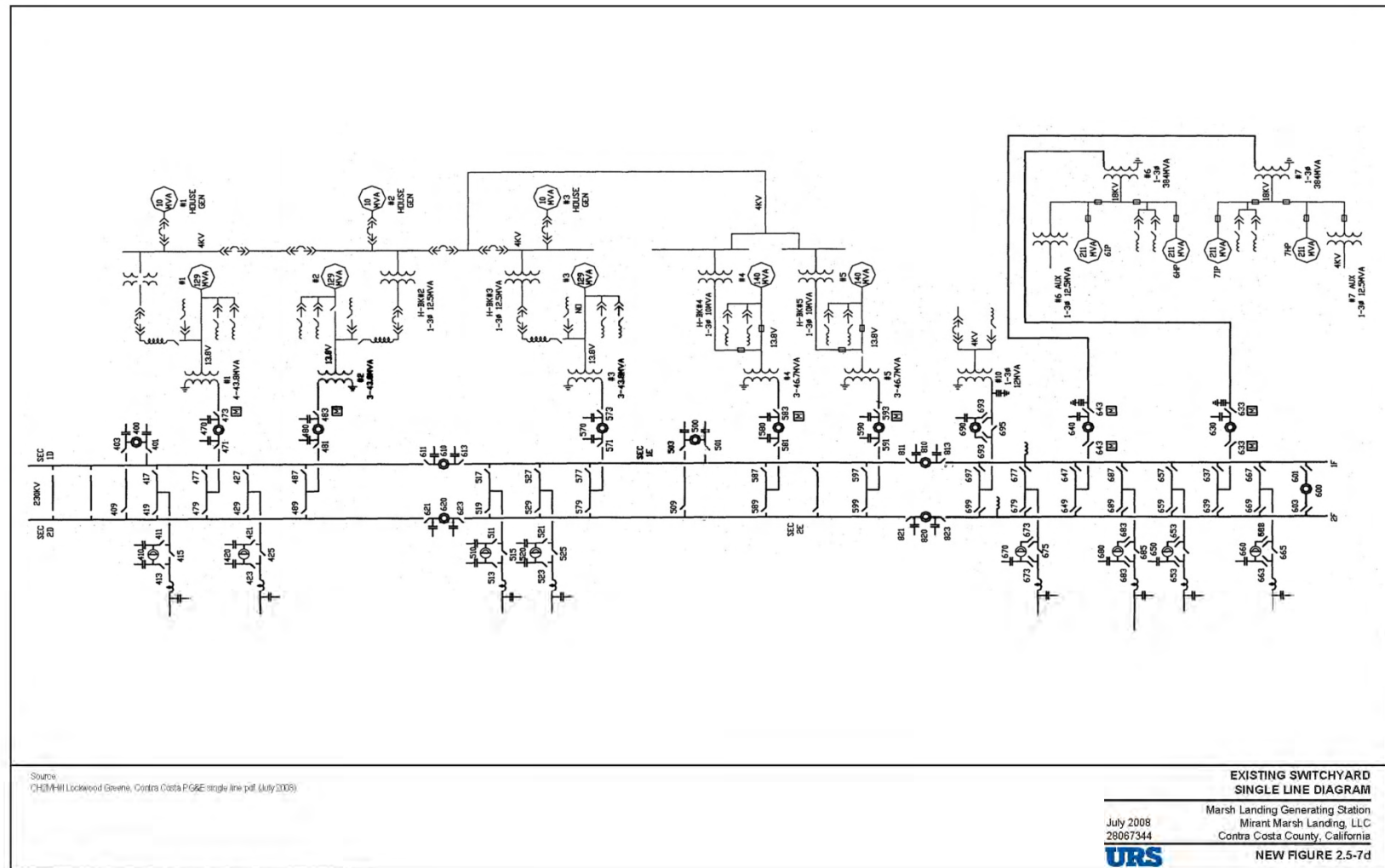
7/28/08 via EIT (Mirant Contra Costa Marsh Landing) Supersede Addendum EEP-2.5-7(F) (Unit 1)

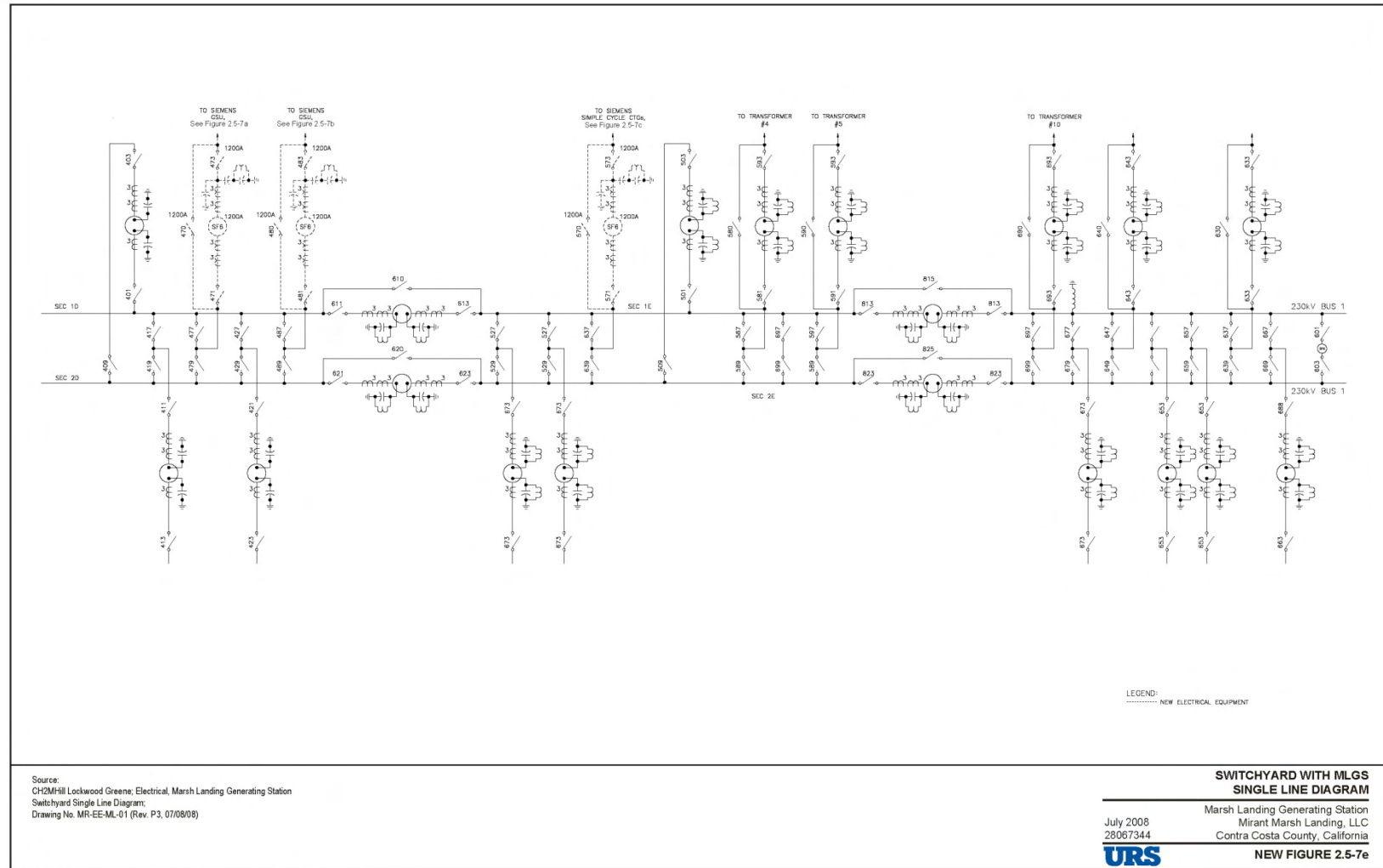


7/25/08 via: "Mirant Contra Costa Marsh Landing" Data Adequacy Supplement RFP 2.5-7b, JFPG, units, a



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APPENDIX 2 – Notable Generator Projects Modeled in Study

The power-flow case used in this analysis assumes that all licensed generators located in the Bay Area under construction or not under construction are available.

Notable Generation Projects Modeled in Study
Gateway Power Plant 530 MW
Los Esteros Critical Energy Facility Phase II (Combined Cycle interconnected to 230kV by two step-up transformer banks) 140 MW
Russell City Energy Center 600 MW
FPLE - Tesla Generation (acquisition by PG&E currently pending before CPUC): 578 MW

Notable Generation Projects <u>Not</u> Modeled in Study
CCSF Peakers (Instead all existing generation at Potrero was modeled at full-output on-line)

APPENDIX 3 – Detailed PG&E (Area 30) Power-flow Case Generation Information

BUS-NO	NAME1	KV1	ID	ST	PGEN	QGEN
34608	AGRICO	13.8	4	1	44.2	3.9
34608	AGRICO	13.8	3	1	18.1	3.9
34608	AGRICO	13.8	2	1	9	3.9
38118	ALMDACT1	13.8	1	1	22.6	12.4
38119	ALMDACT2	13.8	1	1	22.6	12.4
38564	ALMONDCT	13.8	1	1	45	15.4
33773	ALTA-CGE	60	1	1	4	-1
33175	ALTAMONT	9.11	1	0	0	0
35029	BADGERCK	13.8	1	1	46.3	2.7
36202	BAF COG1	13.8	1	1	38	18
36203	BAF COG2	13.8	1	1	75	32.9
34624	BALCH 1	13.2	1	1	31	5.7
31820	BCKS CRK	11	1	1	28	7.4
31820	BCKS CRK	11	2	1	25.2	7.4
31402	BEAR CAN	13.8	1	1	9.8	2.3
31402	BEAR CAN	13.8	2	1	9.8	2.3
34074	BEARDSLY	6.9	1	1	10.6	2
31784	BELDEN	13.8	1	1	107	24
33804	BELLTA T	13.8	1	1	0	38.4
34334	BIO PWR	9.11	1	1	21.8	7.5
34612	BLCH 2-2	13.8	1	1	52	6.3
34614	BLCH 2-3	13.8	1	1	52	11.6
31840	BLCKBUTT	9.11	1	1	2.2	-1
31421	BOTTLERK	13.8	1	1	55	10.7
32480	BOWMAN	9.11	1	1	2.5	-1
31798	BRNYFRST	13.2	1	1	26.6	3.1
38775	BUENAVS1	13.2	2	0	0	0
38775	BUENAVS1	13.2	3	0	0	0
38775	BUENAVS1	13.2	6	1	-13	0
38775	BUENAVS1	13.2	5	1	-13	0
38775	BUENAVS1	13.2	1	0	0	0
38775	BUENAVS1	13.2	4	1	-13	0
38780	BUENAVS2	13.2	3	0	0	0
38780	BUENAVS2	13.2	2	1	-6	0
38780	BUENAVS2	13.2	1	1	-13	0
38780	BUENAVS2	13.2	4	0	0	0
31780	BUTTVLLY	13.8	1	1	39.9	-1.7
33114	C.COS 4	13.8	1	0	0	26.7
33115	C.COS 5	13.8	1	0	0	36.2
33116	C.COS 6	18	1	1	330	119.9
33117	C.COS 7	18	1	1	330	119.9
33850	CAMANCHE	4.16	1	1	3.5	-2
33850	CAMANCHE	4.16	3	1	3.5	0
33850	CAMANCHE	4.16	2	1	3.5	0
37301	CAMINO 1	13.8	1	1	50	6
37302	CAMINO 2	13.8	1	1	50	5.2
37303	CAMPBEL1	13.8	1	1	100	39
37304	CAMPBEL2	13.8	1	1	50	20

BUS-NO	NAME1	KV1	ID	ST	PGEN	QGEN
35857	LECEFGT4	13.8	1	1	50	37
35858	LECEFST1	13.8	1	1	140	43.1
35310	LFC FIN+	9.11	1	0	0	0
33112	LMECCT1	18	1	1	150	6.7
33111	LMECCT2	18	1	1	150	6.7
33113	LMECST1	18	1	1	200	10.8
38120	LODI25CT	9.11	1	0	21.1	12.4
37308	LOON LK	13.8	1	1	70	6.6
31158	LP SAMOA	12.47	1	1	12	11.4
34179	MADERA_G	13.8	1	1	28.6	1.1
31764	MALCHA	13.8	1	1	12.5	16
31550	MC ARTHR	60 BV	1		7.5	-2.3
34618	MCCALL1T	13.2	1	1	0	0.6
34621	MCCALL3T	13.2	1	1	0	-5.4
37309	MCCLELLN	13.8	1	1	60	17
38352	MCCLURE1	13.8	1	1	35	2.7
38354	MCCLURE2	13.8	1	1	35	2.7
36990	MCSN CK1	13.8	1	1	25	1
36992	MCSN CK2	13.8	1	1	25	1
34320	MCSWAIN	9.11	1	1	9	2
35881	MEC CTG1	18	1	1	180	52.5
35882	MEC CTG2	18	1	1	180	52.5
35883	MEC STG1	18	1	1	200	54.1
37561	MELONE1	13.8	1	1	119	27.5
37562	MELONE2	13.8	2	0	0	0
34322	MERCEDFL	9.11	1	1	3.5	2
32456	MIDLFORK	13.8	1	1	64.5	10.6
32456	MIDLFORK	13.8	2	1	64.5	10.6
35034	MIDSUN +	13.8	1	1	24.5	15.2
99991	MIR_CT1	16.5	1	0	218.5	73.2
99993	MIR_CT2	16.5	3	0	218.5	73.2
99997	MIR_CT_1	16.5	1	1	208	59
99999	MIR_CT_2	16.5	3	1	208	59
99987	MIR_CT_3	16.5	5	1	208	60.8
99988	MIR_CT_4	16.5	6	1	208	-24.6
99992	MIR_ST1	13.8	2	0	64	21.3
99994	MIR_ST2	13.8	4	0	64	21.3
99998	MIR_ST_1	13.8	2	1	61	16.7
99984	MIR_ST_2	13.8	4	1	61	16.7
32700	MONTICLO	9.11	3	0	0	0
32700	MONTICLO	9.11	2	1	4.7	0
32700	MONTICLO	9.11	1	1	4.7	0
36407	MORRO 1	18	1	0	148	-32.1
36408	MORRO 2	18	1	0	157.3	-31.1
36409	MORRO 3	18	1	0	330	15
36410	MORRO 4	18	1	1	51	29.6
36405	MOSSLND6	22	1	0	750	64.4
36406	MOSSLND7	22	1	1	750	25.4

BUS-NO	NAME1	KV1	ID	ST	PGEN	QGEN
33463	CARDINAL	12.47	1	1	31	12.5
33463	CARDINAL	12.47	2	1	10	4
35863	CATALYST	9.11	1	1	2.3	0
36856	CCA100	13.8	1	0	24	8.3
33136	CCCS	12.47	1	1	4.4	1
33281	CCSFCT1	13.8	1	0	50.5	8.8
33282	CCSFCT2	13.8	1	0	50.5	8.8
33283	CCSFCT3	13.8	1	0	50.5	8.8
31850	CEDR FL+	9.11	2	0	0	-1.6
31850	CEDR FL+	9.11	1	0	0	-0.1
34050	CH.STN.	13.8	1	1	10	11
35052	CHEV.USA	9.11	1	1	11	3.6
32462	CHI.PARK	11.5	1	1	37.9	8.3
32510	CHILIBAR	4.16	1	1	5.5	4
35038	CHLKCLF+	9.11	1	1	43.6	24
34301	CHOWCOGN	13.8	1	1	48	-5.2
35032	CHV-CYMR	9.11	1	1	13.5	-0.1
34652	CHV.COAL	9.11	2	1	8	4
34652	CHV.COAL	9.11	1	1	2.5	8.3
34305	CHWCHLA2	13.8	1	1	12.5	7.3
36205	CIC COGN	12.47	1	1	28	10.5
31872	CLOVER	9.11	1	1	0.6	0.1
32470	CMP.FARW	9.11	1	1	4.6	-2.5
31838	CNTRVL12	9.11	2	0	0	0
31838	CNTRVL12	9.11	1	1	4	0
33832	COG.CAPT	9.11	1	1	4.3	6.6
33818	COG.NTNL	12	1	1	35	18.1
31906	COLEMAN	6.6	1	1	8.7	2.2
32450	COLGATE1	13.8	1	1	147	15.5
32452	COLGATE2	13.8	1	1	147	15.5
31894	COLLINS	9.11	1	1	8.3	1.4
38102	COLLRVL1	13.8	1	1	89.3	50.6
38104	COLLRVL2	13.8	1	1	89.3	50.6
34654	COLNGAGN	9.11	1	1	34	-8.9
37321	COSUMNE1	18	1	1	165	27
37322	COSUMNE2	18	1	1	165	27
37323	COSUMNE3	16.5	1	1	170	27.2
37324	COSUMNE4	18	1	0	160	7.5
37325	COSUMNE5	18	1	0	160	7.2
37326	COSUMNE6	16.5	1	0	165	5.3
31856	COWCRK	9.11	2	1	0.8	0
31856	COWCRK	9.11	1	0	0	0
33814	CPC STCN	12.47	1	1	49	17.3
31923	CPVGT1	18	1	1	199	61.4
31924	CPVGT2	18	2	1	199	61
31925	CPVST1	18	3	1	317	105
31808	CRBOU2-3	11.5	1	1	20	12.6
31808	CRBOU2-3	11.5	2	1	20	11.6

BUS-NO	NAME1	KV1	ID	ST	PGEN	QGEN
33121	MRAGA 1T	13.2	1	1	0	48
33122	MRAGA 2T	13.2	1	1	0	48
33123	MRAGA 3T	13.2	1	0	0	26.5
35036	MT POSO	13.8	1	1	44	20
38365	N.HGN DM	12	2	1	1.5	0
38365	N.HGN DM	12	1	1	1.5	0
32466	NARROWS1	11	1	1	10	3.4
32468	NARROWS2	9.11	1	1	45	1.9
35064	NAVY 35R	9.11	2	1	22	12
35064	NAVY 35R	9.11	1	1	22	12
38106	NCPA1GY1	13.8	1	1	35	3.9
38108	NCPA1GY2	13.8	1	1	35	3.9
38110	NCPA2GY1	13.8	1	1	36	3.2
38112	NCPA2GY2	13.8	1	1	36	3.2
31621	NEO REDB	13.8	1	1	50	6.1
32460	NEWCASTLE	13.2	1	0	0	1.5
37645	NIMBUS12	4.2	1	1	6	3.7
37645	NIMBUS12	4.2	2	0	0	0
32901	OAKLND 1	13.8	1	1	50	-2.1
32902	OAKLND 2	13.8	1	1	50	2.6
32903	OAKLND 3	13.8	1	1	50	1.9
35028	OILDALE	9.11	1	1	32	-10
35860	OLS-AGNE	9.11	1	1	29.6	7.2
31854	OLSEN +4	9.11	1	0	0	-0.1
34316	ONEILPMP	9.11	1	1	0.5	0
31888	OROVILLE	9.11	1	1	8.5	-2.5
32484	OXBOW F	9.11	1	1	5.4	2
33469	OX_MTN	4.16	5	0	1.9	0
33469	OX_MTN	4.16	1	0	1.9	0
33469	OX_MTN	4.16	4	0	1.9	0
33469	OX_MTN	4.16	3	0	1.9	0
33469	OX_MTN	4.16	6	0	1.9	0
33469	OX_MTN	4.16	7	0	1.9	0
33469	OX_MTN	4.16	2	0	1.9	0
34326	P0435BS1	13.8	2	1	102.5	23.3
34326	P0435BS1	13.8	1	1	102.5	23.3
34327	P0435BS2	13.8	3	1	102.5	23.3
34327	P0435BS2	13.8	4	1	102.5	23.3
31884	PAC.ENGY	9.11	1	1	9	5.5
31152	PAC.LUMB	13.8	2	1	12.5	-5.5
31152	PAC.LUMB	13.8	1	1	12.5	-5.5
31153	PAC.LUMB	2.4	3	1	7.5	0.3
33848	PARDE 2	7.2	1	1	8	-1.5
33842	PATTERSN	9.11	4	0	0	0
33842	PATTERSN	9.11	3	0	0	0
33842	PATTERSN	9.11	1	0	0	0
33842	PATTERSN	9.11	2	0	0	0
31892	PE.WWOOD	9.11	1	1	10.5	4

BUS-NO	NAME1	KV1	ID	ST	PGEN	QGEN
31810	CRBU 1	11.5	1	1	20	-6
31782	CRBU 4-5	13.8	2	1	56	16
31782	CRBU 4-5	13.8	1	1	55	16
32900	CRCKTCOG	18	1	1	240	46.8
32175	CREEDGT1	13.8	3	1	46.3	-5.2
31812	CRESTA	11.5	1	1	28	7.6
31812	CRESTA	11.5	2	1	28	7.6
31842	CSC HYDR	9.11	2	1	0.3	0
31842	CSC HYDR	9.11	1	0	0	-1
32164	CTY FAIR	9.11	2	1	1.5	0.1
32164	CTY FAIR	9.11	1	1	0.8	0.1
32921	ChevGen1	13.8	1	1	54	34.2
32922	ChevGen2	13.8	1	1	54	34.2
36854	Cogen	12	1	1	3.3	-1.9
36854	Cogen	12	2	1	3.5	-1.9
38562	DAWSON	4.16	1	1	3.3	0
31898	DE SABLA	6.9	1	1	14.5	1.8
31862	DEADWOOD	9.11	1	0	0	0.2
33108	DEC CTG1	18	1	1	200	56.6
33109	DEC CTG2	18	1	1	200	56.6
33110	DEC CTG3	18	1	1	200	56.6
33107	DEC STG1	24	1	1	280	79.3
32474	DEER CRK	9.11	1	1	3.1	-2.2
38820	DELTA A	13.2	2	0	0	0
38820	DELTA A	13.2	1	0	0	0
38820	DELTA A	13.2	3	0	0	0
38815	DELTA B	13.2	5	0	0	0
38815	DELTA B	13.2	4	0	0	0
38770	DELTA C	13.2	7	0	0	0
38770	DELTA C	13.2	6	0	0	0
38765	DELTA D	13.2	8	0	0	0
38765	DELTA D	13.2	9	0	0	0
38760	DELTA E	13.2	10	0	0	0
38760	DELTA E	13.2	11	1	-1	0
35024	DEXEL +	13.8	1	1	27.5	16.5
34186	DG_PAN1	13.8	1	1	49	-18.7
32150	DG_VADIX	13.8	1	1	49	9.6
36411	DIABLO 1	25	1	1	1200	-22.8
36412	DIABLO 2	25	1	1	1200	-10.1
34648	DINUBA E	13.8	1	1	11	6.9
35062	DISCOVERY	13.8	1	1	44	22
34058	DONNELLS	13.8	1	1	64.2	-7.8
38550	DONPDRO1	13.8	1	1	35	1.2
38552	DONPDRO2	13.8	1	1	35	0.5
38350	DONPDRO3	13.8	1	1	49.9	-0.8
38554	DONPDRO4	13.8	1	1	20	0.5
38750	DOS AMG1	13.2	2	1	-30	0
38750	DOS AMG1	13.2	3	1	-30	0

BUS-NO	NAME1	KV1	ID	ST	PGEN	QGEN
38720	PINE FLT	13.8	2	0	0	20.8
38720	PINE FLT	13.8	3	0	0	13.9
38720	PINE FLT	13.8	1	1	57	23.3
31818	PIT 1 U1	11	2	1	20	-23.7
31818	PIT 1 U1	11	1	1	20	-23.5
31802	PIT 3	11.5	3	1	18	2.5
31802	PIT 3	11.5	1	1	18	2.5
31802	PIT 3	11.5	2	1	18	2.5
31766	PIT 4	13.8	2	1	44	3.7
31766	PIT 4	13.8	1	1	44	3.7
31804	PIT 5 U1	11.5	2	1	35	2.9
31804	PIT 5 U1	11.5	1	1	35	2.9
31806	PIT 5 U2	11.5	2	1	35	2.9
31806	PIT 5 U2	11.5	1	1	35	2.9
31772	PIT 6 U1	13.8	1	1	35	3.7
31774	PIT 6 U2	13.8	1	1	35	3.7
31776	PIT 7 U1	13.8	1	1	52	5.7
31778	PIT 7 U2	13.8	1	1	52	5.7
31890	PO POWER	9.11	2	1	7	-2.5
31890	PO POWER	9.11	1	1	7	-2.5
31790	POE 1	13.8	1	1	56	20.6
31792	POE 2	13.8	1	1	56	20.6
33252	POTRERO3	20	1	1	210	65.9
33253	POTRERO4	13.8	1	1	50	2.9
33254	POTRERO5	13.8	1	1	50	2.9
33255	POTRERO6	13.8	1	1	50	3
31433	POTTRVLY	2.4	4	0	0	0
31433	POTTRVLY	2.4	3	0	0	0
31433	POTTRVLY	2.4	1	1	3.2	1.5
33846	PRDE 1-3	7.2	1	0	0	1.2
33846	PRDE 1-3	7.2	2	1	8	2
37310	PROCTER1	13.8	1	1	40	15
37311	PROCTER2	13.8	1	1	30	15
37312	PROCTER3	13.8	1	1	40	15
37313	PROCTER4	13.8	1	1	40	20
35066	PSE-BEAR	9.11	1	1	43.3	1.3
35058	PSE-LVOK	9.11	1	1	43.1	-4.3
35060	PSEMCKIT	9.11	1	1	42.6	22.7
36217	PSWTSTCM	8	1	1	0	28.5
33105	PTSB 5	18	1	1	325	118.6
33106	PTSB 6	18	1	1	325	109.8
30000	PTSB 7	20	1	1	710	206.8
32458	RALSTON	13.8	1	1	83	8.1
35304	RCECCTG1	15	1	1	180	31.9
35305	RCECCTG2	15	2	1	180	31.9
35306	RCECSTG1	18	3	1	254	44.8
37940	RDGCT 1	13.8	1	0	0	0
37941	RDGCT 2	13.8	1	0	0	0

BUS-NO	NAME1	KV1	ID	ST	PGEN	QGEN
38750	DOS AMG1	13.2	1	1	-30	0
38755	DOS AMG2	13.2	3	0	0	0
38755	DOS AMG2	13.2	1	0	0	0
38755	DOS AMG2	13.2	2	0	0	0
35023	DOUBLE C	13.8	1	1	42.5	2
33161	DOWCHEM1	13.8	1	1	15.3	3.1
33162	DOWCHEM2	13.8	1	1	22	8
33163	DOWCHEM3	13.8	1	1	22	8
32504	DRUM 1-2	6.6	1	1	12.5	4.3
32504	DRUM 1-2	6.6	2	1	12.5	4.3
32506	DRUM 3-4	6.6	2	1	13.2	4.3
32506	DRUM 3-4	6.6	1	1	12.5	4.3
32454	DRUM 5	13.8	1	1	42.5	12
32464	DTCHFLT1	11	1	1	22	9.2
32502	DTCHFLT2	6.9	1	1	24.5	4.2
36221	DUKMOSS1	18	1	0	0	16.3
36222	DUKMOSS2	18	1	0	0	16.3
36223	DUKMOSS3	18	1	0	0	15.9
36224	DUKMOSS4	18	1	0	0	16.6
36225	DUKMOSS5	18	1	0	0	16.6
36226	DUKMOSS6	18	1	0	0	16.2
36863	DVRaGT1	13.8	1	1	45	-5.3
36865	DVRaST3	13.8	1	1	30	-6.5
36864	DVRbGT2	13.8	1	1	45	-5.8
32513	ELDRADO1	21.6	1	1	10	-2.5
32514	ELDRADO2	21.6	1	1	10	-2.5
33812	ELECTRA	13.8	1	1	29	6.1
33812	ELECTRA	13.8	2	1	29	6.1
33812	ELECTRA	13.8	3	1	29	6.1
35076	ELKHIL1G	18	1	0	166.8	58.4
35077	ELKHIL2G	18	1	1	166.8	65.1
35078	ELKHIL3G	18	1	1	225.5	70
34330	ELNIDO	13.8	1	1	12.5	2.7
32168	ENXCO	9.11	2	1	40	0
34306	EXCHQUER	13.8	1	1	94.5	1.3
30464	EXXON_BH	12.47	1	1	52	26.6
31150	FAIRHAVN	13.8	1	1	15.9	2.7
33917	FBERBORD	115	1	1	3.2	-2.2
33840	FLOWD3-6	9.11	1	1	1.3	0
33840	FLOWD3-6	9.11	4	1	1.1	0
33840	FLOWD3-6	9.11	3	0	0	0
33840	FLOWD3-6	9.11	2	0	0	0
33840	FLOWD3-6	9.11	5	0	0	0
35318	FLOWDPTR	9.11	1	0	0	0
37549	FOLSOM1	13.8	1	1	50	22
37550	FOLSOM2	13.8	2	1	50	22
37551	FOLSOM3	13.8	3	1	50	22
31814	FORBSTWN	11.5	1	1	30	0.6

BUS-NO	NAME1	KV1	ID	ST	PGEN	QGEN
37942	RDGCT 3	13.8	1	1	30	0
37958	RDGCT4	13.8	1	0	0	0
37944	RDGSTTEAM	13.8	1	0	0	0
37601	REP1	13.8	1	1	50	17.8
37602	REP2	13.8	1	1	50	17.8
37603	REP3	13.8	1	1	50	17.8
35020	RIOBRAVO	9.11	1	1	8.3	2.4
38351	RIPN_1	13.8	1	1	45	-2.4
38353	RIPN_2	13.8	1	1	45	-2.4
32162	RIV.DLTA	9.11	1	0	0	-1
37314	ROBBS PK	13.8	1	1	20	8.7
31786	ROCK CK1	13.8	1	1	51	15
31788	ROCK CK2	13.8	1	1	51	23.7
32476	ROLLINSF	9.11	1	1	12	-1
38116	ROSEVCT1	13.8	1	0	16.3	9.1
38117	ROSEVCT2	13.8	1	0	16.3	9.1
33178	RVEC_GEN	13.8	1	1	50	1.5
36201	SALNR GN	13.8	1	1	32.2	1.6
33800	SALT SPS	11	1	1	8	7.8
33800	SALT SPS	11	2	1	32	9
34060	SANDBAR	13.8	1	1	14.7	5.5
34646	SANGERCO	9.11	1	1	37.5	5.2
38730	SANLUIS1	13.8	2	1	20	0
38730	SANLUIS1	13.8	1	1	20	0
38735	SANLUIS2	13.8	1	1	20	0
38735	SANLUIS2	13.8	2	1	20	0
38740	SANLUIS3	13.8	1	0	0	0
38740	SANLUIS3	13.8	2	0	0	0
38745	SANLUIS4	13.8	1	0	0	0
38745	SANLUIS4	13.8	2	0	0	0
31400	SANTA FE	13.8	1	1	64.2	5.8
31400	SANTA FE	13.8	2	0	0	0
36200	SARGCN G	13.8	1	1	33.7	3.9
35312	SEAWESTF	9.11	1	1	0.1	0
35046	SEKR	9.11	1	1	27	-5.6
33467	SFAERP	13.8	1	1	50.5	10
37575	SHASTA1	13.8	1	1	120	17.9
37576	SHASTA2	13.8	2	1	120	17.9
37577	SHASTA3	13.8	3	1	120	18.1
37578	SHASTA4	13.8	4	1	120	18.1
37579	SHASTA5	13.8	5	0	0	0
33141	SHELL 1	12.47	1	1	20	2.6
33142	SHELL 2	12.47	1	1	40	2.8
33143	SHELL 3	12.47	1	1	40	2.8
32177	SHILO	34.5	2	1	150	-67.9
32176	SHILOH	34.5	1	1	140	0
33808	SJ COGEN	13.8	1	1	45.2	24.2
35861	SJ-SCL W	9.11	1	1	5	0

BUS-NO	NAME1	KV1	ID	ST	PGEN	QGEN
31870	FORKBUTT	9.11	1	0	0	-1
31870	FORKBUTT	9.11	2	0	0	-0.6
33151	FOSTER W	12.47	2	1	45.4	24.7
33151	FOSTER W	12.47	1	1	45.4	24.7
33151	FOSTER W	12.47	3	1	35	21
32451	FREC	13.8	1	1	50	6.5
34485	FRESNOWW	12.47	1	1	9	0
34636	FRIANTDM	6.6	4	0	2.3	0.4
34636	FRIANTDM	6.6	2	1	14.7	1.5
34636	FRIANTDM	6.6	3	1	7.8	1.5
35048	FRITOLAY	9.11	1	1	4.3	3.8
32508	FRNCH MD	4.16	1	1	16.4	2.6
33118	GATEWAY1	18	1	1	200	-20.4
33119	GATEWAY2	18	1	1	195	-17.7
33120	GATEWAY3	18	1	1	195	-17.7
33830	GEN.MILL	9.11	1	1	2.5	1.5
31435	GEO.ENGY	9.11	2	1	8.9	-3
31435	GEO.ENGY	9.11	1	1	8.9	-3
31822	GERBER F	9.11	1	0	0	0
31412	GEYSER11	13.8	1	1	60	26.5
31414	GEYSER12	13.8	1	1	31	6.3
31416	GEYSER13	13.8	1	1	68	24.1
31418	GEYSER14	13.8	1	1	54	6.5
31420	GEYSER16	13.8	1	1	64	13.4
31422	GEYSER17	13.8	1	1	36	19.5
31424	GEYSER18	13.8	1	1	56	13.8
31426	GEYSER20	13.8	1	1	52	8.5
31408	GEYSER78	13.8	1	1	39	14
31408	GEYSER78	13.8	2	1	32	14
31406	GEYSR5-6	13.8	2	1	39	14.6
31406	GEYSR5-6	13.8	1	1	39	14.6
35850	GLRY COG	13.8	1	1	80.5	15.6
35850	GLRY COG	13.8	2	1	41.5	15.6
32174	GOOSEHGT	13.8	2	1	46.3	-5.2
31900	GRIZZLYG	6.9	1	1	16.8	-4
32490	GRNLEAF1	13.8	2	1	9.5	-9.7
32490	GRNLEAF1	13.8	1	1	40	-9.7
32492	GRNLEAF2	13.8	1	1	49	17.9
35851	GROYPKR1	13.8	1	1	48.7	-6.4
35852	GROYPKR2	13.8	1	1	48.7	-6.4
35853	GROYPKR3	13.8	1	1	48.7	-6.4
33131	GWF #1	9.11	1	1	12.7	-3.1
33132	GWF #2	13.8	1	1	12.3	5.7
33133	GWF #3	13.8	1	1	19	4
33134	GWF #4	13.8	1	1	18.6	3.1
33135	GWF #5	13.8	1	1	18.9	4.3
34650	GWF-PWR.	13.8	1	1	23	7
33805	GWFTRCY1	13.8	1	1	85.9	13.4

BUS-NO	NAME1	KV1	ID	ST	PGEN	QGEN
34631	SJ2GEN	9.11	1	1	2	0
34633	SJ3GEN	9.11	1	1	1	0
36209	SLD ENRG	12.47	1	0	13.4	2.5
35050	SLR-TANN	9.11	1	1	14.9	8.5
31832	SLY.CR.	9.11	1	1	9.5	-2
33462	SMATO1SC	13.2	1	1	0	25
33460	SMATO2SC	13.2	1	1	0	19.9
33461	SMATO3SC	13.2	1	1	0	20.3
31800	SMPSN-AN	12.47	1	1	42	0.7
31430	SMUDGE01	13.8	1	1	33	11.1
36414	SO VAFB	12.47	5	0	0	1.7
36414	SO VAFB	12.47	3	0	3	1.3
36414	SO VAFB	12.47	2	0	3	1.3
36414	SO VAFB	12.47	4	0	0	1.7
36414	SO VAFB	12.47	1	0	3	1.3
32169	SOLANOWP	21	1	1	99	0
31446	SONMA LF	9.11	1	1	4	0
31826	SOUTH G	4.16	1	1	6.9	-0.7
33810	SP CMPNY	13.8	1	1	37.7	14
32472	SPAULDG	9.11	2	1	4.2	-1
32472	SPAULDG	9.11	1	1	7	-2.9
32472	SPAULDG	9.11	3	1	1.7	-2
36940	SPI	2.4	1	0	10.5	0.5
31874	SPI-BURN	9.11	1	1	15.8	2.9
31880	SPI-HAYF	9.11	1	0	6.8	-2.8
31896	SPI-QUCY	9.11	1	1	19	-1.3
31896	SPI-QUCY	9.11	2	0	0	-0.6
38100	SPICER	21	1	1	3.3	-4.8
32498	SPIINCF	12.5	1	1	18.3	3.8
31471	SPI_AND1	9.1	1	1	4	-2.5
37581	SPRINGCR	13.8	2	1	91	36
37581	SPRINGCR	13.8	1	1	91	36
34078	SPRNG GP	6	1	1	3.9	3.7
33468	SRI INTL	9.11	1	1	4.3	3
37315	SRWTPA	13.8	2	1	10	8.5
37315	SRWTPA	13.8	1	1	40	8.5
37316	SRWTPB	13.8	1	1	40	12.9
36416	ST MARIA	9.11	1	1	8	5
34062	STANISLS	13.8	1	1	63.9	15
33139	STAUFER	9.11	1	1	2	-1
38114	STIG CC	13.8	1	1	48.2	24.2
33687	STKTN WW	60	1	1	1.5	0.2
34056	STNSLSRP	13.8	1	1	16.3	5.3
35004	SUNSET G	13.8	3	1	75	2.6
35004	SUNSET G	13.8	2	1	75	2.6
35004	SUNSET G	13.8	1	1	75	2.6
37521	SUTTER1	18	1	1	160	5.5
37522	SUTTER2	18	2	1	160	5.5

BUS-NO	NAME1	KV1	ID	ST	PGEN	QGEN
33807	GWFTRCY2	13.8	1	1	85.9	13.4
34539	GWF_GT1	13.8	1	1	50	-6.3
34541	GWF_GT2	13.8	1	1	50	-6.3
34431	GWF_HEP1	13.8	1	1	50	17.4
34433	GWF_HEP2	13.8	1	1	50	17.4
36858	Gia100	13.8	1	0	20.1	5.1
36895	Gia200	13.8	1	0	20.6	5.1
34610	HAAS	13.8	1	1	70	15.2
34610	HAAS	13.8	2	1	70	15.2
32478	HALSEY F	6.6	1	1	8.6	-1
31830	HAMIL.BR	9.11	2	1	2	0.1
31830	HAMIL.BR	9.11	1	1	2	0.1
31902	HAT CRK1	6.6	1	1	5	-3.1
31904	HAT CRK2	6.6	1	1	5	-3.8
31846	HATCHET+	9.11	2	1	2.5	1.3
31846	HATCHET+	9.11	3	0	0	1
31846	HATCHET+	9.11	4	0	0	2.5
31846	HATCHET+	9.11	1	0	0	2.8
31868	HATLOST+	9.11	2	0	0	-0.5
31868	HATLOST+	9.11	3	0	0	-0.2
31868	HATLOST+	9.11	1	0	0	-0.7
32488	HAYPRES+	9.11	2	1	1.9	-2.5
32488	HAYPRES+	9.11	1	0	0	-2
32486	HELLHOLE	9.11	1	0	0	0
34600	HELMS 1	18	1	1	404	20.9
34602	HELMS 2	18	1	0	404	55.7
34604	HELMS 3	18	1	0	404	101.7
34630	HERNDN1T	13.2	1	1	0	7.4
34632	HERNDN2T	13.2	1	1	0	10.4
38346	HERSHEYF	9.11	1	0	0	2.8
32171	HIGHWND3	34.5	1	1	38	0
32172	HIGHWNDS	34.5	1	1	150	0
32740	HILLSIDE	115	1	1	26	-8.7
35027	HISIERRA	13.8	1	1	47.9	2.9
31170	HMBOLDT1	13.8	1	0	50	14.5
31172	HMBOLDT2	13.8	1	0	50	13.2
36986	HOLM 1	13.8	1	1	17	2.6
36988	HOLM 2	13.8	1	1	17	2.6
36938	HONEYLKE	9.11	2	0	0	1
36938	HONEYLKE	9.11	1	1	22.1	2.1
31154	HUMBOLDT	13.2	1	0	15	0
31154	HUMBOLDT	13.2	2	0	15	0
31180	HUMB_G1	13.8	2	1	16.6	-5.5
31180	HUMB_G1	13.8	3	1	16.6	-5.5
31180	HUMB_G1	13.8	4	1	16.6	-5.5
31180	HUMB_G1	13.8	1	1	16.6	-5.5
31181	HUMB_G2	13.8	7	1	16.6	0.3
31181	HUMB_G2	13.8	6	1	16.6	0.3

BUS-NO	NAME1	KV1	ID	ST	PGEN	QGEN
37523	SUTTER3	18	3	1	160	5.5
30620	TESL_GT1	18	1	1	173	59.1
30621	TESL_GT2	18	1	1	173	59.1
30623	TESL_GT3	18	1	0	173	71.5
30629	TESL_GT4	18	1	0	173	71.5
30641	TESL_ST1	18	1	1	232	79.1
30642	TESL_ST2	18	1	0	232	94.6
34783	TEXCO_NM	9.11	1	1	5.4	5.5
34783	TEXCO_NM	9.11	2	1	2.7	5
35074	TEXSUN1G	18	1	1	169	10.8
35075	TEXSUN2G	18	1	1	169	10.8
35079	TEXSUNST	18	1	1	222	59.3
33806	TH.E.DV.	13.8	1	1	19.6	5.4
38700	THERMLT1	13.8	1	1	32	3.5
38705	THERMLT2	13.8	1	1	27	3.4
38710	THERMLT3	13.8	1	1	27	3.4
38715	THERMLT4	13.8	1	1	27	3.4
33822	TIGR CRK	11	1	1	26.7	1
33822	TIGR CRK	11	2	1	27	1
31855	TKO	9.11	3	1	0.7	1.5
31836	TOAD TWN	9.11	1	1	0.9	0
37590	TRINTY12	13.8	2	1	53	23.9
37590	TRINTY12	13.8	1	1	53	23.9
33171	TRSVQ+NW	9.11	1	0	20	0
33171	TRSVQ+NW	9.11	2	0	10	0
34076	TULLOCH	6.9	2	1	8.3	1
34076	TULLOCH	6.9	1	1	8.3	1
35044	TX MIDST	9.11	1	1	33.4	4.6
35056	TX-LOSTH	4.16	1	1	9	2.8
32166	UC DAVIS	9.11	1	1	3.5	-1.2
37320	UCDMC	12.5	1	1	25	1.1
35035	ULTR PWR	13.2	1	1	34.5	15
32500	ULTR RCK	9.11	1	1	22.1	12
34640	ULTR.PWR	9.11	1	1	14.5	13
31156	ULTRAPWR	12.47	1	0	10	3
32920	UNION CH	9.11	1	1	20.4	-9
36413	UNION OL	13.8	1	1	5	2.8
37317	UNIONVLY	13.8	1	1	40	14.2
35037	UNIVRSTY	9.11	1	1	33.7	8
32910	UNOCAL	12	2	1	15.7	8.8
32910	UNOCAL	12	1	1	15.7	8.8
32910	UNOCAL	12	3	1	15.7	8.8
33466	UNTED CO	9.11	1	1	28.2	10.2
35320	USW FRIC	12	1	1	2.6	0
35320	USW FRIC	12	2	0	0	0
33838	USWP_#3	9.11	1	0	0	0
33836	USWP_#4	9.11	2	0	0	0
33836	USWP_#4	9.11	1	0	0	0

BUS-NO	NAME1	KV1	ID	ST	PGEN	QGEN
31181	HUMB_G2	13.8	5	1	16.6	0.3
31182	HUMB_G3	13.8	9	1	16.6	0.3
31182	HUMB_G3	13.8	8	1	16.6	0.3
31182	HUMB_G3	13.8	10	1	16.6	0.3
38825	HYATT 1	12.5	1	1	117	19.4
38830	HYATT 2	12.5	1	1	97	18.1
38835	HYATT 3	12.5	1	1	117	20.3
38840	HYATT 4	12.5	1	1	97	18.9
38845	HYATT 5	12.5	1	1	117	19.9
38850	HYATT 6	12.5	1	1	97	18.5
33816	I.ENERGY	12	1	0	14.5	2.6
35637	IBM-CTLE	115	1	0	0	0
31436	INDIAN V	9.11	1	1	0.9	0
31908	INSKIP	4.16	1	1	6.9	1.5
34342	INT.TURB	9.11	1	1	1.1	0
37553	J.F.CARR	13.8	1	1	73.5	29.9
37553	J.F.CARR	13.8	2	1	73.5	29.9
37305	JAYBIRD1	13.8	1	1	60	0.7
37306	JAYBIRD2	13.8	1	1	60	0.9
31768	JBBLACK1	13.8	1	1	82	6.6
31770	JBBLACK2	13.8	1	1	83	6.6
36936	JELD-WN	9.11	1	0	1	0.1
37307	JONESFRK	4.16	1	1	9.5	1.8
34332	JRWCOGEN	9.11	1	1	3.8	5.4
33834	KALINA	9.11	1	0	0	3.3
36207	KCTYPKER	13.8	1	1	48.7	3.6
31166	KEKAWAK	4.16	1	1	4.5	3.7
31834	KELLYRDG	9.11	1	1	10	-2
34344	KERCKHOF	6.6	1	0	0	0
34344	KERCKHOF	6.6	3	0	0	0
34344	KERCKHOF	6.6	2	1	6.8	-4
34308	KERCKHOF	13.8	1	1	129	16
35006	KERN 1	13.8	1	0	0	0
35008	KERN 2	13.8	1	0	0	0
35018	KERNCNYN	9.11	1	0	10.6	3
35026	KERNFRNT	9.11	1	1	47.7	-10.4
35040	KERNRDGE	9.11	1	1	60	10
35040	KERNRDGE	9.11	2	1	9	5
37559	KESWICK1	6.9	1	1	31	5
37556	KESWICK2	6.9	2	1	31	5
37557	KESWICK3	6.9	3	0	0	0
31828	KILRC1-2	9.11	2	1	1	0
31828	KILRC1-2	9.11	1	1	1	0
34642	KINGSBUR	9.11	1	1	34	17.3
34616	KINGSRIV	13.8	1	1	47	9
36980	KIRKWD 1	13.8	1	1	19	3.1
36982	KIRKWD 2	13.8	1	1	19	3.1
36984	KIRKWD 3	13.8	1	1	19	0.1

BUS-NO	NAME1	KV1	ID	ST	PGEN	QGEN
33836	USWP_#4	9.11	3	1	4.5	0
31824	VOLTA1-2	9.11	2	1	0.9	0.3
31824	VOLTA1-2	9.11	1	1	7.8	0.3
38951	VSC_POTR	180.5	1	1	401.4	74
38950	VSC_PTSB	180.5	1	1	-413	-91.1
32154	WADHAM	9.11	1	1	22.8	2.5
35314	WALKER+	9.11	1	0	0	0
38556	WALNT1CT	13.8	1	0	24	0
38558	WALNT2CT	13.8	1	0	24	0
31852	WEBR FL+	9.11	1	0	0	0
38570	WEC1-CT	13.8	1	1	73.2	24
38574	WEC2-CT	13.8	1	1	73.2	18.9
38572	WEC3-ST	13.8	1	1	89.2	23.8
31404	WEST FOR	13.8	1	1	12.1	5.9
31404	WEST FOR	13.8	2	1	12	5.9
33820	WEST PNT	11.5	1	1	13.6	7
34553	WHD_GAT2	13.8	1	1	49	-25.3
34142	WHD_PAN2	13.8	1	1	49	-13.1
31465	WHEELBR1	9.1	3	1	16.6	-0.8
31465	WHEELBR1	9.1	1	1	16.6	-0.8
31465	WHEELBR1	9.1	4	1	7.8	-0.8
31465	WHEELBR1	9.1	2	1	16.6	-0.8
37318	WHITERK1	13.8	1	1	80	31
37319	WHITERK2	13.8	1	1	80	31.2
38785	WHLR RD1	13.2	2	0	0	0
38785	WHLR RD1	13.2	4	0	0	0
38785	WHLR RD1	13.2	3	0	0	0
38785	WHLR RD1	13.2	1	0	0	0
38785	WHLR RD1	13.2	5	0	0	0
38790	WHLR RD2	13.2	3	0	-15	0
38790	WHLR RD2	13.2	1	0	-15	0
38790	WHLR RD2	13.2	2	0	-15	0
38790	WHLR RD2	13.2	4	0	-8	0
36934	WIN&AMDE	9.11	1	0	0	2
36934	WIN&AMDE	9.11	2	1	0.6	0.1
38795	WINDGAP1	13.2	2	1	-15	0
38795	WINDGAP1	13.2	1	1	-16	0
38795	WINDGAP1	13.2	3	0	0	0
38800	WINDGAP2	13.2	1	1	-33	0
38800	WINDGAP2	13.2	2	1	-33	0
38805	WINDGAP3	13.2	2	0	0	0
38805	WINDGAP3	13.2	1	1	-33	0
38810	WINDGAP4	13.2	1	0	0	0
38810	WINDGAP4	13.2	2	0	0	0
33170	WINDMSTR	9.11	1	0	0	0
32512	WISE	12	1	1	11.1	-0.5
34658	WISHON	2.3	4	1	4.5	1
34658	WISHON	2.3	SJ	0	0	0

BUS-NO	NAME1	KV1	ID	ST	PGEN	QGEN
34671	KRCDPCT1	13.8	1	1	50	3.1
34672	KRCDPCT2	13.8	1	1	50	3.1
38560	LA GRNGE	4.16	1	1	3.2	0
32173	LAMBGT1	13.8	1	1	46.3	-6.9
35070	LAPLM_G1	21	1	0	230	74.4
35071	LAPLM_G2	21	1	1	230	77.6
35072	LAPLM_G3	21	1	1	229	77.5
35073	LAPLM_G4	21	1	1	230	77.6
35854	LECEFGT1	13.8	1	1	50	37
35855	LECEFGT2	13.8	1	1	50	37
35856	LECEFGT3	13.8	1	1	50	37

BUS-NO	NAME1	KV1	ID	ST	PGEN	QGEN
34658	WISHON	2.3	3	1	4.5	1
34658	WISHON	2.3	2	0	0	0.1
34658	WISHON	2.3	1	0	0	0.1
32185	WOLFSKIL	13.8	1	1	50	8.3
32156	WOODLAND	9.11	1	1	25	5
31794	WOODLEAF	13.8	1	1	55	0.2
38356	WOODLMID	13.8	1	1	41.1	-6.9
38357	WOODMID2	13.8	1	1	75	-17.7
32496	YCEC	13.8	1	1	50	0
32494	YUBA CTY	9.11	1	1	41.3	13.5
35316	ZOND SYS	9.11	1	0	0	0

APPENDIX 4 – Contingencies Evaluated in Study

1. [G-1] Contingencies (ISO Category “B”)

As part of this study, 99 generator contingencies were modeled. These contingencies apply to the generators in and around the Bay Area transmission system. The [G-1] contingencies that were evaluated were:

1. G-1 ALAMEDA #1 CT
2. G-1 ALAMEDA #2 CT
3. G-1 CARDINAL #1
4. G-1 CARDINAL #2
5. G-1 CATALYST
6. G-1 CCCSD
7. G-1 CHEVGEN1 13.80
8. G-1 CHEVGEN2 13.80
9. G-1 CONTRA COSTA #6
10. G-1 CONTRA COSTA #7
11. G-1 CREED
12. G-1 CROCKET
13. G-1 CSC CCA 100
14. G-1 CSC COGEN
15. G-1 CSC COGEN
16. G-1 CSC DVRaGT1
17. G-1 CSC DVRaST3
18. G-1 CSC DVRbGT2
19. G-1 CSC GIANERA 100
20. G-1 CSC GIANERA 200
21. G-1 DEC #1 CT
22. G-1 DEC #2 CT
23. G-1 DEC #3 CT
24. G-1 DEC PLANT
25. G-1 DEC STEAM UNIT
26. G-1 DOW CHEMICAL #1
27. G-1 DOW CHEMICAL #2
28. G-1 DOW CHEMICAL #3
29. G-1 FOSTER WHEELER #1
30. G-1 FOSTER WHEELER #2
31. G-1 FOSTER WHEELER #3
32. G-1 GATEWAY PLANT
33. G-1 GATEWAY UNIT 1
34. G-1 GATEWAY UNIT 2

35. G-1 GATEWAY UNIT 3
36. G-1 GILROY COGEN
37. G-1 GILROY PEAKER #1
38. G-1 GILROY PEAKER #2
39. G-1 GILROY PEAKER #3
40. G-1 GOOSEHAVEN
41. G-1 GRIZZLY (UC BERKELEY, OLS, HILLSIDE)
42. G-1 GWF #1
43. G-1 GWF #2
44. G-1 GWF #3
45. G-1 GWF #4
46. G-1 GWF #5
47. G-1 LAMBIE
48. G-1 LECEF GT1
49. G-1 LECEF GT2
50. G-1 LECEF GT3
51. G-1 LECEF GT4
52. G-1 LECEF ST
53. G-1 LMC #1 STEAM TURBINE
54. G-1 LMC CT
55. G-1 LMC CT
56. G-1 LMEC PLANT
57. G-1 MARSH LANDING PLANT
58. G-1 MEC CTG1
59. G-1 MEC CTG2
60. G-1 MEC PLANT
61. G-1 MEC STG1
62. G-1 MORAGA CONDENSER #1
63. G-1 MORAGA CONDENSER #2
64. G-1 MORAGA CONDENSER #3
65. G-1 MOSS LANDING #6
66. G-1 MOSS LANDING #7
67. G-1 OAKLAND #1
68. G-1 OAKLAND #2
69. G-1 OAKLAND #3
70. G-1 OLS AGNE
71. G-1 PITTSBURG #5
72. G-1 PITTSBURG #6
73. G-1 PITTSBURG #7
74. G-1 POTRERO #3
75. G-1 POTRERO #4 CT

- 76. G-1 POTRERO #5 CT
- 77. G-1 POTRERO #6 CT
- 78. G-1 REC CTG #1
- 79. G-1 REC CTG #2
- 80. G-1 REC PLANT
- 81. G-1 REC STG #1
- 82. G-1 RVEC
- 83. G-1 SAN MAT CONDENSER #1
- 84. G-1 SAN MAT CONDENSER #2
- 85. G-1 SAN MAT CONDENSER #3
- 86. G-1 SEAWESTF
- 87. G-1 SHELL #1
- 88. G-1 SHELL #2
- 89. G-1 SHELL #3
- 90. G-1 SJ-SCL W
- 91. G-1 SRI INTL
- 92. G-1 STAUFER
- 93. G-1 UNION CHEMICAL (TOSCO)
- 94. G-1 UNITED COGEN SFQF
- 95. G-1 UNOCAL #1
- 96. G-1 UNOCAL #2
- 97. G-1 UNOCAL #3
- 98. G-1 USW FRIC #1
- 99. G-1 USW FRIC #2

2. [N-1] Contingencies (ISO Category “B”)

As part of this study, 302 single-line contingencies were evaluated. The single-line contingencies were:

- 1. N-1 AMES - AMES DISTRIBUTION 115kV LINE
- 2. N-1 ANTIOCH - CONTRA COSTA SUB 60kV LINE
- 3. N-1 BAHIA-MORAGA 230kV LINE
- 4. N-1 BAIR - COOLEY LANDING #1 60kV LINE
- 5. N-1 BAIR - COOLEY LANDING #2 60kV LINE
- 6. N-1 BAIR - COOLEY LANDING #2 60kV LINE
- 7. N-1 BELMONT - BAIR 115kV LINE
- 8. N-1 BRENTWOOD - KELSO 230kV LINE
- 9. N-1 BRITTON - APPLIED MATERIALS 115kV LINE
- 10. N-1 C.COSTA - BRENTWOOD 230kV LINE
- 11. N-1 C.COSTA - DELTAPMP 230kV LINE
- 12. N-1 C.COSTA - LS PSTAS 230kV LINE
- 13. N-1 CASTROVL - NEWARK 230kV LINE
- 14. N-1 CAYETANO-LONETREE 230kV LINE

15. N-1 CAYETANO-NDUBLIN 230kV LINE
16. N-1 CHRISTIE - FRANKLIN 60kV #2 LINE W/FLIP-FLOP TRANSFER
17. N-1 CHRISTIE - FRANKLIN W/FLIP-FLOP TRANSFER 60kV LINE
18. N-1 CHRISTIE - SOBRANTE 115kV LINE
19. N-1 CLAREMONT - OAKLAND STATION D 115kV #1 LINE
20. N-1 CLAREMONT - OAKLAND STATION D 115kV #2 LINE
21. N-1 CLAYTON - MEADOW LANE 115kV LINE
22. N-1 CONTRA COSTA - BIRDS LANDING 230kV LINE
23. N-1 CONTRA COSTA - CONTRA COSTA 8 230kV LINE
24. N-1 CONTRA COSTA - MORAGA 230kV #1 LINE
25. N-1 CONTRA COSTA - MORAGA 230kV #2 LINE
26. N-1 CONTRA COSTA SUB - BALFOUR 60kV LINE
27. N-1 CONTRA COSTA SUB - BIRDS LANDING 230kV LINE
28. N-1 CONTRA COSTA SUB - CONTRA COSTA 230kV LINE
29. N-1 CONTRA COSTA SUB - DUPONT 60kV LINE
30. N-1 CONTRA COSTA SUB - FIRBERBOARD - CROWN Z 115kV LINE
31. N-1 CONTRA COSTA SUB - FIRBERBOARD - REC 115kV LINE
32. N-1 COOLEY LANDING - LOS ALTOS 60kV LINE
33. N-1 COOLEY LANDING - PALO ALTO 115kV LINE
34. N-1 COOLEY LANDING - STANDFORD 60kV LINE (CLY LNDG-SRI)
35. N-1 COOLEY LANDING - STANDFORD 60kV LINE (SRI-MENLO)
36. N-1 CSC KIFER - DVR PP 115kV LINE
37. N-1 CSC NORTHERN - SCOTT #1 115kV LINE
38. N-1 CSC NORTHERN - SCOTT #2 115kV LINE
39. N-1 CSC NORTHERN - SSS 230kV LINE
40. N-1 CSC NORTHERN RISER - NORTHERN #1 230kV LINE
41. N-1 CSC NORTHERN RISER - NORTHERN #2 230kV LINE
42. N-1 CSC SCOTT - DVR PP 115kV LINE
43. N-1 DELTAPMP - TESLA D 230kV LINE
44. N-1 DIXON LANDING - MAYBURY - MCKEE 115kV LINE
45. N-1 DUMBARTON - NEWARK D 115kV LINE
46. N-1 EAST GRAND - SFMA #2 115kV LINE
47. N-1 EAST PORTAL - CLAIRMONT 115kV LINE
48. N-1 EAST SHORE - DUMBARTON 115kV LINE
49. N-1 EAST SHORE - MT EDEN 115kV #1 LINE
50. N-1 EAST SHORE - MT EDEN 115kV #2 LINE
51. N-1 EAST SHORE - RUSSEL ENG CENTER #1 230kV LINE
52. N-1 EAST SHORE - RUSSEL ENG CENTER #2 230kV LINE
53. N-1 EAST SHORE - SAN MATEO 230kV LINE
54. N-1 EDS GRANT - GRANT 115kV LINE
55. N-1 EL CERRITO STATION G - SOBRANTE 115kV #1 LINE
56. N-1 EL CERRITO STATION G - SOBRANTE 115kV #2 LINE
57. N-1 EMBARCADERO - MARTIN 230kV HZ-1 CABLE

58. N-1 EMBARCADERO - MARTIN 230kV HZ-2 CABLE
59. N-1 EVERGREEN - JENNINGS - MAYBURY 60kV LINE (Xfr. Senter)
60. N-1 EVERGREEN - MARKHAM - SJ B 115kV LINE (Xfr. Markham)
61. N-1 EVERGREEN - SENTER - ALMADEN 60kV LINE (Xfr. Almaden)
62. N-1 FMC - SAN JOSE B 115kV LINE
63. N-1 FULTON - GEYSERS 230kV LINE
64. N-1 FULTON - GEYSERS17 230kV LINE
65. N-1 FULTON-IGNACIO 230kV LINE
66. N-1 GILROY - LLAGAS 115kV LINE
67. N-1 GRANT - EAST SHORE 115kV #1 LINE
68. N-1 GRANT - EAST SHORE 115kV #2 LINE
69. N-1 HALF MOON BAY - HILLSDALE JCT 60kV LINE
70. N-1 HERDLYN - BALFOUR 60kV LINE
71. N-1 HICKS - METCALF 230kV LINE
72. N-1 HUNTERS POINT - MARTIN HP-1 115kV CABLE
73. N-1 HUNTERS POINT - MARTIN HP-3 115kV CABLE
74. N-1 HUNTERS POINT - MARTIN HP-4 115kV CABLE
75. N-1 HUNTERS POINT - MISSION PX-1 115kV CABLE
76. N-1 HUNTERS POINT - MISSION PX-2 115kV CABLE
77. N-1 HUNTERS POINT - POTRERO 115kV LINE
78. N-1 IGNACIO-SOBRANTE 230kV LINE
79. N-1 JEFFERSON - HILLSDALE JCT 60kV LINE
80. N-1 JEFFERSON - HILLSDALE JCT 60kV LINE
81. N-1 JEFFERSON - MARTIN 230kV LINE
82. N-1 JEFFERSON - STANFORD 60kV LINE
83. N-1 JEFFERSON - STANFORD 60kV LINE
84. N-1 JEFFERSON - WOODSIDE 60kV LINE
85. N-1 KELSO - TESLA D 230kV LINE
86. N-1 KIFER - FMC 115kV LINE
87. N-1 LAKEVILE - GEYSERS 230kV LINE
88. N-1 LAKEVILE-IGNACIO 230kV #1 LINE
89. N-1 LAKEVILE-SOBRANTE 230kV LINE
90. N-1 LAKEVILE-TULUCAY 230kV LINE
91. N-1 LAKEVILE-VACA-DIX 230kV LINE
92. N-1 LAKEWOOD - CLAYTON 115kV #2 LINE
93. N-1 LAKEWOOD - MEADOW LANE-CLAYTON 115kV LINE & EBMUD LOAD (WALNUT CREEK PP)
94. N-1 LAMBIE-BIRDS LANDING 230kV LINE
95. N-1 LAS POSITAS - VASCO 60kV LINE
96. N-1 LIVERMORE - LOS POSITAS 60kV LINE
97. N-1 LONETREE-C.COSTA 230kV LINE
98. N-1 LOS ESTEROS - AGNEW 115kV LINE
99. N-1 LOS ESTEROS - METCALF 230kV LINE
100. N-1 LOS ESTEROS - MONTAGUE 115kV LINE

101. N-1 LOS ESTEROS - TRIMBLE 115kV LINE
102. N-1 LS PSTAS - NEWARK 230kV LINE
103. N-1 MARTIN - BURLINGAME #4 115kV LINE
104. N-1 MARTIN - DAILY CITY 115kV #1 LINE
105. N-1 MARTIN - DAILY CITY 115kV #2 LINE
106. N-1 MARTIN - EAST GRAND 115kV LINE
107. N-1 MARTIN - LARKIN HY-1 115kV CABLE
108. N-1 MARTIN - MILLBREA 115kV line
109. N-1 MARTIN - SAN FRANCISCO AIRPORT #5 115kV LINE
110. N-1 MARTIN - SNEATH LANE 60kV LINE
111. N-1 MARTINEZ - SOBRANTE 115kV LINE & SHIFT ALHAMBRA LOAD TO OLEUM-MARTINEZ 115kV LINE
112. N-1 MARTINEZ D - SHELL 115kV BUS
113. N-1 MARTINEZ E - SHELL 115kV BUS
114. N-1 MAXWELL-TRACY 500kV LINE
115. N-1 METCALF - CYTE PMP 115kV LINE
116. N-1 METCALF - EDENVALE - IBM COTTLE/HARRY RD 115kV LINE (Xfr. Harry Rd)
117. N-1 METCALF - EL PATIO(-IBM BAILEY) #2 115kV LINE
118. N-1 METCALF - EL PATIO(-IBM HR) #1 115kV LINE
119. N-1 METCALF - EVERGREEN - STONE-GE #2 115kV LINE (Xfr. Stone-GE)
120. N-1 METCALF - EVERGREEN #1 115kV LINE
121. N-1 METCALF - IBM BAILY - EDENVALE 115kV LINE (Xfr. Bailey)
122. N-1 METCALF - MOSSLND 230kV #1 LINE
123. N-1 METCALF - MOSSLND 230kV #2 LINE
124. N-1 METCALF D - LLAGAS 115kV LINE
125. N-1 METCALF D - MORGAN HILL 115kV LINE
126. N-1 METCALF E - PIERCY 115kV LINE
127. N-1 METCALF E - SWIFT 115kV LINE
128. N-1 METCALF ENERGY CENTER - METCALF 230kV LINE
129. N-1 METCALF-MOSSLAND 500kV LINE
130. N-1 MILLBRAE - PACIFICA 60kV LINE
131. N-1 MILLBREA - SANPAULA #1 115kV LINE
132. N-1 MILPITAS - WAUKESHA - SWIFT 115kV LINE
133. N-1 MISSION - LARKIN XY-1 115kV CABLE
134. N-1 MONTA VISTA - BIG BASIN 60kV LINE
135. N-1 MONTA VISTA - BRITTON 115kV LINE
136. N-1 MONTA VISTA - JEFFERSON #1 230kV LINE
137. N-1 MONTA VISTA - JEFFERSON #2 230kV LINE
138. N-1 MONTA VISTA - LOS GATOS 60kV LINE
139. N-1 MONTA VISTA - LOYOLA 60kV LINE
140. N-1 MONTA VISTA - PERMANENTE 60kV LINE
141. N-1 MONTA VISTA - PHILLIPS - LAWRENCE 115kV LINE
142. N-1 MONTA VISTA - STELLING 115kV LINE
143. N-1 MONTA VISTA - WHISMAN 115kV LINE

144. N-1 MONTA VISTA - WOLF 115kV LINE
145. N-1 MONTAVIS - HICKS 230kV LINE
146. N-1 MONTAVIS - METCALF 230kV #3 LINE
147. N-1 MONTAVIS - METCALF ENERGY CENTER 230kV LINE
148. N-1 MONTAVIS - SARATOGA 230kV LINE
149. N-1 MORAGA - CASTROVL 230kV LINE
150. N-1 MORAGA - CLAREMONT 115kV #1 LINE
151. N-1 MORAGA - CLAREMONT 115kV #2 LINE
152. N-1 MORAGA - LAKEWOOD REACTORS 115kV LINE (ISOLATE CLAYTON FROM MORAGA)
153. N-1 MORAGA - OAKLAND STATION J 115kV LINE
154. N-1 MORAGA - OAKLAND STATION X 115kV #1 LINE
155. N-1 MORAGA - OAKLAND STATION X 115kV #2 LINE
156. N-1 MORAGA - OAKLAND STATION X 115kV #3 LINE
157. N-1 MORAGA - OAKLAND STATION X 115kV #4 LINE
158. N-1 MORAGA - SAN LEANDRO 115kV #1 LINE
159. N-1 MORAGA - SAN LEANDRO 115kV #2 LINE
160. N-1 MORAGA - SAN LEANDRO 115kV #3 LINE
161. N-1 MORAGA - SANRAMON 230kV LINE
162. N-1 MORGAN HILL - LLAGAS 115kV LINE
163. N-1 MOSSLAND-LOSBANOS 500kV LINE
164. N-1 MOUTAIN VIEW - MONTA VISTA 115kV LINE
165. N-1 MOUTAIN VIEW - WHISMAN 115kV LINE
166. N-1 NDUBLIN-VINYARD 230kV LINE
167. N-1 NEWARK - AMD - APPLIED MATERIALS 115kV LINE (Xfr. Lockheed)
168. N-1 NEWARK - AMES #1 115kV LINE
169. N-1 NEWARK - AMES #2 115kV LINE
170. N-1 NEWARK - AMES #3 115kV LINE
171. N-1 NEWARK - AMES 115kV LINE
172. N-1 NEWARK - DIXON LANDING 115kV LINE
173. N-1 NEWARK - FREMONT 115kV #1 LINE
174. N-1 NEWARK - FREMONT 115kV #2 LINE
175. N-1 NEWARK - JARVIS 115kV LINE
176. N-1 NEWARK - JARVIS 115kV LINE
177. N-1 NEWARK - LAWRENCE - MOFFET - LOCKHEED 115kV LINE (Xfr. Lockheed)
178. N-1 NEWARK - LIVERMORE 60kV LINE
179. N-1 NEWARK - MILPITAS 115kV #1 LINE
180. N-1 NEWARK - MILPITAS 115kV #1 LINE
181. N-1 NEWARK - MILPITAS 115kV #2 LINE
182. N-1 NEWARK - NEWARK DIST 230kV LINE
183. N-1 NEWARK - NORTHERN #1 115kV LINE
184. N-1 NEWARK - NORTHERN #2 115kV LINE
185. N-1 NEWARK - RAVENSWOOD 230kV LINE
186. N-1 NEWARK - VALLECITOS 60kV LINE

187. N-1 NEWARK - ZANKER - KIFER 115kV LINE
188. N-1 NEWARK - ZANKER - TRIMBLE 115kV LINE (Xfr. Agnews)
189. N-1 NEWARK-MOCCASIN-OAKDALE TID 115kV #1 LINE
190. N-1 NEWARK-MOCCASIN-OAKDALE TID 115kV #2 LINE
191. N-1 NORTECH - CP LECEF 115kV LINE
192. N-1 NORTECH - NORTHERN 115kV LINE
193. N-1 NWK DIST - LOS ESTEROS 230kV LINE
194. N-1 OAKLAND ST C - CITY OF ALAMEDA 115kV LINE & CLOSE CARTWRIGHT-JENNY 115kV LINE
195. N-1 OAKLAND ST J - JENNY 115kV LINE & CLOSE CARTWRIGHT-JENNY 115kV LINE
196. N-1 OAKLAND STATION C - MARITIME 115kV LINE
197. N-1 OAKLAND STATION C - OAKLAND STATION L 115kV LINE
198. N-1 OAKLAND STATION C - OAKLAND STATION X 115kV LINE
199. N-1 OAKLAND STATION C - OAKLAND UNITS 2 & 3 115kV LINE
200. N-1 OAKLAND STATION D - OAKLAND STATION L 115kV LINE
201. N-1 OLEUM - EL CERRITO STATION G 115kV #1 LINE & VALLEY VIEW LOAD
202. N-1 OLEUM - EL CERRITO STATION G 115kV #2 LINE
203. N-1 OLEUM - MARTINEZ 115kV & SHIFT ALHAMBRA LOAD TO MARTINEZ-SOBRANTE 115kV LINE
204. N-1 OLEUM - NORTH TOWER - CHRISTIE 115kV LINE & NORTH TOWER LOAD
205. N-1 PARKWAY-MORAGA 230kV LINE
206. N-1 PEABODY-BIRDS LANDING 230kV LINE
207. N-1 PIERCY - MCKEE 115kV LINE
208. N-1 PITTSBURG - CLAYTON 115kV #1 LINE
209. N-1 PITTSBURG - CLAYTON 115kV #3 LINE & KIRKER LD RADIAL FROM PITTS-KIRKER-POSCO 115kV LINE
210. N-1 PITTSBURG - CLAYTON 115kV #4 LINE
211. N-1 PITTSBURG - COLUMBIA STEEL 115kV LINE & GWF 2 LD/GN & PRAXAIR LD & DOW CHEM GN
212. N-1 PITTSBURG - DEC PITTSBURG #1 230kV LINE
213. N-1 PITTSBURG - DEC PITTSBURG #2 230kV LINE
214. N-1 PITTSBURG - EAST SHORE 230kV LINE
215. N-1 PITTSBURG - KIRKER-POSCO 115kV LINE & SHIFT KIRK LD TO PITT-CLAY 115kV LINE 3
216. N-1 PITTSBURG - LMEC 115kV #1 LINE
217. N-1 PITTSBURG - LMEC 115kV #2 LINE
218. N-1 PITTSBURG - MARTINEZ 115kV #1 LINE & WILLOW PASS BART LOAD & BOLLMAN LOAD
219. N-1 PITTSBURG - MARTINEZ 115kV #2 LINE & CCCSD LOAD & CCCSD GEN
220. N-1 PITTSBURG - POTRERO D.C. LINE
221. N-1 PITTSBURG - SAN MATEO 230kV LINE
222. N-1 PITTSBURG - SAN RAMON 230kV LINE
223. N-1 PITTSBURG - TASSAJAR 230kV LINE
224. N-1 PITTSBURG - TESLA C 230kV #1 LINE
225. N-1 PITTSBURG - TESLA C 230kV #2 LINE
226. N-1 PITTSBURG - TESORO 230kV LINE
227. N-1 PITTSBURG - TIDEWATR 230kV LINE
228. N-1 POTRERO - BAY SHORE-MARTIN A-H-W#1 115kV CABLES
229. N-1 POTRERO - BAY SHORE-MARTIN A-H-W#2 115kV CABLES

230. N-1 POTRERO - LARKIN AY-1 115kV CABLE
231. N-1 POTRERO - LARKIN AY-2 115kV CABLE
232. N-1 POTRERO - MISSION AX 115kV CABLE
233. N-1 POTRERO STATIC VAR COMPENSATOR
234. N-1 RADUM - LIVERMORE 60kV LINE
235. N-1 RADUM - VALLECITOS 60kV LINE
236. N-1 RADUM - VALLECITOS 60kV LINE
237. N-1 RAVENSWOOD - AMES #1 115kV LINE
238. N-1 RAVENSWOOD - AMES #2 115kV LINE
239. N-1 RAVENSWOOD - BAIR #1 115kV LINE
240. N-1 RAVENSWOOD - BAIR #2 115kV LINE
241. N-1 RAVENSWOOD - COOLEY LANDING #1 115kV LINE
242. N-1 RAVENSWOOD - COOLEY LANDING #2 115kV LINE
243. N-1 RAVENSWOOD - PALO ALTO #1 115kV LINE
244. N-1 RAVENSWOOD - PALO ALTO #2 115kV LINE
245. N-1 RAVENSWOOD - SAN MATEO #1 115kV LINE
246. N-1 RICHMOND R - SOBRANTE 115kV #1 LINE
247. N-1 RICHMOND R - SOBRANTE 115kV #2 LINE
248. N-1 SAN FRANCISCO AIRPORT - UNITED COGEN 115kV LINE
249. N-1 SAN JOSE A - EL PATIO 115kV LINE
250. N-1 SAN JOSE A - SAN JOSE B 115kV LINE
251. N-1 SAN LEANDRO - OAKLAND J 115kV LINE & G-P GYPSUM (DOMTAR #2) LOAD & TRANSFER EDES LOAD TO OAKLAND J-GRANT LINE 115kV LINE
252. N-1 SAN MATEO - BAIR (SAN CARLOS SECTION -BAIR SECTION) 60kV LINE
253. N-1 SAN MATEO - BAIR (SAN MATEO - SAN CARLOS SECTION) 60kV LINE
254. N-1 SAN MATEO - BAY MEADOWS #1 115kV LINE
255. N-1 SAN MATEO - BAY MEADOWS #2 115kV LINE
256. N-1 SAN MATEO - BELMONT 115kV LINE
257. N-1 SAN MATEO - BERESFORD 60kV LINE
258. N-1 SAN MATEO - BURLINGAME #4 115kV LINE
259. N-1 SAN MATEO - MARTIN #3 115kV LINE
260. N-1 SAN MATEO - MARTIN #6 115kV LINE
261. N-1 SAN MATEO - MARTIN 230kV CABLE
262. N-1 SAN MATEO - MILLBREA #1 115kV LINE
263. N-1 SAN MATEO - RAVENSWOOD #1 230kV LINE
264. N-1 SAN MATEO - RAVENSWOOD #2 230kV LINE
265. N-1 SAN MATEO - SAN FRANCISCO AIRPORT #5 115kV LINE
266. N-1 SFMA - EAST GRAND 115kV LINE
267. N-1 SOBRANTE - GRIZZLY - CLAREMONT 115kV #1 LINE
268. N-1 SOBRANTE - GRIZZLY - CLAREMONT 115kV #2 LINE
269. N-1 SOBRANTE - MORAGA 115kV LINE
270. N-1 SOBRANTE - STANDARD OIL SWITCHING STATION 115kV #1 LINE & MSC (POINT PINOLE STEEL) LOAD
271. N-1 SOBRANTE - STANDARD OIL SWITCHING STATION 115kV #1 LINE & TRANSFR SAN PABLO LOAD TO MSC (PT PINOLE STL)

- 272. N-1 SVP - LOS ESTEROS 230kV LINE
- 273. N-1 TABLE MT-TESLA 500kV LINE
- 274. N-1 TABLE MT-VACA-DIX 500kV LINE
- 275. N-1 TASSAJAR - NEWARK E 230kV LINE
- 276. N-1 TESLA - NEWARK 230kV #1 LINE
- 277. N-1 TESLA - NEWARK 230kV #2 LINE
- 278. N-1 TESLA - RAVENSWOOD 230kV LINE
- 279. N-1 TESLA D - TRCY PMP 230kV #1 LINE
- 280. N-1 TESLA D - TRCY PMP 230kV #2 LINE
- 281. N-1 TESLA-LOSBANOS 500kV LINE
- 282. N-1 TESLA-METCALF 500kV LINE
- 283. N-1 TIDEWATR - SOBRANTE 230kV LINE
- 284. N-1 TRACY - LIVERMORE LABS 230kV LINE
- 285. N-1 TRACY - WESTLEY #1 230kV LINE
- 286. N-1 TRACY - WESTLEY #2 230kV LINE
- 287. N-1 TRACY-LOSBANOS 500kV LINE
- 288. N-1 TRACY-TESLA 500kV LINE
- 289. N-1 TRIMBLE - MONTAGUE 115kV LINE
- 290. N-1 TRIMBLE - SAN JOSE B 115kV LINE
- 291. N-1 TSARATOGA - VASONA 230kV LINE
- 292. N-1 TULUCAY-VACA-DIX 230kV LINE
- 293. N-1 VACA-DIX-LAMBIE 230kV LINE
- 294. N-1 VACA-DIX-PARKWAY 230kV LINE
- 295. N-1 VACA-DIX-PEABODY 230kV LINE
- 296. N-1 VACA-DIX-TESLA 500kV LINE
- 297. N-1 VASCO - HERDLYN 60kV LINE
- 298. N-1 VASONA - METCALF 230kV LINE
- 299. N-1 VINYARD - NEWARK 230kV LINE
- 300. N-1 WILLOW PASS - CONTRA COSTA SUB 60kV BUS
- 301. N-1 WOLF - STELLING 115kV LINE
- 302. N-1 WOODSIDE - LAS PULGAS 60kV LINE

3. [T-1] Contingencies (ISO Category “B”)

As part of this study, 65 single transformer contingencies were evaluated. The single transformer contingencies were:

- 1. T-1 BAIR 115/60kV #1 XFMR BANK
- 2. T-1 CHRISTIE 115/60kV #1 XFMR BANK
- 3. T-1 CONTRA COSTA SUB 115/60kV #1 XFMR BANK
- 4. T-1 CONTRA COSTA SUB 115/60kV #2 XFMR BANK
- 5. T-1 CONTRA COSTA SUB 230/115kV #3 XFMR BANK
- 6. T-1 CONTRA COSTA SUB 230/115kV #3 XFMR BANK
- 7. T-1 COOLEY LANDING 115/60kV #1 XFMR BANK

8. T-1 COOLEY LANDING 115/60kV #3 XFMR BANK
9. T-1 CSC NORTHERN 115/60kV #1 XFMR BANK
10. T-1 CSC NORTHERN 115/60kV #NA XFMR BANK
11. T-1 CSC NORTHERN 230/115kV #1 XFMR BANK
12. T-1 EAST SHORE 230/115kV #1 XFMR BANK
13. T-1 EAST SHORE 230/115kV #2 XFMR BANK
14. T-1 EVERGREEN 115/60kV #1 XFMR BANK
15. T-1 HERDLYN 70/60kV #2 XFMR BANK
16. T-1 JEFFERSON 230/60kV #1 XFMR BANK
17. T-1 JEFFERSON 230/60kV #1 XFMR BANK
18. T-1 LOS ESTEROS 230/115kV #1 XFMR BANK
19. T-1 LOS ESTEROS 230/115kV #2 XFMR BANK
20. T-1 LOS ESTEROS 230/115kV #3 XFMR BANK
21. T-1 LOS ESTEROS 230/115kV #4 XFMR BANK
22. T-1 LOS POSITAS 230/60kV #4 XFMR BANK
23. T-1 MARTIN 115/60kV #6 XFMR BANK
24. T-1 MARTIN 230/115kV #7 XFMR BANK
25. T-1 MARTIN 230/115kV #8 XFMR BANK
26. T-1 METCALF 230/115kV #1 XFMR BANK
27. T-1 METCALF 230/115kV #2 XFMR BANK
28. T-1 METCALF 230/115kV #3 XFMR BANK
29. T-1 METCALF 230/115kV #4 XFMR BANK
30. T-1 METCALF 500/230kV #11 XFMR BANK
31. T-1 METCALF 500/230kV #12 XFMR BANK
32. T-1 METCALF 500/230kV #13 XFMR BANK
33. T-1 MILLBRAE 115/60kV #5 XFMR BANK
34. T-1 MONTA VISTA 230/115kV #2 XFMR BANK
35. T-1 MONTA VISTA 230/115kV #3 XFMR BANK
36. T-1 MONTA VISTA 230/115kV #4 & #4A XFMR BANK
37. T-1 MONTA VISTA 230/60kV #5 XFMR BANK
38. T-1 MORAGA 230/115kV #1 XFMR BANK
39. T-1 MORAGA 230/115kV #2 XFMR BANK
40. T-1 MORAGA 230/115kV #3 XFMR BANK
41. T-1 NEWARK 115/60kV #2 XFMR BANK
42. T-1 NEWARK 230/115kV #11 XFMR BANK
43. T-1 NEWARK 230/115kV #7 XFMR BANK
44. T-1 NEWARK 230/115kV #9 XFMR BANK
45. T-1 PITTSBURG 230/115kV #12 XFMR BANK
46. T-1 PITTSBURG 230/115kV #13 XFMR BANK
47. T-1 RAVENSWOOD 230/115kV #1 XFMR BANK
48. T-1 RAVENSWOOD 230/115kV #2 XFMR BANK

49. T-1 SAN MATEO 115/60kV #3 XFMR BANK
50. T-1 SAN MATEO 115/60kV #8 XFMR BANK
51. T-1 SAN MATEO 230/115kV #5 XFMR BANK
52. T-1 SAN MATEO 230/115kV #6 XFMR BANK
53. T-1 SAN MATEO 230/115kV #7 XFMR BANK
54. T-1 SAN RAMON 230/60kV #1 XFMR BANK
55. T-1 SOBRANTE 230/115kV #1 XFMR BANK
56. T-1 SOBRANTE 230/115kV #2 XFMR BANK
57. T-1 TESLA 230/115kV #1 XFMR BANK
58. T-1 TESLA 230/115kV #3 XFMR BANK
59. T-1 TESLA 500/230kV #2 XFMR BANK
60. T-1 TESLA 500/230kV #4 XFMR BANK
61. T-1 TESLA 500/230kV #6 XFMR BANK
62. T-1 TRACY 500/230kV #1 XFMR BANK
63. T-1 TRACY 500/230kV #1 XFMR BANK
64. T-1 VACA DIXION 500/230kV #11 XFMR BANK
65. T-1 VACA DIXION 500/230kV #12 XFMR BANK

4. [N-2] Contingencies (ISO Category “C”)

As part of this study, 88 DCTL [L-2] contingencies were run. These contingencies are:

1. N-2 BIRDS LANDING - PEABODY&BIRDS LANDING - LAMBIE 230kV LINES
2. N-2 C.COSTA - MORAGA 230kV #1 & #2 LINES
3. N-2 CASTROVL - NEWARK&TASSAJAR - NEWARK 230kV LINES
4. N-2 CAYETANO - NDUBLIN & CONTRA COSTA - CAYETANO 230kV LINES
5. N-2 COCO - BIRDS LANDING - CONTRA COSTA SUB - BIRDS LANDING 230kV LINES
6. N-2 CONTRA COSTA - LOS PSTAS & CONTRA COSTA - CAYETANO 230kV LINES
7. N-2 CONTRA COSTA SUB - COCO&BIRDS LANDING - CONTRA COSTA SUB 230kV LINES
8. N-2 DIXON LANDING - MAYBURY - MCKEE & MILPITAS - SWIFT 115kV LINES
9. N-2 DIXON LANDING - MAYBURY - MCKEE&NEWARK - MILPITAS 115kV LINES
10. N-2 EASTSHORE - MT EDEN #1 & #2 115kV LINES
11. N-2 EI CERETO - SOBRANTE 115kV #1 & #2 LINES
12. N-2 FULTON - IGNACIO & LAKEVILE - IGNACIO 230kV LINES
13. N-2 HICKS - METCALF & SARATOGA - VASONA 230kV LINES
14. N-2 HICKS - MOTAVISTA & VASONA - SARATOGA 230kV LINES
15. N-2 IGNACIO - FULTON & FULTON - GEYSERS 230kV LINES
16. N-2 LAKEVILE - IGNACIO & LAKEVILE - GYSRS 230kV LINES
17. N-2 LAKEVILE - IGNACIO & LAKEVILE - SOBRANTE 230kV LINES
18. N-2 LAKEVILE - TULUCAY & VACA - LAKVILE 230kV LINES
19. N-2 LAKEVILLE - SOBRANTE & IGNACIO - SOBRANTE 230kV LINES
20. N-2 LOS ESTEROS - METCALF & TESLA - NEWARK 230kV #2 LINES
21. N-2 LOS ESTEROS - TRIMBLE & LOS ESTEROS - MONTAGUE 115kV LINES
22. N-2 LS PSTAS - NEWARK&VINEYARD - NEWARK 230kV LINES

23. N-2 MARTINEZ - SOBRANTE 115kV LINE & OLEUM - MARTINEZ 115kV LINES & ALHAMBRA LOAD
24. N-2 MARTNZ - SOBRANTE&CHRISIE - SOBRANTE 115kV LINES
25. N-2 METCALF - EDENVALE - IBM COTTLE/HARRY RD&METCALF - IBM BAILEY-EDENVALE 115kV LINES
26. N-2 METCALF - EL PATIO(-IBM HR) #1 & #2 LINES
27. N-2 METCALF - EVERGREEN - STONE - GE #2&METCALF-EVERGREEN #1 115kV LINES
28. N-2 METCALF - HICKS & METCALF - VASONA 230kV LINES
29. N-2 METCALF - MOSSLND #1 & #2 230kV LINES
30. N-2 METCALF E - SWIFT&METCALF E - PIERCY 115kV LINES
31. N-2 METCALF E - SWIFT&PIERCY - MCKEE 115kV LINES
32. N-2 MILLBREA - SANMATEO&E.GR& - SAN MATEO 115kV LINES
33. N-2 MILPITAS - SWIFT & PIERCY - MCKEE 115kV LINES
34. N-2 MONTA VISTA - PHILLIPS - LAWRENCE&MONTA VISTA - BRITTON 115kV LINES
35. N-2 MONTA VISTA - PHILLIPS - LAWRENCE&NEWARK - AMD - APPLIED MATERIALS 115kV LINES
36. N-2 MONTAVIS - METCALF & MONTAVIS - MEC 230kV #3 & #4 LINES
37. N-2 MONTAVISTA - JEFFERSON 230kV #1 & #2 LINES
38. N-2 MONTAVISTA - SARATOGA & MONTAVISTA - HICKS 230kV LINES
39. N-2 MORAGA - CLAIRMONT 115kV #1 & #2 LINES
40. N-2 MORAGA - J&SN LNDRO - J 115kV LINES
41. N-2 MORAGA - OAKLAND J & MORAGA - SAN LEANDRO 115kV #3 LINES
42. N-2 MORAGA - SAN LEANDRO #1 & #2 115kV LINES
43. N-2 MORAGA - SANRAMON & CASTROVALLY - NEWARK 230kV LINES
44. N-2 MORAGA - SANRAMON & MORAGA - CASTROVALLY 230kV LINES
45. N-2 MORAGA - SANRAMON&TASSAJAR - NEWARK 230kV LINES
46. N-2 MORAGA - STATION X #1 & #2 115kV LINES
47. N-2 MORAGA - STATION X #3 & #4 115kV LINES
48. N-2 NEWARK - LAWRENCE - MOFFET - LOCKHEED&NEWARK - AMD - APPLIED MATERIALS 115kV LINES
49. N-2 NEWARK - LOS ESTEROS & LOS ESTEROS - METCALF 230kV LINES
50. N-2 NEWARK - MILPITAS&NEWARK - DIXON LANDING 115kV LINES
51. N-2 NEWARK - NORTHERN #1 & #2 115kV LINES
52. N-2 NEWARK - ZANKER - TRIMBLE&KIFER - FMC - SAN JOSE B 115kV LINES
53. N-2 NEWARK - ZANKER - TRIMBLE&NEWARK - ZANKER - KIFER 115kV LINES
54. N-2 NORTH DUBLIN - VINYARD & CONTRA COSTA - LOS PASITAS 230kV LINES
55. N-2 NORTH DUBLIN - VINYARD & LOS PASITAS - NEWARK 230kV LINES
56. N-2 NORTHERN - SCOTT #1 & #2 115kV LINES
57. N-2 OLEUM - EL CERRITO STATION G 115kV LINES 1 & 2 & VALLEY VIEW LOAD
58. N-2 OLEUM - MARTINEZ&LINEOLEUM - N.TOWER-CHRISTE 115kV LINES
59. N-2 OLEUM - NTR - CHRITIE&MARTNZ - ALHABRA - SOBRANTE 115kV LINES
60. N-2 PARKWAY - MORAGA & BAHIA - MORAGA 230kV LINES
61. N-2 PITTSBURG - SANRAMON&TASSAJAR - NEWARK 230kV LINES
62. N-2 PITTS - MARTZ 115kV #1 & #2 LINES, WP BART, BOLLMAN, CCCSD LD & CCCSD
63. N-2 PITTSBURG - CLAYTON 115kV #1 & #3 LINE & KIRKER LD RADIAL FROM PITTS-KIRKER-POSCO
64. N-2 PITTSBURG - SAN MATEO & EAST SHORE - SAN MATEO 230kV LINES
65. N-2 PITTSBURG - SANMATEO & PITTSBURG - EAST SHORE 230kV LINES

66. N-2 PITTSBURG - TASSAJARA & PITTSBURG - SAN RAMON 230kV LINES
67. N-2 PITTSBURG - TESLA #1 & #2 230kV LINES
68. N-2 PITTSBURG - TESORO & PITTSBURG - TIDEWATER 230kV LINES
69. N-2 PTT - CLMBIA STL LN,PTTS - KKR - PSCO LN,GWF 2,PRXR, DOW CHM, SHFT KKR TO PTT-CLY LN 3
70. N-2 RAVENSWOOD - BAIR #1 & #2 115kV LINES
71. N-2 RAVENSWOOD - PALO ALTO #1 & #2 115kV LINES
72. N-2 RAVENSWOOD - SAN MATEO #1 & #2 230kV LINES
73. N-2 RICHMOND R - SOBRANTE 115kV #1 & #2 LINES
74. N-2 SAN MATEO - BAY MEADOWS #1 & #2 115kV LINES
75. N-2 SAN MATEO - RAVENSWOOD&SAN MATEO - BELMONT 115kV LINES
76. N-2 SANMATEO - SFIA&SANMATEO - MARTIN 115kV LINES
77. N-2 SANMATEO - MARTIN&SANMATEO - BURLNGME 115kV LINES
78. N-2 SOBRANTE - GRIZLY - CLAIRMONT 115kV #1 & #2 LINES
79. N-2 SOBRANTE - STANDARD OIL 115kV #1 & #2 LINES
80. N-2 TESLA - KELSO&TESLA - DELTAPUMP 230kV LINES
81. N-2 TESLA - NEWARK #2 & NWK DIST - LOS ESTEROS 230kV LINES
82. N-2 TESLA - NEWARK & TESLA - RAVENSWOOD 230kV LINES
83. N-2 TESLA - TRACY #1 & #2 230kV LINES
84. N-2 TESORO - SOBRANTE & TIDEWATER - SOBRANTE 230kV LINES
85. N-2 TRIBLE - SAN JOSE B&KIFER - FMC-SAN JOSE B 115kV LINES
86. N-2 VACA - PEABODY & VACA - LAMBIE 230kV LINES
87. N-2 VACA - TULUCAY & VACA - LAKEVILE 230kV LINES
88. N-2 VASONA - METCALF & MOTAVISTA - HICKS 230kV LINES

APPENDIX 5 – Detailed Results of 2013 Summer Peak Power Flow Studies

Below are the results for the 2013 Summer Peak case studies.

Thermal Summary Results -All Lines in Service

Overloads shown in red text is identified as a post-project criteria violation

Overloads shown in orange text is identified as pre-existing criteria violation

OUTAGE DESCRIPTION	OVERLOADED ELEMENT					PRE N PCT	POST N PCT	N DELTA	N RATE	UNIT	ELEMENT TYPE
N-0 BASE CASE	BRENTWOD	230.00-C.COSTA	230.00 #1	1		79.999	108.68	28.78	826 Amps	Line	
N-0 BASE CASE	C.COSTA	230.00-WND MSTR	230.00 #1	1		79.999	104.77	24.87	826 Amps	Line	
N-0 BASE CASE	DELTAPMP	230.00-WND MSTR	230.00 #1	1		79.999	104.52	24.62	826 Amps	Line	
N-0 BASE CASE	LS PSTAS	230.00-NEWARK D	230.00 #1	1		79.999	101.08	21.18	743 Amps	Line	
N-0 BASE CASE	LONETREE	230.00-USWP-JRW	230.00 #1	1		79.999	99.08	19.18	886 Amps	Line	
N-0 BASE CASE	CAYETANO	230.00-USWP-JRW	230.00 #1	1		79.999	98.78	18.88	886 Amps	Line	
N-0 BASE CASE	SJ B E	115.00-TRIMBLE	115.00 #1	1		88.89	99.64	10.75	703 Amps	Line	
N-0 BASE CASE	E. SHORE	230.00-SANMATEO	230.00 #1	1		117.48	119.63	2.15	989 Amps	Line	
N-0 BASE CASE	CP LECEF	115.00-LECEFTAP	115.00 #1	1		113.02	114.76	1.74	1541 Amps	Line	

Thermal Summary Results -Sorted by Transmission Element Overload

Overloads shown in red text is identified as a post-project criteria violation

Overloads shown in orange text is identified as pre-existing criteria violation

Overloads shown in grey text are triggered by multiple element contingencies. Mitigation typically can involve RAS or SPS.

Overloads shown in green text are noted, but may have RAS or SPS not modeled and could require post-transient Analysis.

OUTAGE NO	OUTAGE DESCRIPTION	OVERLOADED ELEMENT				PRE E PCT	POST E PCT	E DELTA	E RATE	UNIT	ELEMENT TYPE
514 N-2 EI CERETO - SOBRANTE 115kV #1 & #2 LINES		ALHAMTP2	115.00-MARTNZ D	115.00 #1	1	106.03	103.81	-2.22	487 Amps	Line	
514 N-2 EI CERETO - SOBRANTE 115kV #1 & #2 LINES		ALHAMTP2	115.00-OLEUM	115.00 #1	1	99	96.94	-2.06	522 Amps	Line	
482 N-2 CONTRA COSTA - LOS PSTAS & CONTRA COSTA - CAYETANO 230kV LINES		ALTM MDW	230.00-DELTAPMP	230.00 #1	1	79.999	118.07	38.071	1130 Amps	Line	
496 N-2 NORTH DUBLIN - VINYARD & CONTRA COSTA - LOS PASITAS 230kV LINES		ALTM MDW	230.00-DELTAPMP	230.00 #1	1	79.999	112.44	32.441	1130 Amps	Line	
481 N-2 C.COSTA - MORAGA 230kV #1 & #2 LINES		ALTM MDW	230.00-DELTAPMP	230.00 #1	1	79.999	108.56	28.561	1130 Amps	Line	
497 N-2 NORTH DUBLIN - VINYARD & LOS PASITAS - NEWARK 230kV LINES		ALTM MDW	230.00-DELTAPMP	230.00 #1	1	79.999	103.75	23.751	1130 Amps	Line	
510 N-2 LS PSTAS - NEWARK & VINEYARD - NEWARK 230kV LINES		ALTM MDW	230.00-DELTAPMP	230.00 #1	1	79.999	99.78	19.781	1130 Amps	Line	
134 N-1 C.COSTA - BRENTWOOD 230kV LINE		ALTM MDW	230.00-DELTAPMP	230.00 #1	1	79.999	99	19.001	1130 Amps	Line	
482 N-2 CONTRA COSTA - LOS PSTAS & CONTRA COSTA - CAYETANO 230kV LINES		ALTM MDW	230.00-TESLA D	230.00 #1	1	79.999	118.01	38.011	1130 Amps	Line	
496 N-2 NORTH DUBLIN - VINYARD & CONTRA COSTA - LOS PASITAS 230kV LINES		ALTM MDW	230.00-TESLA D	230.00 #1	1	79.999	112.39	32.391	1130 Amps	Line	
481 N-2 C.COSTA - MORAGA 230kV #1 & #2 LINES		ALTM MDW	230.00-TESLA D	230.00 #1	1	79.999	108.5	28.501	1130 Amps	Line	
497 N-2 NORTH DUBLIN - VINYARD & LOS PASITAS - NEWARK 230kV LINES		ALTM MDW	230.00-TESLA D	230.00 #1	1	79.999	103.69	23.691	1130 Amps	Line	
510 N-2 LS PSTAS - NEWARK & VINEYARD - NEWARK 230kV LINES		ALTM MDW	230.00-TESLA D	230.00 #1	1	79.999	99.73	19.731	1130 Amps	Line	
134 N-1 C.COSTA - BRENTWOOD 230kV LINE		ALTM MDW	230.00-TESLA D	230.00 #1	1	79.999	98.93	18.931	1130 Amps	Line	
482 N-2 CONTRA COSTA - LOS PSTAS & CONTRA COSTA - CAYETANO 230kV LINES		BRENTWOD	230.00-C.COSTA	230.00 #1	1	79.999	112.5	32.501	1130 Amps	Line	
496 N-2 NORTH DUBLIN - VINYARD & CONTRA COSTA - LOS PASITAS 230kV LINES		BRENTWOD	230.00-C.COSTA	230.00 #1	1	79.999	108.08	28.081	1130 Amps	Line	
481 N-2 C.COSTA - MORAGA 230kV #1 & #2 LINES		BRENTWOD	230.00-C.COSTA	230.00 #1	1	79.999	104.97	24.971	1130 Amps	Line	
497 N-2 NORTH DUBLIN - VINYARD & LOS PASITAS - NEWARK 230kV LINES		BRENTWOD	230.00-C.COSTA	230.00 #1	1	79.999	101.21	21.211	1130 Amps	Line	
510 N-2 LS PSTAS - NEWARK & VINEYARD - NEWARK 230kV LINES		BRENTWOD	230.00-C.COSTA	230.00 #1	1	79.999	98.08	18.081	1130 Amps	Line	
482 N-2 CONTRA COSTA - LOS PSTAS & CONTRA COSTA - CAYETANO 230kV LINES		C.COSTA	230.00-WND MSTR	230.00 #1	1	79.999	118.43	38.431	1130 Amps	Line	
496 N-2 NORTH DUBLIN - VINYARD & CONTRA COSTA - LOS PASITAS 230kV LINES		C.COSTA	230.00-WND MSTR	230.00 #1	1	79.999	112.8	32.801	1130 Amps	Line	
481 N-2 C.COSTA - MORAGA 230kV #1 & #2 LINES		C.COSTA	230.00-WND MSTR	230.00 #1	1	79.999	108.92	28.921	1130 Amps	Line	
497 N-2 NORTH DUBLIN - VINYARD & LOS PASITAS - NEWARK 230kV LINES		C.COSTA	230.00-WND MSTR	230.00 #1	1	79.999	104.12	24.121	1130 Amps	Line	
510 N-2 LS PSTAS - NEWARK & VINEYARD - NEWARK 230kV LINES		C.COSTA	230.00-WND MSTR	230.00 #1	1	79.999	100.16	20.161	1130 Amps	Line	
134 N-1 C.COSTA - BRENTWOOD 230kV LINE		C.COSTA	230.00-WND MSTR	230.00 #1	1	79.999	99.39	19.391	1130 Amps	Line	
482 N-2 CONTRA COSTA - LOS PSTAS & CONTRA COSTA - CAYETANO 230kV LINES		CASTROVL	230.00-MORAGA	230.00 #1	1	82.2	101.19	18.99	1021 Amps	Line	
496 N-2 NORTH DUBLIN - VINYARD & CONTRA COSTA - LOS PASITAS 230kV LINES		CASTROVL	230.00-MORAGA	230.00 #1	1	79.999	98.07	18.071	1021 Amps	Line	
482 N-2 CONTRA COSTA - LOS PSTAS & CONTRA COSTA - CAYETANO 230kV LINES		CASTROVL	230.00-NEWARK E	230.00 #1	1	79.999	99.77	19.771	851 Amps	Line	
481 N-2 C.COSTA - MORAGA 230kV #1 & #2 LINES		CAYETANO	230.00-NDUBLIN	230.00 #1	1	79.999	101.72	21.721	1004 Amps	Line	
505 N-2 TESLA - KELSO & TESLA - DELTAPUMP 230kV LINES		CAYETANO	230.00-NDUBLIN	230.00 #1	1	79.999	99.21	19.211	1004 Amps	Line	
136 N-1 C.COSTA - LS PSTAS 230kV LINE		CAYETANO	230.00-NDUBLIN	230.00 #1	1	79.999	98.1	18.101	1004 Amps	Line	
481 N-2 C.COSTA - MORAGA 230kV #1 & #2 LINES		CAYETANO	230.00-USWP-JRW	230.00 #1	1	82.82	107.24	24.42	1005 Amps	Line	
505 N-2 TESLA - KELSO & TESLA - DELTAPUMP 230kV LINES		CAYETANO	230.00-USWP-JRW	230.00 #1	1	79.999	104.77	24.771	1005 Amps	Line	
136 N-1 C.COSTA - LS PSTAS 230kV LINE		CAYETANO	230.00-USWP-JRW	230.00 #1	1	81.47	103.64	22.17	1005 Amps	Line	
514 N-2 EI CERETO - SOBRANTE 115kV #1 & #2 LINES		CHRISTIE	115.00-SOBRANTE	115.00 #1	1	98.75	100.72	1.97	523 Amps	Line	
527 N-2 PITTSBURG - CLAYTON 115kV #1 & #3 LINE & KIRKER LD RADIAL FROM PITTS-KIRKER-		CLAYTN	115.00-PITTSBURG	115.00 #4	1	133.55	130.5	-3.05	1486 Amps	Line	
624 G-1 CARDINAL #1		CLY LNDG	60.00-S.R.I.	60.00 #1	1	103.73	106.13	2.4	599 Amps	Line	
447 T-1 LOS ESTEROS 230/115kV #3 XFMR BANK		CP LECEF	115.00-LECEFTAP	115.00 #1	1	125.91	128.06	2.15	1541 Amps	Line	
448 T-1 LOS ESTEROS 230/115kV #4 XFMR BANK		CP LECEF	115.00-LECEFTAP	115.00 #1	1	125.91	128.06	2.15	1541 Amps	Line	
453 T-1 CSC NORTHERN 230/115kV #1 XFMR BANK		CP LECEF	115.00-LECEFTAP	115.00 #1	1	124.82	126.71	1.89	1541 Amps	Line	
186 N-1 SVP - LOS ESTEROS 230kV LINE		CP LECEF	115.00-LECEFTAP	115.00 #1	1	124.8	126.68	1.88	1541 Amps	Line	
192 N-1 CSC NORTHERN - SSS 230kV LINE		CP LECEF	115.00-LECEFTAP	115.00 #1	1	124.8	126.68	1.88	1541 Amps	Line	
340 N-2 METCALF - EL PATIO(-IBM HR) #1 & #2 LINES		CP LECEF	115.00-LECEFTAP	115.00 #1	1	122.7	123.9	1.2	1541 Amps	Line	
439 T-1 NEWARK 230/115kV #11 XFMR BANK		CP LECEF	115.00-LECEFTAP	115.00 #1	1	119.8	121.91	2.11	1541 Amps	Line	
107 N-1 TESLA-METCALF 500kV LINE		CP LECEF	115.00-LECEFTAP	115.00 #1	1	119.11	121.25	2.14	1541 Amps	Line	
362 N-1 CSC NORTHERN - SCOTT #1 115kV LINE		CP LECEF	115.00-LECEFTAP	115.00 #1	1	119.27	121.21	1.94	1541 Amps	Line	
550 N-2 METCALF - EVERGREEN - STONE - GE #2 & METCALF-EVERGREEN #1 115kV LINES		CP LECEF	115.00-LECEFTAP	115.00 #1	1	118.75	120.06	1.31	1541 Amps	Line	
438 T-1 NEWARK 230/115kV #7 XFMR BANK		CP LECEF	115.00-LECEFTAP	115.00 #1	1	118	120.01	2.01	1541 Amps	Line	
437 T-1 NEWARK 230/115kV #9 XFMR BANK		CP LECEF	115.00-LECEFTAP	115.00 #1	1	116.44	118.34	1.9	1541 Amps	Line	

Thermal Summary Results -Sorted by Transmission Element Overload

Overloads shown in red text is identified as a post-project criteria violation

Overloads shown in orange text is identified as pre-existing criteria violation

Overloads shown in grey text are triggered by multiple element contingencies. Mitigation typically can involve RAS or SPS.

Overloads shown in green text are noted, but may have RAS or SPS not modeled and could require post-transient Analysis.

OUTAGE NO	OUTAGE DESCRIPTION		OVERLOADED ELEMENT			PRE E PCT	POST E PCT	E DELTA	E RATE	UNIT	ELEMENT TYPE
335	N-1 SAN JOSE A - EL PATIO 115kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	116.7	117.89	1.19	1541 Amps	Line	
341	N-1 METCALF - EL PATIO-(IBM BAILEY) #2 115kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	116.25	117.79	1.54	1541 Amps	Line	
349	N-1 METCALF - EL PATIO-(IBM HR) #1 115kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	116.25	117.79	1.54	1541 Amps	Line	
536	N-2 NEWARK - NORTHERN #1 & #2 115kV LINES	CP LECEF	115.00-LECEFTAP	115.00 #1	1	115.76	117.66	1.9	1541 Amps	Line	
646	G-1 OLS AGNE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	115.65	117.4	1.75	1541 Amps	Line	
318	N-1 NEWARK - ZANKER - TRIMBLE 115kV LINE (Xfr. Agnews)	CP LECEF	115.00-LECEFTAP	115.00 #1	1	115.33	117.29	1.96	1541 Amps	Line	
542	N-2 NORTHERN - SCOTT #1 & #2 115kV LINES	CP LECEF	115.00-LECEFTAP	115.00 #1	1	115.43	117.29	1.86	1541 Amps	Line	
346	N-1 METCALF - EVERGREEN #1 115kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	115.67	117.26	1.59	1541 Amps	Line	
160	N-1 NEWARK - RAVENSWOOD 230kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	115.3	117.25	1.95	1541 Amps	Line	
467	T-1 CSC NORTHERN 115/60kV #1 XFMR BANK	CP LECEF	115.00-LECEFTAP	115.00 #1	1	115.08	116.83	1.75	1541 Amps	Line	
468	T-1 CSC NORTHERN 115/60kV #NA XFMR BANK	CP LECEF	115.00-LECEFTAP	115.00 #1	1	115.08	116.83	1.75	1541 Amps	Line	
645	G-1 MEC PLANT	CP LECEF	115.00-LECEFTAP	115.00 #1	1	115.46	116.81	1.35	1541 Amps	Line	
354	N-1 GILROY - LLAGAS 115kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	114.97	116.7	1.73	1541 Amps	Line	
452	T-1 METCALF 230/115kV #4 XFMR BANK	CP LECEF	115.00-LECEFTAP	115.00 #1	1	114.73	116.38	1.65	1541 Amps	Line	
450	T-1 METCALF 230/115kV #2 XFMR BANK	CP LECEF	115.00-LECEFTAP	115.00 #1	1	114.64	116.3	1.66	1541 Amps	Line	
449	T-1 METCALF 230/115kV #1 XFMR BANK	CP LECEF	115.00-LECEFTAP	115.00 #1	1	114.62	116.28	1.66	1541 Amps	Line	
451	T-1 METCALF 230/115kV #3 XFMR BANK	CP LECEF	115.00-LECEFTAP	115.00 #1	1	114.59	116.24	1.65	1541 Amps	Line	
305	N-1 NEWARK - NORTHERN #2 115kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	114.44	116.23	1.79	1541 Amps	Line	
486	N-2 PITTSBURG - SANMATEO & PITTSBURG - EAST SHORE 230kV LINES	CP LECEF	115.00-LECEFTAP	115.00 #1	1	114.24	116.03	1.79	1541 Amps	Line	
337	N-1 KIFER - FMC 115kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	114.09	116.02	1.93	1541 Amps	Line	
317	N-1 NEWARK - ZANKER - KIFER 115kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	114.15	115.91	1.76	1541 Amps	Line	
654	G-1 CSC DVRaGT1	CP LECEF	115.00-LECEFTAP	115.00 #1	1	114.15	115.88	1.73	1541 Amps	Line	
655	G-1 CSC DVRbGT2	CP LECEF	115.00-LECEFTAP	115.00 #1	1	114.14	115.87	1.73	1541 Amps	Line	
401	N-1 MONTA VISTA - LOS GATOS 60kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	114.1	115.82	1.72	1541 Amps	Line	
427	T-1 RAVENSWOOD 230/115kV #1 XFMR BANK	CP LECEF	115.00-LECEFTAP	115.00 #1	1	114.08	115.81	1.73	1541 Amps	Line	
339	N-1 EVERGREEN - MARKHAM - SJ B 115kV LINE (Xfr. Markham)	CP LECEF	115.00-LECEFTAP	115.00 #1	1	114.43	115.74	1.31	1541 Amps	Line	
411	T-1 METCALF 500/230kV #13 XFMR BANK	CP LECEF	115.00-LECEFTAP	115.00 #1	1	114.07	115.74	1.67	1541 Amps	Line	
428	T-1 RAVENSWOOD 230/115kV #2 XFMR BANK	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.98	115.72	1.74	1541 Amps	Line	
546	N-2 METCALF E - SWIFT & METCALF E - PIERCY 115kV LINES	CP LECEF	115.00-LECEFTAP	115.00 #1	1	114.04	115.72	1.68	1541 Amps	Line	
540	N-2 MONTA VISTA - PHILLIPS - LAWRENCE & MONTA VISTA - BRITTON 115kV LINES	CP LECEF	115.00-LECEFTAP	115.00 #1	1	114.14	115.7	1.56	1541 Amps	Line	
104	N-1 MAXWELL-TRACY 500kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.91	115.68	1.77	1541 Amps	Line	
410	T-1 METCALF 500/230kV #12 XFMR BANK	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.99	115.67	1.68	1541 Amps	Line	
154	N-1 PITTSBURG - POTRERO D.C. LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	114.41	115.62	1.21	1541 Amps	Line	
505	N-2 TESLA - KELSO & TESLA - DELTAPUMP 230kV LINES	CP LECEF	115.00-LECEFTAP	115.00 #1	1	79.999	115.62	35.621	1541 Amps	Line	
304	N-1 NEWARK - NORTHERN #1 115kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.82	115.61	1.79	1541 Amps	Line	
108	N-1 TESLA-LOSBANOS 500kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.61	115.6	1.99	1541 Amps	Line	
409	T-1 METCALF 500/230kV #11 XFMR BANK	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.91	115.59	1.68	1541 Amps	Line	
105	N-1 TRACY-LOSBANOS 500kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.59	115.56	1.97	1541 Amps	Line	
503	N-2 METCALF - HICKS & METCALF - VASONA 230kV LINES	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.86	115.56	1.7	1541 Amps	Line	
300	N-1 EAST SHORE - DUMBARTON 115kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.78	115.52	1.74	1541 Amps	Line	
664	G-1 MOSS LANDING #7	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.79	115.52	1.73	1541 Amps	Line	
553	N-2 METCALF E - SWIFT & PIERCY - MCKEE 115kV LINES	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.83	115.51	1.68	1541 Amps	Line	
644	G-1 MEC STG1	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.77	115.49	1.72	1541 Amps	Line	
656	G-1 CSC DVRaST3	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.75	115.48	1.73	1541 Amps	Line	
642	G-1 MEC CTG1	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.72	115.44	1.72	1541 Amps	Line	
643	G-1 MEC CTG2	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.72	115.44	1.72	1541 Amps	Line	
102	N-1 TABLE MT-TESLA 500kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.68	115.43	1.75	1541 Amps	Line	
511	N-2 HICKS - METCALF & SARATOGA - VASONA 230kV LINES	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.73	115.43	1.7	1541 Amps	Line	
344	N-1 METCALF - EVERGREEN - STONE-GE #2 115kV LINE (Xfr. Stone-GE)	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.76	115.37	1.61	1541 Amps	Line	
338	N-1 SAN JOSE A - SAN JOSE B 115kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	114.14	115.33	1.19	1541 Amps	Line	

Thermal Summary Results -Sorted by Transmission Element Overload

Overloads shown in red text is identified as a post-project criteria violation

Overloads shown in orange text is identified as pre-existing criteria violation

Overloads shown in grey text are triggered by multiple element contingencies. Mitigation typically can involve RAS or SPS.

Overloads shown in green text are noted, but may have RAS or SPS not modeled and could require post-transient Analysis.

OUTAGE NO	OUTAGE DESCRIPTION		OVERLOADED ELEMENT			PRE E PCT	POST E PCT	E DELTA	E RATE	UNIT	ELEMENT TYPE
501	N-2 MONTAVIS - METCALF & MONTAVIS - MEC 230kV #3 & #4 LINES	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.65	115.33	1.68	1541 Amps	Line	
638	G-1 GILROY COGEN	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.57	115.3	1.73	1541 Amps	Line	
148	N-1 PITTSBURG - SAN MATEO 230kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.53	115.28	1.75	1541 Amps	Line	
158	N-1 SAN MATEO - MARTIN 230kV CABLE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.53	115.27	1.74	1541 Amps	Line	
434	T-1 EAST SHORE 230/115kV #1 XFMR BANK	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.51	115.25	1.74	1541 Amps	Line	
500	N-2 VASONA - METCALF & MOTAVISTA - HICKS 230kV LINES	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.54	115.24	1.7	1541 Amps	Line	
145	N-1 PITTSBURG - EAST SHORE 230kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.48	115.23	1.75	1541 Amps	Line	
329	N-1 MONTA VISTA - BRITTON 115kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.56	115.22	1.66	1541 Amps	Line	
525	N-2 MORAGA - J & SN LNDRO - J 115kV LINES	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.44	115.2	1.76	1541 Amps	Line	
361	N-1 CSC KIFER - DVR PP 115kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.37	115.12	1.75	1541 Amps	Line	
109	N-1 METCALF-MOSSLAND 500kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.49	79.999	-33.491	1541 Amps	Line	
110	N-1 MOSSLAND-LOSBANOS 500kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.47	79.999	-33.471	1541 Amps	Line	
328	N-1 MONTA VISTA - PHILLIPS - LAWRENCE 115kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.39	79.999	-33.391	1541 Amps	Line	
512	N-2 HICKS - MOTAVISTA & VASONA - SARATOGA 230kV LINES	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.41	79.999	-33.411	1541 Amps	Line	
629	G-1 REC PLANT	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.85	79.999	-33.851	1541 Amps	Line	
482	N-2 CONTRA COSTA - LOS PSTAS & CONTRA COSTA - CAYETANO 230kV LINES	DELTAPMP	230.00-WND MSTR	230.00 #1	1	79.999	118.3	38.301	1130 Amps	Line	
496	N-2 NORTH DUBLIN - VINYARD & CONTRA COSTA - LOS PASITAS 230kV LINES	DELTAPMP	230.00-WND MSTR	230.00 #1	1	79.999	112.68	32.681	1130 Amps	Line	
481	N-2 C.COSTA - MORAGA 230kV #1 & #2 LINES	DELTAPMP	230.00-WND MSTR	230.00 #1	1	79.999	108.79	28.791	1130 Amps	Line	
497	N-2 NORTH DUBLIN - VINYARD & LOS PASITAS - NEWARK 230kV LINES	DELTAPMP	230.00-WND MSTR	230.00 #1	1	79.999	103.98	23.981	1130 Amps	Line	
510	N-2 LS PSTAS - NEWARK & VINEYARD - NEWARK 230kV LINES	DELTAPMP	230.00-WND MSTR	230.00 #1	1	79.999	100.02	20.021	1130 Amps	Line	
134	N-1 C.COSTA - BRENTWOOD 230kV LINE	DELTAPMP	230.00-WND MSTR	230.00 #1	1	79.999	99.23	19.231	1130 Amps	Line	
492	N-2 PITTSBURG - SAN MATEO & EAST SHORE - SAN MATEO 230kV LINES	DUMBARTN	115.00-EASTSHRE	115.00 #1	1	198.48	202.14	3.66	949 Amps	Line	
159	N-1 EAST SHORE - SAN MATEO 230kV LINE	DUMBARTN	115.00-EASTSHRE	115.00 #1	1	185.92	189.05	3.13	949 Amps	Line	
492	N-2 PITTSBURG - SAN MATEO & EAST SHORE - SAN MATEO 230kV LINES	DUMBARTN	115.00-NEWARK D	115.00 #1	1	97.82	99.95	2.13	1541 Amps	Line	
300	N-1 EAST SHORE - DUMBARTON 115kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	126.2	128.42	2.22	1120 Amps	Line	
434	T-1 EAST SHORE 230/115kV #1 XFMR BANK	E. SHORE	230.00-SANMATEO	230.00 #1	1	120.83	122.85	2.02	1120 Amps	Line	
154	N-1 PITTSBURG - POTRERO D.C. LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	120.3	122.17	1.87	1120 Amps	Line	
160	N-1 NEWARK - RAVENSWOOD 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	116.28	119.35	3.07	1120 Amps	Line	
148	N-1 PITTSBURG - SAN MATEO 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	116.55	119.03	2.48	1120 Amps	Line	
535	N-2 EASTSHORE - MT EDEN #1 & #2 115kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	114.83	116.77	1.94	1120 Amps	Line	
301	N-1 DUMBARTON - NEWARK D 115kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	113.08	115.26	2.18	1120 Amps	Line	
488	N-2 PITTSBURG - TASSAJARA & PITTSBURG - SAN RAMON 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	112.72	114.43	1.71	1120 Amps	Line	
493	N-2 TESLA - NEWARK & TESLA - RAVENSWOOD 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	113.05	114.17	1.12	1120 Amps	Line	
494	N-2 RAVENSWOOD - SAN MATEO #1 & #2 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	110.38	112.45	2.07	1120 Amps	Line	
161	N-1 TESLA - RAVENSWOOD 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	110.42	111.86	1.44	1120 Amps	Line	
507	N-2 PITTSBURG - SANRAMON & TASSAJAR - NEWARK 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	110.07	111.77	1.7	1120 Amps	Line	
615	G-1 POTRERO #3	E. SHORE	230.00-SANMATEO	230.00 #1	1	109.69	111.6	1.91	1120 Amps	Line	
142	N-1 PITTSBURG - TASSAJAR 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	109.31	111.38	2.07	1120 Amps	Line	
509	N-2 CASTROVL - NEWARK & TASSAJAR - NEWARK 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	108.56	111.12	2.56	1120 Amps	Line	
107	N-1 TESLA-METCALF 500kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	108.44	110.68	2.24	1120 Amps	Line	
495	N-2 MONTAVISTA - JEFFERSON 230kV #1 & #2 LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	108.98	110.15	1.17	1120 Amps	Line	
484	N-2 PITTSBURG - TESORO & PITTSBURG - TIDEWATER 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	108.07	109.59	1.52	1120 Amps	Line	
482	N-2 CONTRA COSTA - LOS PSTAS & CONTRA COSTA - CAYETANO 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	106.83	109.52	2.69	1120 Amps	Line	
487	N-2 PITTSBURG - TESLA #1 & #2 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	106.44	109.52	3.08	1120 Amps	Line	
496	N-2 NORTH DUBLIN - VINYARD & CONTRA COSTA - LOS PASITAS 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	106.48	109.18	2.7	1120 Amps	Line	
497	N-2 NORTH DUBLIN - VINYARD & LOS PASITAS - NEWARK 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	106.25	109.11	2.86	1120 Amps	Line	
152	N-1 TASSAJAR - NEWARK E 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	106.86	108.9	2.04	1120 Amps	Line	
179	N-1 TESLA - NEWARK 230kV #2 LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	107.01	108.74	1.73	1120 Amps	Line	
506	N-2 LOS ESTEROS - METCALF & TESLA - NEWARK 230kV #2 LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	106.93	108.71	1.78	1120 Amps	Line	
510	N-2 LS PSTAS - NEWARK & VINEYARD - NEWARK 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	105.81	108.66	2.85	1120 Amps	Line	

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Overloads shown in green text are noted, but may have RAS or SPS not modeled and could require post-transient Analysis.

OUTAGE NO	OUTAGE DESCRIPTION	OVERLOADED ELEMENT				PRE E PCT	POST E PCT	E DELTA	E RATE	UNIT	ELEMENT TYPE
485	N-2 TESORO - SOBRANTE & TIDEWATER - SOBRANTE 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	106.91	108.42	1.51	1120 Amps	Line	
503	N-2 METCALF - HICKS & METCALF - VASONA 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	106.4	108.23	1.83	1120 Amps	Line	
435	T-1 EAST SHORE 230/115kV #2 XFMR BANK	E. SHORE	230.00-SANMATEO	230.00 #1	1	106.23	108.16	1.93	1120 Amps	Line	
501	N-2 MONTAVIS - METCALF & MONTAVIS - MEC 230kV #3 & #4 LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	106.31	108.12	1.81	1120 Amps	Line	
508	N-2 MORAGA - SANRAMON & TASSAJAR - NEWARK 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	106.33	108.06	1.73	1120 Amps	Line	
150	N-1 MORAGA - CASTROVL 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	105.64	107.97	2.33	1120 Amps	Line	
511	N-2 HICKS - METCALF & SARATOGA - VASONA 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	106.12	107.96	1.84	1120 Amps	Line	
141	N-1 PITTSBURG - SAN RAMON 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	106.27	107.87	1.6	1120 Amps	Line	
498	N-2 TESLA - NEWARK #2 & NWK DIST - LOS ESTEROS 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	106.27	107.81	1.54	1120 Amps	Line	
295	N-1 SAN FRANCISCO AIRPORT - UNITED COGEN 115kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	105.88	107.79	1.91	1120 Amps	Line	
137	N-1 LONETREE-C.COSTA 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	105.28	107.52	2.24	1120 Amps	Line	
500	N-2 VASONA - METCALF & MOTAVISTA - HICKS 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	105.65	107.48	1.83	1120 Amps	Line	
483	N-2 CAYETANO - NDUBLIN & CONTRA COSTA - CAYETANO 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	105.06	107.31	2.25	1120 Amps	Line	
172	N-1 CASTROVL - NEWARK 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.99	107.3	2.31	1120 Amps	Line	
157	N-1 JEFFERSON - MARTIN 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	105.86	107.24	1.38	1120 Amps	Line	
136	N-1 C.COSTA - LS PSTAS 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	105	107.23	2.23	1120 Amps	Line	
512	N-2 HICKS - MOTAVISTA & VASONA - SARATOGA 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	105.38	107.21	1.83	1120 Amps	Line	
175	N-1 LS PSTAS - NEWARK 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.83	107.2	2.37	1120 Amps	Line	
138	N-1 CAYETANO-LONETREE 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.95	107.19	2.24	1120 Amps	Line	
505	N-2 TESLA - KELSO & TESLA - DELTAPUMP 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.38	107.13	2.75	1120 Amps	Line	
169	N-1 CAYETANO-NDUBLIN 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.86	107.09	2.23	1120 Amps	Line	
616	G-1 POTRERO #4 CT	E. SHORE	230.00-SANMATEO	230.00 #1	1	105.18	107.08	1.9	1120 Amps	Line	
617	G-1 POTRERO #5 CT	E. SHORE	230.00-SANMATEO	230.00 #1	1	105.18	107.08	1.9	1120 Amps	Line	
618	G-1 POTRERO #6 CT	E. SHORE	230.00-SANMATEO	230.00 #1	1	105.18	107.08	1.9	1120 Amps	Line	
170	N-1 NDUBLIN-VINYARD 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.82	107.06	2.24	1120 Amps	Line	
406	T-1 TESLA 500/230kV #2 XFMR BANK	E. SHORE	230.00-SANMATEO	230.00 #1	1	105.22	107.03	1.81	1120 Amps	Line	
426	T-1 JEFFERSON 230/60kV #1 XFMR BANK	E. SHORE	230.00-SANMATEO	230.00 #1	1	105.19	107.02	1.83	1120 Amps	Line	
147	N-1 PITTSBURG - TESLA C 230kV #2 LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.69	107	2.31	1120 Amps	Line	
146	N-1 PITTSBURG - TESLA C 230kV #1 LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.69	106.99	2.3	1120 Amps	Line	
490	N-2 MORAGA - SANRAMON & MORAGA - CASTROVALLY 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.86	106.89	2.03	1120 Amps	Line	
162	N-1 SAN MATEO - RAVENSWOOD #1 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.95	106.88	1.93	1120 Amps	Line	
163	N-1 SAN MATEO - RAVENSWOOD #2 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.95	106.88	1.93	1120 Amps	Line	
645	G-1 MEC PLANT	E. SHORE	230.00-SANMATEO	230.00 #1	1	105.02	106.87	1.85	1120 Amps	Line	
536	N-2 NEWARK - NORTHERN #1 & #2 115kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.77	106.76	1.99	1120 Amps	Line	
187	N-1 HICKS - METCALF 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.86	106.73	1.87	1120 Amps	Line	
304	N-1 NEWARK - NORTHERN #1 115kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.74	106.73	1.99	1120 Amps	Line	
171	N-1 VINYARD - NEWARK 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.46	106.7	2.24	1120 Amps	Line	
143	N-1 PITTSBURG - TIDEWATR 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.87	106.68	1.81	1120 Amps	Line	
533	N-2 RAVENSWOOD - BAIR #1 & #2 115kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.74	106.65	1.91	1120 Amps	Line	
104	N-1 MAXWELL-TRACY 500kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.67	106.64	1.97	1120 Amps	Line	
499	N-2 MONTAVISTA - SARATOGA & MONTAVISTA - HICKS 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.8	106.63	1.83	1120 Amps	Line	
185	N-1 MONTAVIS - METCALF ENERGY CENTER 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.7	106.57	1.87	1120 Amps	Line	
165	N-1 MONTA VISTA - JEFFERSON #2 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.75	106.55	1.8	1120 Amps	Line	
183	N-1 VASONA - METCALF 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.67	106.55	1.88	1120 Amps	Line	
184	N-1 MONTAVIS - METCALF 230kV #3 LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.66	106.53	1.87	1120 Amps	Line	
622	G-1 UNITED COGEN SFQF	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.57	106.48	1.91	1120 Amps	Line	
144	N-1 PITTSBURG - TESORO 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.57	106.39	1.82	1120 Amps	Line	
102	N-1 TABLE MT-TESLA 500kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.43	106.38	1.95	1120 Amps	Line	
108	N-1 TESLA-LOSBANOS 500kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.24	106.37	2.13	1120 Amps	Line	
134	N-1 C.COSTA - BRENTWOOD 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.18	106.36	2.18	1120 Amps	Line	

Thermal Summary Results -Sorted by Transmission Element Overload

Overloads shown in red text is identified as a post-project criteria violation

Overloads shown in orange text is identified as pre-existing criteria violation

Overloads shown in grey text are triggered by multiple element contingencies. Mitigation typically can involve RAS or SPS.

Overloads shown in green text are noted, but may have RAS or SPS not modeled and could require post-transient Analysis.

OUTAGE NO	OUTAGE DESCRIPTION	OVERLOADED ELEMENT				PRE E PCT	POST E PCT	E DELTA	E RATE	UNIT	ELEMENT TYPE
135	N-1 C.COSTA - DELTAPMP 230kv LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.09	106.36	2.27	1120 Amps	Line	
362	N-1 CSC NORTHERN - SCOTT #1 115kv LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.44	106.36	1.92	1120 Amps	Line	
167	N-1 DELTAPMP - TESLA D 230kv LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.09	106.35	2.26	1120 Amps	Line	
182	N-1 TSARATOGA - VASONA 230kv LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.47	106.35	1.88	1120 Amps	Line	
526	N-2 PITTS - MARTZ 115kv #1 & #2 LINES, WP BART, BOLLMAN, CCCSD LD & CCCSD	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.48	106.35	1.87	1120 Amps	Line	
542	N-2 NORTHERN - SCOTT #1 & #2 115kv LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.43	106.35	1.92	1120 Amps	Line	
491	N-2 MORAGA - SANRAMON & CASTROVALLY - NEWARK 230kv LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.29	106.31	2.02	1120 Amps	Line	
411	T-1 METCALF 500/230kv #13 XFMR BANK	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.42	106.29	1.87	1120 Amps	Line	
537	N-2 NEWARK - LAWRENCE - MOFFET - LOCKHEED & NEWARK - AMD - APPLIED MATERIALS 115	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.29	106.29	2	1120 Amps	Line	
105	N-1 TRACY-LOSBANOS 500kv LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.17	106.26	2.09	1120 Amps	Line	
410	T-1 METCALF 500/230kv #12 XFMR BANK	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.38	106.25	1.87	1120 Amps	Line	
516	N-2 SOBRANTE - STANDARD OIL 115kv #1 & #2 LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.31	106.22	1.91	1120 Amps	Line	
624	G-1 CARDINAL #1	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.31	106.22	1.91	1120 Amps	Line	
664	G-1 MOSS LANDING #7	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.31	106.22	1.91	1120 Amps	Line	
149	N-1 TIDEWATR - SOBRANTE 230kv LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.4	106.21	1.81	1120 Amps	Line	
409	T-1 METCALF 500/230kv #11 XFMR BANK	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.33	106.21	1.88	1120 Amps	Line	
181	N-1 MONTAVIS - HICKS 230kv LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.3	106.17	1.87	1120 Amps	Line	
520	N-2 MARTINEZ - SOBRANTE 115kv LINE & OLEUM - MARTINEZ 115kv LINES & ALHAMBRA LOA	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.29	106.17	1.88	1120 Amps	Line	
515	N-2 RICHMOND R - SOBRANTE 115kv #1 & #2 LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.25	106.16	1.91	1120 Amps	Line	
176	N-1 TESLA - NEWARK 230kv #1 LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.31	106.14	1.83	1120 Amps	Line	
420	T-1 SOBRANTE 230/115kv #1 XFMR BANK	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.29	106.13	1.84	1120 Amps	Line	
153	N-1 BRENTWOOD - KELSO 230kv LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	79.999	106.12	26.121	1120 Amps	Line	
389	N-1 COOLEY LANDING - STANDFORD 60kv LINE (SRI-MENLO)	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.21	106.11	1.9	1120 Amps	Line	
644	G-1 MEC STG1	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.2	106.1	1.9	1120 Amps	Line	
166	N-1 KELSO - TESLA D 230kv LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	79.999	106.09	26.091	1120 Amps	Line	
354	N-1 GILROY - LLAGAS 115kv LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.18	106.09	1.91	1120 Amps	Line	
421	T-1 SOBRANTE 230/115kv #2 XFMR BANK	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.25	106.09	1.84	1120 Amps	Line	
236	N-1 PITTSBURG - MARTINEZ 115kv #1 LINE & WILLOW PASS BART LOAD & BOLLMAN LOAD	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.17	106.07	1.9	1120 Amps	Line	
518	N-2 OLEUM - MARTINEZ & LINEOLEUM - N.TOWER-CHRISTE 115kv LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.17	106.07	1.9	1120 Amps	Line	
642	G-1 MEC CTG1	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.16	106.07	1.91	1120 Amps	Line	
643	G-1 MEC CTG2	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.16	106.07	1.91	1120 Amps	Line	
384	N-1 COOLEY LANDING - STANDFORD 60kv LINE (CLY LNDG-SRI)	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.17	106.06	1.89	1120 Amps	Line	
361	N-1 CSC KIFER - DVR PP 115kv LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.13	106.05	1.92	1120 Amps	Line	
527	N-2 PITTSBURG - CLAYTON 115kv #1 & #3 LINE & KIRKER LD RADIAL FROM PITTS-KIRKER-	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.15	106.04	1.89	1120 Amps	Line	
519	N-2 OLEUM - NTR - CHRITIE & MARTNZ - ALHABRA - SOBRANTE 115kv LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.12	106.02	1.9	1120 Amps	Line	
548	N-2 TRIBLE - SAN JOSE B & KIFER - FMC-SAN JOSE B 115kv LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.04	106.01	1.97	1120 Amps	Line	
314	N-1 NEWARK - LAWRENCE - MOFFET - LOCKHEED 115kv LINE (Xfr. Lockheed)	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.06	106	1.94	1120 Amps	Line	
199	N-1 OLEUM - NORTH TOWER - CHRISTIE 115kv LINE & NORTH TOWER LOAD	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.07	105.98	1.91	1120 Amps	Line	
315	N-1 NEWARK - AMD - APPLIED MATERIALS 115kv LINE (Xfr. Lockheed)	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.01	105.95	1.94	1120 Amps	Line	
285	N-1 BELMONT - BAIR 115kv LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.04	105.94	1.9	1120 Amps	Line	
379	N-1 HALF MOON BAY - HILLSDALE JCT 60kv LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.02	105.93	1.91	1120 Amps	Line	
480	N-2 CONTRA COSTA SUB - COCO & BIRDS LANDING - CONTRA COSTA SUB 230kv LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.02	105.93	1.91	1120 Amps	Line	
517	N-2 SOBRANTE - GRIZLY - CLAIRMONT 115kv #1 & #2 LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.08	105.93	1.85	1120 Amps	Line	
180	N-1 MONTAVIS - SARATOGA 230kv LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.04	105.92	1.88	1120 Amps	Line	
521	N-2 OLEUM - EL CERRITO STATION G 115kv LINES 1 & 2 & VALLEY VIEW LOAD	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.01	105.91	1.9	1120 Amps	Line	
164	N-1 MONTA VISTA - JEFFERSON #1 230kv LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.09	79.999	-24.091	1120 Amps	Line	
418	T-1 PITTSBURG 230/115kv #12 XFMR BANK	E. SHORE	230.00-SANMATEO	230.00 #1	1	103.97	79.999	-23.971	1120 Amps	Line	
419	T-1 PITTSBURG 230/115kv #13 XFMR BANK	E. SHORE	230.00-SANMATEO	230.00 #1	1	103.97	79.999	-23.971	1120 Amps	Line	
624	G-1 CARDINAL #1	GLENWOOD	60.00-S.R.I.	60.00 #1	1	121.03	123.68	2.65	523 Amps	Line	
481	N-2 C.COSTA - MORAGA 230kv #1 & #2 LINES	LONETREE	230.00-USWP-JRW	230.00 #1	1	83.09	107.47	24.38	1005 Amps	Line	

Thermal Summary Results -Sorted by Transmission Element Overload

Overloads shown in red text is identified as a post-project criteria violation

Overloads shown in orange text is identified as pre-existing criteria violation

Overloads shown in grey text are triggered by multiple element contingencies. Mitigation typically can involve RAS or SPS.

Overloads shown in green text are noted, but may have RAS or SPS not modeled and could require post-transient Analysis.

OUTAGE NO	OUTAGE DESCRIPTION	OVERLOADED ELEMENT				PRE E PCT	POST E PCT	E DELTA	E RATE	UNIT	ELEMENT TYPE
505 N-2 TESLA - KELSO & TESLA - DELTAPUMP 230kV LINES		LONETREE	230.00-USWP-JRW	230.00 #1	1	79.999	105	25.001	1005 Amps	Line	
136 N-1 C.COSTA - LS PSTAS 230kV LINE		LONETREE	230.00-USWP-JRW	230.00 #1	1	81.74	103.87	22.13	1005 Amps	Line	
481 N-2 C.COSTA - MORAGA 230kV #1 & #2 LINES		LS PSTAS	230.00-NEWARK D	230.00 #1	1	81.28	115.93	34.65	851 Amps	Line	
505 N-2 TESLA - KELSO & TESLA - DELTAPUMP 230kV LINES		LS PSTAS	230.00-NEWARK D	230.00 #1	1	79.999	113.5	33.501	851 Amps	Line	
137 N-1 LONETREE-C.COSTA 230kV LINE		LS PSTAS	230.00-NEWARK D	230.00 #1	1	79.999	110.43	30.431	851 Amps	Line	
483 N-2 CAYETANO - NDUBLIN & CONTRA COSTA - CAYETANO 230kV LINES		LS PSTAS	230.00-NEWARK D	230.00 #1	1	79.999	108.54	28.541	851 Amps	Line	
138 N-1 CAYETANO-LONETREE 230kV LINE		LS PSTAS	230.00-NEWARK D	230.00 #1	1	79.999	106.74	26.741	851 Amps	Line	
169 N-1 CAYETANO-NDUBLIN 230kV LINE		LS PSTAS	230.00-NEWARK D	230.00 #1	1	79.999	105.52	25.521	851 Amps	Line	
170 N-1 NDUBLIN-VINYARD 230kV LINE		LS PSTAS	230.00-NEWARK D	230.00 #1	1	79.999	104.25	24.251	851 Amps	Line	
493 N-2 TESLA - NEWARK & TESLA - RAVENSWOOD 230kV LINES		LS PSTAS	230.00-NEWARK D	230.00 #1	1	79.999	101.59	21.591	851 Amps	Line	
107 N-1 TESLA-METCALF 500kV LINE		LS PSTAS	230.00-NEWARK D	230.00 #1	1	79.999	101.53	21.531	851 Amps	Line	
506 N-2 LOS ESTEROS - METCALF & TESLA - NEWARK 230kV #2 LINES		LS PSTAS	230.00-NEWARK D	230.00 #1	1	79.999	101.23	21.231	851 Amps	Line	
509 N-2 CASTROVL - NEWARK & TASSAJAR - NEWARK 230kV LINES		LS PSTAS	230.00-NEWARK D	230.00 #1	1	79.999	100.17	20.171	851 Amps	Line	
135 N-1 C.COSTA - DELTAPMP 230kV LINE		LS PSTAS	230.00-NEWARK D	230.00 #1	1	79.999	99.88	19.881	851 Amps	Line	
171 N-1 VINYARD - NEWARK 230kV LINE		LS PSTAS	230.00-NEWARK D	230.00 #1	1	79.999	99.87	19.871	851 Amps	Line	
167 N-1 DELTAPMP - TESLA D 230kV LINE		LS PSTAS	230.00-NEWARK D	230.00 #1	1	79.999	99.83	19.831	851 Amps	Line	
134 N-1 C.COSTA - BRENTWOOD 230kV LINE		LS PSTAS	230.00-NEWARK D	230.00 #1	1	79.999	99.58	19.581	851 Amps	Line	
490 N-2 MORAGA - SANRAMON & MORAGA - CASTROVALLY 230kV LINES		LS PSTAS	230.00-NEWARK D	230.00 #1	1	79.999	99.44	19.441	851 Amps	Line	
477 N-2 BIRDS LANDING - PEABODY & BIRDS LANDING - LAMBIE 230kV LINES		LS PSTAS	230.00-NEWARK D	230.00 #1	1	79.999	99.34	19.341	851 Amps	Line	
476 N-2 VACA - PEABODY & VACA - LAMBIE 230kV LINES		LS PSTAS	230.00-NEWARK D	230.00 #1	1	79.999	99.2	19.201	851 Amps	Line	
179 N-1 TESLA - NEWARK 230kV #2 LINE		LS PSTAS	230.00-NEWARK D	230.00 #1	1	79.999	99.07	19.071	851 Amps	Line	
150 N-1 MORAGA - CASTROVL 230kV LINE		LS PSTAS	230.00-NEWARK D	230.00 #1	1	79.999	98	18.001	851 Amps	Line	
542 N-2 NORTHERN - SCOTT #1 & #2 115kV LINES		NRS 400	115.00-NRS 600	60.00 #1	0	105.53	106.94	1.41	167 MVA	XFMR	
362 N-1 CSC NORTHERN - SCOTT #1 115kV LINE		NRS 400	115.00-NRS 600	60.00 #1	0	101.09	102.41	1.32	167 MVA	XFMR	
467 T-1 CSC NORTHERN 115/60kV #1 XFMR BANK		NRS 400	115.00-SRS	115.00 #1	1	107.85	109.9	2.05	1144 Amps	Line	
468 T-1 CSC NORTHERN 115/60kV #NA XFMR BANK		NRS 400	115.00-SRS	115.00 #1	1	107.85	109.9	2.05	1144 Amps	Line	
461 T-1 SAN MATEO 115/60kV #8 XFMR BANK		SAN MATO	60.00-SMATEO3M	115.00 #3	0	102.54	105.39	2.85	68 MVA	XFMR	
461 T-1 SAN MATEO 115/60kV #8 XFMR BANK		SANMATEO	115.00-SMATEO3M	115.00 #3	0	103.3	106.17	2.87	68 MVA	XFMR	
340 N-2 METCALF - EL PATIO(-IBM HR) #1 & #2 LINES		SJ B E	115.00-TRIMBLE	115.00 #1	1	119.83	124.96	5.13	924 Amps	Line	
107 N-1 TESLA-METCALF 500kV LINE		SJ B E	115.00-TRIMBLE	115.00 #1	1	100.36	110.89	10.53	924 Amps	Line	
550 N-2 METCALF - EVERGREEN - STONE - GE #2 & METCALF-EVERGREEN #1 115kV LINES		SJ B E	115.00-TRIMBLE	115.00 #1	1	99.47	105.05	5.58	924 Amps	Line	
542 N-2 NORTHERN - SCOTT #1 & #2 115kV LINES		SJ B E	115.00-TRIMBLE	115.00 #1	1	95.47	104.28	8.81	924 Amps	Line	
103 N-1 VACA-DIX-TESLA 500kV LINE		TABLE MT	500.00-TESLA	500.00 #1	2	97.52	99.24	1.72	2964 Amps	Line	
102 N-1 TABLE MT-TESLA 500kV LINE		TESLA	500.00-VACA-DIX	500.00 #1	2	95.39	105.04	9.65	2816 Amps	Line	
104 N-1 MAXWELL-TRACY 500kV LINE		TESLA	500.00-VACA-DIX	500.00 #1	2	89.78	99	9.22	2816 Amps	Line	

Thermal Summary Results -Sorted by Transmission Element Contingency

OUTAGE NO	OUTAGE DESCRIPTION		OVERLOADED ELEMENT			PRE E PCT	POST E PCT	E DELTA	E RATE	UNIT	ELEMENT TYPE
102	N-1 TABLE MT-TESLA 500kV LINE		CP LECEF 115.00-LECEFTAP	115.00 #1	1	113.68	115.43	1.75	1541 Amps	Line	
102	N-1 TABLE MT-TESLA 500kV LINE		E. SHORE 230.00-SANMATEO	230.00 #1	1	104.43	106.38	1.95	1120 Amps	Line	
102	N-1 TABLE MT-TESLA 500kV LINE		TESLA 500.00-VACA-DIX	500.00 #1	2	95.39	105.04	9.65	2816 Amps	Line	
103	N-1 VACA-DIX-TESLA 500kV LINE		TABLE MT 500.00-TESLA	500.00 #1	2	97.52	99.24	1.72	2964 Amps	Line	
104	N-1 MAXWELL-TRACY 500kV LINE		CP LECEF 115.00-LECEFTAP	115.00 #1	1	113.91	115.68	1.77	1541 Amps	Line	
104	N-1 MAXWELL-TRACY 500kV LINE		E. SHORE 230.00-SANMATEO	230.00 #1	1	104.67	106.64	1.97	1120 Amps	Line	
104	N-1 MAXWELL-TRACY 500kV LINE		TESLA 500.00-VACA-DIX	500.00 #1	2	89.78	99	9.22	2816 Amps	Line	
105	N-1 TRACY-LOSBANOS 500kV LINE		CP LECEF 115.00-LECEFTAP	115.00 #1	1	113.59	115.56	1.97	1541 Amps	Line	
105	N-1 TRACY-LOSBANOS 500kV LINE		E. SHORE 230.00-SANMATEO	230.00 #1	1	104.17	106.26	2.09	1120 Amps	Line	
107	N-1 TESLA-METCALF 500kV LINE		CP LECEF 115.00-LECEFTAP	115.00 #1	1	119.11	121.25	2.14	1541 Amps	Line	
107	N-1 TESLA-METCALF 500kV LINE		E. SHORE 230.00-SANMATEO	230.00 #1	1	108.44	110.68	2.24	1120 Amps	Line	
107	N-1 TESLA-METCALF 500kV LINE		LS PSTAS 230.00-NEWARK D	230.00 #1	1	79.999	101.53	21.531	851 Amps	Line	
107	N-1 TESLA-METCALF 500kV LINE		SJ B E 115.00-TRIMBLE	115.00 #1	1	100.36	110.89	10.53	924 Amps	Line	
108	N-1 TESLA-LOSBANOS 500kV LINE		CP LECEF 115.00-LECEFTAP	115.00 #1	1	113.61	115.6	1.99	1541 Amps	Line	
108	N-1 TESLA-LOSBANOS 500kV LINE		E. SHORE 230.00-SANMATEO	230.00 #1	1	104.24	106.37	2.13	1120 Amps	Line	
109	N-1 METCALF-MOSSLAND 500kV LINE		CP LECEF 115.00-LECEFTAP	115.00 #1	1	113.49	79.999	-33.491	1541 Amps	Line	
110	N-1 MOSSLAND-LOSBANOS 500kV LINE		CP LECEF 115.00-LECEFTAP	115.00 #1	1	113.47	79.999	-33.471	1541 Amps	Line	
134	N-1 C.COSTA - BRENTWOOD 230kV LINE		ALTM MDW 230.00-DELTAPMP	230.00 #1	1	79.999	99	19.001	1130 Amps	Line	
134	N-1 C.COSTA - BRENTWOOD 230kV LINE		ALTM MDW 230.00-TESLA D	230.00 #1	1	79.999	98.93	18.931	1130 Amps	Line	
134	N-1 C.COSTA - BRENTWOOD 230kV LINE		C.COSTA 230.00-WND MSTR	230.00 #1	1	79.999	99.39	19.391	1130 Amps	Line	
134	N-1 C.COSTA - BRENTWOOD 230kV LINE		DELTAPMP 230.00-WND MSTR	230.00 #1	1	79.999	99.23	19.231	1130 Amps	Line	
134	N-1 C.COSTA - BRENTWOOD 230kV LINE		E. SHORE 230.00-SANMATEO	230.00 #1	1	104.18	106.36	2.18	1120 Amps	Line	
134	N-1 C.COSTA - BRENTWOOD 230kV LINE		LS PSTAS 230.00-NEWARK D	230.00 #1	1	79.999	99.58	19.581	851 Amps	Line	
135	N-1 C.COSTA - DELTAPMP 230kV LINE		E. SHORE 230.00-SANMATEO	230.00 #1	1	104.09	106.36	2.27	1120 Amps	Line	
135	N-1 C.COSTA - DELTAPMP 230kV LINE		LS PSTAS 230.00-NEWARK D	230.00 #1	1	79.999	99.88	19.881	851 Amps	Line	
136	N-1 C.COSTA - LS PSTAS 230kV LINE		CAYETANO 230.00-NDUBLIN	230.00 #1	1	79.999	98.1	18.101	1004 Amps	Line	
136	N-1 C.COSTA - LS PSTAS 230kV LINE		CAYETANO 230.00-USWP-JRW	230.00 #1	1	81.47	103.64	22.17	1005 Amps	Line	
136	N-1 C.COSTA - LS PSTAS 230kV LINE		E. SHORE 230.00-SANMATEO	230.00 #1	1	105	107.23	2.23	1120 Amps	Line	
136	N-1 C.COSTA - LS PSTAS 230kV LINE		LONETREE 230.00-USWP-JRW	230.00 #1	1	81.74	103.87	22.13	1005 Amps	Line	
137	N-1 LONETREE-C.COSTA 230kV LINE		E. SHORE 230.00-SANMATEO	230.00 #1	1	105.28	107.52	2.24	1120 Amps	Line	
137	N-1 LONETREE-C.COSTA 230kV LINE		LS PSTAS 230.00-NEWARK D	230.00 #1	1	79.999	110.43	30.431	851 Amps	Line	
138	N-1 CAYETANO-LONETREE 230kV LINE		E. SHORE 230.00-SANMATEO	230.00 #1	1	104.95	107.19	2.24	1120 Amps	Line	
138	N-1 CAYETANO-LONETREE 230kV LINE		LS PSTAS 230.00-NEWARK D	230.00 #1	1	79.999	106.74	26.741	851 Amps	Line	
141	N-1 PITTSBURG - SAN RAMON 230kV LINE		E. SHORE 230.00-SANMATEO	230.00 #1	1	106.27	107.87	1.6	1120 Amps	Line	
142	N-1 PITTSBURG - TASSAJAR 230kV LINE		E. SHORE 230.00-SANMATEO	230.00 #1	1	109.31	111.38	2.07	1120 Amps	Line	
143	N-1 PITTSBURG - TIDEWATR 230kV LINE		E. SHORE 230.00-SANMATEO	230.00 #1	1	104.87	106.68	1.81	1120 Amps	Line	
144	N-1 PITTSBURG - TESORO 230kV LINE		E. SHORE 230.00-SANMATEO	230.00 #1	1	104.57	106.39	1.82	1120 Amps	Line	
145	N-1 PITTSBURG - EAST SHORE 230kV LINE		CP LECEF 115.00-LECEFTAP	115.00 #1	1	113.48	115.23	1.75	1541 Amps	Line	
146	N-1 PITTSBURG - TESLA C 230kV #1 LINE		E. SHORE 230.00-SANMATEO	230.00 #1	1	104.69	106.99	2.3	1120 Amps	Line	
147	N-1 PITTSBURG - TESLA C 230kV #2 LINE		E. SHORE 230.00-SANMATEO	230.00 #1	1	104.69	107	2.31	1120 Amps	Line	
148	N-1 PITTSBURG - SAN MATEO 230kV LINE		CP LECEF 115.00-LECEFTAP	115.00 #1	1	113.53	115.28	1.75	1541 Amps	Line	
148	N-1 PITTSBURG - SAN MATEO 230kV LINE		E. SHORE 230.00-SANMATEO	230.00 #1	1	116.55	119.03	2.48	1120 Amps	Line	
149	N-1 TIDEWATR - SOBRANTE 230kV LINE		E. SHORE 230.00-SANMATEO	230.00 #1	1	104.4	106.21	1.81	1120 Amps	Line	
150	N-1 MORAGA - CASTROVL 230kV LINE		E. SHORE 230.00-SANMATEO	230.00 #1	1	105.64	107.97	2.33	1120 Amps	Line	
150	N-1 MORAGA - CASTROVL 230kV LINE		LS PSTAS 230.00-NEWARK D	230.00 #1	1	79.999	98	18.001	851 Amps	Line	
152	N-1 TASSAJAR - NEWARK E 230kV LINE		E. SHORE 230.00-SANMATEO	230.00 #1	1	106.86	108.9	2.04	1120 Amps	Line	
153	N-1 BRENTWOOD - KELSO 230kV LINE		E. SHORE 230.00-SANMATEO	230.00 #1	1	79.999	106.12	26.121	1120 Amps	Line	
154	N-1 PITTSBURG - POTRERO D.C. LINE		CP LECEF 115.00-LECEFTAP	115.00 #1	1	114.41	115.62	1.21	1541 Amps	Line	
154	N-1 PITTSBURG - POTRERO D.C. LINE		E. SHORE 230.00-SANMATEO	230.00 #1	1	120.3	122.17	1.87	1120 Amps	Line	
157	N-1 JEFFERSON - MARTIN 230kV LINE		E. SHORE 230.00-SANMATEO	230.00 #1	1	105.86	107.24	1.38	1120 Amps	Line	
158	N-1 SAN MATEO - MARTIN 230kV CABLE		CP LECEF 115.00-LECEFTAP	115.00 #1	1	113.53	115.27	1.74	1541 Amps	Line	
159	N-1 EAST SHORE - SAN MATEO 230kV LINE		DUMBARTN 115.00-EASTSHRE	115.00 #1	1	185.92	189.05	3.13	949 Amps	Line	

Thermal Summary Results -Sorted by Transmission Element Contingency

OUTAGE NO	OUTAGE DESCRIPTION		OVERLOADED ELEMENT			PRE E PCT	POST E PCT	E DELTA	E RATE	UNIT	ELEMENT TYPE
160	N-1 NEWARK - RAVENSWOOD 230kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	115.3	117.25	1.95	1541 Amps	Line	
160	N-1 NEWARK - RAVENSWOOD 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	116.28	119.35	3.07	1120 Amps	Line	
161	N-1 TESLA - RAVENSWOOD 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	110.42	111.86	1.44	1120 Amps	Line	
162	N-1 SAN MATEO - RAVENSWOOD #1 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.95	106.88	1.93	1120 Amps	Line	
163	N-1 SAN MATEO - RAVENSWOOD #2 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.95	106.88	1.93	1120 Amps	Line	
164	N-1 MONTA VISTA - JEFFERSON #1 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.09	79.999	-24.091	1120 Amps	Line	
165	N-1 MONTA VISTA - JEFFERSON #2 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.75	106.55	1.8	1120 Amps	Line	
166	N-1 KELSO - TESLA D 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	79.999	106.09	26.091	1120 Amps	Line	
167	N-1 DELTAPMP - TESLA D 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.09	106.35	2.26	1120 Amps	Line	
167	N-1 DELTAPMP - TESLA D 230kV LINE	LS PSTAS	230.00-NEWARK D	230.00 #1	1	79.999	99.83	19.831	851 Amps	Line	
169	N-1 CAYETANO-NDUBLIN 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.86	107.09	2.23	1120 Amps	Line	
169	N-1 CAYETANO-NDUBLIN 230kV LINE	LS PSTAS	230.00-NEWARK D	230.00 #1	1	79.999	105.52	25.521	851 Amps	Line	
170	N-1 NDUUBLIN-VINYARD 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.82	107.06	2.24	1120 Amps	Line	
170	N-1 NDUUBLIN-VINYARD 230kV LINE	LS PSTAS	230.00-NEWARK D	230.00 #1	1	79.999	104.25	24.251	851 Amps	Line	
171	N-1 VINYARD - NEWARK 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.46	106.7	2.24	1120 Amps	Line	
171	N-1 VINYARD - NEWARK 230kV LINE	LS PSTAS	230.00-NEWARK D	230.00 #1	1	79.999	99.87	19.871	851 Amps	Line	
172	N-1 CASTROVL - NEWARK 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.99	107.3	2.31	1120 Amps	Line	
175	N-1 LS PSTAS - NEWARK 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.83	107.2	2.37	1120 Amps	Line	
176	N-1 TESLA - NEWARK 230kV #1 LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.31	106.14	1.83	1120 Amps	Line	
179	N-1 TESLA - NEWARK 230kV #2 LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	107.01	108.74	1.73	1120 Amps	Line	
179	N-1 TESLA - NEWARK 230kV #2 LINE	LS PSTAS	230.00-NEWARK D	230.00 #1	1	79.999	99.07	19.071	851 Amps	Line	
180	N-1 MONTAVIS - SARATOGA 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.04	105.92	1.88	1120 Amps	Line	
181	N-1 MONTAVIS - HICKS 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.3	106.17	1.87	1120 Amps	Line	
182	N-1 TSARATOGA - VASONA 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.47	106.35	1.88	1120 Amps	Line	
183	N-1 VASONA - METCALF 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.67	106.55	1.88	1120 Amps	Line	
184	N-1 MONTAVIS - METCALF 230kV #3 LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.66	106.53	1.87	1120 Amps	Line	
185	N-1 MONTAVIS - METCALF ENERGY CENTER 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.7	106.57	1.87	1120 Amps	Line	
186	N-1 SVP - LOS ESTEROS 230kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	124.8	126.68	1.88	1541 Amps	Line	
187	N-1 HICKS - METCALF 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.86	106.73	1.87	1120 Amps	Line	
192	N-1 CSC NORTHERN - SSS 230kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	124.8	126.68	1.88	1541 Amps	Line	
199	N-1 OLEUM - NORTH TOWER - CHRISTIE 115kV LINE & NORTH TOWER LOAD	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.07	105.98	1.91	1120 Amps	Line	
236	N-1 PITTSBURG - MARTINEZ 115kV #1 LINE & WILLOW PASS BART LOAD & BOLLMAN LOAD	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.17	106.07	1.9	1120 Amps	Line	
285	N-1 BELMONT - BAIR 115kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.04	105.94	1.9	1120 Amps	Line	
295	N-1 SAN FRANCISCO AIRPORT - UNITED COGEN 115kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	105.88	107.79	1.91	1120 Amps	Line	
300	N-1 EAST SHORE - DUMBARTON 115kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.78	115.52	1.74	1541 Amps	Line	
300	N-1 EAST SHORE - DUMBARTON 115kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	126.2	128.42	2.22	1120 Amps	Line	
301	N-1 DUMBARTON - NEWARK D 115kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	113.08	115.26	2.18	1120 Amps	Line	
304	N-1 NEWARK - NORTHERN #1 115kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.82	115.61	1.79	1541 Amps	Line	
304	N-1 NEWARK - NORTHERN #1 115kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.74	106.73	1.99	1120 Amps	Line	
305	N-1 NEWARK - NORTHERN #2 115kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	114.44	116.23	1.79	1541 Amps	Line	
314	N-1 NEWARK - LAWRENCE - MOFFET - LOCKHEED 115kV LINE (Xfr. Lockheed)	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.06	106	1.94	1120 Amps	Line	
315	N-1 NEWARK - AMD - APPLIED MATERIALS 115kV LINE (Xfr. Lockheed)	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.01	105.95	1.94	1120 Amps	Line	
317	N-1 NEWARK - ZANKER - KIFER 115kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	114.15	115.91	1.76	1541 Amps	Line	
318	N-1 NEWARK - ZANKER - TRIMBLE 115kV LINE (Xfr. Agnews)	CP LECEF	115.00-LECEFTAP	115.00 #1	1	115.33	117.29	1.96	1541 Amps	Line	
328	N-1 MONTA VISTA - PHILLIPS - LAWRENCE 115kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.39	79.999	-33.391	1541 Amps	Line	
329	N-1 MONTA VISTA - BRITTON 115kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.56	115.22	1.66	1541 Amps	Line	
335	N-1 SAN JOSE A - EL PATIO 115kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	116.7	117.89	1.19	1541 Amps	Line	
337	N-1 KIFER - FMC 115kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	114.09	116.02	1.93	1541 Amps	Line	
338	N-1 SAN JOSE A - SAN JOSE B 115kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	114.14	115.33	1.19	1541 Amps	Line	
339	N-1 EVERGREEN - MARKHAM - SJ B 115kV LINE (Xfr. Markham)	CP LECEF	115.00-LECEFTAP	115.00 #1	1	114.43	115.74	1.31	1541 Amps	Line	
340	N-2 METCALF - EL PATIO(IBM HR) #1 & #2 LINES	CP LECEF	115.00-LECEFTAP	115.00 #1	1	122.7	123.9	1.2	1541 Amps	Line	

Thermal Summary Results -Sorted by Transmission Element Contingency

OUTAGE NO	OUTAGE DESCRIPTION	OVERLOADED ELEMENT				PRE E PCT	POST E PCT	E DELTA	E RATE	UNIT	ELEMENT TYPE
340	N-2 METCALF - EL PATIO(IBM HR) #1 & #2 LINES	SJ B	E	115.00-TRIMBLE	115.00 #1	1	119.83	124.96	5.13	924 Amps	Line
341	N-1 METCALF - EL PATIO(IBM BAILEY) #2 115kV LINE	CP	LECEF	115.00-LECEFTAP	115.00 #1	1	116.25	117.79	1.54	1541 Amps	Line
344	N-1 METCALF - EVERGREEN - STONE-GE #2 115kV LINE (Xfr. Stone-GE)	CP	LECEF	115.00-LECEFTAP	115.00 #1	1	113.76	115.37	1.61	1541 Amps	Line
346	N-1 METCALF - EVERGREEN #1 115kV LINE	CP	LECEF	115.00-LECEFTAP	115.00 #1	1	115.67	117.26	1.59	1541 Amps	Line
349	N-1 METCALF - EL PATIO(IBM HR) #1 115kV LINE	CP	LECEF	115.00-LECEFTAP	115.00 #1	1	116.25	117.79	1.54	1541 Amps	Line
354	N-1 GILROY - LLAGAS 115kV LINE	CP	LECEF	115.00-LECEFTAP	115.00 #1	1	114.97	116.7	1.73	1541 Amps	Line
354	N-1 GILROY - LLAGAS 115kV LINE	E	SHORE	230.00-SANMATEO	230.00 #1	1	104.18	106.09	1.91	1120 Amps	Line
361	N-1 CSC KIFER - DVR PP 115kV LINE	CP	LECEF	115.00-LECEFTAP	115.00 #1	1	113.37	115.12	1.75	1541 Amps	Line
361	N-1 CSC KIFER - DVR PP 115kV LINE	E	SHORE	230.00-SANMATEO	230.00 #1	1	104.13	106.05	1.92	1120 Amps	Line
362	N-1 CSC NORTHERN - SCOTT #1 115kV LINE	CP	LECEF	115.00-LECEFTAP	115.00 #1	1	119.27	121.21	1.94	1541 Amps	Line
362	N-1 CSC NORTHERN - SCOTT #1 115kV LINE	E	SHORE	230.00-SANMATEO	230.00 #1	1	104.44	106.36	1.92	1120 Amps	Line
362	N-1 CSC NORTHERN - SCOTT #1 115kV LINE	NRS	400	115.00-NRS 600	60.00 #1	0	101.09	102.41	1.32	167 MVA	XFMR
379	N-1 HALF MOON BAY - HILLSDALE JCT 60kV LINE	E	SHORE	230.00-SANMATEO	230.00 #1	1	104.02	105.93	1.91	1120 Amps	Line
384	N-1 COOLEY LANDING - STANDFORD 60kV LINE (CLY LNDG-SRI)	E	SHORE	230.00-SANMATEO	230.00 #1	1	104.17	106.06	1.89	1120 Amps	Line
389	N-1 COOLEY LANDING - STANDFORD 60kV LINE (SRI-MENLO)	E	SHORE	230.00-SANMATEO	230.00 #1	1	104.21	106.11	1.9	1120 Amps	Line
401	N-1 MONTA VISTA - LOS GATOS 60kV LINE	CP	LECEF	115.00-LECEFTAP	115.00 #1	1	114.1	115.82	1.72	1541 Amps	Line
406	T-1 TESLA 500/230kV #2 XFMR BANK	E	SHORE	230.00-SANMATEO	230.00 #1	1	105.22	107.03	1.81	1120 Amps	Line
409	T-1 METCALF 500/230kV #11 XFMR BANK	CP	LECEF	115.00-LECEFTAP	115.00 #1	1	113.91	115.59	1.68	1541 Amps	Line
409	T-1 METCALF 500/230kV #11 XFMR BANK	E	SHORE	230.00-SANMATEO	230.00 #1	1	104.33	106.21	1.88	1120 Amps	Line
410	T-1 METCALF 500/230kV #12 XFMR BANK	CP	LECEF	115.00-LECEFTAP	115.00 #1	1	113.99	115.67	1.68	1541 Amps	Line
410	T-1 METCALF 500/230kV #12 XFMR BANK	E	SHORE	230.00-SANMATEO	230.00 #1	1	104.38	106.25	1.87	1120 Amps	Line
411	T-1 METCALF 500/230kV #13 XFMR BANK	CP	LECEF	115.00-LECEFTAP	115.00 #1	1	114.07	115.74	1.67	1541 Amps	Line
411	T-1 METCALF 500/230kV #13 XFMR BANK	E	SHORE	230.00-SANMATEO	230.00 #1	1	104.42	106.29	1.87	1120 Amps	Line
418	T-1 PITTSBURG 230/115kV #12 XFMR BANK	E	SHORE	230.00-SANMATEO	230.00 #1	1	103.97	79.999	-23.971	1120 Amps	Line
419	T-1 PITTSBURG 230/115kV #13 XFMR BANK	E	SHORE	230.00-SANMATEO	230.00 #1	1	103.97	79.999	-23.971	1120 Amps	Line
420	T-1 SOBRANTE 230/115kV #1 XFMR BANK	E	SHORE	230.00-SANMATEO	230.00 #1	1	104.29	106.13	1.84	1120 Amps	Line
421	T-1 SOBRANTE 230/115kV #2 XFMR BANK	E	SHORE	230.00-SANMATEO	230.00 #1	1	104.25	106.09	1.84	1120 Amps	Line
426	T-1 JEFFERSON 230/60kV #1 XFMR BANK	E	SHORE	230.00-SANMATEO	230.00 #1	1	105.19	107.02	1.83	1120 Amps	Line
427	T-1 RAVENSWOOD 230/115kV #1 XFMR BANK	CP	LECEF	115.00-LECEFTAP	115.00 #1	1	114.08	115.81	1.73	1541 Amps	Line
428	T-1 RAVENSWOOD 230/115kV #2 XFMR BANK	CP	LECEF	115.00-LECEFTAP	115.00 #1	1	113.98	115.72	1.74	1541 Amps	Line
434	T-1 EAST SHORE 230/115kV #1 XFMR BANK	CP	LECEF	115.00-LECEFTAP	115.00 #1	1	113.51	115.25	1.74	1541 Amps	Line
434	T-1 EAST SHORE 230/115kV #1 XFMR BANK	E	SHORE	230.00-SANMATEO	230.00 #1	1	120.83	122.85	2.02	1120 Amps	Line
435	T-1 EAST SHORE 230/115kV #2 XFMR BANK	E	SHORE	230.00-SANMATEO	230.00 #1	1	106.23	108.16	1.93	1120 Amps	Line
437	T-1 NEWARK 230/115kV #9 XFMR BANK	CP	LECEF	115.00-LECEFTAP	115.00 #1	1	116.44	118.34	1.9	1541 Amps	Line
438	T-1 NEWARK 230/115kV #7 XFMR BANK	CP	LECEF	115.00-LECEFTAP	115.00 #1	1	118	120.01	2.01	1541 Amps	Line
439	T-1 NEWARK 230/115kV #11 XFMR BANK	CP	LECEF	115.00-LECEFTAP	115.00 #1	1	119.8	121.91	2.11	1541 Amps	Line
447	T-1 LOS ESTEROS 230/115kV #3 XFMR BANK	CP	LECEF	115.00-LECEFTAP	115.00 #1	1	125.91	128.06	2.15	1541 Amps	Line
448	T-1 LOS ESTEROS 230/115kV #4 XFMR BANK	CP	LECEF	115.00-LECEFTAP	115.00 #1	1	125.91	128.06	2.15	1541 Amps	Line
449	T-1 METCALF 230/115kV #1 XFMR BANK	CP	LECEF	115.00-LECEFTAP	115.00 #1	1	114.62	116.28	1.66	1541 Amps	Line
450	T-1 METCALF 230/115kV #2 XFMR BANK	CP	LECEF	115.00-LECEFTAP	115.00 #1	1	114.64	116.3	1.66	1541 Amps	Line
451	T-1 METCALF 230/115kV #3 XFMR BANK	CP	LECEF	115.00-LECEFTAP	115.00 #1	1	114.59	116.24	1.65	1541 Amps	Line
452	T-1 METCALF 230/115kV #4 XFMR BANK	CP	LECEF	115.00-LECEFTAP	115.00 #1	1	114.73	116.38	1.65	1541 Amps	Line
453	T-1 CSC NORTHERN 230/115kV #1 XFMR BANK	CP	LECEF	115.00-LECEFTAP	115.00 #1	1	124.82	126.71	1.89	1541 Amps	Line
461	T-1 SAN MATEO 115/60kV #8 XFMR BANK	SAN	MATO	60.00-SMATEO3M	115.00 #3	0	102.54	105.39	2.85	68 MVA	XFMR
461	T-1 SAN MATEO 115/60kV #8 XFMR BANK	SAN	MATEO	115.00-SMATEO3M	115.00 #3	0	103.3	106.17	2.87	68 MVA	XFMR
467	T-1 CSC NORTHERN 115/60kV #1 XFMR BANK	CP	LECEF	115.00-LECEFTAP	115.00 #1	1	115.08	116.83	1.75	1541 Amps	Line
467	T-1 CSC NORTHERN 115/60kV #1 XFMR BANK	NRS	400	115.00-SRS	115.00 #1	1	107.85	109.9	2.05	1144 Amps	Line
468	T-1 CSC NORTHERN 115/60kV #NA XFMR BANK	CP	LECEF	115.00-LECEFTAP	115.00 #1	1	115.08	116.83	1.75	1541 Amps	Line
468	T-1 CSC NORTHERN 115/60kV #NA XFMR BANK	NRS	400	115.00-SRS	115.00 #1	1	107.85	109.9	2.05	1144 Amps	Line
476	N-2 VACA - PEABODY & VACA - LAMBIE 230kV LINES	LS	PSTAS	230.00-NEWARK D	230.00 #1	1	79.999	99.2	19.201	851 Amps	Line
477	N-2 BIRDS LANDING - PEABODY & BIRDS LANDING - LAMBIE 230kV LINES	LS	PSTAS	230.00-NEWARK D	230.00 #1	1	79.999	99.34	19.341	851 Amps	Line

Thermal Summary Results -Sorted by Transmission Element Contingency

OUTAGE NO	OUTAGE DESCRIPTION	OVERLOADED ELEMENT				PRE E PCT	POST E PCT	E DELTA	E RATE	UNIT	ELEMENT TYPE
480	N-2 CONTRA COSTA SUB - COCO & BIRDS LANDING - CONTRA COSTA SUB 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.02	105.93	1.91	1120 Amps	Line	
481	N-2 C.COSTA - MORAGA 230kV #1 & #2 LINES	ALTM MDW	230.00-DELTAPMP	230.00 #1	1	79.999	108.56	28.561	1130 Amps	Line	
481	N-2 C.COSTA - MORAGA 230kV #1 & #2 LINES	ALTM MDW	230.00-TESLA D	230.00 #1	1	79.999	108.5	28.501	1130 Amps	Line	
481	N-2 C.COSTA - MORAGA 230kV #1 & #2 LINES	BRENTWOD	230.00-C.COSTA	230.00 #1	1	79.999	104.97	24.971	1130 Amps	Line	
481	N-2 C.COSTA - MORAGA 230kV #1 & #2 LINES	C.COSTA	230.00-WND MSTR	230.00 #1	1	79.999	108.92	28.921	1130 Amps	Line	
481	N-2 C.COSTA - MORAGA 230kV #1 & #2 LINES	CAYETANO	230.00-NDUBLIN	230.00 #1	1	79.999	101.72	21.721	1004 Amps	Line	
481	N-2 C.COSTA - MORAGA 230kV #1 & #2 LINES	CAYETANO	230.00-USWP-JRW	230.00 #1	1	82.82	107.24	24.42	1005 Amps	Line	
481	N-2 C.COSTA - MORAGA 230kV #1 & #2 LINES	DELTAPMP	230.00-WND MSTR	230.00 #1	1	79.999	108.79	28.791	1130 Amps	Line	
481	N-2 C.COSTA - MORAGA 230kV #1 & #2 LINES	LONETREE	230.00-USWP-JRW	230.00 #1	1	83.09	107.47	24.38	1005 Amps	Line	
481	N-2 C.COSTA - MORAGA 230kV #1 & #2 LINES	LS PSTAS	230.00-NEWARK D	230.00 #1	1	81.28	115.93	34.65	851 Amps	Line	
482	N-2 CONTRA COSTA - LOS PSTAS & CONTRA COSTA - CAYETANO 230kV LINES	ALTM MDW	230.00-DELTAPMP	230.00 #1	1	79.999	118.07	38.071	1130 Amps	Line	
482	N-2 CONTRA COSTA - LOS PSTAS & CONTRA COSTA - CAYETANO 230kV LINES	ALTM MDW	230.00-TESLA D	230.00 #1	1	79.999	118.01	38.011	1130 Amps	Line	
482	N-2 CONTRA COSTA - LOS PSTAS & CONTRA COSTA - CAYETANO 230kV LINES	BRENTWOD	230.00-C.COSTA	230.00 #1	1	79.999	112.5	32.501	1130 Amps	Line	
482	N-2 CONTRA COSTA - LOS PSTAS & CONTRA COSTA - CAYETANO 230kV LINES	C.COSTA	230.00-WND MSTR	230.00 #1	1	79.999	118.43	38.431	1130 Amps	Line	
482	N-2 CONTRA COSTA - LOS PSTAS & CONTRA COSTA - CAYETANO 230kV LINES	CASTROVL	230.00-MORAGA	230.00 #1	1	82.2	101.19	18.99	1021 Amps	Line	
482	N-2 CONTRA COSTA - LOS PSTAS & CONTRA COSTA - CAYETANO 230kV LINES	CASTROVL	230.00-NEWARK E	230.00 #1	1	79.999	99.77	19.771	851 Amps	Line	
482	N-2 CONTRA COSTA - LOS PSTAS & CONTRA COSTA - CAYETANO 230kV LINES	DELTAPMP	230.00-WND MSTR	230.00 #1	1	79.999	118.3	38.301	1130 Amps	Line	
482	N-2 CONTRA COSTA - LOS PSTAS & CONTRA COSTA - CAYETANO 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	106.83	109.52	2.69	1120 Amps	Line	
483	N-2 CAYETANO - NDUBLIN & CONTRA COSTA - CAYETANO 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	105.06	107.31	2.25	1120 Amps	Line	
483	N-2 CAYETANO - NDUBLIN & CONTRA COSTA - CAYETANO 230kV LINES	LS PSTAS	230.00-NEWARK D	230.00 #1	1	79.999	108.54	28.541	851 Amps	Line	
484	N-2 PITTSBURG - TESORO & PITTSBURG - TIDEWATER 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	108.07	109.59	1.52	1120 Amps	Line	
485	N-2 TESORO - SOBRANTE & TIDEWATER - SOBRANTE 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	106.91	108.42	1.51	1120 Amps	Line	
486	N-2 PITTSBURG - SANMATEO & PITTSBURG - EAST SHORE 230kV LINES	CP LECEF	115.00-LECEFTAP	115.00 #1	1	114.24	116.03	1.79	1541 Amps	Line	
487	N-2 PITTSBURG - TESLA #1 & #2 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	106.44	109.52	3.08	1120 Amps	Line	
488	N-2 PITTSBURG - TASSAJARA & PITTSBURG - SAN RAMON 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	112.72	114.43	1.71	1120 Amps	Line	
490	N-2 MORAGA - SANRAMON & MORAGA - CASTROVALLY 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.86	106.89	2.03	1120 Amps	Line	
490	N-2 MORAGA - SANRAMON & MORAGA - CASTROVALLY 230kV LINES	LS PSTAS	230.00-NEWARK D	230.00 #1	1	79.999	99.44	19.441	851 Amps	Line	
491	N-2 MORAGA - SANRAMON & CASTROVALLY - NEWARK 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.29	106.31	2.02	1120 Amps	Line	
492	N-2 PITTSBURG - SAN MATEO & EAST SHORE - SAN MATEO 230kV LINES	DUMBARTN	115.00-EASTSHRE	115.00 #1	1	198.48	202.14	3.66	949 Amps	Line	
492	N-2 PITTSBURG - SAN MATEO & EAST SHORE - SAN MATEO 230kV LINES	DUMBARTN	115.00-NEWARK D	115.00 #1	1	97.82	99.95	2.13	1541 Amps	Line	
493	N-2 TESLA - NEWARK & TESLA - RAVENSWOOD 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	113.05	114.17	1.12	1120 Amps	Line	
493	N-2 TESLA - NEWARK & TESLA - RAVENSWOOD 230kV LINES	LS PSTAS	230.00-NEWARK D	230.00 #1	1	79.999	101.59	21.591	851 Amps	Line	
494	N-2 RAVENSWOOD - SAN MATEO #1 & #2 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	110.38	112.45	2.07	1120 Amps	Line	
495	N-2 MONTAVISTA - JEFFERSON 230kV #1 & #2 LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	108.98	110.15	1.17	1120 Amps	Line	
496	N-2 NORTH DUBLIN - VINYARD & CONTRA COSTA - LOS PASITAS 230kV LINES	ALTM MDW	230.00-DELTAPMP	230.00 #1	1	79.999	112.44	32.441	1130 Amps	Line	
496	N-2 NORTH DUBLIN - VINYARD & CONTRA COSTA - LOS PASITAS 230kV LINES	ALTM MDW	230.00-TESLA D	230.00 #1	1	79.999	112.39	32.391	1130 Amps	Line	
496	N-2 NORTH DUBLIN - VINYARD & CONTRA COSTA - LOS PASITAS 230kV LINES	BRENTWOD	230.00-C.COSTA	230.00 #1	1	79.999	108.08	28.081	1130 Amps	Line	
496	N-2 NORTH DUBLIN - VINYARD & CONTRA COSTA - LOS PASITAS 230kV LINES	C.COSTA	230.00-WND MSTR	230.00 #1	1	79.999	112.8	32.801	1130 Amps	Line	
496	N-2 NORTH DUBLIN - VINYARD & CONTRA COSTA - LOS PASITAS 230kV LINES	CASTROVL	230.00-MORAGA	230.00 #1	1	79.999	98.07	18.071	1021 Amps	Line	
496	N-2 NORTH DUBLIN - VINYARD & CONTRA COSTA - LOS PASITAS 230kV LINES	DELTAPMP	230.00-WND MSTR	230.00 #1	1	79.999	112.68	32.681	1130 Amps	Line	
496	N-2 NORTH DUBLIN - VINYARD & CONTRA COSTA - LOS PASITAS 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	106.48	109.18	2.7	1120 Amps	Line	
497	N-2 NORTH DUBLIN - VINYARD & LOS PASITAS - NEWARK 230kV LINES	ALTM MDW	230.00-DELTAPMP	230.00 #1	1	79.999	103.75	23.751	1130 Amps	Line	
497	N-2 NORTH DUBLIN - VINYARD & LOS PASITAS - NEWARK 230kV LINES	ALTM MDW	230.00-TESLA D	230.00 #1	1	79.999	103.69	23.691	1130 Amps	Line	
497	N-2 NORTH DUBLIN - VINYARD & LOS PASITAS - NEWARK 230kV LINES	BRENTWOD	230.00-C.COSTA	230.00 #1	1	79.999	101.21	21.211	1130 Amps	Line	
497	N-2 NORTH DUBLIN - VINYARD & LOS PASITAS - NEWARK 230kV LINES	C.COSTA	230.00-WND MSTR	230.00 #1	1	79.999	104.12	24.121	1130 Amps	Line	
497	N-2 NORTH DUBLIN - VINYARD & LOS PASITAS - NEWARK 230kV LINES	DELTAPMP	230.00-WND MSTR	230.00 #1	1	79.999	103.98	23.981	1130 Amps	Line	
497	N-2 NORTH DUBLIN - VINYARD & LOS PASITAS - NEWARK 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	106.25	109.11	2.86	1120 Amps	Line	
498	N-2 TESLA - NEWARK #2 & NWK DIST - LOS ESTEROS 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	106.27	107.81	1.54	1120 Amps	Line	
499	N-2 MONTAVISTA - SARATOGA & MONTAVISTA - HICKS 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.8	106.63	1.83	1120 Amps	Line	
500	N-2 VASONA - METCALF & MONTAVISTA - HICKS 230kV LINES	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.54	115.24	1.7	1541 Amps	Line	
500	N-2 VASONA - METCALF & MONTAVISTA - HICKS 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	105.65	107.48	1.83	1120 Amps	Line	
501	N-2 MONTAVIS - METCALF & MONTAVIS - MEC 230kV #3 & #4 LINES	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.65	115.33	1.68	1541 Amps	Line	
501	N-2 MONTAVIS - METCALF & MONTAVIS - MEC 230kV #3 & #4 LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	106.31	108.12	1.81	1120 Amps	Line	
503	N-2 METCALF - HICKS & METCALF - VASONA 230kV LINES	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.86	115.56	1.7	1541 Amps	Line	

Thermal Summary Results -Sorted by Transmission Element Contingency

OUTAGE NO	OUTAGE DESCRIPTION	OVERLOADED ELEMENT	PRE E PCT	POST E PCT	E DELTA	E RATE	UNIT	ELEMENT TYPE
503	N-2 METCALF - HICKS & METCALF - VASONA 230kV LINES	E. SHORE 230.00-SANMATEO 230.00 #1 1	106.4	108.23	1.83	1120 Amps	Line	
505	N-2 TESLA - KELSO & TESLA - DELTAPUMP 230kV LINES	CAYETANO 230.00-NDUBLIN 230.00 #1 1	79.999	99.21	19.211	1004 Amps	Line	
505	N-2 TESLA - KELSO & TESLA - DELTAPUMP 230kV LINES	CAYETANO 230.00-USWP-JRW 230.00 #1 1	79.999	104.77	24.771	1005 Amps	Line	
505	N-2 TESLA - KELSO & TESLA - DELTAPUMP 230kV LINES	CP LECEF 115.00-LECEFTAP 115.00 #1 1	79.999	115.62	35.621	1541 Amps	Line	
505	N-2 TESLA - KELSO & TESLA - DELTAPUMP 230kV LINES	E. SHORE 230.00-SANMATEO 230.00 #1 1	104.38	107.13	2.75	1120 Amps	Line	
505	N-2 TESLA - KELSO & TESLA - DELTAPUMP 230kV LINES	LONETREE 230.00-USWP-JRW 230.00 #1 1	79.999	105	25.001	1005 Amps	Line	
505	N-2 TESLA - KELSO & TESLA - DELTAPUMP 230kV LINES	LS PSTAS 230.00-NEWARK D 230.00 #1 1	79.999	113.5	33.501	851 Amps	Line	
506	N-2 LOS ESTEROS - METCALF & TESLA - NEWARK 230kV #2 LINES	E. SHORE 230.00-SANMATEO 230.00 #1 1	106.93	108.71	1.78	1120 Amps	Line	
506	N-2 LOS ESTEROS - METCALF & TESLA - NEWARK 230kV #2 LINES	LS PSTAS 230.00-NEWARK D 230.00 #1 1	79.999	101.23	21.231	851 Amps	Line	
507	N-2 PITTSBURG - SANRAMON & TASSAJAR - NEWARK 230kV LINES	E. SHORE 230.00-SANMATEO 230.00 #1 1	110.07	111.77	1.7	1120 Amps	Line	
508	N-2 MORAGA - SANRAMON & TASSAJAR - NEWARK 230kV LINES	E. SHORE 230.00-SANMATEO 230.00 #1 1	106.33	108.06	1.73	1120 Amps	Line	
509	N-2 CASTROVL - NEWARK & TASSAJAR - NEWARK 230kV LINES	E. SHORE 230.00-SANMATEO 230.00 #1 1	108.56	111.12	2.56	1120 Amps	Line	
509	N-2 CASTROVL - NEWARK & TASSAJAR - NEWARK 230kV LINES	LS PSTAS 230.00-NEWARK D 230.00 #1 1	79.999	100.17	20.171	851 Amps	Line	
510	N-2 LS PSTAS - NEWARK & VINEYARD - NEWARK 230kV LINES	ALTM MDW 230.00-DELTAPMP 230.00 #1 1	79.999	99.78	19.781	1130 Amps	Line	
510	N-2 LS PSTAS - NEWARK & VINEYARD - NEWARK 230kV LINES	ALTM MDW 230.00-TESLA D 230.00 #1 1	79.999	99.73	19.731	1130 Amps	Line	
510	N-2 LS PSTAS - NEWARK & VINEYARD - NEWARK 230kV LINES	BRENTWOD 230.00-C.COSTA 230.00 #1 1	79.999	98.08	18.081	1130 Amps	Line	
510	N-2 LS PSTAS - NEWARK & VINEYARD - NEWARK 230kV LINES	C.COSTA 230.00-WND MSTR 230.00 #1 1	79.999	100.16	20.161	1130 Amps	Line	
510	N-2 LS PSTAS - NEWARK & VINEYARD - NEWARK 230kV LINES	DELTAPMP 230.00-WND MSTR 230.00 #1 1	79.999	100.02	20.021	1130 Amps	Line	
510	N-2 LS PSTAS - NEWARK & VINEYARD - NEWARK 230kV LINES	E. SHORE 230.00-SANMATEO 230.00 #1 1	105.81	108.66	2.85	1120 Amps	Line	
511	N-2 HICKS - METCALF & SARATOGA - VASONA 230kV LINES	CP LECEF 115.00-LECEFTAP 115.00 #1 1	113.73	115.43	1.7	1541 Amps	Line	
511	N-2 HICKS - METCALF & SARATOGA - VASONA 230kV LINES	E. SHORE 230.00-SANMATEO 230.00 #1 1	106.12	107.96	1.84	1120 Amps	Line	
512	N-2 HICKS - MOTAVISTA & VASONA - SARATOGA 230kV LINES	CP LECEF 115.00-LECEFTAP 115.00 #1 1	113.41	79.999	-33.411	1541 Amps	Line	
512	N-2 HICKS - MOTAVISTA & VASONA - SARATOGA 230kV LINES	E. SHORE 230.00-SANMATEO 230.00 #1 1	105.38	107.21	1.83	1120 Amps	Line	
514	N-2 EI CERETO - SOBRANTE 115kV #1 & #2 LINES	ALHAMTP2 115.00-MARTNZ D 115.00 #1 1	106.03	103.81	-2.22	487 Amps	Line	
514	N-2 EI CERETO - SOBRANTE 115kV #1 & #2 LINES	ALHAMTP2 115.00-OLEUM 115.00 #1 1	99	96.94	-2.06	522 Amps	Line	
514	N-2 EI CERETO - SOBRANTE 115kV #1 & #2 LINES	CHRISTIE 115.00-SOBRANTE 115.00 #1 1	98.75	100.72	1.97	523 Amps	Line	
515	N-2 RICHMOND R - SOBRANTE 115kV #1 & #2 LINES	E. SHORE 230.00-SANMATEO 230.00 #1 1	104.25	106.16	1.91	1120 Amps	Line	
516	N-2 SOBRANTE - STANDARD OIL 115kV #1 & #2 LINES	E. SHORE 230.00-SANMATEO 230.00 #1 1	104.31	106.22	1.91	1120 Amps	Line	
517	N-2 SOBRANTE - GRIZLY - CLAIRMONT 115kV #1 & #2 LINES	E. SHORE 230.00-SANMATEO 230.00 #1 1	104.08	105.93	1.85	1120 Amps	Line	
518	N-2 OLEUM - MARTINEZ & LINEOLEUM - N.TOWER-CHRISTE 115kV LINES	E. SHORE 230.00-SANMATEO 230.00 #1 1	104.17	106.07	1.9	1120 Amps	Line	
519	N-2 OLEUM - NTR - CHRITIE & MARTNZ - ALHABRA - SOBRANTE 115kV LINES	E. SHORE 230.00-SANMATEO 230.00 #1 1	104.12	106.02	1.9	1120 Amps	Line	
520	N-2 MARTINEZ - SOBRANTE 115kV LINE & OLEUM - MARTINEZ 115kV LINES & ALHAMBRA LOA	E. SHORE 230.00-SANMATEO 230.00 #1 1	104.29	106.17	1.88	1120 Amps	Line	
521	N-2 OLEUM - EL CERRITO STATION G 115kV LINES 1 & 2 & VALLEY VIEW LOAD	E. SHORE 230.00-SANMATEO 230.00 #1 1	104.01	105.91	1.9	1120 Amps	Line	
525	N-2 MORAGA - J & SN LNDRO - J 115kV LINES	CP LECEF 115.00-LECEFTAP 115.00 #1 1	113.44	115.2	1.76	1541 Amps	Line	
526	N-2 PITTS - MARTZ 115kV #1 & #2 LINES, WP BART, BOLLMAN, CCCSD LD & CCCSD	E. SHORE 230.00-SANMATEO 230.00 #1 1	104.48	106.35	1.87	1120 Amps	Line	
527	N-2 PITTSBURG - CLAYTON 115kV #1 & #3 LINE & KIRKER LD RADIAL FROM PITTS-KIRKER-	CLAYTN 115.00-PITTSBURG 115.00 #4 1	133.55	130.5	-3.05	1486 Amps	Line	
527	N-2 PITTSBURG - CLAYTON 115kV #1 & #3 LINE & KIRKER LD RADIAL FROM PITTS-KIRKER-	E. SHORE 230.00-SANMATEO 230.00 #1 1	104.15	106.04	1.89	1120 Amps	Line	
533	N-2 RAVENSWOOD - BAIR #1 & #2 115kV LINES	E. SHORE 230.00-SANMATEO 230.00 #1 1	104.74	106.65	1.91	1120 Amps	Line	
535	N-2 EASTSHORE - MT EDEN #1 & #2 115kV LINES	E. SHORE 230.00-SANMATEO 230.00 #1 1	114.83	116.77	1.94	1120 Amps	Line	
536	N-2 NEWARK - NORTHERN #1 & #2 115kV LINES	CP LECEF 115.00-LECEFTAP 115.00 #1 1	115.76	117.66	1.9	1541 Amps	Line	
536	N-2 NEWARK - NORTHERN #1 & #2 115kV LINES	E. SHORE 230.00-SANMATEO 230.00 #1 1	104.77	106.76	1.99	1120 Amps	Line	
537	N-2 NEWARK - LAWRENCE - MOFFET - LOCKHEED & NEWARK - AMD - APPLIED MATERIALS 115	E. SHORE 230.00-SANMATEO 230.00 #1 1	104.29	106.29	2	1120 Amps	Line	
540	N-2 MONTA VISTA - PHILLIPS - LAWRENCE & MONTA VISTA - BRITTON 115kV LINES	CP LECEF 115.00-LECEFTAP 115.00 #1 1	114.14	115.7	1.56	1541 Amps	Line	
542	N-2 NORTHERN - SCOTT #1 & #2 115kV LINES	CP LECEF 115.00-LECEFTAP 115.00 #1 1	115.43	117.29	1.86	1541 Amps	Line	
542	N-2 NORTHERN - SCOTT #1 & #2 115kV LINES	E. SHORE 230.00-SANMATEO 230.00 #1 1	104.43	106.35	1.92	1120 Amps	Line	
542	N-2 NORTHERN - SCOTT #1 & #2 115kV LINES	NRS 400 115.00-NRS 600 60.00 #1 0	105.53	106.94	1.41	167 MVA	XFMR	
542	N-2 NORTHERN - SCOTT #1 & #2 115kV LINES	SJ B E 115.00-TRIMBLE 115.00 #1 1	95.47	104.28	8.81	924 Amps	Line	
546	N-2 METCALF E - SWIFT & METCALF E - PIERCY 115kV LINES	CP LECEF 115.00-LECEFTAP 115.00 #1 1	114.04	115.72	1.68	1541 Amps	Line	
548	N-2 TRIBLE - SAN JOSE B & KIFER - FMC-SAN JOSE B 115kV LINES	E. SHORE 230.00-SANMATEO 230.00 #1 1	104.04	106.01	1.97	1120 Amps	Line	
550	N-2 METCALF - EVERGREEN - STONE - GE #2 & METCALF-EVERGREEN #1 115kV LINES	CP LECEF 115.00-LECEFTAP 115.00 #1 1	118.75	120.06	1.31	1541 Amps	Line	
550	N-2 METCALF - EVERGREEN - STONE - GE #2 & METCALF-EVERGREEN #1 115kV LINES	SJ B E 115.00-TRIMBLE 115.00 #1 1	99.47	105.05	5.58	924 Amps	Line	
553	N-2 METCALF E - SWIFT & PIERCY - MCKEE 115kV LINES	CP LECEF 115.00-LECEFTAP 115.00 #1 1	113.83	115.51	1.68	1541 Amps	Line	

Thermal Summary Results -Sorted by Transmission Element Contingency

OUTAGE NO	OUTAGE DESCRIPTION	OVERLOADED ELEMENT				PRE E PCT	POST E PCT	E DELTA	E RATE	UNIT	ELEMENT TYPE
615 G-1 POTRERO #3		E. SHORE	230.00-SANMATEO	230.00 #1	1	109.69	111.6	1.91	1120 Amps	Line	
616 G-1 POTRERO #4 CT		E. SHORE	230.00-SANMATEO	230.00 #1	1	105.18	107.08	1.9	1120 Amps	Line	
617 G-1 POTRERO #5 CT		E. SHORE	230.00-SANMATEO	230.00 #1	1	105.18	107.08	1.9	1120 Amps	Line	
618 G-1 POTRERO #6 CT		E. SHORE	230.00-SANMATEO	230.00 #1	1	105.18	107.08	1.9	1120 Amps	Line	
622 G-1 UNITED COGEN SFQF		E. SHORE	230.00-SANMATEO	230.00 #1	1	104.57	106.48	1.91	1120 Amps	Line	
624 G-1 CARDINAL #1		CLY LNDG	60.00-S.R.I.	60.00 #1	1	103.73	106.13	2.4	599 Amps	Line	
624 G-1 CARDINAL #1		E. SHORE	230.00-SANMATEO	230.00 #1	1	104.31	106.22	1.91	1120 Amps	Line	
624 G-1 CARDINAL #1		GLENWOOD	60.00-S.R.I.	60.00 #1	1	121.03	123.68	2.65	523 Amps	Line	
629 G-1 REC PLANT		CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.85	79.999	-33.851	1541 Amps	Line	
638 G-1 GILROY COGEN		CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.57	115.3	1.73	1541 Amps	Line	
642 G-1 MEC CTG1		CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.72	115.44	1.72	1541 Amps	Line	
642 G-1 MEC CTG1		E. SHORE	230.00-SANMATEO	230.00 #1	1	104.16	106.07	1.91	1120 Amps	Line	
643 G-1 MEC CTG2		CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.72	115.44	1.72	1541 Amps	Line	
643 G-1 MEC CTG2		E. SHORE	230.00-SANMATEO	230.00 #1	1	104.16	106.07	1.91	1120 Amps	Line	
644 G-1 MEC STG1		CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.77	115.49	1.72	1541 Amps	Line	
644 G-1 MEC STG1		E. SHORE	230.00-SANMATEO	230.00 #1	1	104.2	106.1	1.9	1120 Amps	Line	
645 G-1 MEC PLANT		CP LECEF	115.00-LECEFTAP	115.00 #1	1	115.46	116.81	1.35	1541 Amps	Line	
645 G-1 MEC PLANT		E. SHORE	230.00-SANMATEO	230.00 #1	1	105.02	106.87	1.85	1120 Amps	Line	
646 G-1 OLS AGNE		CP LECEF	115.00-LECEFTAP	115.00 #1	1	115.65	117.4	1.75	1541 Amps	Line	
654 G-1 CSC DVRAgT1		CP LECEF	115.00-LECEFTAP	115.00 #1	1	114.15	115.88	1.73	1541 Amps	Line	
655 G-1 CSC DVRAgT2		CP LECEF	115.00-LECEFTAP	115.00 #1	1	114.14	115.87	1.73	1541 Amps	Line	
656 G-1 CSC DVRAgT3		CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.75	115.48	1.73	1541 Amps	Line	
664 G-1 MOSS LANDING #7		CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.79	115.52	1.73	1541 Amps	Line	
664 G-1 MOSS LANDING #7		E. SHORE	230.00-SANMATEO	230.00 #1	1	104.31	106.22	1.91	1120 Amps	Line	

Thermal Summary Results - [G-1] Contingencies

OUTAGE NO	OUTAGE DESCRIPTION		OVERLOADED ELEMENT			PRE E PCT	POST E PCT	E DELTA	E RATE	UNIT	ELEMENT TYPE
615	G-1 POTRERO #3	E. SHORE	230.00-SANMATEO	230.00 #1	1	109.69	111.6	1.91	1120 Amps	Line	
616	G-1 POTRERO #4 CT	E. SHORE	230.00-SANMATEO	230.00 #1	1	105.18	107.08	1.9	1120 Amps	Line	
617	G-1 POTRERO #5 CT	E. SHORE	230.00-SANMATEO	230.00 #1	1	105.18	107.08	1.9	1120 Amps	Line	
618	G-1 POTRERO #6 CT	E. SHORE	230.00-SANMATEO	230.00 #1	1	105.18	107.08	1.9	1120 Amps	Line	
622	G-1 UNITED COGEN SFQF	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.57	106.48	1.91	1120 Amps	Line	
624	G-1 CARDINAL #1	CLY LNDG	60.00-S.R.I.	60.00 #1	1	103.73	106.13	2.4	599 Amps	Line	
624	G-1 CARDINAL #1	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.31	106.22	1.91	1120 Amps	Line	
624	G-1 CARDINAL #1	GLENWOOD	60.00-S.R.I.	60.00 #1	1	121.03	123.68	2.65	523 Amps	Line	
629	G-1 REC PLANT	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.85	79.999	-33.851	1541 Amps	Line	
638	G-1 GILROY COGEN	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.57	115.3	1.73	1541 Amps	Line	
642	G-1 MEC CTG1	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.72	115.44	1.72	1541 Amps	Line	
642	G-1 MEC CTG1	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.16	106.07	1.91	1120 Amps	Line	
643	G-1 MEC CTG2	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.72	115.44	1.72	1541 Amps	Line	
643	G-1 MEC CTG2	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.16	106.07	1.91	1120 Amps	Line	
644	G-1 MEC STG1	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.77	115.49	1.72	1541 Amps	Line	
644	G-1 MEC STG1	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.2	106.1	1.9	1120 Amps	Line	
645	G-1 MEC PLANT	CP LECEF	115.00-LECEFTAP	115.00 #1	1	115.46	116.81	1.35	1541 Amps	Line	
645	G-1 MEC PLANT	E. SHORE	230.00-SANMATEO	230.00 #1	1	105.02	106.87	1.85	1120 Amps	Line	
646	G-1 OLS AGNE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	115.65	117.4	1.75	1541 Amps	Line	
654	G-1 CSC DVRaGT1	CP LECEF	115.00-LECEFTAP	115.00 #1	1	114.15	115.88	1.73	1541 Amps	Line	
655	G-1 CSC DVRbGT2	CP LECEF	115.00-LECEFTAP	115.00 #1	1	114.14	115.87	1.73	1541 Amps	Line	
656	G-1 CSC DVRaST3	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.75	115.48	1.73	1541 Amps	Line	
664	G-1 MOSS LANDING #7	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.79	115.52	1.73	1541 Amps	Line	
664	G-1 MOSS LANDING #7	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.31	106.22	1.91	1120 Amps	Line	

Thermal Summary Results -[N-1] Contingencies

OUTAGE NO	OUTAGE DESCRIPTION	OVERLOADED ELEMENT				PRE E PCT	POST E PCT	E DELTA	E RATE	UNIT	ELEMENT TYPE
102	N-1 TABLE MT-TESLA 500kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.68	115.43	1.75	1541 Amps	Line	
102	N-1 TABLE MT-TESLA 500kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.43	106.38	1.95	1120 Amps	Line	
102	N-1 TABLE MT-TESLA 500kV LINE	TESLA	500.00-VACA-DIX	500.00 #1	2	95.39	105.04	9.65	2816 Amps	Line	
103	N-1 VACA-DIX-TESLA 500kV LINE	TABLE MT	500.00-TESLA	500.00 #1	2	97.52	99.24	1.72	2964 Amps	Line	
104	N-1 MAXWELL-TRACY 500kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.91	115.68	1.77	1541 Amps	Line	
104	N-1 MAXWELL-TRACY 500kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.67	106.64	1.97	1120 Amps	Line	
104	N-1 MAXWELL-TRACY 500kV LINE	TESLA	500.00-VACA-DIX	500.00 #1	2	89.78	99	9.22	2816 Amps	Line	
105	N-1 TRACY-LOSBANOS 500kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.59	115.56	1.97	1541 Amps	Line	
105	N-1 TRACY-LOSBANOS 500kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.17	106.26	2.09	1120 Amps	Line	
107	N-1 TESLA-METCALF 500kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	119.11	121.25	2.14	1541 Amps	Line	
107	N-1 TESLA-METCALF 500kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	108.44	110.68	2.24	1120 Amps	Line	
107	N-1 TESLA-METCALF 500kV LINE	LS PSTAS	230.00-NEWARK D	230.00 #1	1	79.999	101.53	21.531	851 Amps	Line	
107	N-1 TESLA-METCALF 500kV LINE	SJ B E	115.00-TRIMBLE	115.00 #1	1	100.36	110.89	10.53	924 Amps	Line	
108	N-1 TESLA-LOSBANOS 500kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.61	115.6	1.99	1541 Amps	Line	
108	N-1 TESLA-LOSBANOS 500kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.24	106.37	2.13	1120 Amps	Line	
109	N-1 METCALF-MOSSLAND 500kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.49	79.999	-33.491	1541 Amps	Line	
110	N-1 MOSSLAND-LOSBANOS 500kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.47	79.999	-33.471	1541 Amps	Line	
134	N-1 C.COSTA - BRENTWOOD 230kV LINE	ALTM MDW	230.00-DELTAPMP	230.00 #1	1	79.999	99	19.001	1130 Amps	Line	
134	N-1 C.COSTA - BRENTWOOD 230kV LINE	ALTM MDW	230.00-TESLA D	230.00 #1	1	79.999	98.93	18.931	1130 Amps	Line	
134	N-1 C.COSTA - BRENTWOOD 230kV LINE	C.COSTA	230.00-WND MSTR	230.00 #1	1	79.999	99.39	19.391	1130 Amps	Line	
134	N-1 C.COSTA - BRENTWOOD 230kV LINE	DELTAPMP	230.00-WND MSTR	230.00 #1	1	79.999	99.23	19.231	1130 Amps	Line	
134	N-1 C.COSTA - BRENTWOOD 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.18	106.36	2.18	1120 Amps	Line	
134	N-1 C.COSTA - BRENTWOOD 230kV LINE	LS PSTAS	230.00-NEWARK D	230.00 #1	1	79.999	99.58	19.581	851 Amps	Line	
135	N-1 C.COSTA - DELTAPMP 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.09	106.36	2.27	1120 Amps	Line	
135	N-1 C.COSTA - DELTAPMP 230kV LINE	LS PSTAS	230.00-NEWARK D	230.00 #1	1	79.999	99.88	19.881	851 Amps	Line	
136	N-1 C.COSTA - LS PSTAS 230kV LINE	CAYETANO	230.00-NDUBLIN	230.00 #1	1	79.999	98.1	18.101	1004 Amps	Line	
136	N-1 C.COSTA - LS PSTAS 230kV LINE	CAYETANO	230.00-USWP-JRW	230.00 #1	1	81.47	103.64	22.17	1005 Amps	Line	
136	N-1 C.COSTA - LS PSTAS 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	105	107.23	2.23	1120 Amps	Line	
136	N-1 C.COSTA - LS PSTAS 230kV LINE	LONETREE	230.00-USWP-JRW	230.00 #1	1	81.74	103.87	22.13	1005 Amps	Line	
137	N-1 LONETREE-C.COSTA 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	105.28	107.52	2.24	1120 Amps	Line	
137	N-1 LONETREE-C.COSTA 230kV LINE	LS PSTAS	230.00-NEWARK D	230.00 #1	1	79.999	110.43	30.431	851 Amps	Line	
138	N-1 CAYETANO-LONETREE 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.95	107.19	2.24	1120 Amps	Line	
138	N-1 CAYETANO-LONETREE 230kV LINE	LS PSTAS	230.00-NEWARK D	230.00 #1	1	79.999	106.74	26.741	851 Amps	Line	
141	N-1 PITTSBURG - SAN RAMON 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	106.27	107.87	1.6	1120 Amps	Line	
142	N-1 PITTSBURG - TASSAJAR 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	109.31	111.38	2.07	1120 Amps	Line	
143	N-1 PITTSBURG - TIDEWATR 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.87	106.68	1.81	1120 Amps	Line	
144	N-1 PITTSBURG - TESORO 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.57	106.39	1.82	1120 Amps	Line	
145	N-1 PITTSBURG - EAST SHORE 230kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.48	115.23	1.75	1541 Amps	Line	
146	N-1 PITTSBURG - TESLA C 230kV #1 LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.69	106.99	2.3	1120 Amps	Line	
147	N-1 PITTSBURG - TESLA C 230kV #2 LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.69	107	2.31	1120 Amps	Line	
148	N-1 PITTSBURG - SAN MATEO 230kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.53	115.28	1.75	1541 Amps	Line	
148	N-1 PITTSBURG - SAN MATEO 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	116.55	119.03	2.48	1120 Amps	Line	

Thermal Summary Results -[N-1] Contingencies

OUTAGE NO	OUTAGE DESCRIPTION	OVERLOADED ELEMENT				PRE E PCT	POST E PCT	E DELTA	E RATE	UNIT	ELEMENT TYPE
149 N-1 TIDEWATR - SOBRANTE 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1		104.4	106.21	1.81	1120 Amps	Line	
150 N-1 MORAGA - CASTROVL 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1		105.64	107.97	2.33	1120 Amps	Line	
150 N-1 MORAGA - CASTROVL 230kV LINE	LS PSTAS	230.00-NEWARK D	230.00 #1	1		79.999	98	18.001	851 Amps	Line	
152 N-1 TASSAJAR - NEWARK E 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1		106.86	108.9	2.04	1120 Amps	Line	
153 N-1 BRENTWOOD - KELSO 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1		79.999	106.12	26.121	1120 Amps	Line	
154 N-1 PITTSBURG - POTRERO D.C. LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1		114.41	115.62	1.21	1541 Amps	Line	
154 N-1 PITTSBURG - POTRERO D.C. LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1		120.3	122.17	1.87	1120 Amps	Line	
157 N-1 JEFFERSON - MARTIN 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1		105.86	107.24	1.38	1120 Amps	Line	
158 N-1 SAN MATEO - MARTIN 230kV CABLE	CP LECEF	115.00-LECEFTAP	115.00 #1	1		113.53	115.27	1.74	1541 Amps	Line	
159 N-1 EAST SHORE - SAN MATEO 230kV LINE	DUMBARTN	115.00-EASTSHRE	115.00 #1	1		185.92	189.05	3.13	949 Amps	Line	
160 N-1 NEWARK - RAVENSWOOD 230kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1		115.3	117.25	1.95	1541 Amps	Line	
160 N-1 NEWARK - RAVENSWOOD 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1		116.28	119.35	3.07	1120 Amps	Line	
161 N-1 TESLA - RAVENSWOOD 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1		110.42	111.86	1.44	1120 Amps	Line	
162 N-1 SAN MATEO - RAVENSWOOD #1 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1		104.95	106.88	1.93	1120 Amps	Line	
163 N-1 SAN MATEO - RAVENSWOOD #2 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1		104.95	106.88	1.93	1120 Amps	Line	
164 N-1 MONTA VISTA - JEFFERSON #1 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1		104.09	79.999	-24.091	1120 Amps	Line	
165 N-1 MONTA VISTA - JEFFERSON #2 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1		104.75	106.55	1.8	1120 Amps	Line	
166 N-1 KELSO - TESLA D 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1		79.999	106.09	26.091	1120 Amps	Line	
167 N-1 DELTAPMP - TESLA D 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1		104.09	106.35	2.26	1120 Amps	Line	
167 N-1 DELTAPMP - TESLA D 230kV LINE	LS PSTAS	230.00-NEWARK D	230.00 #1	1		79.999	99.83	19.831	851 Amps	Line	
169 N-1 CAYETANO-NDUBLIN 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1		104.86	107.09	2.23	1120 Amps	Line	
169 N-1 CAYETANO-NDUBLIN 230kV LINE	LS PSTAS	230.00-NEWARK D	230.00 #1	1		79.999	105.52	25.521	851 Amps	Line	
170 N-1 NDUBLIN-VINYARD 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1		104.82	107.06	2.24	1120 Amps	Line	
170 N-1 NDUBLIN-VINYARD 230kV LINE	LS PSTAS	230.00-NEWARK D	230.00 #1	1		79.999	104.25	24.251	851 Amps	Line	
171 N-1 VINYARD - NEWARK 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1		104.46	106.7	2.24	1120 Amps	Line	
171 N-1 VINYARD - NEWARK 230kV LINE	LS PSTAS	230.00-NEWARK D	230.00 #1	1		79.999	99.87	19.871	851 Amps	Line	
172 N-1 CASTROVL - NEWARK 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1		104.99	107.3	2.31	1120 Amps	Line	
175 N-1 LS PSTAS - NEWARK 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1		104.83	107.2	2.37	1120 Amps	Line	
176 N-1 TESLA - NEWARK 230kV #1 LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1		104.31	106.14	1.83	1120 Amps	Line	
179 N-1 TESLA - NEWARK 230kV #2 LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1		107.01	108.74	1.73	1120 Amps	Line	
179 N-1 TESLA - NEWARK 230kV #2 LINE	LS PSTAS	230.00-NEWARK D	230.00 #1	1		79.999	99.07	19.071	851 Amps	Line	
180 N-1 MONTAVIS - SARATOGA 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1		104.04	105.92	1.88	1120 Amps	Line	
181 N-1 MONTAVIS - HICKS 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1		104.3	106.17	1.87	1120 Amps	Line	
182 N-1 TSARATOGA - VASONA 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1		104.47	106.35	1.88	1120 Amps	Line	
183 N-1 VASONA - METCALF 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1		104.67	106.55	1.88	1120 Amps	Line	
184 N-1 MONTAVIS - METCALF 230kV #3 LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1		104.66	106.53	1.87	1120 Amps	Line	
185 N-1 MONTAVIS - METCALF ENERGY CENTER 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1		104.7	106.57	1.87	1120 Amps	Line	
186 N-1 SVP - LOS ESTEROS 230kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1		124.8	126.68	1.88	1541 Amps	Line	
187 N-1 HICKS - METCALF 230kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1		104.86	106.73	1.87	1120 Amps	Line	
192 N-1 CSC NORTHERN - SSS 230kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1		124.8	126.68	1.88	1541 Amps	Line	
199 N-1 OLEUM - NORTH TOWER - CHRISTIE 115kV LINE & NORTH TOWER LOAD	E. SHORE	230.00-SANMATEO	230.00 #1	1		104.07	105.98	1.91	1120 Amps	Line	

Thermal Summary Results -[N-1] Contingencies

OUTAGE NO	OUTAGE DESCRIPTION		OVERLOADED ELEMENT				PRE E PCT	POST E PCT	E DELTA	E RATE	UNIT	ELEMENT TYPE
236	N-1 PITTSBURG - MARTINEZ 115kV #1 LINE & WILLOW PASS BART LOAD & BOLLMAN LOAD	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.17	106.07	1.9	1120 Amps	Line		
285	N-1 BELMONT - BAIR 115kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.04	105.94	1.9	1120 Amps	Line		
295	N-1 SAN FRANCISCO AIRPORT - UNITED COGEN 115kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	105.88	107.79	1.91	1120 Amps	Line		
300	N-1 EAST SHORE - DUMBARTON 115kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.78	115.52	1.74	1541 Amps	Line		
300	N-1 EAST SHORE - DUMBARTON 115kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	126.2	128.42	2.22	1120 Amps	Line		
301	N-1 DUMBARTON - NEWARK D 115kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	113.08	115.26	2.18	1120 Amps	Line		
304	N-1 NEWARK - NORTHERN #1 115kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.82	115.61	1.79	1541 Amps	Line		
304	N-1 NEWARK - NORTHERN #1 115kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.74	106.73	1.99	1120 Amps	Line		
305	N-1 NEWARK - NORTHERN #2 115kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	114.44	116.23	1.79	1541 Amps	Line		
314	N-1 NEWARK - LAWRENCE - MOFFET - LOCKHEED 115kV LINE (Xfr. Lockheed)	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.06	106	1.94	1120 Amps	Line		
315	N-1 NEWARK - AMD - APPLIED MATERIALS 115kV LINE (Xfr. Lockheed)	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.01	105.95	1.94	1120 Amps	Line		
317	N-1 NEWARK - ZANKER - KIFER 115kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	114.15	115.91	1.76	1541 Amps	Line		
318	N-1 NEWARK - ZANKER - TRIMBLE 115kV LINE (Xfr. Agnews)	CP LECEF	115.00-LECEFTAP	115.00 #1	1	115.33	117.29	1.96	1541 Amps	Line		
328	N-1 MONTA VISTA - PHILLIPS - LAWRENCE 115kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.39	79.999	-33.391	1541 Amps	Line		
329	N-1 MONTA VISTA - BRITTON 115kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.56	115.22	1.66	1541 Amps	Line		
335	N-1 SAN JOSE A - EL PATIO 115kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	116.7	117.89	1.19	1541 Amps	Line		
337	N-1 KIFER - FMC 115kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	114.09	116.02	1.93	1541 Amps	Line		
338	N-1 SAN JOSE A - SAN JOSE B 115kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	114.14	115.33	1.19	1541 Amps	Line		
339	N-1 EVERGREEN - MARKHAM - SJ B 115kV LINE (Xfr. Markham)	CP LECEF	115.00-LECEFTAP	115.00 #1	1	114.43	115.74	1.31	1541 Amps	Line		
341	N-1 METCALF - EL PATIO(-IBM BAILEY) #2 115kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	116.25	117.79	1.54	1541 Amps	Line		
344	N-1 METCALF - EVERGREEN - STONE-GE #2 115kV LINE (Xfr. Stone-GE)	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.76	115.37	1.61	1541 Amps	Line		
346	N-1 METCALF - EVERGREEN #1 115kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	115.67	117.26	1.59	1541 Amps	Line		
349	N-1 METCALF - EL PATIO(-IBM HR) #1 115kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	116.25	117.79	1.54	1541 Amps	Line		
354	N-1 GILROY - LLAGAS 115kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	114.97	116.7	1.73	1541 Amps	Line		
354	N-1 GILROY - LLAGAS 115kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.18	106.09	1.91	1120 Amps	Line		
361	N-1 CSC KIFER - DVR PP 115kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.37	115.12	1.75	1541 Amps	Line		
361	N-1 CSC KIFER - DVR PP 115kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.13	106.05	1.92	1120 Amps	Line		
362	N-1 CSC NORTHERN - SCOTT #1 115kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	119.27	121.21	1.94	1541 Amps	Line		
362	N-1 CSC NORTHERN - SCOTT #1 115kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.44	106.36	1.92	1120 Amps	Line		
362	N-1 CSC NORTHERN - SCOTT #1 115kV LINE	NRS 400	115.00-NRS 600	60.00 #1	0	101.09	102.41	1.32	167 MVA	XFMR		
379	N-1 HALF MOON BAY - HILLSDALE JCT 60kV LINE	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.02	105.93	1.91	1120 Amps	Line		
384	N-1 COOLEY LANDING - STANDFORD 60kV LINE (CLY LNDG-SRI)	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.17	106.06	1.89	1120 Amps	Line		
389	N-1 COOLEY LANDING - STANDFORD 60kV LINE (SRI-MENLO)	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.21	106.11	1.9	1120 Amps	Line		
401	N-1 MONTA VISTA - LOS GATOS 60kV LINE	CP LECEF	115.00-LECEFTAP	115.00 #1	1	114.1	115.82	1.72	1541 Amps	Line		

Thermal Summary Results -[T-1] Contingencies

OUTAGE NO	OUTAGE DESCRIPTION		OVERLOADED ELEMENT				PRE E PCT	POST E PCT	E DELTA	E RATE	UNIT	ELEMENT TYPE
406	T-1 TESLA 500/230kV #2 XFMR BANK	E. SHORE	230.00-SANMATEO	230.00 #1	1		105.22	107.03	1.81	1120 Amps	Line	
409	T-1 METCALF 500/230kV #11 XFMR BANK	CP LECEF	115.00-LECEFTAP	115.00 #1	1		113.91	115.59	1.68	1541 Amps	Line	
409	T-1 METCALF 500/230kV #11 XFMR BANK	E. SHORE	230.00-SANMATEO	230.00 #1	1		104.33	106.21	1.88	1120 Amps	Line	
410	T-1 METCALF 500/230kV #12 XFMR BANK	CP LECEF	115.00-LECEFTAP	115.00 #1	1		113.99	115.67	1.68	1541 Amps	Line	
410	T-1 METCALF 500/230kV #12 XFMR BANK	E. SHORE	230.00-SANMATEO	230.00 #1	1		104.38	106.25	1.87	1120 Amps	Line	
411	T-1 METCALF 500/230kV #13 XFMR BANK	CP LECEF	115.00-LECEFTAP	115.00 #1	1		114.07	115.74	1.67	1541 Amps	Line	
411	T-1 METCALF 500/230kV #13 XFMR BANK	E. SHORE	230.00-SANMATEO	230.00 #1	1		104.42	106.29	1.87	1120 Amps	Line	
418	T-1 PITTSBURG 230/115kV #12 XFMR BANK	E. SHORE	230.00-SANMATEO	230.00 #1	1		103.97	79.999	-23.971	1120 Amps	Line	
419	T-1 PITTSBURG 230/115kV #13 XFMR BANK	E. SHORE	230.00-SANMATEO	230.00 #1	1		103.97	79.999	-23.971	1120 Amps	Line	
420	T-1 SOBRANTE 230/115kV #1 XFMR BANK	E. SHORE	230.00-SANMATEO	230.00 #1	1		104.29	106.13	1.84	1120 Amps	Line	
421	T-1 SOBRANTE 230/115kV #2 XFMR BANK	E. SHORE	230.00-SANMATEO	230.00 #1	1		104.25	106.09	1.84	1120 Amps	Line	
426	T-1 JEFFERSON 230/60kV #1 XFMR BANK	E. SHORE	230.00-SANMATEO	230.00 #1	1		105.19	107.02	1.83	1120 Amps	Line	
427	T-1 RAVENSWOOD 230/115kV #1 XFMR BANK	CP LECEF	115.00-LECEFTAP	115.00 #1	1		114.08	115.81	1.73	1541 Amps	Line	
428	T-1 RAVENSWOOD 230/115kV #2 XFMR BANK	CP LECEF	115.00-LECEFTAP	115.00 #1	1		113.98	115.72	1.74	1541 Amps	Line	
434	T-1 EAST SHORE 230/115kV #1 XFMR BANK	CP LECEF	115.00-LECEFTAP	115.00 #1	1		113.51	115.25	1.74	1541 Amps	Line	
434	T-1 EAST SHORE 230/115kV #1 XFMR BANK	E. SHORE	230.00-SANMATEO	230.00 #1	1		120.83	122.85	2.02	1120 Amps	Line	
435	T-1 EAST SHORE 230/115kV #2 XFMR BANK	E. SHORE	230.00-SANMATEO	230.00 #1	1		106.23	108.16	1.93	1120 Amps	Line	
437	T-1 NEWARK 230/115kV #9 XFMR BANK	CP LECEF	115.00-LECEFTAP	115.00 #1	1		116.44	118.34	1.9	1541 Amps	Line	
438	T-1 NEWARK 230/115kV #7 XFMR BANK	CP LECEF	115.00-LECEFTAP	115.00 #1	1		118	120.01	2.01	1541 Amps	Line	
439	T-1 NEWARK 230/115kV #11 XFMR BANK	CP LECEF	115.00-LECEFTAP	115.00 #1	1		119.8	121.91	2.11	1541 Amps	Line	
447	T-1 LOS ESTEROS 230/115kV #3 XFMR BANK	CP LECEF	115.00-LECEFTAP	115.00 #1	1		125.91	128.06	2.15	1541 Amps	Line	
448	T-1 LOS ESTEROS 230/115kV #4 XFMR BANK	CP LECEF	115.00-LECEFTAP	115.00 #1	1		125.91	128.06	2.15	1541 Amps	Line	
449	T-1 METCALF 230/115kV #1 XFMR BANK	CP LECEF	115.00-LECEFTAP	115.00 #1	1		114.62	116.28	1.66	1541 Amps	Line	
450	T-1 METCALF 230/115kV #2 XFMR BANK	CP LECEF	115.00-LECEFTAP	115.00 #1	1		114.64	116.3	1.66	1541 Amps	Line	
451	T-1 METCALF 230/115kV #3 XFMR BANK	CP LECEF	115.00-LECEFTAP	115.00 #1	1		114.59	116.24	1.65	1541 Amps	Line	
452	T-1 METCALF 230/115kV #4 XFMR BANK	CP LECEF	115.00-LECEFTAP	115.00 #1	1		114.73	116.38	1.65	1541 Amps	Line	
453	T-1 CSC NORTHERN 230/115kV #1 XFMR BANK	CP LECEF	115.00-LECEFTAP	115.00 #1	1		124.82	126.71	1.89	1541 Amps	Line	
461	T-1 SAN MATEO 115/60kV #8 XFMR BANK	SAN MATO	60.00-SMATEO3M	115.00 #3	0		102.54	105.39	2.85	68 MVA	XFMR	
461	T-1 SAN MATEO 115/60kV #8 XFMR BANK	SANMATEO	115.00-SMATEO3M	115.00 #3	0		103.3	106.17	2.87	68 MVA	XFMR	
467	T-1 CSC NORTHERN 115/60kV #1 XFMR BANK	CP LECEF	115.00-LECEFTAP	115.00 #1	1		115.08	116.83	1.75	1541 Amps	Line	
467	T-1 CSC NORTHERN 115/60kV #1 XFMR BANK	NRS 400	115.00-SRS	115.00 #1	1		107.85	109.9	2.05	1144 Amps	Line	
468	T-1 CSC NORTHERN 115/60kV #NA XFMR BANK	CP LECEF	115.00-LECEFTAP	115.00 #1	1		115.08	116.83	1.75	1541 Amps	Line	
468	T-1 CSC NORTHERN 115/60kV #NA XFMR BANK	NRS 400	115.00-SRS	115.00 #1	1		107.85	109.9	2.05	1144 Amps	Line	

Thermal Summary Results -[N-2] Contingencies

OUTAGE NO	OUTAGE DESCRIPTION	OVERLOADED ELEMENT	PRE E PCT	POST E PCT	E DELTA	E RATE	UNIT	ELEMENT TYPE
340	N-2 METCALF - EL PATIO-(IBM HR) #1 & #2 LINES	CP LECEF 115.00-LECEFTAP 115.00 #1 1	122.7	123.9	1.2	1541 Amps	Line	
340	N-2 METCALF - EL PATIO-(IBM HR) #1 & #2 LINES	SJ B E 115.00-TRIMBLE 115.00 #1 1	119.83	124.96	5.13	924 Amps	Line	
476	N-2 VACA - PEABODY & VACA - LAMBIE 230kV LINES	LS PSTAS 230.00-NEWARK D 230.00 #1 1	79.999	99.2	19.201	851 Amps	Line	
477	N-2 BIRDS LANDING - PEABODY & BIRDS LANDING - LAMBIE 230kV LINES	LS PSTAS 230.00-NEWARK D 230.00 #1 1	79.999	99.34	19.341	851 Amps	Line	
480	N-2 CONTRA COSTA SUB - COCO & BIRDS LANDING - CONTRA COSTA SUB 230kV LINES	E. SHORE 230.00-SANMATEO 230.00 #1 1	104.02	105.93	1.91	1120 Amps	Line	
481	N-2 C.COSTA - MORAGA 230kV #1 & #2 LINES	ALTM MDW 230.00-DELTAPMP 230.00 #1 1	79.999	108.56	28.561	1130 Amps	Line	
481	N-2 C.COSTA - MORAGA 230kV #1 & #2 LINES	ALTM MDW 230.00-TESLA D 230.00 #1 1	79.999	108.5	28.501	1130 Amps	Line	
481	N-2 C.COSTA - MORAGA 230kV #1 & #2 LINES	BRENTWOD 230.00-C.COSTA 230.00 #1 1	79.999	104.97	24.971	1130 Amps	Line	
481	N-2 C.COSTA - MORAGA 230kV #1 & #2 LINES	C.COSTA 230.00-WND MSTR 230.00 #1 1	79.999	108.92	28.921	1130 Amps	Line	
481	N-2 C.COSTA - MORAGA 230kV #1 & #2 LINES	CAYETANO 230.00-NDUBLIN 230.00 #1 1	79.999	101.72	21.721	1004 Amps	Line	
481	N-2 C.COSTA - MORAGA 230kV #1 & #2 LINES	CAYETANO 230.00-USWP-JRW 230.00 #1 1	82.82	107.24	24.42	1005 Amps	Line	
481	N-2 C.COSTA - MORAGA 230kV #1 & #2 LINES	DELTAPMP 230.00-WND MSTR 230.00 #1 1	79.999	108.79	28.791	1130 Amps	Line	
481	N-2 C.COSTA - MORAGA 230kV #1 & #2 LINES	LONETREE 230.00-USWP-JRW 230.00 #1 1	83.09	107.47	24.38	1005 Amps	Line	
481	N-2 C.COSTA - MORAGA 230kV #1 & #2 LINES	LS PSTAS 230.00-NEWARK D 230.00 #1 1	81.28	115.93	34.65	851 Amps	Line	
482	N-2 CONTRA COSTA - LOS PSTAS & CONTRA COSTA - CAYETANO 230kV LINES	ALTM MDW 230.00-DELTAPMP 230.00 #1 1	79.999	118.07	38.071	1130 Amps	Line	
482	N-2 CONTRA COSTA - LOS PSTAS & CONTRA COSTA - CAYETANO 230kV LINES	ALTM MDW 230.00-TESLA D 230.00 #1 1	79.999	118.01	38.011	1130 Amps	Line	
482	N-2 CONTRA COSTA - LOS PSTAS & CONTRA COSTA - CAYETANO 230kV LINES	BRENTWOD 230.00-C.COSTA 230.00 #1 1	79.999	112.5	32.501	1130 Amps	Line	
482	N-2 CONTRA COSTA - LOS PSTAS & CONTRA COSTA - CAYETANO 230kV LINES	C.COSTA 230.00-WND MSTR 230.00 #1 1	79.999	118.43	38.431	1130 Amps	Line	
482	N-2 CONTRA COSTA - LOS PSTAS & CONTRA COSTA - CAYETANO 230kV LINES	CASTROVL 230.00-MORAGA 230.00 #1 1	82.2	101.19	18.99	1021 Amps	Line	
482	N-2 CONTRA COSTA - LOS PSTAS & CONTRA COSTA - CAYETANO 230kV LINES	CASTROVL 230.00-NEWARK E 230.00 #1 1	79.999	99.77	19.771	851 Amps	Line	
482	N-2 CONTRA COSTA - LOS PSTAS & CONTRA COSTA - CAYETANO 230kV LINES	DELTAPMP 230.00-WND MSTR 230.00 #1 1	79.999	118.3	38.301	1130 Amps	Line	
482	N-2 CONTRA COSTA - LOS PSTAS & CONTRA COSTA - CAYETANO 230kV LINES	E. SHORE 230.00-SANMATEO 230.00 #1 1	106.83	109.52	2.69	1120 Amps	Line	
483	N-2 CAYETANO - NDUBLIN & CONTRA COSTA - CAYETANO 230kV LINES	E. SHORE 230.00-SANMATEO 230.00 #1 1	105.06	107.31	2.25	1120 Amps	Line	
483	N-2 CAYETANO - NDUBLIN & CONTRA COSTA - CAYETANO 230kV LINES	LS PSTAS 230.00-NEWARK D 230.00 #1 1	79.999	108.54	28.541	851 Amps	Line	
484	N-2 PITTSBURG - TESORO & PITTSBURG - TIDEWATER 230kV LINES	E. SHORE 230.00-SANMATEO 230.00 #1 1	108.07	109.59	1.52	1120 Amps	Line	
485	N-2 TESORO - SOBRANTE & TIDEWATER - SOBRANTE 230kV LINES	E. SHORE 230.00-SANMATEO 230.00 #1 1	106.91	108.42	1.51	1120 Amps	Line	
486	N-2 PITTSBURG - SANMATEO & PITTSBURG - EAST SHORE 230kV LINES	CP LECEF 115.00-LECEFTAP 115.00 #1 1	114.24	116.03	1.79	1541 Amps	Line	
487	N-2 PITTSBURG - TESLA #1 & #2 230kV LINES	E. SHORE 230.00-SANMATEO 230.00 #1 1	106.44	109.52	3.08	1120 Amps	Line	
488	N-2 PITTSBURG - TASSAJARA & PITTSBURG - SAN RAMON 230kV LINES	E. SHORE 230.00-SANMATEO 230.00 #1 1	112.72	114.43	1.71	1120 Amps	Line	
490	N-2 MORAGA - SANRAMON & MORAGA - CASTROVALLY 230kV LINES	E. SHORE 230.00-SANMATEO 230.00 #1 1	104.86	106.89	2.03	1120 Amps	Line	
490	N-2 MORAGA - SANRAMON & MORAGA - CASTROVALLY 230kV LINES	LS PSTAS 230.00-NEWARK D 230.00 #1 1	79.999	99.44	19.441	851 Amps	Line	
491	N-2 MORAGA - SANRAMON & CASTROVALLY - NEWARK 230kV LINES	E. SHORE 230.00-SANMATEO 230.00 #1 1	104.29	106.31	2.02	1120 Amps	Line	
492	N-2 PITTSBURG - SAN MATEO & EAST SHORE - SAN MATEO 230kV LINES	DUMBARTN 115.00-EASTSHRE 115.00 #1 1	198.48	202.14	3.66	949 Amps	Line	
492	N-2 PITTSBURG - SAN MATEO & EAST SHORE - SAN MATEO 230kV LINES	DUMBARTN 115.00-NEWARK D 115.00 #1 1	97.82	99.95	2.13	1541 Amps	Line	
493	N-2 TESLA - NEWARK & TESLA - RAVENSWOOD 230kV LINES	E. SHORE 230.00-SANMATEO 230.00 #1 1	113.05	114.17	1.12	1120 Amps	Line	
493	N-2 TESLA - NEWARK & TESLA - RAVENSWOOD 230kV LINES	LS PSTAS 230.00-NEWARK D 230.00 #1 1	79.999	101.59	21.591	851 Amps	Line	
494	N-2 RAVENSWOOD - SAN MATEO #1 & #2 230kV LINES	E. SHORE 230.00-SANMATEO 230.00 #1 1	110.38	112.45	2.07	1120 Amps	Line	
495	N-2 MONTAVISTA - JEFFERSON 230kV #1 & #2 LINES	E. SHORE 230.00-SANMATEO 230.00 #1 1	108.98	110.15	1.17	1120 Amps	Line	
496	N-2 NORTH DUBLIN - VINYARD & CONTRA COSTA - LOS PASITAS 230kV LINES	ALTM MDW 230.00-DELTAPMP 230.00 #1 1	79.999	112.44	32.441	1130 Amps	Line	
496	N-2 NORTH DUBLIN - VINYARD & CONTRA COSTA - LOS PASITAS 230kV LINES	ALTM MDW 230.00-TESLA D 230.00 #1 1	79.999	112.39	32.391	1130 Amps	Line	
496	N-2 NORTH DUBLIN - VINYARD & CONTRA COSTA - LOS PASITAS 230kV LINES	BRENTWOD 230.00-C.COSTA 230.00 #1 1	79.999	108.08	28.081	1130 Amps	Line	
496	N-2 NORTH DUBLIN - VINYARD & CONTRA COSTA - LOS PASITAS 230kV LINES	C.COSTA 230.00-WND MSTR 230.00 #1 1	79.999	112.8	32.801	1130 Amps	Line	
496	N-2 NORTH DUBLIN - VINYARD & CONTRA COSTA - LOS PASITAS 230kV LINES	CASTROVL 230.00-MORAGA 230.00 #1 1	79.999	98.07	18.071	1021 Amps	Line	

Thermal Summary Results -[N-2] Contingencies

OUTAGE NO	OUTAGE DESCRIPTION	OVERLOADED ELEMENT				PRE E PCT	POST E PCT	E DELTA	E RATE	UNIT	ELEMENT TYPE
496	N-2 NORTH DUBLIN - VINYARD & CONTRA COSTA - LOS PASITAS 230kV LINES	DELTAPMP	230.00-WND MSTR	230.00 #1	1	79.999	112.68	32.681	1130 Amps	Line	
496	N-2 NORTH DUBLIN - VINYARD & CONTRA COSTA - LOS PASITAS 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	106.48	109.18	2.7	1120 Amps	Line	
497	N-2 NORTH DUBLIN - VINYARD & LOS PASITAS - NEWARK 230kV LINES	ALTM MDW	230.00-DELTAPMP	230.00 #1	1	79.999	103.75	23.751	1130 Amps	Line	
497	N-2 NORTH DUBLIN - VINYARD & LOS PASITAS - NEWARK 230kV LINES	ALTM MDW	230.00-TESLA D	230.00 #1	1	79.999	103.69	23.691	1130 Amps	Line	
497	N-2 NORTH DUBLIN - VINYARD & LOS PASITAS - NEWARK 230kV LINES	BRENTWOD	230.00-C.COSTA	230.00 #1	1	79.999	101.21	21.211	1130 Amps	Line	
497	N-2 NORTH DUBLIN - VINYARD & LOS PASITAS - NEWARK 230kV LINES	C.COSTA	230.00-WND MSTR	230.00 #1	1	79.999	104.12	24.121	1130 Amps	Line	
497	N-2 NORTH DUBLIN - VINYARD & LOS PASITAS - NEWARK 230kV LINES	DELTAPMP	230.00-WND MSTR	230.00 #1	1	79.999	103.98	23.981	1130 Amps	Line	
497	N-2 NORTH DUBLIN - VINYARD & LOS PASITAS - NEWARK 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	106.25	109.11	2.86	1120 Amps	Line	
498	N-2 TESLA - NEWARK #2 & NWK DIST - LOS ESTEROS 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	106.27	107.81	1.54	1120 Amps	Line	
499	N-2 MONTAVISTA - SARATOGA & MONTAVISTA - HICKS 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.8	106.63	1.83	1120 Amps	Line	
500	N-2 VASONA - METCALF & MOTAVISTA - HICKS 230kV LINES	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.54	115.24	1.7	1541 Amps	Line	
500	N-2 VASONA - METCALF & MOTAVISTA - HICKS 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	105.65	107.48	1.83	1120 Amps	Line	
501	N-2 MONTAVIS - METCALF & MONTAVIS - MEC 230kV #3 & #4 LINES	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.65	115.33	1.68	1541 Amps	Line	
501	N-2 MONTAVIS - METCALF & MONTAVIS - MEC 230kV #3 & #4 LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	106.31	108.12	1.81	1120 Amps	Line	
503	N-2 METCALF - HICKS & METCALF - VASONA 230kV LINES	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.86	115.56	1.7	1541 Amps	Line	
503	N-2 METCALF - HICKS & METCALF - VASONA 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	106.4	108.23	1.83	1120 Amps	Line	
505	N-2 TESLA - KELSO & TESLA - DELTAPUMP 230kV LINES	CAYETANO	230.00-NDUBLIN	230.00 #1	1	79.999	99.21	19.211	1004 Amps	Line	
505	N-2 TESLA - KELSO & TESLA - DELTAPUMP 230kV LINES	CAYETANO	230.00-USWP-JRW	230.00 #1	1	79.999	104.77	24.771	1005 Amps	Line	
505	N-2 TESLA - KELSO & TESLA - DELTAPUMP 230kV LINES	CP LECEF	115.00-LECEFTAP	115.00 #1	1	79.999	115.62	35.621	1541 Amps	Line	
505	N-2 TESLA - KELSO & TESLA - DELTAPUMP 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.38	107.13	2.75	1120 Amps	Line	
505	N-2 TESLA - KELSO & TESLA - DELTAPUMP 230kV LINES	LONETREE	230.00-USWP-JRW	230.00 #1	1	79.999	105	25.001	1005 Amps	Line	
505	N-2 TESLA - KELSO & TESLA - DELTAPUMP 230kV LINES	LS PSTAS	230.00-NEWARK D	230.00 #1	1	79.999	113.5	33.501	851 Amps	Line	
506	N-2 LOS ESTEROS - METCALF & TESLA - NEWARK 230kV #2 LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	106.93	108.71	1.78	1120 Amps	Line	
506	N-2 LOS ESTEROS - METCALF & TESLA - NEWARK 230kV #2 LINES	LS PSTAS	230.00-NEWARK D	230.00 #1	1	79.999	101.23	21.231	851 Amps	Line	
507	N-2 PITSBURG - SANRAMON & TASSAJAR - NEWARK 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	110.07	111.77	1.7	1120 Amps	Line	
508	N-2 MORAGA - SANRAMON & TASSAJAR - NEWARK 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	106.33	108.06	1.73	1120 Amps	Line	
509	N-2 CASTROVL - NEWARK & TASSAJAR - NEWARK 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	108.56	111.12	2.56	1120 Amps	Line	
509	N-2 CASTROVL - NEWARK & TASSAJAR - NEWARK 230kV LINES	LS PSTAS	230.00-NEWARK D	230.00 #1	1	79.999	100.17	20.171	851 Amps	Line	
510	N-2 LS PSTAS - NEWARK & VINEYARD - NEWARK 230kV LINES	ALTM MDW	230.00-DELTAPMP	230.00 #1	1	79.999	99.78	19.781	1130 Amps	Line	
510	N-2 LS PSTAS - NEWARK & VINEYARD - NEWARK 230kV LINES	ALTM MDW	230.00-TESLA D	230.00 #1	1	79.999	99.73	19.731	1130 Amps	Line	
510	N-2 LS PSTAS - NEWARK & VINEYARD - NEWARK 230kV LINES	BRENTWOD	230.00-C.COSTA	230.00 #1	1	79.999	98.08	18.081	1130 Amps	Line	
510	N-2 LS PSTAS - NEWARK & VINEYARD - NEWARK 230kV LINES	C.COSTA	230.00-WND MSTR	230.00 #1	1	79.999	100.16	20.161	1130 Amps	Line	
510	N-2 LS PSTAS - NEWARK & VINEYARD - NEWARK 230kV LINES	DELTAPMP	230.00-WND MSTR	230.00 #1	1	79.999	100.02	20.021	1130 Amps	Line	
510	N-2 LS PSTAS - NEWARK & VINEYARD - NEWARK 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	105.81	108.66	2.85	1120 Amps	Line	
511	N-2 HICKS - METCALF & SARATOGA - VASONA 230kV LINES	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.73	115.43	1.7	1541 Amps	Line	
511	N-2 HICKS - METCALF & SARATOGA - VASONA 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	106.12	107.96	1.84	1120 Amps	Line	
512	N-2 HICKS - MOTAVISTA & VASONA - SARATOGA 230kV LINES	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.41	79.999	-33.411	1541 Amps	Line	
512	N-2 HICKS - MOTAVISTA & VASONA - SARATOGA 230kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	105.38	107.21	1.83	1120 Amps	Line	
514	N-2 EI CERETO - SOBRANTE 115kV #1 & #2 LINES	ALHAMTP2	115.00-MARTNZ D	115.00 #1	1	106.03	103.81	-2.22	487 Amps	Line	
514	N-2 EI CERETO - SOBRANTE 115kV #1 & #2 LINES	ALHAMTP2	115.00-OLEUM	115.00 #1	1	99	96.94	-2.06	522 Amps	Line	
514	N-2 EI CERETO - SOBRANTE 115kV #1 & #2 LINES	CHRISTIE	115.00-SOBRANTE	115.00 #1	1	98.75	100.72	1.97	523 Amps	Line	
515	N-2 RICHMOND R - SOBRANTE 115kV #1 & #2 LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.25	106.16	1.91	1120 Amps	Line	
516	N-2 SOBRANTE - STANDARD OIL 115kV #1 & #2 LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.31	106.22	1.91	1120 Amps	Line	

Thermal Summary Results -[N-2] Contingencies

OUTAGE NO	OUTAGE DESCRIPTION	OVERLOADED ELEMENT				PRE E PCT	POST E PCT	E DELTA	E RATE	UNIT	ELEMENT TYPE
517	N-2 SOBRANTE - GRIZLY - CLAIRMONT 115kV #1 & #2 LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.08	105.93	1.85	1120 Amps	Line	
518	N-2 OLEUM - MARTINEZ & LINEOLEUM - N.TOWER-CHRISTE 115kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.17	106.07	1.9	1120 Amps	Line	
519	N-2 OLEUM - NTR - CHRITIE & MARTNZ - ALHABRA - SOBRANTE 115kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.12	106.02	1.9	1120 Amps	Line	
520	N-2 MARTINEZ - SOBRANTE 115kV LINE & OLEUM - MARTINEZ 115kV LINES & ALHAMBRA LOA	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.29	106.17	1.88	1120 Amps	Line	
521	N-2 OLEUM - EL CERRITO STATION G 115kV LINES 1 & 2 & VALLEY VIEW LOAD	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.01	105.91	1.9	1120 Amps	Line	
525	N-2 MORAGA - J & SN LNDRO - J 115kV LINES	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.44	115.2	1.76	1541 Amps	Line	
526	N-2 PITTS - MARTZ 115kV #1 & #2 LINES, WP BART, BOLLMAN, CCCSD LD & CCCSD	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.48	106.35	1.87	1120 Amps	Line	
527	N-2 PITTSBURG - CLAYTON 115kV #1 & #3 LINE & KIRKER LD RADIAL FROM PITTS-KIRKER-	CLAYTN	115.00-PITTSBURG	115.00 #4	1	133.55	130.5	-3.05	1486 Amps	Line	
527	N-2 PITTSBURG - CLAYTON 115kV #1 & #3 LINE & KIRKER LD RADIAL FROM PITTS-KIRKER-	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.15	106.04	1.89	1120 Amps	Line	
533	N-2 RAVENSWOOD - BAIR #1 & #2 115kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.74	106.65	1.91	1120 Amps	Line	
535	N-2 EASTSHORE - MT EDEN #1 & #2 115kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	114.83	116.77	1.94	1120 Amps	Line	
536	N-2 NEWARK - NORTHERN #1 & #2 115kV LINES	CP LECEF	115.00-LECEFTAP	115.00 #1	1	115.76	117.66	1.9	1541 Amps	Line	
536	N-2 NEWARK - NORTHERN #1 & #2 115kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.77	106.76	1.99	1120 Amps	Line	
537	N-2 NEWARK - LAWRENCE - MOFFET - LOCKHEED & NEWARK - AMD - APPLIED MATERIALS 115	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.29	106.29	2	1120 Amps	Line	
540	N-2 MONTA VISTA - PHILLIPS - LAWRENCE & MONTA VISTA - BRITTON 115kV LINES	CP LECEF	115.00-LECEFTAP	115.00 #1	1	114.14	115.7	1.56	1541 Amps	Line	
542	N-2 NORTHERN - SCOTT #1 & #2 115kV LINES	CP LECEF	115.00-LECEFTAP	115.00 #1	1	115.43	117.29	1.86	1541 Amps	Line	
542	N-2 NORTHERN - SCOTT #1 & #2 115kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.43	106.35	1.92	1120 Amps	Line	
542	N-2 NORTHERN - SCOTT #1 & #2 115kV LINES	NRS 400	115.00-NRS 600	60.00 #1	0	105.53	106.94	1.41	167 MVA	XFMR	
542	N-2 NORTHERN - SCOTT #1 & #2 115kV LINES	SJ B E	115.00-TRIMBLE	115.00 #1	1	95.47	104.28	8.81	924 Amps	Line	
546	N-2 METCALF E - SWIFT & METCALF E - PIERCY 115kV LINES	CP LECEF	115.00-LECEFTAP	115.00 #1	1	114.04	115.72	1.68	1541 Amps	Line	
548	N-2 TRIBLE - SAN JOSE B & KIFER - FMC-SAN JOSE B 115kV LINES	E. SHORE	230.00-SANMATEO	230.00 #1	1	104.04	106.01	1.97	1120 Amps	Line	
550	N-2 METCALF - EVERGREEN - STONE - GE #2 & METCALF-EVERGREEN #1 115kV LINES	CP LECEF	115.00-LECEFTAP	115.00 #1	1	118.75	120.06	1.31	1541 Amps	Line	
550	N-2 METCALF - EVERGREEN - STONE - GE #2 & METCALF-EVERGREEN #1 115kV LINES	SJ B E	115.00-TRIMBLE	115.00 #1	1	99.47	105.05	5.58	924 Amps	Line	
553	N-2 METCALF E - SWIFT & PIERCY - MCKEE 115kV LINES	CP LECEF	115.00-LECEFTAP	115.00 #1	1	113.83	115.51	1.68	1541 Amps	Line	

Voltage Summary Results -Sorted by Bus

OUTAGE NO	OUTAGE DESCRIPTION	BUS NO	BUS NAME	BASE KV	PRE BASE V PU	POST BASE V PU	PRE CONT V PU	POST CONT V PU	PRE V DEVIATION	POST V DEVIATION	PRE NOTES	POST NOTES
403	N-1 EVERGREEN - SENTER - ALMADEN 60KV LINE (Xfr. Almaden)	35757	ALMADEN	60	1.05303	1.05119	0.95737	0.95525	-9.08	-9.126799151	DEVIATION LT -4 PCT	DEVIATION LT -4 PCT
533	N-2 RAVENSWOOD - BAIR #1 & #2 115KV LINES	33313	BAIR	115	1.0211	1.01983	0.96791	0.96694	-5.21	-5.186158477	DEVIATION LT -4 PCT	DEVIATION LT -4 PCT
426	T-1 JEFFERSON 230/60KV #1 XFMR BANK	33349	CAROLD2	60	0.99777	0.99593	0.92055	0.91926	-7.74	-7.698332212	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU
426	T-1 JEFFERSON 230/60KV #1 XFMR BANK	33362	CRYSTLSG	60	0.99776	0.99593	0.92055	0.91925	-7.74	-7.699336299	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU
538	N-2 NEWARK - MILPITAS & NEWARK - DIXON LANDING 115KV LINES	35600	DIXON LD	115	1.02352	1.02183	0.94738	0.94527	-7.44	-7.492440034	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU
316	N-1 NEWARK - DIXON LANDING 115KV LINE	35600	DIXON LD	115	1.02352	1.02183	0.94842	0.94628	-7.34	-7.393597761	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU
514	N-2 EI CERETO - SOBRANTE 115KV #1 & #2 LINES	32766	EL CRRTO	115	0.99773	0.99693	0.94296	0.94245	-5.49	-5.464776865	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU
426	T-1 JEFFERSON 230/60KV #1 XFMR BANK	33377	EMRLD LE	60	1.00709	1.00518	0.9315	0.93021	-7.51	-7.458365666	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU
436	T-1 LOS POSITAS 230/60KV #4 XFMR BANK	35218	FLOWIND1	60	1.00322	1.00118	0.94022	0.93893	-6.28	-6.217663157	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU
384	N-1 COOLEY LANDING - STANDFORD 60KV LINE (CLY LNDG-SRI)	33381	GLENWOOD	60	1.01375	1.01302	0.79099	0.78898	-21.97	-22.11604904	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU
426	T-1 JEFFERSON 230/60KV #1 XFMR BANK	33399	HILDAL47	60	0.99818	0.99635	0.92101	0.91972	-7.73	-7.691072414	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU
426	T-1 JEFFERSON 230/60KV #1 XFMR BANK	33380	JEFRSN_D	60	1.00615	1.00432	0.92969	0.92842	-7.60	-7.557352238	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU
426	T-1 JEFFERSON 230/60KV #1 XFMR BANK	33400	JEFRSN_E	60	1.00619	1.00438	0.92973	0.92845	-7.60	-7.559887692	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU
555	N-2 MORAGA - OAKLAND J & MORAGA - SAN LEANDRO 115KV #3 LINES	38024	JENNY	115	0.97447	0.9738	0.92522	0.92451	-5.05	-5.061614295	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU
426	T-1 JEFFERSON 230/60KV #1 XFMR BANK	33376	LAS PLGS	60	0.98527	0.9834	0.90693	0.90562	-7.95	-7.909294285	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU
436	T-1 LOS POSITAS 230/60KV #4 XFMR BANK	35203	LIVERMRE	60	0.99509	0.99322	0.94531	0.94403	-5.00	-4.952578482	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU
196	N-1 TRACY - LIVERMORE LABS 230KV LINE	37560	LLNL	230	1.01765	1.01322	0.96322	0.96032	-5.35	-5.220978662	DEVIATION LT -4 PCT	DEVIATION LT -4 PCT
436	T-1 LOS POSITAS 230/60KV #4 XFMR BANK	35220	LPOSTAS	60	1.00402	1.00198	0.94108	0.93979	-6.27	-6.206710713	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU
384	N-1 COOLEY LANDING - STANDFORD 60KV LINE (CLY LNDG-SRI)	33393	LSPLGJSJT	60	1.01442	1.01204	0.93654	0.9349	-7.68	-7.62222837	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU
426	T-1 JEFFERSON 230/60KV #1 XFMR BANK	33393	LSPLGJSJT	60	1.01442	1.01204	0.94427	0.94292	-6.92	-6.829769574	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU
389	N-1 COOLEY LANDING - STANDFORD 60KV LINE (SRI-MENLO)	33393	LSPLGJSJT	60	1.01442	1.01204	0.95857	0.95703	-5.51	-5.435555907	DEVIATION LT -4 PCT	DEVIATION LT -4 PCT
538	N-2 NEWARK - MILPITAS & NEWARK - DIXON LANDING 115KV LINES	35630	MABURY	115	1.01493	1.01327	0.95592	0.95383	-5.81	-5.866156108	DEVIATION LT -4 PCT	DEVIATION LT -4 PCT
316	N-1 NEWARK - DIXON LANDING 115KV LINE	35630	MABURY	115	1.01493	1.01327	0.95695	0.95483	-5.71	-5.76746573	DEVIATION LT -4 PCT	DEVIATION LT -4 PCT
538	N-2 NEWARK - MILPITAS & NEWARK - DIXON LANDING 115KV LINES	35629	MABURY J	115	1.01673	1.01507	0.95784	0.95575	-5.79	-5.843931946	DEVIATION LT -4 PCT	DEVIATION LT -4 PCT
316	N-1 NEWARK - DIXON LANDING 115KV LINE	35629	MABURY J	115	1.01673	1.01507	0.95887	0.95675	-5.69	-5.745416572	DEVIATION LT -4 PCT	DEVIATION LT -4 PCT
546	N-2 METCALF E - SWIFT & METCALF E - PIERCY 115KV LINES	35626	MCKEE	115	1.01545	1.01382	0.96035	0.95858	-5.43	-5.44869898	DEVIATION LT -4 PCT	DEVIATION LT -4 PCT
538	N-2 NEWARK - MILPITAS & NEWARK - DIXON LANDING 115KV LINES	35626	MCKEE	115	1.01545	1.01382	0.96218	0.9601	-5.25	-5.298770985	DEVIATION LT -4 PCT	DEVIATION LT -4 PCT
316	N-1 NEWARK - DIXON LANDING 115KV LINE	35626	MCKEE	115	1.01545	1.01382	0.9632	0.9611	-5.15	-5.200134146	DEVIATION LT -4 PCT	DEVIATION LT -4 PCT
384	N-1 COOLEY LANDING - STANDFORD 60KV LINE (CLY LNDG-SRI)	33383	MENLO	60	1.00416	1.00358	0.80216	0.80018	-20.12	-20.26744256	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU
389	N-1 COOLEY LANDING - STANDFORD 60KV LINE (SRI-MENLO)	33383	MENLO	60	1.00416	1.00358	0.87515	0.87344	-12.85	-12.967576081	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU
384	N-1 COOLEY LANDING - STANDFORD 60KV LINE (CLY LNDG-SRI)	33390	MENLO G	60	1.00426	1.00368	0.80165	0.79967	-20.18	-20.32619959	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU
389	N-1 COOLEY LANDING - STANDFORD 60KV LINE (SRI-MENLO)	33390	MENLO G	60	1.00426	1.00368	0.87502	0.87331	-12.87	-12.98919974	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU
384	N-1 COOLEY LANDING - STANDFORD 60KV LINE (CLY LNDG-SRI)	33384	MNLO JCT	60	1.00664	1.00603	0.79882	0.79683	-20.64	-20.79460851	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU
384	N-1 COOLEY LANDING - STANDFORD 60KV LINE (CLY LNDG-SRI)	33385	MNLOJCT2	60	1.00418	1.00359	0.80281	0.80083	-20.05	-20.20346954	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU
389	N-1 COOLEY LANDING - STANDFORD 60KV LINE (SRI-MENLO)	33385	MNLOJCT2	60	1.00418	1.00359	0.87543	0.87372	-12.82	-12.94054345	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU
555	N-2 MORAGA - OAKLAND J & MORAGA - SAN LEANDRO 115KV #3 LINES	32798	OWENSTAP	115	0.97405	0.97338	0.925	0.92429	-5.04	-5.043251351	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU
555	N-2 MORAGA - OAKLAND J & MORAGA - SAN LEANDRO 115KV #3 LINES	32800	OWNBRKWY	115	0.9733	0.97263	0.92421	0.9235	-5.04	-5.051252789	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU
546	N-2 METCALF E - SWIFT & METCALF E - PIERCY 115KV LINES	35656	PIERCY	115	1.03002	1.02837	0.95308	0.95129	-7.47	-7.49535673	DEVIATION LT -4 PCT	DEVIATION LT -4 PCT
355	N-1 METCALF E - PIERCY 115KV LINE	35656	PIERCY	115	1.03002	1.02837	0.95938	0.95754	-6.86	-6.887598821	DEVIATION LT -4 PCT	DEVIATION LT -4 PCT
426	T-1 JEFFERSON 230/60KV #1 XFMR BANK	33363	RALSTON	60	0.99827	0.99644	0.9211	0.91981	-7.73	-7.690377745	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU
426	T-1 JEFFERSON 230/60KV #1 XFMR BANK	33397	RLSTN35	60	1.00119	0.9996	0.94339	0.94223	-5.77	-5.739295718	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU
426	T-1 JEFFERSON 230/60KV #1 XFMR BANK	33398	RLSTN45	60	0.99839	0.99656	0.92123	0.91994	-7.73	-7.688448262	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU
384	N-1 COOLEY LANDING - STANDFORD 60KV LINE (CLY LNDG-SRI)	33388	S.L.A.C.	60	1.00421	1.00362	0.80283	0.80085	-20.05	-20.20386202	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU
389	N-1 COOLEY LANDING - STANDFORD 60KV LINE (SRI-MENLO)	33388	S.L.A.C.	60	1.00421	1.00362	0.87431	0.87259	-12.94	-13.05573823	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU
436	T-1 LOS POSITAS 230/60KV #4 XFMR BANK	35200	SEAWEST	60	1.00322	1.00118	0.94022	0.93893	-6.28	-6.217663157	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU
384	N-1 COOLEY LANDING - STANDFORD 60KV LINE (CLY LNDG-SRI)	33386	STANFORD	60	1.01017	1.00957	0.79535	0.79335	-21.27	-21.41703894	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU
389	N-1 COOLEY LANDING - STANDFORD 60KV LINE (SRI-MENLO)	33386	STANFORD	60	1.01017	1.00957	0.87238	0.87067	-13.64	-13.75833276	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU
555	N-2 MORAGA - OAKLAND J & MORAGA - SAN LEANDRO 115KV #3 LINES	32792	STATIN J	115	0.97413	0.97346	0.92508	0.92437	-5.04	-5.042836891	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU
546	N-2 METCALF E - SWIFT & METCALF E - PIERCY 115KV LINES	35622	SWIFT	115	1.02034	1.01881	0.96863	0.96688	-5.07	-5.097123114	DEVIATION LT -4 PCT	DEVIATION LT -4 PCT
436	T-1 LOS POSITAS 230/60KV #4 XFMR BANK	35208	USWP-FRK	60	1.00321	1.00117	0.94021	0.93892	-6.28	-6.217725261	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU
436	T-1 LOS POSITAS 230/60KV #4 XFMR BANK	35210	VASCJCT.	60	1.00295	1.00091	0.93993	0.93865	-6.28	-6.220339491	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU
436	T-1 LOS POSITAS 230/60KV #4 XFMR BANK	35201	VASCO	60	1.00286	1.00082	0.93984	0.93855	-6.28	-6.221898044	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU
426	T-1 JEFFERSON 230/60KV #1 XFMR BANK	33379	WATRSHPD	60	1.00251	1.00087	0.9391	0.93791	-6.33	-6.290527241	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU
426	T-1 JEFFERSON 230/60KV #1 XFMR BANK	33387	WOODSIDE	60	0.9873	0.98544	0.90914	0.90783	-7.92	-7.875569752	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU
426	T-1 JEFFERSON 230/60KV #1 XFMR BANK	33378	WTRSHDTP	60	1.00258	1.00093	0.93917	0.93797	-6.32	-6.29015016	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU
436	T-1 LOS POSITAS 230/60KV #4 XFMR BANK	35204	ZONDWD	60	1.00322	1.00118	0.94022	0.93893	-6.28	-6.217663157	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU	DEVIATION LT -4 PCT, VOLTAGE LT 0.9500 PU

APPENDIX 6 – Detailed PG&E (Area 30) Power-flow Case Load Information

BUS-NO	NAME	KV	ID	ST	PLOAD	QLOAD
30000	PTSB 7	20	ss	1	17.14	8.78
30111	LOGAN CR	230	1	1	18.67	0.84
30111	LOGAN CR	230	SL	1	17.36	8.89
30430	FULTON	230	5	1	31.22	4.45
30430	FULTON	230	6	1	36.78	5.24
30438	C&H	230	1	1	3.32	0.76
30464	EXXON_BH	12.47	SG	1	47.3	30.55
30465	BAHIA	230	1	1	30.11	4.29
30465	BAHIA	230	2	1	19.06	2.72
30467	PARKWAY	230	1	1	32.48	4.63
30472	PEABODY	230	1	1	46.68	2.09
30472	PEABODY	230	2	1	58.12	2.6
30472	PEABODY	230	3	1	38	1.7
30505	WEBER	230	5	1	40.79	1.83
30523	CC SUB	230	8	1	71.78	14.58
30523	CC SUB	230	9	1	77.62	15.76
30528	DEC PTSG	230	S1	1	3.36	0.77
30528	DEC PTSG	230	S2	1	3.36	0.77
30530	CAYETANO	230	3	1	21.57	4.92
30535	TIDEWATR	230	1	1	72.24	16.46
30535	TIDEWATR	230	2	1	59.79	13.63
30536	TESORO	230	1	1	9.01	5.35
30537	NDUBLIN	230	1	1	18.81	4.29
30545	ROSSMOOR	230	1	1	36.95	8.42
30545	ROSSMOOR	230	2	1	32.85	7.49
30554	CASTROVL	230	1	1	38.34	8.74
30554	CASTROVL	230	2	1	34.68	7.9
30555	SANRAMON	230	3	1	84.72	19.31
30555	SANRAMON	230	4	1	79.28	18.06
30555	SANRAMON	230	5	1	55.97	12.75
30555	SANRAMON	230	6	1	67.91	15.47
30556	CV BART	230	1	1	3.87	0.79
30561	TASSAJAR	230	1	1	53.13	12.11
30561	TASSAJAR	230	2	1	82.91	18.9
30563	RESEARCH	230	1	1	37.05	8.44
30565	BRENTWOD	230	1	1	41.07	8.34
30565	BRENTWOD	230	2	1	38.95	7.91
30565	BRENTWOD	230	3	1	42.75	8.68
30567	LONETREE	230	1	1	23.91	5.44
30567	LONETREE	230	2	1	23.91	5.44
30567	LONETREE	230	3	1	23.91	5.44
30569	KELSO	230	1	1	12.77	7.91
30585	LS PSTAS	230	1	1	22.2	5.06
30585	LS PSTAS	230	2	1	51.4	11.71
30585	LS PSTAS	230	3	1	33.99	7.75
30622	EIGHT MI	230	3	1	49.39	2.21
30635	NWK DIST	230	21	1	54.28	12.37
30635	NWK DIST	230	22	1	48.04	10.95
30685	EMBRCDRD	230	1	1	64.01	11.21
30685	EMBRCDRD	230	2	1	71.45	12.52
30690	EMBRCDRE	230	3	1	71.45	12.52

BUS-NO	NAME	KV	ID	ST	PLOAD	QLOAD
34126	CORSGOLD	115	1	1	2.01	0.29
34126	CORSGOLD	115	2	1	23.72	3.38
34130	LIVNGSTN	115	3	1	22.16	3.16
34132	GALLO	115	1	1	12.12	10.36
34134	WILSON A	115	3	1	16.7	2.38
34138	EL CAPTN	115	1	1	17.41	2.48
34138	EL CAPTN	115	2	1	23.21	3.31
34138	EL CAPTN	115	3	1	29.78	4.24
34140	CRESSEY	115	1	1	17.1	2.44
34144	MERCED	115	1	1	33.43	4.76
34144	MERCED	115	3	1	17.45	2.49
34148	CHENY	115	1	1	11.79	1.68
34150	NEWHALL	115	2	1	7.65	1.09
34150	NEWHALL	115	3	1	9.51	1.36
34154	DAIRYLND	115	1	1	23	3.28
34156	MENDOTA	115	1	1	22.03	3.14
34160	HAMMONDS	115	1	1	8.99	1.28
34163	LUIS_#3	115	1	1	2	0.47
34164	DFS	115	1	1	1.37	1.06
34165	LUIS_#5	115	1	1	2.3	0.55
34166	OXFORD	115	1	1	3.8	1.73
34168	EL NIDO	115	1	1	11.13	1.59
34168	EL NIDO	115	2	1	13.33	1.9
34170	WESIX	70	1	1	1.8	0.43
34172	WESTLAND	70	1	1	3.2	0.76
34179	MADERA_G	13.8	SG	1	3.6	0.85
34179	MADERA_G	13.8	ss	1	3.6	0.85
34182	WSTLD1RA	115	1	1	3.8	0.9
34200	ORO LOMA	70	1	1	7.7	1.1
34204	LIVNGSTN	70	2	1	4.96	0.71
34206	CANAL	70	1	1	27.77	3.96
34206	CANAL	70	2	1	28.41	4.05
34208	CHEVPIPE	70	1	1	3.7	2.49
34210	SNTA NLA	70	1	1	6.13	0.87
34210	SNTA NLA	70	2	1	8.63	1.23
34216	SNTA RTA	70	1	1	6.71	0.96
34218	DOS PALS	70	1	1	9.2	1.31
34220	ORTIGA	70	1	1	6.25	0.89
34224	ARBURUA	70	1	1	3.76	1.82
34228	MARIPOS2	70	1	1	8.14	1.16
34228	MARIPOS2	70	2	1	8.47	1.21
34230	MRCDFLLS	70	2	1	7.89	1.12
34237	CANANDGA	70	1	1	7.56	5.67
34238	BONITA	70	1	1	12.92	1.84
34240	GLASS	70	1	1	12.05	6.5
34242	BER VLLY	70	1	1	5.35	0.76
34246	SAXONCRK	70	1	1	0.79	0.57
34248	INDN FLT	70	1	1	1.79	0.25
34250	YOSEMITE	70	1	1	2.9	0
34252	MADERA	70	1	1	16.17	2.3
34252	MADERA	70	2	1	20.81	2.97

BUS-NO	NAME	KV	ID	ST	PLOAD	QLOAD
30690	EMBRCDRE	230	5	1	64.01	11.21
30711	S.L.A.C.	230	1	1	58	11.78
30720	SARATOGA	230	1	1	43.58	9.93
30720	SARATOGA	230	2	1	50.15	11.43
30720	SARATOGA	230	3	1	40.33	9.19
30730	HICKS	230	1	1	36.06	8.22
30730	HICKS	230	2	1	41.64	9.49
30730	HICKS	230	3	1	50.98	11.62
30730	HICKS	230	4	1	36.06	8.22
30733	VASONA	230	1	1	39.49	9
30733	VASONA	230	2	1	19.54	4.45
30795	STOREY 2	230	2	1	30.46	4.34
30796	STOREY 1	230	1	1	34.03	4.85
30805	BORDEN	230	2	1	22.04	3.14
30825	MCMULLN1	230	1	1	17.82	2.54
30841	FIGRDN 1	230	1	1	64.97	9.26
30846	FIGRDN 2	230	1	1	46.5	6.63
30850	ASHLAN	230	1	1	56.71	8.08
30850	ASHLAN	230	2	1	60.88	8.68
30850	ASHLAN	230	3	1	57.56	8.2
30905	TEMPLETN	230	2	1	47.89	6.82
30905	TEMPLETN	230	3	1	47.48	6.77
30925	DIABLOCN	230	1	1	10	8
30940	STCKDLEA	230	2	1	53.75	7.66
30940	STCKDLEA	230	6	1	44.93	6.4
30941	STCKDLEB	230	3	1	48.15	6.86
30947	TEX_SUN	230	ss	1	10.36	5.02
30950	BKRSFLDA	230	2	1	49.36	7.03
30951	BKRSFLDB	230	2	1	43.19	6.16
30973	SUNST	230	SG	1	11.5	4.17
30993	SUMMIT	60	1	1	1.53	0.07
31010	LOW GAP1	115	1	1	0.27	0.04
31011	FRSTGLEN	115	1	1	0.01	0
31017	BRDGVLT	12	1	1	0.55	0.08
31050	ORICK	60	1	1	1.6	0.23
31051	BIG_LAGN	60	1	1	0.42	0.06
31052	TRINIDAD	60	1	1	2.43	0.35
31057	LP_FLKBD	60	1	1	2.5	1.55
31058	JANS CRK	60	1	1	6.77	0.97
31058	JANS CRK	60	2	1	7.6	1.08
31062	BLUE LKE	60	3	1	2.84	0.41
31068	SIMPSON	60	1	1	5.6	3.47
31072	ARCATA	60	1	1	14.45	2.06
31074	FAIRHAVN	60	1	1	1.73	0.25
31075	SIERA_PC	60	1	1	1.25	1.1
31082	HARRIS	60	1	1	5.96	0.85
31082	HARRIS	60	2	1	5.45	0.78
31086	EUREKA	60	1	1	10.32	1.47
31087	EUREKA A	60	1	1	7.63	1.09
31090	HMBLT BY	60	11	1	4.86	0.69
31090	HMBLT BY	60	ss	1	2	1.02

BUS-NO	NAME	KV	ID	ST	PLOAD	QLOAD
34260	SJNO2	70	2	1	2.92	0.42
34261	SJNO3	70	2	1	6.3	0.9
34262	CASSIDY	70	1	1	12.86	1.83
34264	EL PECO	70	1	1	8.81	1.26
34264	EL PECO	70	2	1	6.52	0.93
34266	FIREBAGH	70	1	1	10	1.43
34267	TOMATAK	70	1	1	7.48	5.8
34272	WRGHT PP	70	1	1	8.63	1.23
34278	PCHCO PP	70	1	1	18	4.1
34282	ONLL PMP	69	1	1	6	1.2
34305	CHWCHLA2	13.8	ss	1	2	1.11
34326	P0435BS1	13.8	SG	1	4.5	2.49
34327	P0435BS2	13.8	SG	1	4.5	2.49
34330	ELNIDO	13.8	ss	1	2	1.11
34340	N.FORK E	9.11	1	1	1.09	0.16
34344	KERCKHOF	6.6	4	1	2.88	0.41
34350	KAMM	115	1	1	3.8	1.73
34352	CANTUA	115	1	1	14.64	2.09
34354	SCHINDLR	115	1	1	8.48	1.72
34361	AIRWAYS	115	1	1	31.75	4.52
34361	AIRWAYS	115	2	1	7.62	1.09
34362	CLOVIS-1	115	1	1	45.48	6.48
34362	CLOVIS-1	115	2	1	44.75	6.38
34364	CLOVIS-2	115	2	1	34.59	7.03
34364	CLOVIS-2	115	3	1	39.64	5.65
34366	SANGER	115	1	1	21.42	3.05
34366	SANGER	115	3	1	17.81	2.54
34368	LASPALMS	115	1	1	15.04	2.14
34370	MC CALL	115	4	1	21.25	3.03
34370	MC CALL	115	5	1	26.15	3.73
34371	SCWAX	115	1	1	2.66	1.51
34372	MALAGA	115	1	1	22.2	3.16
34372	MALAGA	115	2	1	20	2.85
34372	MALAGA	115	3	1	20.33	2.9
34374	RANCHRS	115	1	1	8.04	1.15
34376	PPG	115	1	1	2.07	1.28
34377	AIRPROD	115	1	1	4.91	1.94
34378	GATES	115	3	1	16.96	2.42
34380	REEDLEY	115	3	1	23.16	3.3
34382	WAHTOKE	115	2	1	26.87	3.83
34382	WAHTOKE	115	3	1	18.45	2.63
34387	SUNMAID	115	1	1	3.5	3.37
34388	RAINBW	115	1	1	14.31	2.04
34390	DANISHCM	115	1	1	4.09	3.5
34392	QUEBEC	115	1	1	11.95	8.34
34402	CAL AVE	115	1	1	27.47	3.92
34402	CAL AVE	115	2	1	25.44	3.63
34402	CAL AVE	115	3	1	21.46	3.06
34404	WST FRSO	115	1	1	33	4.7
34404	WST FRSO	115	2	1	34.31	4.89
34404	WST FRSO	115	3	1	15.84	2.26

BUS-NO	NAME	KV	ID	ST	PLOAD	QLOAD
31092	MPLE CRK	60	1	1	0.51	0.07
31095	HYAMPOM	60	1	1	0.3	0.08
31096	WILLWCRK	60	1	1	3.77	0.54
31098	HOOPA	60	1	1	3.17	0.45
31100	EEL RIVR	60	1	1	7.93	1.13
31102	NEWBURG	60	1	1	3.02	0.43
31102	NEWBURG	60	2	1	4.31	0.62
31103	PCLUMBER	60	1	1	0.3	0.22
31104	CARLOTTA	60	1	1	1.64	0.23
31106	RIO DELL	60	1	1	3.36	0.48
31112	FRUITLND	60	1	1	2.46	0.35
31114	FRT SWRD	60	1	1	0.4	0.06
31116	GRBRVLE	60	1	1	10.23	1.46
31150	FAIRHAVN	13.8	SG	1	0.6	0.37
31152	PAC.LUMB	13.8	SG	1	2.53	1.57
31158	LP SAMOA	12.47	SG	1	11.45	7.1
31180	HUMB_G1	13.8	ss	1	1.46	0.81
31181	HUMB_G2	13.8	ss	1	1.1	0.61
31182	HUMB_G3	13.8	ss	1	1.1	0.61
31202	CALPELLA	115	1	1	13.33	1.9
31204	UKIAH	115	1	1	10.62	1.51
31204	UKIAH	115	2	1	6.08	0.87
31208	CLOVRDLE	115	1	1	18.1	2.58
31216	LUCERNE	115	1	1	7.74	1.1
31216	LUCERNE	115	2	1	5.16	0.73
31222	REDBUD	115	1	1	7.06	1.01
31222	REDBUD	115	3	1	9.45	1.35
31226	HGHLAND	115	1	1	14.13	2.01
31226	HGHLAND	115	2	1	8.31	1.18
31230	HOMEPROC	115	1	1	0.8	0.16
31238	MONROE1	115	1	1	23.8	3.39
31239	MONROE2	115	2	1	27.94	3.98
31239	MONROE2	115	3	1	18.01	2.57
31240	SNTA RSA	115	1	1	36.2	5.16
31240	SNTA RSA	115	2	1	31.79	4.53
31240	SNTA RSA	115	3	1	28.48	4.06
31244	STONY PT	115	1	1	6.71	3.25
31246	BELLVUE	115	1	1	12.56	1.79
31246	BELLVUE	115	2	1	15.64	2.23
31246	BELLVUE	115	3	1	22.02	3.14
31248	PENNGRVE	115	1	1	7.63	1.09
31250	RINCON	115	1	1	19.57	2.79
31250	RINCON	115	2	1	17.92	2.55
31254	CORONA	115	1	1	24.88	3.55
31255	LAKEVLE	115	4	1	19.38	2.76
31258	SONOMA	115	1	1	23.46	3.34
31258	SONOMA	115	2	1	21.85	3.11
31300	MENDOCNO	60	2	1	4.73	0.67
31302	PTTR VLY	60	2	1	0.58	0.08
31302	PTTR VLY	60	5	1	1.93	0.27
31306	WILLITS	60	1	1	15.82	2.25

BUS-NO	NAME	KV	ID	ST	PLOAD	QLOAD
34408	BARTON	115	1	1	37.85	5.39
34408	BARTON	115	2	1	32.46	4.62
34408	BARTON	115	3	1	23.55	3.36
34410	MANCHSTR	115	1	1	22.37	3.19
34410	MANCHSTR	115	2	1	23.9	3.41
34410	MANCHSTR	115	3	1	32.58	4.64
34413	PNEDLE	115	1	1	25.02	3.57
34413	PNEDLE	115	2	1	27.22	3.88
34413	PNEDLE	115	3	1	35.78	5.1
34414	WOODWARD	115	1	1	37.41	5.33
34414	WOODWARD	115	2	1	46.65	6.65
34414	WOODWARD	115	3	1	39.04	5.56
34416	BULLARD	115	1	1	39.02	5.56
34416	BULLARD	115	2	1	39.72	5.66
34416	BULLARD	115	3	1	37.16	5.29
34418	KINGSBRG	115	3	1	28.86	4.11
34420	CORCORAN	115	3	1	21.29	3.03
34420	CORCORAN	115	4	1	11.5	1.64
34422	CHLDHOSP	115	1	1	3.68	1.68
34424	GRDN GLS	115	1	1	3.1	1.02
34426	ALPAUGH	115	2	1	8.07	1.15
34428	CONTADNA	115	1	1	7.63	5.72
34429	GWFF_HEP	115	1	1	1.29	0.97
34429	GWFF_HEP	115	ss	1	3	0.68
34432	WESTLND	115	16	1	0.94	0.23
34432	WESTLND	115	18	1	1.21	0.32
34454	RIVERROC	70	1	1	2.26	2.05
34458	HARDWICK	70	1	1	11.44	1.63
34460	GUERNSEY	70	1	1	9.16	1.31
34464	COPPRMNE	70	1	1	20.48	2.92
34466	BIOLA	70	1	1	19.33	2.75
34468	BOWLES	70	1	1	16.02	2.28
34470	GIFFEN	70	1	1	13.82	1.97
34472	SAN JOQN	70	1	1	5.64	0.8
34472	SAN JOQN	70	2	1	3.44	0.49
34478	TVY VLLY	70	1	1	9.08	1.29
34482	OLDKERN	70	1	1	16.63	2.37
34482	OLDKERN	70	3	1	6.71	0.96
34484	KERMAN	70	1	1	17.24	2.46
34484	KERMAN	70	2	1	10.45	1.49
34485	FRESNOWW	12.47	1	1	7.91	0
34485	FRESNOWW	12.47	SG	1	4.92	0
34490	PARLIER	70	1	1	17.93	2.55
34492	REEDLEY	70	1	1	15.42	2.2
34493	AUBERRY	70	1	1	5.4	0.77
34493	AUBERRY	70	2	1	6.36	0.91
34494	DUNLAP	70	1	1	3.99	0.57
34495	SANDCRK	70	1	1	2.82	0.4
34498	STONCRRL	70	2	1	2.93	0.42
34498	STONCRRL	70	3	1	2.32	0.33
34500	DINUBA	70	1	1	8.25	1.18

BUS-NO	NAME	KV	ID	ST	PLOAD	QLOAD
31308	LYTNVLE	60	1	1	5.36	0.76
31309	FT_BRGD1	12.47	1	1	11.34	1.62
31310	COVELO6	60	1	1	2.46	0.35
31311	FT_BRGD2	12.47	2	1	3.84	0.55
31315	BIG_RVR_	12.47	1	1	5.06	0.72
31317	ELK_D	12.47	1	1	2.93	0.42
31319	PNT_AREN	12.47	1	1	2.37	0.34
31320	GARCIA	60	1	1	0.1	0.02
31321	PHILO_D	12.47	1	1	4.49	0.64
31330	UPPR LKE	60	1	1	3.49	0.5
31332	HARTLEY	60	1	1	6.61	0.94
31332	HARTLEY	60	2	1	3.95	0.56
31334	CLER LKE	60	1	1	8.17	1.16
31334	CLER LKE	60	2	1	10.74	1.53
31335	GRANITE	60	1	1	3.5	2.17
31336	HPLND JT	60	1	1	5.3	0.76
31338	KONOCI6	60	1	1	7.07	1.01
31338	KONOCI6	60	2	1	8.08	1.15
31342	MIDDLTWN	60	1	1	5.88	0.84
31342	MIDDLTWN	60	2	1	12.41	1.77
31346	GUALALA	60	1	1	3.31	0.47
31346	GUALALA	60	2	1	1.6	0.23
31348	ANNAPOLS	60	1	1	0.29	0.04
31350	FORT RSS	60	1	1	0.93	0.13
31354	SLMN CRK	60	1	1	3.65	0.52
31356	MONTE RO	60	1	1	5.52	0.79
31356	MONTE RO	60	2	1	4.31	0.61
31357	WOHLER	60	1	1	4.53	1.93
31360	MIRABEL	60	1	1	11.3	1.61
31364	MOLINO	60	1	1	8.12	1.16
31364	MOLINO	60	2	1	20.87	2.97
31368	GYSRVLE	60	1	1	5.63	0.8
31368	GYSRVLE	60	2	1	8.75	1.25
31380	FTCH MTN	60	1	1	10.26	1.46
31380	FTCH MTN	60	2	1	9.39	1.34
31383	LAGUNA	60	1	1	5.93	1.49
31384	COTATI	60	1	1	7.63	1.09
31384	COTATI	60	2	1	6.95	0.99
31388	PETLMA C	60	1	1	0	0
31388	PETLMA C	60	2	1	15.27	2.18
31388	PETLMA C	60	3	1	10.71	1.53
31388	PETLMA C	60	4	1	15.53	2.21
31390	PETLMA A	60	1	1	2.91	0.41
31396	DUNBAR	60	1	1	14.09	2.01
31396	DUNBAR	60	2	1	10.88	1.55
31421	BOTTLERK	13.8	ss	1	3.2	2.82
31450	WILDWOOD	115	1	1	0.45	0.02
31454	PANRAMA	115	1	1	14.26	0.64
31459	OREGNTRL	115	2	1	15.86	0.71
31464	COTWDPGE	115	6	1	23.89	1.07
31465	WHEELBR1	9.1	SG	1	4.03	0.92

BUS-NO	NAME	KV	ID	ST	PLOAD	QLOAD
34500	DINUBA	70	2	1	17.02	2.43
34502	OROSI	70	1	1	7.41	1.06
34502	OROSI	70	2	1	6.57	0.94
34508	CAMDEN	70	1	1	6.11	0.87
34508	CAMDEN	70	2	1	9.7	1.38
34512	CARUTHRS	70	1	1	17.2	2.45
34514	MUSLSLGH	70	1	1	22	13.63
34516	LEPRINO	70	1	1	6.56	4.07
34518	LEMOORE	70	1	1	16.78	2.39
34518	LEMOORE	70	2	1	29.19	4.16
34521	LEPRNOFD	115	1	1	16.7	9.46
34524	CANDLEWK	70	1	1	0	0
34531	JGBSWLL	70	1	1	4.5	2.79
34532	ARMSTRNG	70	1	1	0	0
34534	RESERVE	70	1	1	1.76	0.25
34536	ANGIOLA	70	1	1	11.21	1.6
34538	BOSWELL	70	1	1	1.99	1.28
34539	GWf_GT1	13.8	ss	1	1.1	0.71
34540	HENRITTA	70	1	1	7.14	1.02
34541	GWf_GT2	13.8	ss	1	1.1	0.71
34542	JCBSCRNR	70	1	1	10.5	1.5
34542	JCBSCRNR	70	2	1	8.31	1.18
34544	TLRE LKE	70	1	1	5.97	0.85
34546	AVENAL	70	1	1	6.78	0.97
34548	KETTLEMN	70	1	1	5.56	0.79
34550	CHEVPLIN	70	1	1	1.81	1.31
34553	WHD_GAT2	13.8	SG	1	0.67	0
34558	HURON	70	1	1	13.36	1.9
34560	CALFLAX	70	1	1	12.85	1.83
34562	SCHLNDLR	70	1	1	18.75	2.67
34564	STROUD	70	1	1	11.47	1.63
34566	PLSNTVLY	70	1	1	13.7	3.43
34570	COLNGA 2	70	1	1	7.19	1.02
34572	TORNADO	70	1	1	1.55	1.28
34574	COLNGA 1	70	1	1	8.15	1.16
34574	COLNGA 1	70	2	1	8.72	1.24
34576	KNGLOBUS	70	1	1	29.21	4.16
34578	JACALITO	70	1	1	4.31	2.9
34580	BDGR HLL	70	1	1	8	1.91
34580	BDGR HLL	70	2	1	2.9	0.71
34584	DEVLS DN	70	1	1	2.02	0.29
34608	AGRICO	13.8	SG	1	0.8	0
34609	WOODCHUK	70	1	1	1.39	0
34624	BALCH 1	13.2	1	1	0.3	0
34642	KINGSBUR	9.11	SG	1	0.32	0
34646	SANGERCO	9.11	SG	1	1.09	0
34648	DINUBA E	13.8	1	1	0.4	0.34
34648	DINUBA E	13.8	ss	1	0.4	0.26
34650	GWf-PWR.	13.8	SG	1	1.22	0
34652	CHV.COAL	9.11	S1	1	5.2	2.52
34652	CHV.COAL	9.11	SG	1	0.9	0.44

BUS-NO	NAME	KV	ID	ST	PLOAD	QLOAD
31467	JESSUP	115	1	1	24.1	1.08
31471	SPI_AND1	9.1	1	1	5.42	1.24
31475	KANAKAJT	115	KK	1	1.04	0.05
31480	WYANDTTE	115	1	1	9.52	0.43
31480	WYANDTTE	115	2	1	17.91	0.8
31480	WYANDTTE	115	3	1	27.43	1.23
31484	HONCUT	115	1	1	14.1	0.63
31496	NORD 1	115	1	1	16.1	0.72
31496	NORD 1	115	2	1	16.96	0.76
31498	SYCAMORE	115	1	1	27.08	1.22
31498	SYCAMORE	115	2	1	18.26	0.82
31498	SYCAMORE	115	3	1	27.43	1.23
31499	NOTRDAME	115	1	1	18	0.81
31500	BUTTE	115	2	1	15.06	0.68
31500	BUTTE	115	3	1	17.99	0.81
31502	CHICO B	115	1	1	15.4	0.69
31502	CHICO B	115	2	1	13.76	0.62
31514	PARADSE	115	1	1	18.03	0.81
31514	PARADSE	115	2	1	26.76	1.2
31550	MC ARTHR	60	1	1	6.12	0.27
31553	BIG BAR	60	1	1	0.23	0.08
31554	GROUSCRK	60	1	1	0.01	0
31557	MILSTSTA	60	1	1	7.78	2.15
31558	DGLS CTY	60	1	1	1.44	0.62
31560	HAYFORK	60	1	1	2.24	1.06
31562	LEWISTON	60	1	1	2.9	1.38
31564	FRNCHGLH	60	1	1	2.55	0.11
31566	KESWICK	60	1	1	2.91	0.13
31572	GIRVAN	60	1	1	11.25	0.5
31574	ANDERSON	60	1	1	16.67	0.74
31576	WNTU PMS	60	1	1	2.4	0.55
31581	OREGNTRL	60	1	1	4.42	0.2
31582	STLLWATR	60	1	1	9.44	0.43
31584	MTN GATE	60	1	1	12.37	4.89
31585	ANTLER	60	1	1	3.87	0.18
31588	WHITMORE	60	1	1	1.09	0.05
31590	CEDR CRK	60	1	1	1.46	0.07
31592	DESCHUTS	60	1	1	25.93	1.16
31594	VOLTA	60	2	1	6.94	0.31
31599	CLMN FSH	60	1	1	5	1.14
31608	RED BLFF	60	1	1	9.83	0.44
31608	RED BLFF	60	2	1	9.65	0.43
31608	RED BLFF	60	3	1	8.59	0.39
31609	CR CANAL	60	CC	1	3	0.68
31610	TYLER	60	1	1	8.5	0.38
31610	TYLER	60	2	1	7.52	0.33
31611	RASN JNT	60	1	1	10.45	0.47
31611	RASN JNT	60	PK	1	3.68	1.99
31612	DIRYVLE	60	1	1	3.28	0.14
31615	LP FB SP	60	1	1	1.38	1.53
31615	LP FB SP	60	3	1	3.46	3.53

BUS-NO	NAME	KV	ID	ST	PLOAD	QLOAD
34654	COLNGAGN	9.11	SG	1	0.7	0.34
34671	KRCDPCT1	13.8	ss	1	0.9	0.65
34672	KRCDPCT2	13.8	ss	1	0.9	0.65
34700	SMYRNA	115	1	1	2.91	0.59
34702	GOSE LKE	115	1	1	2.73	0.55
34702	GOSE LKE	115	2	1	0.78	0.16
34703	SMTRPCWS	115	1	1	13.15	7.89
34704	SEMITRPC	115	1	1	2.84	0.58
34705	WSCOPRSN	115	1	1	3.77	2.36
34706	WESTPARK	115	1	1	21.95	3.13
34706	WESTPARK	115	2	1	20.46	2.92
34706	WESTPARK	115	3	1	20.92	2.98
34710	CHARKA	115	1	1	1.34	0.27
34712	FAMOSO	115	1	1	5.79	1.18
34714	LERDO	115	1	1	11.07	1.58
34714	LERDO	115	2	1	11.33	1.61
34718	KERN OIL	115	1	1	20.18	2.87
34718	KERN OIL	115	2	1	18.18	2.59
34722	RASMUSEN	115	1	1	12.96	0.82
34729	CALWATER	115	1	1	7.47	1.06
34732	COLUMBUS	115	1	1	10.65	1.52
34732	COLUMBUS	115	2	1	10.2	1.45
34732	COLUMBUS	115	3	1	12.67	1.8
34736	MAGUNDEN	115	1	1	24.36	3.47
34736	MAGUNDEN	115	3	1	24.55	3.5
34738	BOLTHSE	115	1	1	9.99	8
34739	GRIMWAY	115	1	1	5.42	3.53
34740	STOCKDLE	115	1	1	21.07	3
34744	GODN_BER	115	1	1	0.38	0.27
34746	GANSO	115	1	1	2.24	0.45
34750	TUPMAN	115	1	1	11.75	1.67
34752	KERN PWR	115	6	1	36.91	5.26
34752	KERN PWR	115	7	1	39.98	5.7
34754	TEVIS	115	1	1	29.88	4.26
34757	TEVIS2	115	1	1	29.45	4.2
34758	LAMONT	115	1	1	16.14	2.3
34758	LAMONT	115	2	1	13.36	1.9
34760	RIO BRVO	115	2	1	8.31	1.18
34760	RIO BRVO	115	3	1	7.24	1.03
34762	RENFRO	115	1	1	28.58	4.07
34766	SHAFTER	115	1	1	11.83	1.69
34767	RENFRO2	115	1	1	25.36	3.61
34774	MIDWAY	115	7	1	5.22	0.74
34774	MIDWAY	115	8	1	2.26	0.32
34776	TAFT	115	1	1	4.88	0.99
34776	TAFT	115	3	1	8.27	1.18
34776	TAFT	115	4	1	4.93	0.7
34778	FELLOWS	115	1	1	4.45	0.63
34778	FELLOWS	115	2	1	2.12	0.3
34784	CAWELO C	115	1	1	3	0
34788	NORCO	115	1	1	3.72	0.53

BUS-NO	NAME	KV	ID	ST	PLOAD	QLOAD
31616	GERBER	60	1	1	5.73	0.26
31618	LS MLNSJ	60	1	1	3.68	0.17
31620	VINA	60	1	1	1.97	0.09
31626	CORNING	60	1	1	2.53	0.11
31626	CORNING	60	2	1	15.57	0.7
31626	CORNING	60	3	1	11.81	0.53
31628	PIT 1	60	1	1	2.77	0.12
31630	HAT CRK1	60	1	1	1.26	0.05
31636	BURNEY	60	1	1	2.9	0.13
31636	BURNEY	60	2	1	1.61	0.07
31640	TRES VIS	60	1	1	7.23	0.33
31642	PEACHTON	60	1	1	5.89	0.27
31642	PEACHTON	60	2	1	1.07	0.05
31650	OROVILLE	60	1	1	1.47	0.07
31650	OROVILLE	60	2	1	12.11	0.54
31650	OROVILLE	60	3	1	7.44	0.33
31652	LSNA PCC	60	1	1	0.5	0.11
31658	BANGOR	60	1	1	6.57	0.29
31660	DOBBINS	60	1	1	2.85	0.13
31662	CHALLNGE	60	1	1	2.25	0.1
31666	HATLOSCK	60	BG	1	0.13	0.03
31670	CHESTER	60	1	1	2.85	0.13
31672	HMLTN BR	60	1	1	3.83	0.18
31674	BIG MDWS	60	1	1	4.83	0.21
31678	GRYS FLT	60	1	1	0.09	0.01
31680	GANSNER	60	1	1	2.91	0.13
31682	SPANSCHK	60	CM	1	1.09	0.05
31684	EST QNCY	60	1	1	2.5	0.11
31692	DE SABLA	60	1	1	9.94	0.45
31696	CNTRVLE	60	1	1	0.97	0.05
31704	CLARK RD	60	1	1	7.44	0.33
31710	CHICO A	60	2	1	18.85	0.84
31716	ESQUON	60	1	1	6.23	0.28
31724	ORLAND B	60	1	1	11.73	0.52
31724	ORLAND B	60	2	1	8.98	0.4
31726	ELKCREEK	60	1	1	2.29	0.1
31728	WILLOWS	60	1	1	11.58	0.52
31730	CAPAY	60	1	1	7.43	0.33
31734	HAMILTON	60	1	1	5.43	0.24
31736	HEADGATE	60	1	1	3.3	0.75
31738	ANITA	60	1	1	6.32	0.28
31740	JACINTO	60	1	1	5.87	0.27
31798	BRNYFRST	13.2	ss	1	3.92	0.89
31800	SMPSN-AN	12.47	SG	1	0.88	0.2
31802	PIT 3	11.5	1	1	1.32	0.06
31804	PIT 5 U1	11.5	1	1	1.5	0.07
31820	BCKS CRK	11	4	1	1.87	0.08
31874	SPI-BURN	9.11	SG	1	4.5	1.03
31880	SPI-HAYF	9.11	SG	0	1	0.2
31888	OROVILLE	9.11	SG	1	0.7	0.16
31894	COLLINS	9.11	SG	1	3.91	0.89

BUS-NO	NAME	KV	ID	ST	PLOAD	QLOAD
34790	COLESLEV	115	1	1	1.35	1.44
34792	KERNRDGE	115	2	1	59.6	0
34792	KERNRDGE	115	SG	1	59.6	12.1
34794	TEMBLOR	115	1	1	6.63	0.94
34796	CARRIZO	115	1	1	0.28	0.04
34798	KERNWATR	115	1	1	1.27	0.75
34800	MORGAN	115	1	1	2.07	3.15
34804	BELRIDGE	115	1	1	5.4	1.44
34806	ARVIN_ED	115	1	1	25.5	6.39
34808	ROSEDAL	115	1	1	24.45	3.48
34809	TX_ROSDL	115	1	1	26.42	6.94
34810	POSO MT	115	1	1	11.77	1.68
34811	RIOBRVTM	115	1	1	5.08	4.2
34812	VEDDER	115	1	1	1.23	0.29
34815	WESTPLAT	115	1	1	5.65	4.48
34816	NAVY 35R	115	SG	1	110	71.27
34850	BLACKWLL	70	1	1	3.01	0.43
34851	DEVLDNPP	70	1	1	8.8	1.63
34852	CARNERAS	70	1	1	6.27	0.89
34853	BLUSTNPP	70	1	1	8.8	1.63
34855	POLPASPP	70	1	1	8.8	1.63
34858	MDWY_P_S	70	1	1	1.1	0.77
34862	MARICOPA	70	1	1	4.29	0.61
34864	GARDNER	70	1	1	1.29	0.8
34865	BRY_PTLM	70	1	1	4.89	1.15
34866	BSCL_PLD	70	1	1	0.68	0.6
34868	COPUS	70	1	1	6.17	0.88
34872	LAKEVIEW	70	1	1	9.07	1.29
34874	WHEELER	70	1	1	6.82	0.97
34876	TEJON	70	1	1	8.3	1.18
34880	SN BRNRD	70	1	1	4.44	0.63
34888	ARVIN	70	1	1	6.4	0.91
34890	WEEDPTCH	70	1	1	13.11	1.87
34900	EISEN	70	1	1	6.61	4.75
34904	OLD RIVR	70	1	1	7.05	1
34904	OLD RIVR	70	2	1	8.53	1.22
34906	PANAMA	70	1	1	25.82	3.68
34908	CARNATIO	70	1	1	6.33	4.66
34909	GRMWY_SM	70	1	1	5.42	2.55
34910	WELLFILD	70	1	1	1.49	0.21
34910	WELLFILD	70	2	1	3.34	0.48
34911	FRUITVLE	70	1	1	13.65	1.94
34911	FRUITVLE	70	2	1	20.51	2.92
34915	MOCO	70	1	1	9.42	8.26
34919	TX_BV_HL	70	1	1	1.83	0
34920	ELK HLLS	70	1	1	2.14	0.3
34928	CAWELO B	70	1	1	2	0.97
34930	MC FRLND	70	1	1	4.78	0.97
34932	WASCO	70	1	1	7.5	1.52
34935	CUYAMA2	70	2	1	5.81	0.83
34936	CUYAMA	70	1	1	8.49	1.21

BUS-NO	NAME	KV	ID	ST	PLOAD	QLOAD
31896	SPI-QUCY	9.11	SG	1	3.21	0.73
31923	CPVGT1	18	SG	1	5	2.77
31924	CPVGT2	18	SG	1	5	2.77
31925	CPVST1	18	SG	1	5	2.77
31951	CORT_D	115	3	1	7.23	0.32
31952	PUTH CRK	115	1	1	15.13	0.67
31954	AMERIGAS	115	1	1	6.68	1.36
31958	CORDELIA	115	2	1	15.87	0.71
31960	MOBILCHE	115	1	1	0.1	0
31963	KNIGHTLD	115	1	1	7.53	0.34
31970	WOODLD	115	1	1	46.26	2.07
31970	WOODLD	115	2	1	37.68	1.69
31970	WOODLD	115	3	1	29.9	1.34
31972	ZAMORA	115	1	1	9.34	0.42
31974	MADISON	115	1	1	7.4	0.33
31974	MADISON	115	2	1	4.79	0.22
31974	MADISON	115	3	1	13.5	0.61
31976	POST	115	1	1	1.28	0.18
31976	POST	115	1A	1	1.28	0.18
31986	W.SCRMNO	115	1	1	25.17	1.12
31986	W.SCRMNO	115	2	1	20.06	0.9
31986	W.SCRMNO	115	3	1	35.02	1.56
31988	DEEPWATR	115	2	1	20.9	0.93
31988	DEEPWATR	115	3	1	14.43	0.65
31989	BRKR SLG	115	1	1	1.75	0
31990	DAVIS	115	1	1	29.9	1.34
31990	DAVIS	115	2	1	32.18	1.44
31990	DAVIS	115	3	1	38.59	1.73
31992	HUNT	115	1	1	0.27	0.05
31994	GRAND IS	115	1	1	19.45	0.87
31994	GRAND IS	115	2	1	15.18	0.68
31995	HALE	115	1	1	2.36	1.4
31997	SCHMLBCH	115	1	1	12.42	8.35
31998	VACA-DIX	115	6	1	14.83	0.67
31998	VACA-DIX	115	7	1	23.5	1.05
31998	VACA-DIX	115	8	1	25.05	1.12
32000	VACAVLL1	115	1	1	27.49	1.23
32002	VACAVLL2	115	2	1	40.29	1.8
32002	VACAVLL2	115	3	1	39.56	1.77
32008	SUISUN	115	1	1	26.71	1.2
32008	SUISUN	115	2	1	29.01	1.3
32008	SUISUN	115	3	1	23.64	1.06
32010	JAMESON	115	1	1	35.07	1.57
32050	RICE	60	1	1	5.57	0.25
32050	RICE	60	2	1	1.82	0.08
32054	MAXWELL	60	1	1	5.42	0.24
32058	HARINTON	60	1	1	1	0.62
32060	ARBUCKLE	60	1	1	14.91	0.67
32062	DRAKE	60	1	1	1	0.62
32064	WILLIAMS	60	1	1	5.74	0.26
32064	WILLIAMS	60	2	1	9.47	0.42

BUS-NO	NAME	KV	ID	ST	PLOAD	QLOAD
34938	3EMIDIO	70	EQ	1	0.47	0.31
34938	3EMIDIO	70	MO	1	2.81	1.66
34938	3EMIDIO	70	PP	1	1.87	0.75
34939	VALPREDO	70	1	1	0.16	0.99
34940	ROSE	70	1	1	0.55	0.56
34941	PACI_PIP	70	1	1	2.91	0.85
34942	LST HLLS	70	1	1	3.4	1.14
34944	TECUYA	70	1	1	3.66	2.31
34947	CELERON	70	EX	1	2.43	0.78
34947	CELERON	70	PM	1	1.08	0.58
34948	GRAPEVNE	70	1	1	1.08	0.66
34952	LEBEC	70	1	1	2.22	1.25
34956	CASTAC	70	1	1	2.45	0
34958	KELLEY	70	1	1	3.33	1.75
34962	BRRNDA C	70	1	1	0.42	0.1
34964	BRRNDA A	70	1	1	7.95	0
34966	ANTELOPE	70	1	1	3.64	0.52
34968	TWISSLMN	70	1	1	3.33	0.47
34968	TWISSLMN	70	2	1	4.1	0.58
34971	NTPTRL	70	1	1	22.4	13.88
34972	CHEVLHLS	70	1	1	15.23	8.55
35023	DOUBLE C	13.8	SG	1	1.2	0
35024	DEXEL +	13.8	SG	1	0.32	0.08
35026	KERNFRNT	9.11	SG	1	0.68	0.33
35027	HISIERRA	13.8	SG	1	0.9	0
35029	BADGERCK	13.8	SG	1	0.48	0
35032	CHV-CYMR	9.11	SG	1	1.69	0.1
35036	MT POSO	13.8	ss	1	3.6	1.74
35038	CHLKCLF+	9.11	SG	1	0.43	0.07
35046	SEKR	9.11	SG	1	1.9	0.48
35048	FRITOLAY	9.11	SG	1	2.39	1.21
35050	SLR-TANN	9.11	SG	1	0.28	0.6
35052	CHEV.USA	9.11	SG	1	2.5	0.63
35056	TX-LOSTH	4.16	SG	1	0	0
35060	PSEMCKIT	9.11	SG	1	0.4	0.07
35062	DISCOVERY	13.8	SG	1	11.87	5.89
35070	LAPLM_G1	21	ss	1	4.46	0
35071	LAPLM_G2	21	ss	1	4.46	0
35072	LAPLM_G3	21	ss	1	4.46	0
35073	LAPLM_G4	21	ss	1	4.46	0
35076	ELKHIL1G	18	ss	1	3.45	1.68
35077	ELKHIL2G	18	ss	1	3.45	1.68
35101	SN LNDRO	115	1	1	26.9	6.13
35101	SN LNDRO	115	2	1	37.54	8.55
35101	SN LNDRO	115	3	1	26.45	6.03
35101	SN LNDRO	115	SL	1	7.8	1.58
35104	GRANT	115	1	1	23.95	5.46
35104	GRANT	115	2	1	26.01	5.93
35106	MT EDEN	115	1	1	38.61	8.8
35106	MT EDEN	115	2	1	36.1	8.23
35106	MT EDEN	115	3	1	34.77	7.93

BUS-NO	NAME	KV	ID	ST	PLOAD	QLOAD
32066	DUNNIGAN	60	1	1	7.9	0.36
32068	COLUSA	60	1	1	8.19	0.37
32068	COLUSA	60	2	1	5.91	0.27
32070	CLSA JCT	60	1	1	3.28	0.15
32072	MERIDIAN	60	1	1	4.04	0.18
32074	CORDELIA	60	4	1	11.94	0.53
32076	WILKINS	60	1	1	5.72	0.26
32077	CORD PMP	60	1	1	4.74	1.56
32080	DIST2047	60	1	0	2.6	0.86
32080	DIST2047	60	2	0	2.5	0.82
32081	DIST1500	60	1	0	3.3	0.75
32090	WINTERS	60	1	1	5.56	0.25
32091	CRD_INTR	60	1	1	2.8	0.9
32092	PLAINFLD	60	1	1	5.48	0.25
32092	PLAINFLD	60	2	1	5.48	0.25
32097	TRAVIS	60	1	1	18.67	5.59
32099	TRVS_HPT	60	1	1	4.82	1.41
32100	DIXON	60	1	1	16.69	0.75
32100	DIXON	60	2	1	13.97	0.62
32102	CAMPUS	115	1	1	36.56	8.33
32106	DIXONCAN	60	1	1	3.28	0.75
32112	MAINE-PR	60	1	1	0.1	0.02
32113	BTAV-JCT	60	1	1	0.1	0.02
32154	WADHAM	9.11	SG	1	1.06	0.24
32156	WOODLAND	9.11	SG	1	1.56	0.36
32185	WOLFSKIL	13.8	ss	1	1.3	0.3
32200	PEASE	115	1	1	9.98	0.45
32200	PEASE	115	3	1	9.48	0.43
32200	PEASE	115	4	1	10.15	0.46
32202	E.MRYSVE	115	2	1	10.18	0.46
32202	E.MRYSVE	115	3	1	9.38	0.42
32204	OLIVHRST	115	1	1	6.46	0.29
32204	OLIVHRST	115	2	1	20.55	0.92
32206	BOGUE	115	1	1	32.53	1.46
32206	BOGUE	115	2	1	19.8	0.88
32226	BRUNSWCK	115	2	1	29.42	1.32
32226	BRUNSWCK	115	3	1	7.78	0.35
32227	BRNSWALT	115	1	1	23.22	1.04
32228	PLACER	115	2	1	22.45	1
32228	PLACER	115	3	1	9.73	0.43
32230	HORSESHE	115	1	1	15.33	0.68
32230	HORSESHE	115	2	1	35.09	1.57
32232	HIGGINS	115	1	1	7.07	0.32
32232	HIGGINS	115	2	1	7.07	0.32
32232	HIGGINS	115	3	1	16.71	0.75
32237	FLINT	115	1	1	14.34	0.64
32238	BELL PGE	115	2	1	21.95	0.98
32238	BELL PGE	115	3	1	15.05	0.68
32248	ROCKLIN	60	1	1	18.51	0
32248	ROCKLIN	60	2	1	7.8	0
32250	ELDORAD	115	1	1	9.13	0.41

BUS-NO	NAME	KV	ID	ST	PLOAD	QLOAD
35107	DUMBARTN	115	1	1	24.42	5.57
35107	DUMBARTN	115	2	1	25.84	5.89
35107	DUMBARTN	115	3	1	31.54	7.19
35110	FREMNT	115	1	1	31.72	7.23
35110	FREMNT	115	2	1	19.38	4.41
35110	FREMNT	115	3	1	27.52	6.27
35111	JARVIS	115	1	1	17.7	4.03
35111	JARVIS	115	2	1	26.59	6.06
35111	JARVIS	115	3	1	34.15	7.78
35112	NUMMI	115	1	1	30.88	8.14
35113	DMTAR_SL	115	1	1	3.61	2.24
35115	JV BART	115	1	1	7.1	1.44
35116	CRYOGEN	115	1	1	0.17	0.04
35120	NEWARK D	115	3	1	25.84	5.89
35120	NEWARK D	115	4	1	24.33	5.54
35127	WESTRN_D	115	1	1	6.8	4.25
35201	VASCO	60	1	1	6	1.37
35201	VASCO	60	2	1	8.78	2
35203	LIVERMRE	60	1	1	10.62	2.42
35205	RADUM	60	1	1	9.13	2.08
35205	RADUM	60	2	1	10.18	2.32
35206	KAISER	60	1	1	1.09	2.16
35212	IUKA	60	1	1	3.34	2.95
35213	VALLECTS	60	1	1	1.16	0.2
35214	SUNOL	60	1	1	6.87	1.57
35219	VINEYARD	230	2	1	48.81	11.13
35221	E DUBLIN	60	1	1	2.2	0.45
35222	CALMAT60	60	1	1	6.62	4.1
35224	VINEYD_D	230	1	1	31.52	7.18
35225	LIVRMR_2	60	2	1	13.57	3.09
35300	NWRK 11T	13.2	1	1	0.17	0.05
35301	NWRK 9T	13.2	1	1	0.17	0.05
35303	NWRK 7T	13.2	1	1	0.17	0.05
35304	RCECCTG1	15	ss	1	3	1.66
35305	RCECCTG2	15	ss	1	3	1.66
35306	RCECSTG1	18	ss	1	9	4.98
35349	AMES DST	115	1	1	14.75	3.36
35350	AMES BS1	115	1	1	43.14	0
35351	AMES BS2	115	2	1	43.14	0
35352	WHISMAN	115	1	1	22.33	5.09
35352	WHISMAN	115	2	1	24.02	5.47
35352	WHISMAN	115	3	1	20.34	4.63
35353	MT VIEW	115	1	1	30.3	6.9
35353	MT VIEW	115	2	1	32.19	7.34
35353	MT VIEW	115	3	1	29.11	6.63
35354	STELLING	115	1	1	31.51	7.18
35354	STELLING	115	2	1	32.14	7.32
35354	STELLING	115	3	1	32.89	7.5
35355	WOLFE	115	1	1	25.27	5.76
35355	WOLFE	115	2	1	31.85	7.26
35355	WOLFE	115	3	1	16.4	3.74

BUS-NO	NAME	KV	ID	ST	PLOAD	QLOAD
32252	APPLE HL	115	1	1	14.32	0.64
32252	APPLE HL	115	2	1	9.03	0.41
32254	PLCRVLB2	115	2	1	8.8	0.39
32256	PLCRVLB3	115	3	1	25.14	1.12
32258	DMND SPR	115	1	1	9.55	0.43
32258	DMND SPR	115	2	1	27.17	1.22
32263	CLRKSVLE	115	1	1	44	1.97
32263	CLRKSVLE	115	2	1	46.77	2.09
32263	CLRKSVLE	115	3	1	44.69	2
32265	SHPRING	115	1	1	19.35	0.87
32265	SHPRING	115	2	1	21.21	0.95
32266	TAYLOR	60	1	1	1.72	1.11
32270	PENRYN	60	1	1	28.51	0
32272	DEL MAR	60	1	1	17.39	0
32272	DEL MAR	60	2	1	34.12	0
32274	SIERRAPI	60	1	1	16.39	9.29
32276	CPM	115	1	0	0	0
32278	SPICAMIN	115	1	1	3.62	3.19
32306	CATLETT	60	1	1	6.29	0.28
32310	NARRWS 1	60	1	1	13.75	0.61
32312	NARRWS 2	60	2	1	13.75	0.61
32314	SMRTSVLE	60	1	1	2.58	0.11
32316	YUBAGOLD	60	1	1	0.17	0.15
32318	BRWNS VY	60	1	1	3.24	0.14
32320	MRYSVLLE	60	1	1	18.17	0.81
32320	MRYSVLLE	60	3	1	14	0.63
32322	ENCINAL	60	1	1	0.7	0.16
32324	HARTER	60	1	1	21.96	0.98
32324	HARTER	60	2	1	26.13	1.17
32334	LIVE OAK	60	1	1	5.94	0.26
32334	LIVE OAK	60	2	1	3.79	0.17
32338	BARRY	60	1	1	3.99	0.18
32340	TUDOR	60	1	1	3.19	0.14
32342	E.NICOLS	60	1	1	5.31	0.24
32344	PLUMAS	60	1	1	16.02	0.72
32344	PLUMAS	60	2	1	7.64	0.34
32346	BEALE_1	60	1	1	5.75	3.01
32347	BEALE_2	60	1	1	17.25	3.93
32350	WHEATLND	60	1	1	8.19	0.37
32350	WHEATLND	60	2	1	7.33	0.33
32356	LINCLN	115	1	1	33.17	0
32356	LINCLN	115	2	1	7.82	0
32356	LINCLN	115	3	1	18.31	0
32358	CLMBA HL	60	1	1	1.95	0.09
32360	PIKE CTY	60	1	1	0.61	0.03
32362	ALLEGHNY	60	1	1	1.46	0.06
32363	CISCOTAP	60	1	1	1.02	0.48
32364	GRSS VLY	60	2	1	13.71	0.61
32365	TAMARACK	60	1	1	1.02	0.04
32368	CAPEHORN	60	1	1	2.35	1.27
32372	SPAULDNG	60	1	1	0.51	0.02

BUS-NO	NAME	KV	ID	ST	PLOAD	QLOAD
35359	MOFT.FLD	115	1	1	4.46	1.12
35361	LOCKHD 1	115	3	1	17.45	14.46
35362	LOCKHD 2	115	1	1	7.56	1.72
35362	LOCKHD 2	115	2	1	3.42	0.78
35362	LOCKHD 2	115	4	1	16.21	12.58
35363	LAWRENCE	115	1	1	50.73	11.56
35363	LAWRENCE	115	2	1	20.08	4.58
35363	LAWRENCE	115	3	1	35.41	8.07
35364	A.M.D	115	1	1	1.67	1.17
35366	PHILLIPS	115	1	1	1.25	0
35368	BRITTN	115	1	1	27.96	6.37
35368	BRITTN	115	2	1	47.94	10.93
35368	BRITTN	115	3	1	23.61	5.38
35369	APP MAT	115	1	1	10.11	2.53
35450	LOS ALTS	60	1	1	1.89	0.43
35450	LOS ALTS	60	2	1	9.73	2.22
35450	LOS ALTS	60	3	1	11	2.51
35452	LOYOLA	60	1	1	4.43	1.01
35452	LOYOLA	60	2	1	21.57	4.92
35453	NRTHGRUM	60	1	1	5.99	4.18
35457	PERMNNTE	60	1	1	29.94	20.9
35460	LOS GATS	60	1	1	20.79	4.74
35460	LOS GATS	60	2	1	17.01	3.88
35600	DIXON LD	115	1	1	28.68	6.54
35600	DIXON LD	115	2	1	19.33	4.4
35600	DIXON LD	115	3	1	15.35	3.5
35606	AGNEW	115	1	1	31.91	7.27
35606	AGNEW	115	2	1	42.41	9.66
35610	MONTAGUE	115	1	1	37.77	8.61
35610	MONTAGUE	115	2	1	42.11	9.6
35610	MONTAGUE	115	3	1	34.14	7.78
35612	TRIMBLE	115	1	1	29.68	6.77
35612	TRIMBLE	115	2	1	33.72	7.68
35612	TRIMBLE	115	3	1	43.92	10.01
35612	TRIMBLE	115	5	1	35.64	8.12
35615	FMC	115	1	1	21.65	4.93
35615	FMC	115	3	1	28.54	6.51
35616	SJ B E	115	1	1	45.43	10.35
35616	SJ B E	115	4	1	40.44	9.21
35618	SN JSE A	115	1	1	8.6	1.96
35618	SN JSE A	115	2	1	9	2.05
35618	SN JSE A	115	3	1	39.97	9.1
35619	SJ B F	115	2	1	43.89	10
35619	SJ B F	115	3	1	45.67	10.41
35620	EL PATIO	115	1	1	45.08	10.28
35620	EL PATIO	115	2	1	41.19	9.39
35620	EL PATIO	115	3	1	41	9.34
35622	SWIFT	115	1	1	32.49	7.41
35622	SWIFT	115	2	1	32.21	7.34
35622	SWIFT	115	3	1	43.51	9.91
35624	MILPITAS	115	1	1	42.72	9.74

BUS-NO	NAME	KV	ID	ST	PLOAD	QLOAD
32374	DRUM	60	1	1	0.34	0.01
32376	BONNIE N	60	1	1	1.42	0.06
32380	WEMR SWS	60	1	1	7.82	0.35
32381	SHADYGLN	60	1	1	7.87	0.35
32382	FORST HL	60	1	1	8.07	0.36
32390	HALSEY	60	1	1	17.38	0.78
32392	AUBURN	60	1	1	4.99	0.22
32396	LIMESTNE	60	1	1	0.02	0
32396	LIMESTNE	60	PW	1	2.46	2.1
32408	PLSNT GR	115	1	1	43.04	0
32408	PLSNT GR	115	2	1	41.16	0
32408	PLSNT GR	115	3	1	34.21	0
32411	MTN_QUAR	60	1	1	13.9	0.62
32414	FORMICA	115	1	0	0.5	0.35
32451	FREC	13.8	1	1	1.3	0.3
32451	FREC	13.8	ss	1	1.3	0.3
32490	GRNLEAF1	13.8	1	1	1.3	0.3
32490	GRNLEAF1	13.8	ss	1	0.67	0.15
32492	GRNLEAF2	13.8	1	1	0.54	0.12
32492	GRNLEAF2	13.8	ss	1	0.5	0.11
32494	YUBA CTY	9.11	1	1	0.32	0.07
32494	YUBA CTY	9.11	ss	1	0.32	0.07
32496	YCEC	13.8	1	1	1.15	0.26
32496	YCEC	13.8	ss	1	1.39	0.32
32498	SPILINCF	12.5	1	1	7.5	7.65
32498	SPILINCF	12.5	SG	1	1.1	0.6
32500	ULTR RCK	9.11	SG	1	1.34	0.31
32513	ELDRADO1	21.6	SG	1	0.08	0.02
32514	ELDRADO2	21.6	SG	1	0.08	0.02
32550	SILVERDO	115	1	1	21.67	3.09
32550	SILVERDO	115	2	1	27.99	3.99
32554	MONTCLLO	115	1	1	6.93	0.99
32564	PUEBLO	115	1	1	48.17	6.86
32564	PUEBLO	115	2	1	38.82	5.53
32568	IGNACIO	115	2	1	15.92	2.27
32568	IGNACIO	115	5	1	16.1	2.29
32569	HMLT_WET	115	1	1	15	9.3
32570	LS GLLNS	115	1	1	14.53	2.07
32570	LS GLLNS	115	2	1	9.81	1.4
32570	LS GLLNS	115	3	1	10.97	1.56
32574	SAN RAFL	115	1	1	26.66	3.8
32574	SAN RAFL	115	2	1	25.42	3.62
32574	SAN RAFL	115	3	1	17.66	2.52
32590	HIGHWAY	115	1	1	20.67	2.94
32590	HIGHWAY	115	2	1	25.37	3.61
32600	MEYERS	115	1	1	0.24	0.05
32602	NRTH TWR	115	1	1	14.43	2.06
32602	NRTH TWR	115	2	1	9.58	1.37
32602	NRTH TWR	115	3	1	6.08	0.87
32602	NRTH TWR	115	4	1	2.85	0.41
32606	CARQUINZ	115	1	1	13.23	1.89

BUS-NO	NAME	KV	ID	ST	PLOAD	QLOAD
35624	MILPITAS	115	2	1	35.14	8.01
35624	MILPITAS	115	3	1	19.8	4.51
35624	MILPITAS	115	6	1	38.57	8.79
35626	MCKEE	115	1	1	39.23	8.94
35626	MCKEE	115	2	1	24.48	5.57
35626	MCKEE	115	3	1	35.43	8.08
35630	MABURY	115	2	1	19	4.33
35636	EVRGRN 1	115	2	1	48.55	11.07
35636	EVRGRN 1	115	3	1	16.81	3.83
35637	IBM-CTLE	115	1	1	28.58	22.18
35638	EDENVALE	115	1	1	25.49	5.81
35638	EDENVALE	115	2	1	25.48	5.8
35638	EDENVALE	115	3	1	51.97	11.85
35638	EDENVALE	115	4	1	25.57	5.83
35639	IBM-HRRS	115	1	1	2.43	1.63
35639	IBM-HRRS	115	2	1	2.43	1.63
35640	IBM-BALY	115	1	1	5.63	3.04
35640	IBM-BALY	115	2	1	0	0
35644	CYTE PMP	115	1	1	4.9	1.12
35646	MRGN HIL	115	1	1	26.52	6.04
35646	MRGN HIL	115	2	1	22.86	5.21
35646	MRGN HIL	115	3	1	44.34	10.1
35648	LLAGAS	115	1	1	30.4	6.92
35648	LLAGAS	115	2	1	24.51	5.58
35648	LLAGAS	115	3	1	31.19	7.11
35650	GILROY F	115	1	1	8.88	7.83
35656	PIERCY	115	3	1	35.37	8.06
35659	NORTECH	115	3	1	15.25	3.48
35750	MABURY	60	1	1	17.1	3.9
35751	JENNINGS	60	1	1	0.71	0.77
35757	ALMADEN	60	1	1	18.96	4.32
35850	GLRY COG	13.8	SG	1	1.73	1.43
35854	LECEFGT1	13.8	ss	1	0.6	0.37
35855	LECEFGT2	13.8	ss	1	0.6	0.37
35856	LECEFGT3	13.8	ss	1	0.6	0.37
35857	LECEFGT4	13.8	ss	1	0.6	0.37
35860	OLS-AGNE	9.11	SG	1	1.92	1.59
35861	SJ-SCL W	9.11	SG	1	6.17	2.09
35863	CATALYST	9.11	1	1	9.12	3.09
35901	GRN VLY1	115	3	1	18.09	2.58
35903	GRN VLY2	115	2	1	18.5	2.64
35905	CMP EVRS	115	1	1	20.02	2.85
35905	CMP EVRS	115	2	1	19.5	2.78
35907	PAUL SWT	115	1	1	27.68	3.94
35907	PAUL SWT	115	2	1	21.07	3
35907	PAUL SWT	115	3	1	28.99	4.13
35908	ROB ROY	115	1	1	11.78	1.68
35909	HOLLISTR	115	1	1	16.43	2.34
35909	HOLLISTR	115	2	1	11.03	1.57
35916	PRUNEDLE	115	2	1	9.73	1.39
35916	PRUNEDLE	115	3	1	10.51	1.5

BUS-NO	NAME	KV	ID	ST	PLOAD	QLOAD
32606	CARQUINZ	115	2	1	11.26	1.6
32610	MRE IS-Q	115	1	1	4.25	0.86
32652	CALISTGA	60	1	1	18.46	2.63
32654	TULUCAY	60	2	1	11.77	1.68
32656	NAPA	60	1	1	19.68	2.8
32656	NAPA	60	2	1	16.99	2.42
32658	BASALT	60	1	1	3.68	0.53
32658	BASALT	60	2	1	20.76	2.96
32668	NOVATO	60	1	1	5.04	0.72
32668	NOVATO	60	2	1	15.47	2.2
32670	STAFFORD	60	1	1	10.16	1.45
32670	STAFFORD	60	2	1	10.61	1.51
32671	BOLINAS	60	1	1	1.48	0.21
32672	OLEMA	60	1	1	3.24	0.46
32674	WOODACRE	60	1	1	7.94	1.13
32680	GREENBRE	60	1	1	10.09	1.44
32680	GREENBRE	60	2	1	13.05	1.86
32682	ALTO	60	1	1	17.21	2.45
32682	ALTO	60	3	1	18.42	2.62
32688	SAUSALTO	60	2	1	10.92	1.56
32740	HILLSIDE	115	SG	1	30.51	18.91
32748	PP STEEL	115	1	1	0.19	0.25
32758	SAN PBLO	115	1	1	19.98	4.55
32760	PT PINLE	115	1	1	14.78	3.36
32762	STD. OIL	115	SG	1	137.52	58.58
32764	VALLY VW	115	1	1	7.65	1.74
32764	VALLY VW	115	2	1	15.69	3.58
32766	EL CRRTO	115	1	1	25.48	5.81
32766	EL CRRTO	115	2	1	31.69	7.22
32766	EL CRRTO	115	4	1	55.53	12.65
32766	EL CRRTO	115	5	1	7.1	1.44
32766	EL CRRTO	115	6	1	6.9	1.4
32768	RICHMOND	115	1	1	37.7	8.59
32768	RICHMOND	115	2	1	18.34	4.18
32770	GRIZZLY2	115	1	1	4.37	0.77
32780	CLARMNT	115	2	1	19.48	4.44
32782	STATIN D	115	3	1	26.13	5.95
32782	STATIN D	115	4	1	39.73	9.05
32782	STATIN D	115	5	1	43.68	9.96
32786	OAK C115	115	5	1	10.4	2.11
32786	OAK C115	115	6	1	4.23	0.86
32788	STATIN L	115	1	1	18.05	4.11
32788	STATIN L	115	3	1	18.05	4.11
32788	STATIN L	115	5	1	18.05	4.11
32790	STATIN X	115	2	1	21.01	4.79
32790	STATIN X	115	3	1	17.34	3.95
32790	STATIN X	115	4	1	16.12	3.67
32792	STATIN J	115	1	1	38.21	8.71
32792	STATIN J	115	2	1	17.16	3.91
32792	STATIN J	115	5	1	28.89	6.58
32793	SCHNITZ	115	1	1	9.29	4.5

BUS-NO	NAME	KV	ID	ST	PLOAD	QLOAD
35918	SALINAS2	115	4	1	36.54	5.21
35918	SALINAS2	115	6	1	26.12	3.72
35919	SOLEDAD	115	3	1	20.17	2.87
35924	CSTRVLE	115	1	1	17.89	2.55
35926	DOLAN RD	115	1	1	10.74	1.53
35929	DEL MNTE	115	1	1	15.85	2.26
35929	DEL MNTE	115	2	1	24.36	3.47
35940	HOLST D	115	3	1	34.04	4.85
36000	BIG BASN	60	1	1	6.71	0.96
36004	LONE STR	60	1	1	7.33	2.14
36006	PT MRTTI	60	1	1	2.16	0.31
36007	CRUSHER	60	1	1	0.44	0.45
36010	ERTA	60	2	1	2.74	0.39
36012	WTSNVLE	60	1	1	10.21	1.45
36012	WTSNVLE	60	3	1	3.43	0.49
36015	GRANT RK	60	1	1	7.26	6.21
36016	AGRILINK	60	1	1	0.18	0.11
36018	BRIGTANO	60	1	1	2.57	3.52
36020	LGNTS J1	60	1	1	2.5	0.82
36023	GABILAN	60	1	1	15.18	2.16
36029	BORONDA	60	1	1	7.41	1.06
36031	FORT ORD	60	1	1	10.74	1.53
36031	FORT ORD	60	2	1	13.96	1.99
36036	MONTEREY	60	1	1	4.88	0.7
36037	NVY SCHL	60	1	1	2.13	1.09
36038	VIEJO	60	1	1	12.1	1.72
36038	VIEJO	60	2	1	14.35	2.05
36039	HATTON	60	1	1	10.64	1.52
36041	NAVY LAB	60	1	1	1.64	0.7
36043	RSVTN RD	60	1	1	9.35	1.33
36044	LAURELES	60	1	1	5.23	0.75
36045	OTTER	60	1	1	3.07	0.44
36047	FRSHXPRS	60	1	1	7	4.89
36049	BNA VSTA	60	1	1	4.68	0.67
36049	BNA VSTA	60	2	1	16.15	2.3
36049	BNA VSTA	60	3	1	16.59	2.36
36050	FIRESTNE	60	1	1	1.12	0.16
36053	SPENCE	60	2	1	14.38	2.05
36055	IND.ACRE	60	1	1	3.88	0.55
36060	GONZALES	60	3	1	4.61	0.66
36060	GONZALES	60	4	1	12.88	1.83
36062	CAMPHORA	60	1	1	3.31	1.31
36062	CAMPHORA	60	2	1	7.49	1.07
36064	SOLEDAD	60	2	1	9.91	1.41
36066	LOS CCHS	60	2	1	11.64	1.66
36069	LOS OSTs	60	1	1	14.99	2.14
36073	KING CTY	60	1	1	9.37	1.33
36073	KING CTY	60	3	1	5.94	0.85
36073	KING CTY	60	4	1	4.32	0.62
36074	JOLON	60	1	1	4.15	0.59
36076	BA FOOD1	60	1	1	0.99	0.59

BUS-NO	NAME	KV	ID	ST	PLOAD	QLOAD
32794	MARITIME	115	1	1	0.95	1.11
32800	OWNBRKWY	115	1	1	9.29	5.51
32810	EDES	115	2	1	18.85	4.29
32810	EDES	115	3	1	29.45	6.71
32849	CON25	115	1	1	25	15.56
32854	PRT CSTA	60	1	1	0.28	0.25
32856	FRANKLIN	60	1	1	16.51	3.76
32856	FRANKLIN	60	2	1	16.3	3.72
32908	OAK C12	12	1	1	26.52	6.04
32908	OAK C12	12	2	1	26.52	6.04
32908	OAK C12	12	3	1	26.52	6.04
32910	UNOCAL	12	SG	1	20.81	12.9
32920	UNION CH	9.11	SG	1	2.35	0.54
32951	KIRKER	115	1	1	38.02	7.72
32951	KIRKER	115	2	1	44.19	8.97
32951	KIRKER	115	3	1	53.77	10.92
32957	PRAXAIR	115	1	1	20.67	4.61
32970	CLAYTN	115	1	1	26.88	6.13
32970	CLAYTN	115	2	1	42.89	9.78
32970	CLAYTN	115	3	1	45.56	10.38
32970	CLAYTN	115	5	1	9.51	2.16
32971	MEDW LNE	115	1	1	39.33	8.97
32971	MEDW LNE	115	2	1	46.84	10.68
32971	MEDW LNE	115	3	1	43.88	10
32972	EBMUDGRY	115	1	1	5.67	1.86
32973	LAKEWD-C	115	5	1	19.48	4.44
32973	LAKEWD-C	115	6	1	44.2	10.08
32974	LAKEWD-M	115	1	1	38.07	8.68
32974	LAKEWD-M	115	2	1	25.72	5.86
32974	LAKEWD-M	115	4	1	48.09	10.96
32974	LAKEWD-M	115	LW	1	5.66	1.15
32978	LMEC	115	CS	1	20	8.52
32978	LMEC	115	PC	1	40	17.04
32978	LMEC	115	ss	1	7.04	2.31
32990	MARTNZ D	115	5	1	45.86	10.45
32993	W.P.BART	115	1	1	7.29	1.48
32993	W.P.BART	115	3	1	13.49	3.07
32994	BOLLMAN	115	1	1	2.59	1.36
32994	BOLLMAN	115	2	1	2.59	1.36
33000	CC SUB	115	4	1	42.14	8.55
33001	DOMTAR	115	1	1	2.4	2.12
33010	SOBRANTE	115	3	1	21.75	4.96
33011	ALHAMBRA	115	1	1	10.29	2.34
33011	ALHAMBRA	115	2	1	9.17	2.09
33012	EST PRTL	115	1	1	7.66	1.55
33020	MORAGA	115	5	1	28.65	6.53
33051	DU PONT	60	1	1	2	2.16
33053	BRIONES	60	1	1	3.9	1.84
33054	BALFOUR	60	1	1	4	0.81
33055	BIXLER	60	1	1	2	0.97
33060	ANTIOCH	60	1	1	1.93	0.39

BUS-NO	NAME	KV	ID	ST	PLOAD	QLOAD
36082	SAN ARDO	60	1	1	6.48	0.92
36084	OILFLDS	60	1	1	4.71	0.67
36084	OILFLDS	60	2	1	13.57	1.93
36085	TEXACO	60	1	1	5.44	2.63
36200	SARGCN G	13.8	SG	1	1.2	0.27
36201	SALNR GN	13.8	SG	1	1.44	0.32
36205	CIC COGN	12.47	SG	1	0.29	0.07
36209	SLD ENRG	12.47	SG	0	0.36	0.08
36221	DUKMOSS1	18	ss	1	6.59	3.3
36222	DUKMOSS2	18	ss	1	6.59	3.3
36224	DUKMOSS4	18	ss	1	6.59	3.3
36225	DUKMOSS5	18	ss	1	6.59	3.3
36250	FOOTHILL	115	1	1	8.61	1.23
36252	MORRO BY	115	11	1	11.58	1.65
36254	SN LS OB	115	4	1	17.77	2.53
36254	SN LS OB	115	6	1	30.37	4.33
36260	SISQUOC	115	2	1	7.85	1.12
36260	SISQUOC	115	3	1	6.83	0.97
36266	SNTA MRA	115	2	1	31.69	4.52
36266	SNTA MRA	115	3	1	29.26	4.17
36270	FAIRWAY	115	1	1	15.37	2.19
36270	FAIRWAY	115	2	1	23.96	3.41
36274	BUELLTON	115	1	1	6.82	0.97
36274	BUELLTON	115	2	1	9.34	1.33
36278	OCEANO	115	1	1	14.16	2.02
36278	OCEANO	115	2	1	36.51	5.2
36280	UNION OL	115	1	1	7.08	1.77
36284	SURF	115	1	1	1.08	0
36286	PALMR	115	1	1	1.76	0.25
36288	ZACA	115	1	1	7.09	1.01
36290	SNTA YNZ	115	1	1	11.4	1.62
36290	SNTA YNZ	115	2	1	12.4	1.77
36292	MANVILLE	115	1	1	11.69	7.55
36294	CABRILLO	115	1	1	6.16	0.88
36298	PURISIMA	115	1	1	5.66	0.81
36302	GOLDTREE	115	1	1	13.52	1.93
36302	GOLDTREE	115	MC	1	2.65	1.99
36350	CHOLAME	70	1	1	6.62	0.94
36350	CHOLAME	70	2	1	4.32	0.62
36354	SAN MIGL	70	1	1	9.46	1.35
36356	PSA RBLS	70	1	1	13.83	1.97
36356	PSA RBLS	70	2	1	13.35	1.9
36356	PSA RBLS	70	3	1	32.13	4.58
36358	ATASCDRO	70	1	1	23.69	3.38
36364	CAYUCOS	70	1	1	5.43	0.77
36364	CAYUCOS	70	2	1	0	0
36366	PERRY	70	1	1	2.81	0.4
36368	CAMBRIA	70	1	1	1.99	0.28
36370	BAYWOOD	70	2	1	0.69	0.1
36374	MUSTANG	70	1	1	7.05	4.18
36378	DIVIDE	70	3	1	5.38	0.77

BUS-NO	NAME	KV	ID	ST	PLOAD	QLOAD
33061	PITTSBRG	60	1	1	0.64	0.13
33062	SHLL CHM	60	1	1	2.27	1.41
33063	WLLW PSS	60	1	1	9.78	2.23
33064	SFPP CNC	60	1	1	8.05	4.78
33065	URICH	60	1	1	1.99	1.23
33105	PTSB 5	18	ss	1	7.72	3.95
33106	PTSB 6	18	ss	1	7.72	3.95
33116	C.COS 6	18	ss	1	5	2.56
33117	C.COS 7	18	ss	1	5	2.56
33131	GWF #1	9.11	SG	1	2.56	0.58
33132	GWF #2	13.8	SG	1	2.81	0.64
33133	GWF #3	13.8	SG	1	2.84	0.65
33134	GWF #4	13.8	SG	1	2.88	0.66
33135	GWF #5	13.8	SG	1	2.77	0.63
33136	CCCS	12.47	SG	1	3.37	0.77
33139	STAUFER	9.11	SG	1	2.23	0.32
33141	SHELL 1	12.47	SG	1	21.86	3.83
33142	SHELL 2	12.47	SG	1	21.86	3.83
33143	SHELL 3	12.47	SG	1	21.86	3.83
33150	TOSCO	12.47	SG	1	94.8	58.75
33160	DOW CHEM	13.8	SG	1	15	9.3
33178	RVEC_GEN	13.8	ss	1	1.25	0.77
33203	MISSION	115	1	1	36.89	7.49
33203	MISSION	115	2	1	36.89	7.49
33203	MISSION	115	3	1	36.89	7.49
33203	MISSION	115	4	1	36.89	7.49
33203	MISSION	115	5	1	36.89	7.49
33204	POTRERO	115	1	1	43.69	8.87
33204	POTRERO	115	10	1	43.69	8.87
33204	POTRERO	115	2	1	43.69	3.92
33205	HNTRS PT	115	1	1	28.47	1.27
33205	HNTRS PT	115	6	1	28.47	2.55
33206	BAYSHOR1	115	1	1	4.75	0.68
33207	BAYSHOR2	115	2	1	6.65	0.95
33208	MARTIN C	115	1	1	32.54	2.06
33208	MARTIN C	115	1B	1	32.54	2.06
33208	MARTIN C	115	4	1	32.54	2.06
33213	CCSF1	115	1	1	5.4	3.35
33218	LARKIN 1	12	1	1	121.9	24.11
33219	LARKIN 2	12	1	1	121.9	24.11
33252	POTRERO3	20	ss	1	4.12	2.11
33300	DALY CTY	115	1	1	50.29	11.46
33300	DALY CTY	115	2	1	30.35	6.92
33302	SERRMNT	115	1	1	11.42	2.6
33303	EST GRND	115	1	1	58.02	13.22
33303	EST GRND	115	4	1	38.34	8.74
33303	EST GRND	115	5	1	35.32	8.05
33305	SHAWROAD	115	1	1	9	1.83
33306	SFIA	115	1	1	18.7	3.8
33306	SFIA	115	2	1	18.7	3.8
33307	MILLBRAE	115	3	1	23.03	5.25

BUS-NO	NAME	KV	ID	ST	PLOAD	QLOAD
36380	VAFB SSA	70	1	1	13.2	3.85
36405	MOSSLND6	22	ss	1	6.72	5.39
36406	MOSSLND7	22	ss	1	6.72	5.39
36407	MORRO 1	18	ss	0	7	3.51
36408	MORRO 2	18	ss	0	7	3.51
36409	MORRO 3	18	ss	1	7	3.51
36410	MORRO 4	18	ss	1	7	3.51
36411	DIABLO 1	25	ss	1	50	25
36412	DIABLO 2	25	ss	1	50	25
36416	ST MARIA	9.11	1	1	2.6	2.51
36416	ST MARIA	9.11	SG	1	2.6	2.51
36418	GAREY	4	1	1	2.28	1.95
36420	STONE	115	1	1	35.69	8.13
36420	STONE	115	2	1	14.87	3.39
36856	CCA100	13.8	1	1	6.65	0.81
36857	Mission	60	1	1	24.72	1.18
36857	Mission	60	2	1	24.74	1.16
36859	Laf300	12	1	1	17.55	0.83
36860	Palm	60	1	1	9.65	0.84
36860	Palm	60	2	1	10.53	0.85
36866	DVRbLoad	13.8	ss	1	5.17	0.84
36869	Northwes	60	1	1	4.5	0.84
36869	Northwes	60	2	1	4.24	0.84
36870	Agnew	60	1	1	12.48	1.14
36870	Agnew	60	2	1	11.67	0.81
36871	Brokaw	60	1	1	18.06	0.85
36871	Brokaw	60	2	1	17.51	0.85
36873	Central	60	1	1	18.17	0.89
36873	Central	60	2	1	18.62	0.91
36874	Fibergla	60	1	1	7.89	1.1
36874	Fibergla	60	2	1	7.47	0.1
36876	Homestea	60	1	1	18.72	0.79
36876	Homestea	60	2	1	19.95	0.87
36877	Juliette	60	1	1	14.08	0.84
36877	Juliette	60	2	1	11.93	0.84
36879	Laf T1	60	1	1	8.66	0.8
36880	Laf T2	60	1	1	10.42	0.81
36882	Mathew	60	1	1	13.64	0.85
36882	Mathew	60	2	1	13.31	0.84
36883	NAJ	60	1	1	16.82	0.84
36886	SRS	60	1	1	16.94	0.84
36886	SRS	60	2	1	15.62	0.84
36887	Serra	60	1	1	13.63	0.89
36888	Tasman	60	1	1	17.33	0.85
36888	Tasman	60	2	1	21.99	0.87
36888	Tasman	60	3	1	17.33	0.7
36889	Uranium	60	1	1	16.8	0.75
36889	Uranium	60	2	1	11.45	0.76
36890	Walsh	60	1	1	16.83	0.86
36890	Walsh	60	2	1	16.53	0.71
36891	Zeno	60	1	1	11.59	0.77

BUS-NO	NAME	KV	ID	ST	PLOAD	QLOAD
33307	MILLBRAE	115	4	1	22.69	5.18
33308	SFIA-MA	115	1	1	20.2	4.1
33309	SANPAULA	115	1	1	8	1.62
33310	SANMATEO	115	9	1	18.54	4.22
33311	BAY MDWS	115	1	1	43.91	10.01
33311	BAY MDWS	115	2	1	34.54	7.87
33311	BAY MDWS	115	3	1	20.42	4.66
33311	BAY MDWS	115	5	1	19.08	4.35
33312	BELMONT	115	1	1	37.28	8.49
33312	BELMONT	115	2	1	9.8	2.23
33312	BELMONT	115	3	1	31.91	7.27
33313	BAIR	115	2	1	16.67	3.8
33314	SHREDDER	115	1	1	4.77	5.43
33320	LONESTAR	115	1	1	2.57	3.43
33350	SNTH LNE	60	1	1	7.61	1.73
33350	SNTH LNE	60	2	1	9.62	2.19
33351	SN BRNOT	60	1	1	3.36	0.77
33352	SNANDRES	60	1	1	1.8	0.37
33353	MILLBRAE	60	1	1	5.16	1.18
33355	PACIFICA	60	1	1	9.92	2.26
33355	PACIFICA	60	2	1	5.61	1.28
33356	BURLNGME	115	1	1	10.08	2.3
33357	SAN MATO	60	4	1	8.55	1.94
33358	BERESFRD	60	1	1	5.8	1.32
33358	BERESFRD	60	2	1	4.07	0.93
33359	CAROLNDS	60	1	1	2.65	0.6
33359	CAROLNDS	60	2	1	4.88	1.11
33360	HILLSdle	60	1	1	7.32	1.67
33362	CRYSTLSG	60	1	1	3	0.61
33363	RALSTON	60	1	1	6.53	1.49
33363	RALSTON	60	2	1	3.37	0.77
33364	ORACLE60	60	1	1	11.86	5.4
33365	SAN CRLS	60	1	1	12.95	2.95
33365	SAN CRLS	60	2	1	19.09	4.35
33365	SAN CRLS	60	3	1	9.8	2.23
33366	HLF MNBY	60	1	1	8.02	1.82
33366	HLF MNBY	60	2	1	8.73	1.99
33366	HLF MNBY	60	3	1	9.64	2.19
33370	REDWOOD	60	1	1	11.8	2.69
33370	REDWOOD	60	2	1	5.12	1.17
33370	REDWOOD	60	3	1	8.98	2.05
33370	REDWOOD	60	4	1	8.44	1.93
33370	REDWOOD	60	5	1	30.43	6.94
33371	RAYCHEM	60	1	1	7.48	5.22
33372	BLLE HVN	60	1	1	7.52	1.71
33372	BLLE HVN	60	2	1	8.46	1.93
33372	BLLE HVN	60	3	1	15.39	3.51
33372	BLLE HVN	60	4	1	14.12	3.21
33372	BLLE HVN	60	5	1	29.05	6.62
33376	LAS PLGS	60	1	1	3.3	0.75
33376	LAS PLGS	60	2	1	3.3	0.75

BUS-NO	NAME	KV	ID	ST	PLOAD	QLOAD
36891	Zeno	60	2	1	7.7	0.84
36900	RICHMOND	60	1	1	4.9	1.12
36902	MEADOWVW	60	1	1	2.62	0.6
36904	MILLWOOD	60	1	1	16.52	3.76
36908	JELD-WEN	60	1	1	1.63	0.37
36930	CHESTNUT	14.4	1	1	0.5	0.12
36936	JELD-WN	9.11	1	1	1.43	0.32
37101	CARMICAL	69	1	1	159.22	35.8
37102	ELKGROV1	69	1	1	129.08	29.21
37103	ELVERTA1	69	1	1	165.82	37.69
37105	FOOTHIL1	69	1	1	154.51	34.86
37106	HEDGE 1	69	1	1	160.17	36.74
37107	HEDGE 3	69	1	1	149.8	33.92
37108	HURLEY 1	69	1	1	167.7	37.69
37109	HURLEY 2	69	1	1	165.82	37.69
37111	LAKE 1	69	1	1	152.63	34.86
37114	ORANGVL1	69	1	1	147.92	33.92
37115	ORANGVL2	69	1	1	149.8	33.92
37116	POCKET 1	69	1	1	158.28	35.8
37117	POCKET 2	69	1	1	177.13	40.51
37121	ELKGROV2	69	1	1	147.92	33.92
37122	LAKE 2	69	1	1	102.7	23.55
37123	NATOMAS	69	1	1	161.11	36.74
37124	CORDOVA	69	1	1	135.88	30.55
37125	NATOMAS2	69	1	1	141.32	32.03
37126	FRANKLIN	69	1	1	114.94	26.38
37202	MID CTY1	22	1	1	14	3
37203	MID CTY2	22	2	1	14	3
37204	NORTHCT1	22	1	1	35.8	8.48
37205	NORTHCT2	22	3	1	32.98	7.54
37208	STA. D 1	22	1	1	34.76	8.43
37209	STA. D 2	22	2	1	9.8	2.2
37210	MID CTY3	22	3	1	16.96	3.77
37212	MID CTY4	22	4	1	16.96	3.77
37214	EASTCTY1	22	1	1	19.79	4.71
37215	EASTCTY2	22	2	1	19.79	4.71
37216	SO CITY1	22	1	1	20.73	4.71
37217	SO CITY2	22	3	1	30.15	6.6
37320	UCDMC	12.5	1	1	12	3
37401	STA. A 1	12	1	1	15	3
37402	STA. A 2	12	2	1	15	3
37403	STA. A 3	12	3	1	15	3
37407	STA. B 1	12	1	1	11.31	2.83
37408	STA. B 2	12	2	1	23.55	5.65
37571	SHAST LK	115	1	1	19.21	3.9
37572	ROSEVLL1	60	1	1	96.22	13.71
37573	ROSEVLL2	60	1	1	96.22	13.71
37574	FIDDYMNT	60	1	1	98.78	14.08
37574	FIDDYMNT	60	2	1	98.78	14.08
37582	TRACY YG	69	1	1	20.5	4.16
37583	TRACYPP1	13.8	P1	1	13.5	2.7

BUS-NO	NAME	KV	ID	ST	PLOAD	QLOAD
33377	EMRLD LE	60	1	1	5.54	1.26
33379	WATRSLED	60	1	1	0.7	0.32
33381	GLENWOOD	60	1	1	10.42	2.37
33381	GLENWOOD	60	2	1	7.2	1.64
33381	GLENWOOD	60	3	1	9.03	2.06
33383	MENLO	60	1	1	4.91	1.12
33383	MENLO	60	3	1	14.12	3.21
33386	STANFORD	60	SG	1	30.83	6.26
33387	WOODSIDE	60	1	1	12.61	2.87
33387	WOODSIDE	60	2	1	10.53	2.4
33387	WOODSIDE	60	3	1	10.53	2.4
33390	MENLO G	60	2	1	5.32	1.21
33390	MENLO G	60	4	1	14.35	3.27
33467	SFAERP	13.8	1	1	1.8	1.12
33468	SRI INTL	9.11	1	1	4.12	0.84
33469	OX_MTN	4.16	SG	0	0.7	0.14
33502	FROGTOWN	115	1	1	11.04	0.49
33502	FROGTOWN	115	2	1	8.25	0.37
33506	STANISLS	115	1	1	10.98	0.49
33510	AVENA	115	1	1	13.38	0.6
33514	MANTECA	115	5	1	26.77	1.2
33514	MANTECA	115	6	1	23.44	1.05
33514	MANTECA	115	7	1	31.15	1.4
33514	MANTECA	115	8	1	25.72	1.15
33518	VIERRA	115	1	1	42.53	1.91
33520	RIPON	115	2	1	28.28	1.27
33524	CL AMMNA	115	1	1	1.68	1.22
33529	LAMMERS	115	1	1	35.18	1.57
33529	LAMMERS	115	2	1	11.9	0.54
33532	OI GLASS	115	1	1	11.34	7.03
33534	SAFEWAY	115	1	1	5.38	2.76
33542	LEPRINO	115	1	1	3.67	2.37
33544	ELLS GTY	115	1	1	3.62	1.86
33547	AEC_300	115	1	1	3	9.54
33548	TRACY	115	1	1	27.48	1.23
33548	TRACY	115	2	1	31.06	1.39
33548	TRACY	115	3	1	30.63	1.37
33553	STKTON B	115	3	1	28.27	1.27
33555	STKTON A	115	4	1	30.11	1.35
33555	STKTON A	115	5	1	20.16	0.9
33564	LOCKFORD	115	4	1	30.47	1.36
33604	WEST PNT	60	1	1	4.47	0.2
33604	WEST PNT	60	3	1	4.2	0.19
33607	ELECTRAJ	60	1	1	9.73	0.44
33608	PNE GRVE	60	1	1	8.13	0.36
33608	PNE GRVE	60	2	1	10.36	0.46
33612	N BRANCH	60	1	1	5.5	0.24
33614	CAL CMNT	60	1	1	12.33	0.55
33616	MARTELL	60	1	1	18.4	0.83
33618	OLETA	60	1	1	4.11	0.19
33618	OLETA	60	2	1	3.66	0.16

BUS-NO	NAME	KV	ID	ST	PLOAD	QLOAD
37583	TRACYPP1	13.8	P2	1	13.5	2.7
37583	TRACYPP1	13.8	P3	1	13.5	2.7
37584	TRACYPP2	13.8	P4	1	13.5	2.7
37584	TRACYPP2	13.8	P5	1	13.5	2.7
37584	TRACYPP2	13.8	P6	1	13.5	2.7
37648	KNAUF	115	1	1	15.51	3.15
37649	LLNLAB	115	1	1	75.93	15.64
37650	MTHOUSE	69	1	1	10.51	1.19
37905	AIRPORT1	12.5	1	1	11.71	5.34
37906	AIRPORT2	12.5	1	1	12.07	5.5
37908	BELT1	12.5	1	1	12.42	5.66
37909	BELT2	12.5	1	0	0	0
37911	CANBY1	12.5	1	1	15.28	7.45
37912	CANBY2	12.5	1	1	17.7	8.06
37913	CANBY3	12.5	1	1	16.89	7.69
37915	CLEAR1	12.5	1	0	0	0
37917	COLLEGE1	12.5	1	1	16.53	7.53
37918	COLLEGE2	12.5	1	0	0	0
37920	EASTRDG1	12.5	1	1	18.86	8.6
37921	EASTRDG2	12.5	1	0	0	0
37923	EUREKA1	12.5	1	1	15.01	6.85
37924	EUREKA2	12.5	1	0	0	0
37926	GOODWAT1	12.5	1	0	0	0
37927	GOODWAT2	12.5	1	0	0	0
37929	MOORE1	12.5	1	1	14.21	6.48
37930	MOORE2	12.5	1	1	12.24	5.58
37932	OASIS1	12.5	1	1	0	6.05
37933	OASIS2	12.5	1	0	0	0
37935	OREGON1	12.5	1	1	17.25	7.86
37936	OREGON2	12.5	1	0	0	0
37938	QUARTZ1	12.5	1	0	0	0
37939	QUARTZ2	12.5	1	0	0	0
37946	STILLW1	12.5	1	0	0	0
37949	SULP1	12.5	1	1	22.25	10.14
37950	SULP2	12.5	1	1	15.28	6.96
37952	TEXASSP1	12.5	1	1	8.67	3.95
37954	TIERRA1	12.5	1	0	0	0
37956	WALDON1	12.5	1	1	13.94	6.35
37957	WALDON2	12.5	1	1	20.11	9.16
37959	CANBY4	12.8	1	1	13.94	6.35
37961	BSNS P1	115	1	1	5	1
37962	BSNS P2	115	1	1	0	0
38020	CITY UKH	115	1	1	34.65	13.01
38022	CARTWRT	115	1	1	23.04	4.31
38022	CARTWRT	115	2	1	23.04	4.31
38024	JENNY	115	1	1	33.37	6.27
38028	PLO ALTO	115	1	1	68.45	24.87
38028	PLO ALTO	115	2	1	68.45	24.87
38028	PLO ALTO	115	3	1	68.45	24.87
38030	LMPC-CTY	115	1	1	27.47	4.98
38050	HELDSBRG	60	1	1	21.97	5.07

BUS-NO	NAME	KV	ID	ST	PLOAD	QLOAD
33620	AM FORST	60	1	1	1.9	1.52
33622	CLAY	60	1	1	12.99	0.58
33622	CLAY	60	2	1	3.8	0.17
33624	INE PRSN	60	1	1	11.91	0.54
33640	CORRAL	60	1	1	12.01	0.54
33640	CORRAL	60	2	1	15.81	0.71
33642	LINDEN	60	1	1	17.58	0.79
33646	MORMON	60	1	1	17.87	0.8
33648	DANA	60	1	1	1.68	0.34
33650	WEBER 1	60	3	1	20.35	0.91
33650	WEBER 1	60	4	1	10.5	0.47
33656	CARGILL	60	1	1	1.88	1.87
33660	JM	60	1	1	5.18	2.05
33664	LIPTON	60	1	1	3.53	2.56
33666	CHEROKEE	60	1	1	9.8	0.44
33668	WATERLOO	60	2	1	10.63	0.48
33670	STCKTN A	60	1	1	1.72	0.07
33670	STCKTN A	60	2	1	1.14	0.05
33673	CAL CEDA	60	1	1	1.49	1.24
33676	E.STCKTN	60	1	1	5.88	0.26
33676	E.STCKTN	60	3	1	13.16	0.59
33678	MONARCH	60	2	1	3.85	0.17
33680	OAK PARK	60	1	1	2.29	0.11
33682	SUMIDEN	60	1	1	3.71	2.59
33684	HARDING	60	1	1	4.41	0.19
33684	HARDING	60	2	1	4.9	0.22
33686	STCKTNAR	60	1	1	3.84	0.17
33687	STCKTN WW	60	1	1	3.61	0.9
33690	ROGH-RDY	60	1	1	11.32	0.5
33692	CHANNEL	60	1	1	7.95	0.36
33698	FRNCH CP	60	1	1	15.48	0.69
33698	FRNCH CP	60	2	1	15.01	0.67
33702	GRONMYER	60	1	1	4.2	0.96
33704	STAGG	60	2	1	17.93	0.8
33704	STAGG	60	3	1	17.93	0.8
33706	CNTRY CB	60	1	1	5.65	0.25
33706	CNTRY CB	60	2	1	9.25	0.41
33706	CNTRY CB	60	3	1	10.26	0.46
33706	CNTRY CB	60	4	1	15.72	0.71
33708	UOP	60	1	1	5.99	4.18
33712	WESTLANE	60	1	1	16.92	0.75
33714	HAMMER	60	1	1	18.03	0.8
33714	HAMMER	60	2	1	17.28	0.77
33714	HAMMER	60	3	1	18.86	0.84
33718	METTLER	60	3	1	9.12	0.41
33720	TERMNOUS	60	1	1	5.1	0.23
33721	SEBASTIA	60	1	1	2.82	2.12
33723	NEW HOPE	60	1	1	2.89	0.13
33726	VICTOR	60	1	1	0.22	0.01
33726	VICTOR	60	2	1	3.57	0.16
33727	MONDAVI	60	1	1	2.48	2.06

BUS-NO	NAME	KV	ID	ST	PLOAD	QLOAD
38052	BIGGS	60	1	1	4.28	1.6
38054	GRIDLEY	60	1	1	11.93	1.89
38060	INDUSTRL	60	1	1	137.3	31.9
38131	PSQUIUNCY	69	1	1	1.37	-0.09
38132	MOHAWK	69	1	1	2.74	-0.18
38133	GRAEGL	69	1	1	0	0
38134	GRAEGL69	69	1	1	5.03	-0.37
38135	SIERVLTP	69	1	1	0	0
38136	MARBLE	69	1	1	0	0
38137	SIERVL69	69	1	1	1.37	-0.09
38138	BCKWRTH	69	1	1	1.37	-0.37
38139	CHILCT	69	1	1	2.28	-0.18
38140	HERLNG	69	1	1	0	0
38141	HRLNG12	69	1	1	2.74	-0.18
38142	PRISON	69	1	1	0	0
38143	NUPRISON	69	1	1	7.31	1.28
38145	EDGMNT	69	1	1	1.83	-0.46
38146	LEAVIT1	69	1	1	2.74	-0.73
38147	LEAVIT2	69	1	1	3.66	0.27
38148	NCPAGEN	69	1	1	0	0
38149	MILFDREG	69	1	1	1.83	-0.18
38150	LEAVITGN	13.8	1	1	0	0
38206	COTTLE A	230	1	1	20.21	0.91
38208	COTTLE B	230	2	1	23.24	1.04
38228	SNTA CRZ	115	1	1	29.42	1.37
38238	HUNTWSTP	115	1	1	8.76	1.84
38240	HERSHEY	115	1	1	7.01	3.67
38250	PARKER	69	1	1	21.33	9.76
38252	STANDFRD	69	1	1	19.96	7.59
38254	FINNEY	69	1	1	9.61	1.84
38256	ROSEMORE	69	1	1	13.05	4.33
38258	8TH ST	69	1	1	22.06	2.68
38260	PRESCOTT	69	1	1	25.63	6.28
38262	BRGGSMRE	69	1	1	37.14	2.04
38264	ENSLEN	69	1	1	38.01	1.94
38266	WOODROW	69	1	1	27.31	5.72
38268	12TH ST	69	1	1	37.82	10.83
38270	SNTA RSA	69	1	1	20.04	1.04
38272	LAPHAM	69	1	1	22.74	1.04
38274	MARIPOS1	69	1	1	23.22	8.38
38276	CLAUS	69	1	1	36.96	10.83
38278	OAKDALE	69	1	1	31.05	1.13
38280	SYLVAN	69	1	1	38.04	9.76
38282	REINWAY	69	1	1	23.11	3.63
38284	LINCOLN	69	1	1	31.52	3.28
38290	PARADSE	69	1	1	28.41	2.09
38292	SISK	69	1	1	34.15	5.52
38294	POUST	69	1	1	14.71	1.68
38300	BNDS FLT	69	1	1	0	0
38302	ROSELLE	69	1	1	24.69	4.82
38304	LADD	69	1	1	9.45	2.04

BUS-NO	NAME	KV	ID	ST	PLOAD	QLOAD
33728	LODI	60	1	1	0.43	0.02
33728	LODI	60	2	1	20.37	0.91
33732	COLONY	60	2	1	4.91	0.22
33740	MSHR 60V	60	1	1	19.3	0.86
33740	MSHR 60V	60	2	1	32.15	1.44
33746	LOUISE	60	1	1	1.37	1.1
33750	CALVO	60	1	1	1.7	1.01
33758	BANTA	60	1	1	6.74	0.3
33762	LYOTH-SP	60	1	1	3	0.68
33764	CARBONA	60	1	1	23.19	1.04
33764	CARBONA	60	2	1	7.18	0.32
33768	BNTA CRB	60	1	1	3.34	0.76
33770	HERDLYN	60	1	1	5.84	0.26
33772	B.BTHNY-	60	1	1	1.94	0.44
33775	TOSCO-PP	60	1	1	0.98	0.89
33776	SOUTH BY	60	1	1	23	0
33778	MDL_RIVR	60	1	1	4.84	0.22
33780	MCD_ISLE	60	1	1	5.76	0.82
33782	WEST SDE	60	1	1	1.9	0.4
33800	SALT SPS	11	1	1	11.76	0.53
33801	STAGG_5	21	5	1	57.13	2.56
33803	STAGG_6	21	6	1	50.05	2.24
33812	ELECTRA	13.8	1	1	14.2	2.49
33814	CPC STCN	12.47	SG	1	6.19	1.41
33822	TIGR CRK	11	1	1	0.2	0
33836	USWP_#4	9.11	SG	1	0.34	0.21
33838	USWP_#3	9.11	SG	1	0.5	0.2
33840	FLOWD3-6	9.11	SG	1	0.7	0.34
33906	SPRNG GP	115	1	1	1.88	0.09
33914	MI-WUK	115	1	1	8.83	0.4
33916	CURTISS	115	1	1	35.15	1.57
33916	CURTISS	115	2	1	16.59	0.75
33917	FBERBORD	115	SG	1	2.25	0.51
33922	R.TRACK	115	1	1	12.51	0.56
33928	CH.STN	115	SP	1	2.81	0.64
33930	PEORIA	115	1	1	19.37	0.87
33944	RVRBANK	115	1	1	23.46	1.05
33944	RVRBANK	115	2	1	21.02	0.94
33952	VALLY HM	115	1	1	3.92	0.17
33966	MILLER	115	1	1	3.55	1.72
33968	TEICHERT	115	1	1	7.44	6.56
33970	INGRM C.	115	1	1	3.6	1.74
34000	WESTLEY	60	1	1	9.04	0.4
34000	WESTLEY	60	3	1	2.92	0.13
34014	NEWMAN	60	1	1	8.67	0.39
34014	NEWMAN	60	2	1	6.03	0.27
34017	CRWS LDG	60	1	1	2.86	0.13
34020	GUSTINE	60	1	1	7.22	0.32
34020	GUSTINE	60	2	1	7.9	0.36
34100	CHWCHLLA	115	1	1	9.01	1.28
34100	CHWCHLLA	115	2	1	12.36	1.76

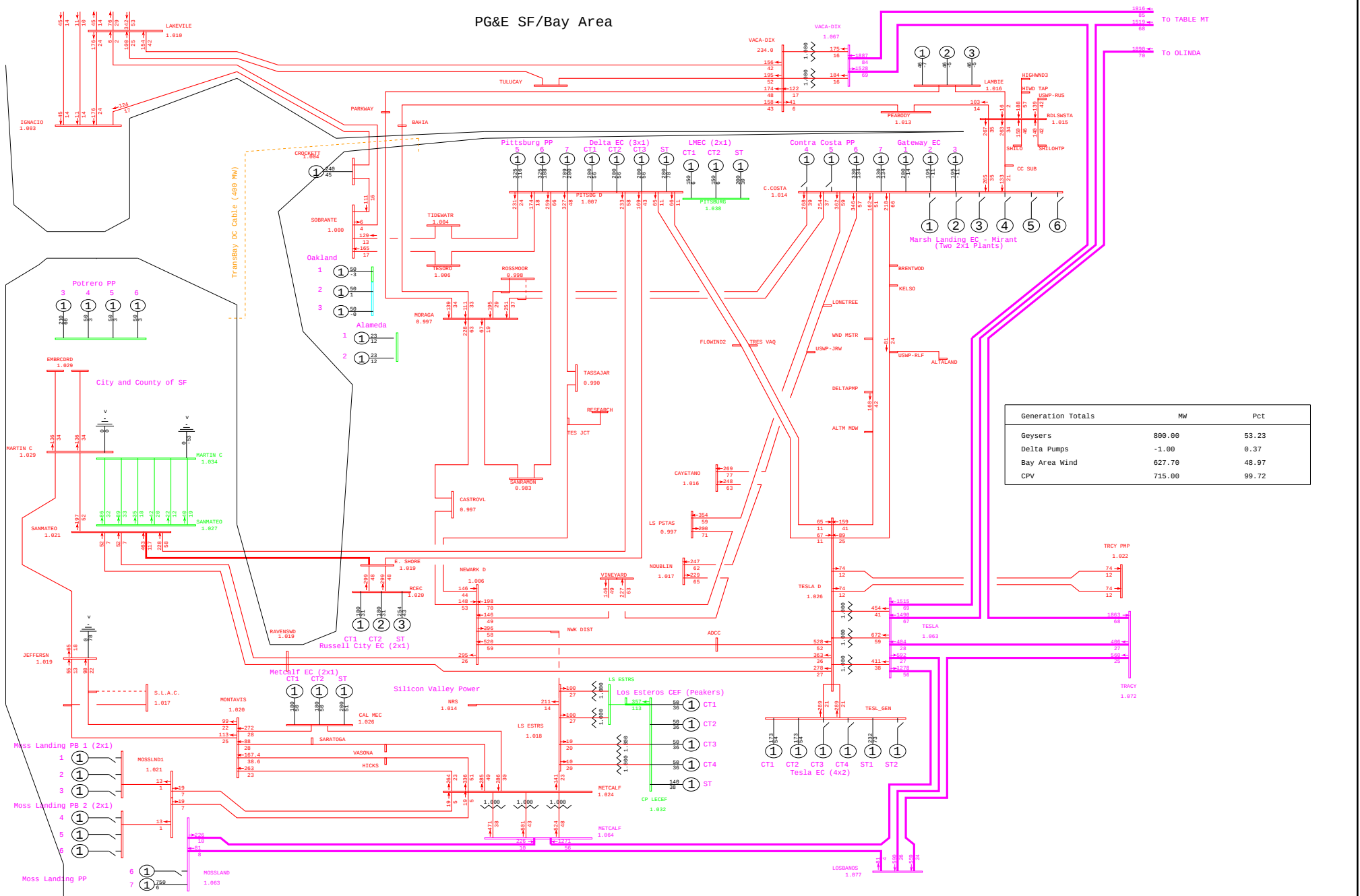
BUS-NO	NAME	KV	ID	ST	PLOAD	QLOAD
38305	BANGS	69	1	1	21.64	2.12
38307	KIERNAN	69	1	1	12.61	6.52
38308	STOCK AV	69	1	1	14.71	3.13
38310	FOX RIVER	69	1	1	5.53	2.72
38311	MINNIEAR	69	1	1	13.45	2.72
38312	CLOUGH	69	1	1	10.6	1.04
38313	CLARIBEL	69	1	1	7	2.18
38314	STODDARD	69	1	1	27.73	6.37
38315	CRABTREE	69	1	1	4.2	0
38319	SHELL_LB	69	1	1	19.65	3.61
38320	HAMMET	69	1	1	8.93	1.7
38321	RICE_M	69	1	1	9.45	2.65
38323	WTP	69	1	1	12.51	3.63
38330	AMERICN	69	1	1	5.25	1.38
38345	LANGWRTH	115	1	1	9.03	0
38346	HERSHEYF	9.11	1	0	0.5	0
38412	ROGERS-T	115	1	1	29.49	0.01
38421	CASTLEME	115	1	1	15.17	0
38422	COOPER	115	1	1	67.08	0.1
38426	PINEER	115	1	1	26	0
38428	CRTEZ	115	1	1	18	0.01
38430	HILMAR	115	1	1	32.69	0.02
38434	MARSHALL	115	1	1	34.86	0.02
38438	TAYLR	115	1	1	24.87	0.01
38442	AUGUST	115	1	1	21.58	0.01
38452	ROEDING	69	1	1	35.99	0.02
38454	INDSTRIL	69	1	1	29.3	0.01
38458	COLLEGE	69	1	1	17.71	0.01
38460	CERES	69	1	1	35.05	0.02
38462	TUOLUMNE	69	1	1	0.9	0
38466	HAWKINS	69	1	1	14.13	0.01
38468	GILSTRAP	69	1	1	38.63	0.02
38470	HUGHSON	115	1	1	30.43	0.02
38472	GEER	69	1	1	31.47	0.02
38474	F STREET	69	1	1	18.84	0.01
38476	MONTPELR	69	1	1	12.53	0.01
38478	WESTPORT	69	1	1	16.77	0.01
38480	WALNUT	69	1	1	0	0
38482	FAIRGRND	69	1	1	30.72	0.02
38494	CROWSLND	69	1	1	26.48	0.01
38499	STURLOCK	69	1	1	21.86	0.01
38501	COMMONS	69	1	1	15.26	0.01
38510	S-SHORES	69	1	1	4.05	0
38512	DIABLO-G	115	1	1	5.84	0
38518	NWTURLOK	115	1	1	17.9	0
38564	ALMONDCT	13.8	ss	1	1.69	0.8
38566	LA GRNLD	69	1	1	1.81	0.16
38570	WEC1-CT	13.8	ss	1	2.49	1.99
38574	WEC2-CT	13.8	ss	1	2.49	1.99
38904	DLC	60	1	1	13.98	0.85
38904	DLC	60	2	1	13.98	0.85

BUS-NO	NAME	KV	ID	ST	PLOAD	QLOAD
34102	CERTTEED	115	1	1	9.93	6.93
34104	ATWATER	115	1	1	29.19	4.16
34104	ATWATER	115	2	1	25.56	3.64
34116	LE GRAND	115	1	1	11.94	1.7
34120	SHARON	115	1	1	7.1	4.96
34122	OAKHURST	115	1	1	10.58	1.51
34122	OAKHURST	115	2	1	13.6	1.94
34124	JR WOOD	115	1	1	12.38	10.92

BUS-NO	NAME	KV	ID	ST	PLOAD	QLOAD
38904	DLC	60	3	1	13.98	0.85
99987	MIR_CT_3	16.5	1	1	4	3
99988	MIR_CT_4	16.5	3	1	4	3
99991	MIR_CT1	16.5	1	1	7.5	5.62
99993	MIR_CT2	16.5	3	1	7.5	5.62
99997	MIR_CT_1	16.5	1	1	8	6
99999	MIR_CT_2	16.5	3	1	8	6

APPENDIX 7 – Power-flow Diagrams of Detailed Results of 2013 Summer Peak Power Flow Studies

The following power-flow diagrams show case MW, % loading and per-unit voltages for power-flow results with and without the MLGS project for both normal all-lines-in-service conditions and under contingencies. Note in an effort to limit file size and to conserve paper, only cases where changes were noted are shown in this report; however, all plots are available upon request.



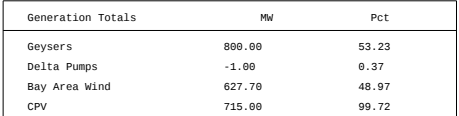
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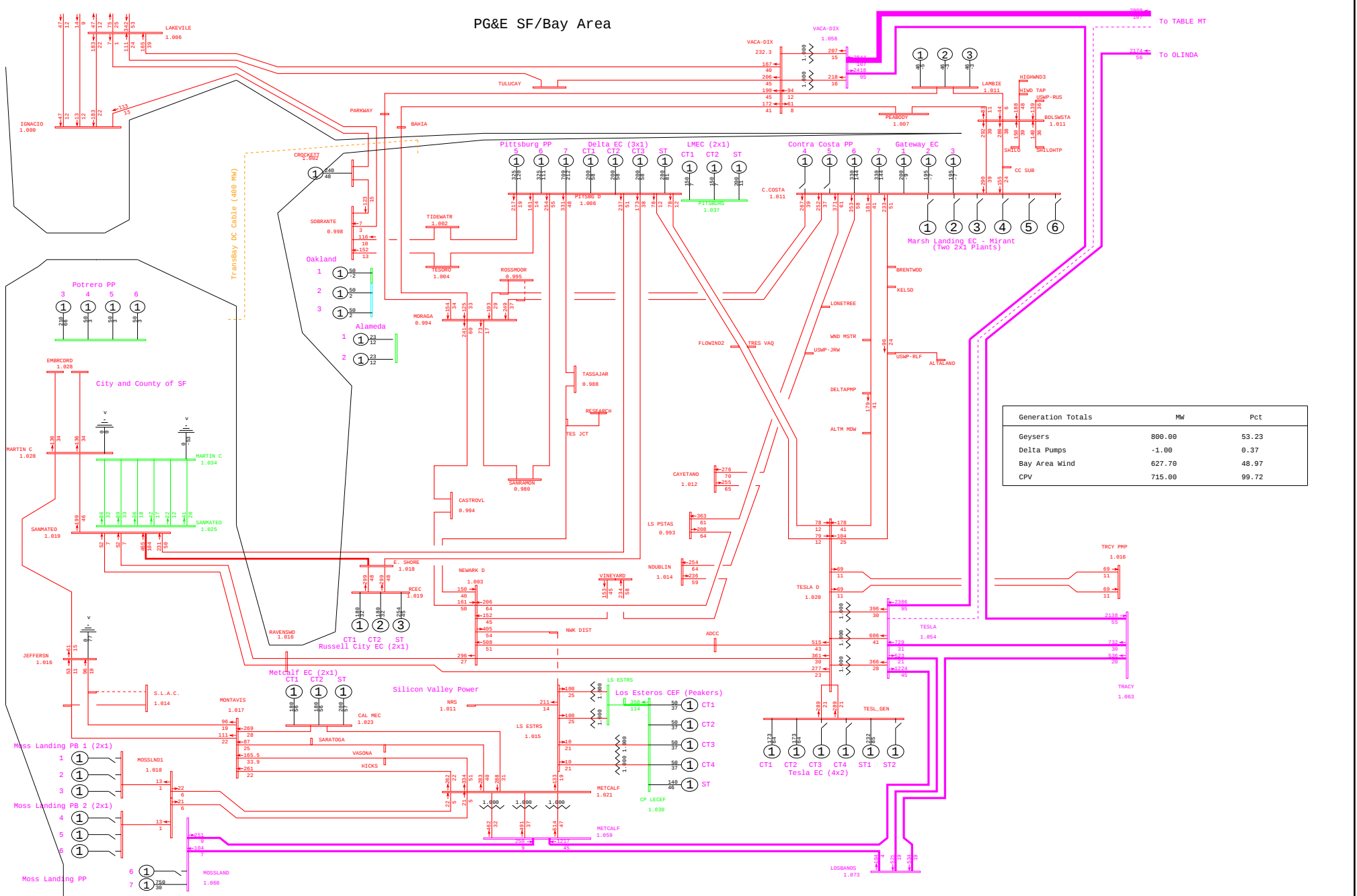


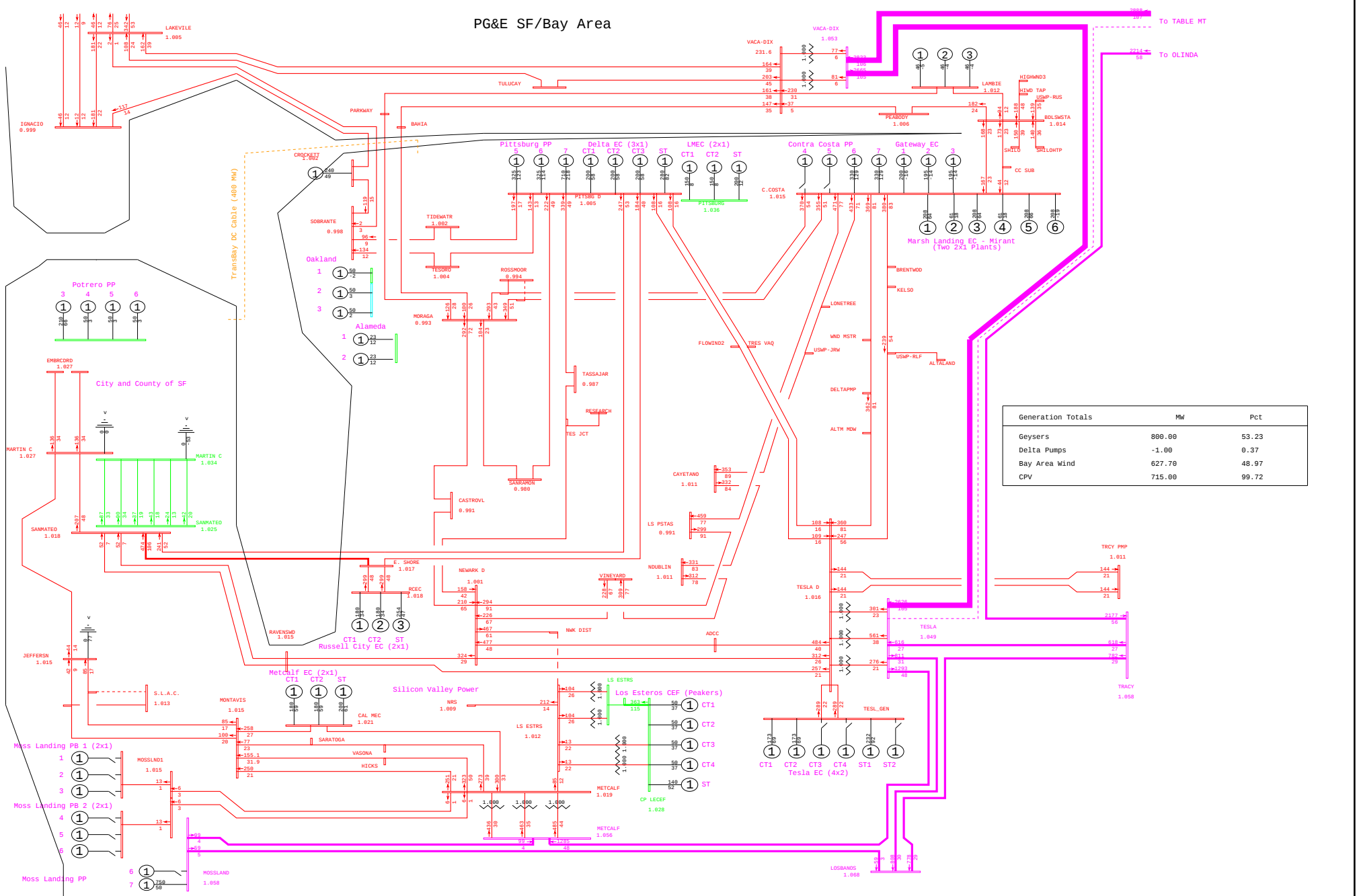
PG&E 2008 TRANSMISSION EXPANSION PLAN ASSESSMENT - 2013MRNT_PRE_V1.sav
 2013 SUMPK: SYSTEM CASE (1-IN-10 LOAD)
 COI=4800(n2s); P26=4000(n2s); PDCI=3100(n2s)

N-0 BASE CASE
 MRSHLNDv1.PPF, STEADY STATE, CASE NUMBER 0

MW/% rate
 bayarea_2013_PGE_v4.drw
 Rating = 1







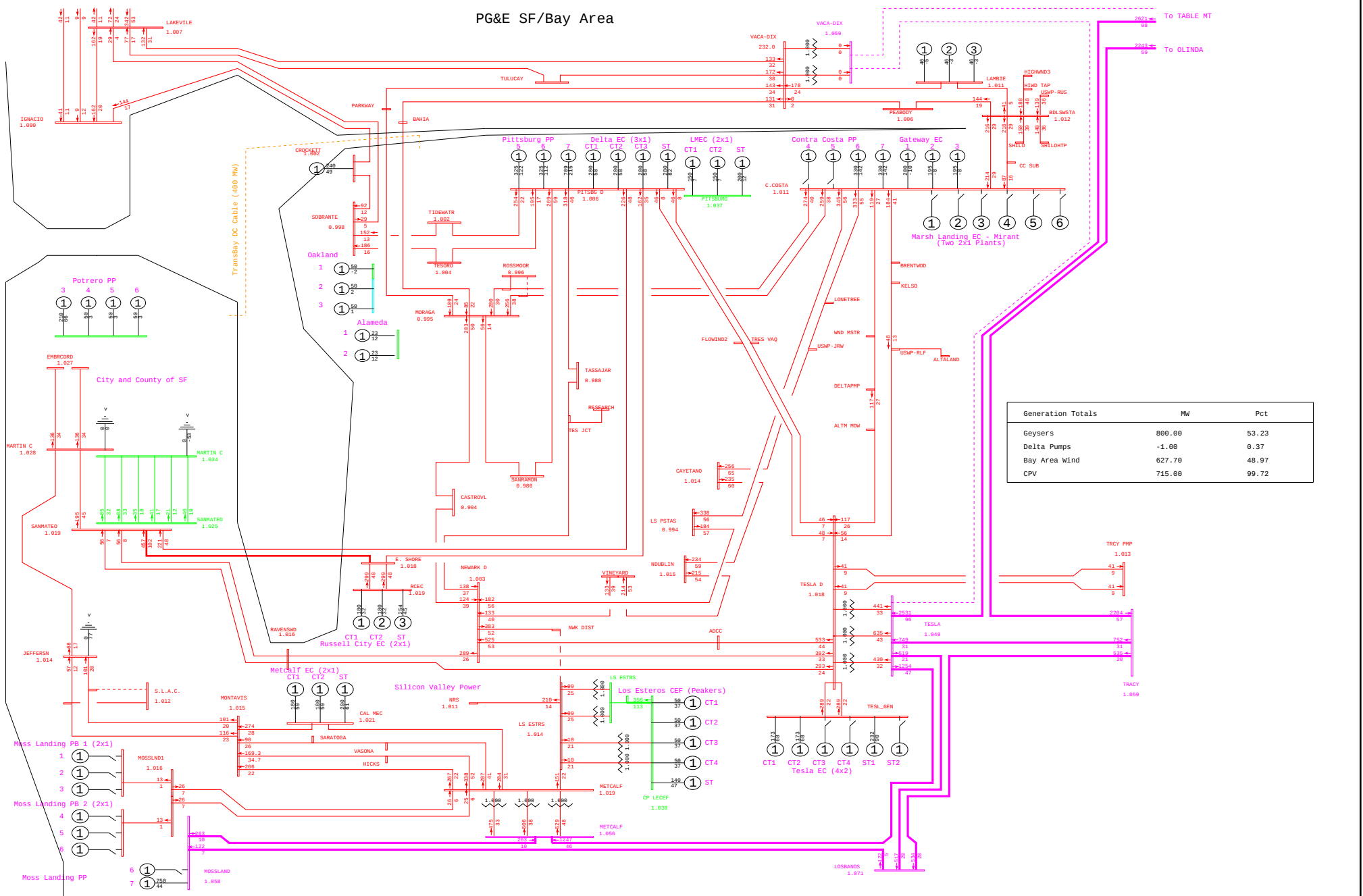
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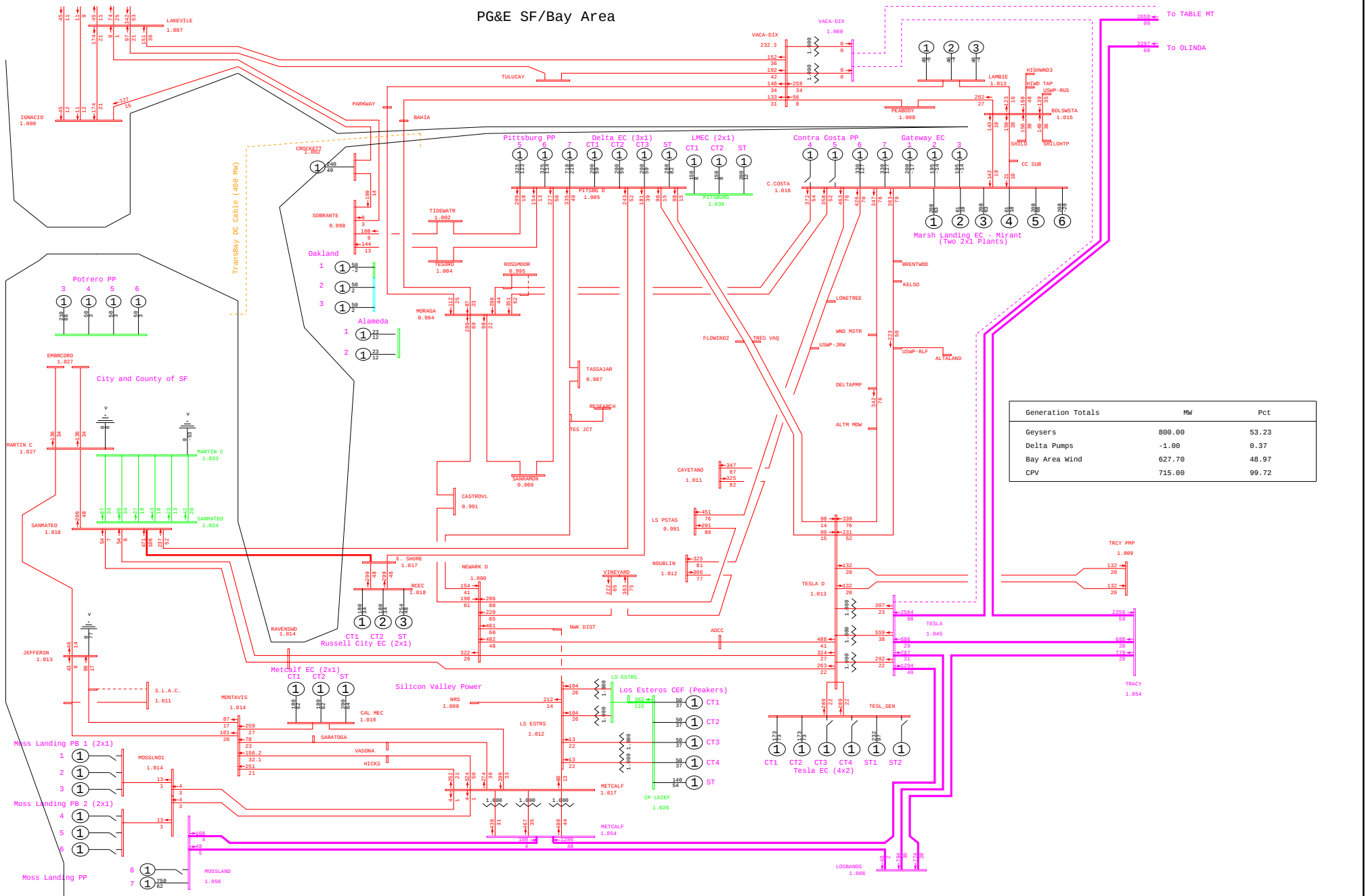


PG&E 2008 TRANSMISSION EXPANSION PLAN ASSESSMENT - 2013MRNT_PST_MSLNDG.sav
 2013 SUMPK: SYSTEM CASE (1-IN-10 LOAD)
 COI=4800(n2s); P26=4000(n2s); PDCI=3100(n2s)

N-1 TABLE MT-TESLA 500KV LINE
 MRSHLNDV1.PFP, STEADY STATE, CASE NUMBER 102

MW/% rate
 bayarea_2013_PGE_v4.drw
 Rating = 2





General Electric International, Inc. PSLF Program Fri Sep 12 13:53:17 2008 MRSHLNDv1-2013MRNT_PST_MSLNDG-103.sav



PG&E 2008 TRANSMISSION EXPANSION PLAN ASSESSMENT - 2013MRNT_PST_MSLNDG.sav

2013 SUMPK: SYSTEM CASE (1-IN-10 LOAD)

COI=4800(n2s); P26=4000(n2s); PDCI=3100(n2s)

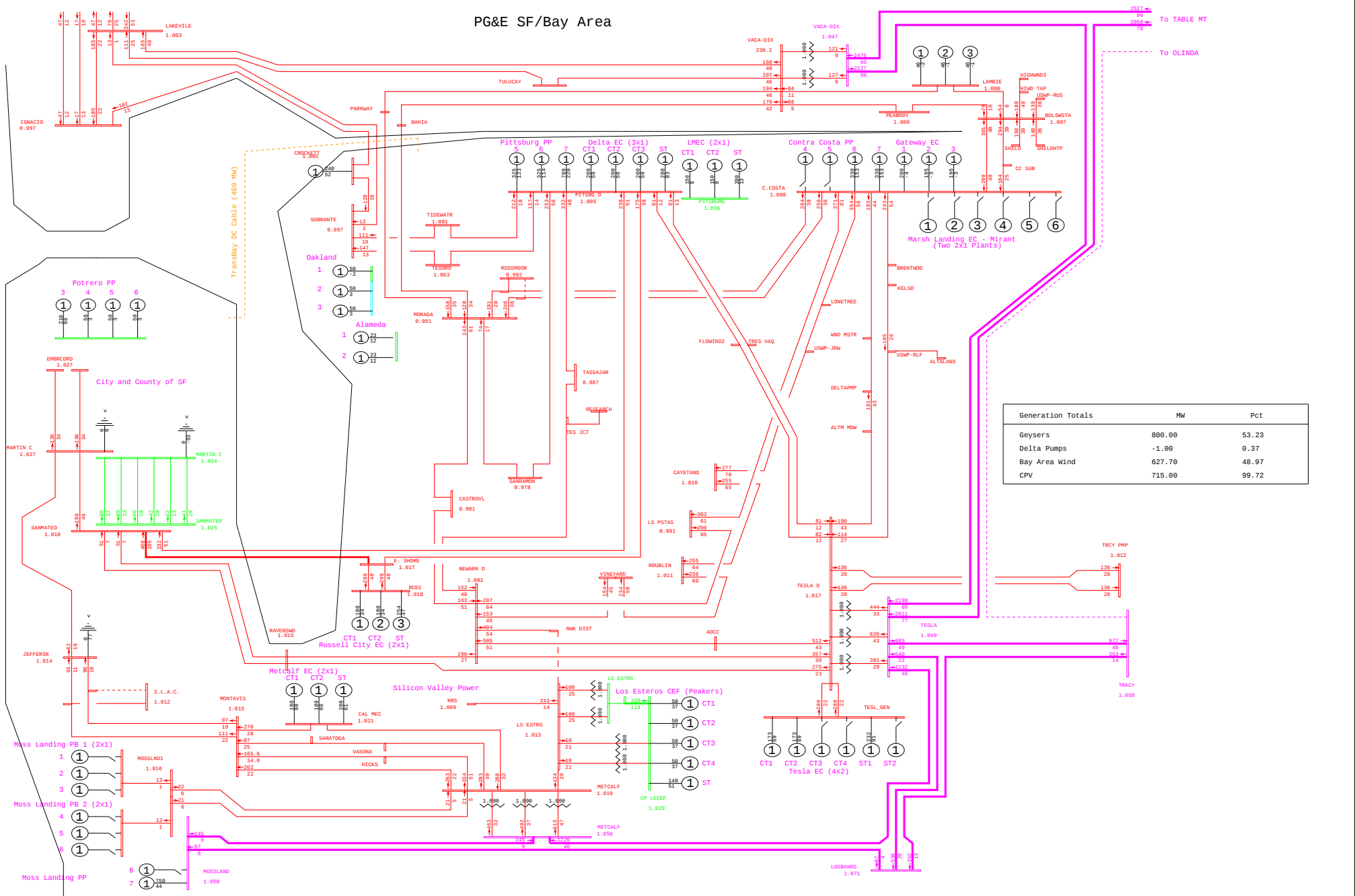
N-1 VACA-DIX-TESLA 500KV LINE

MRSHLNDv1.PFP, STEADY STATE, CASE NUMBER 103

MW/% rate

bayarea_2013_PGE_v4.drw

Rating = 2



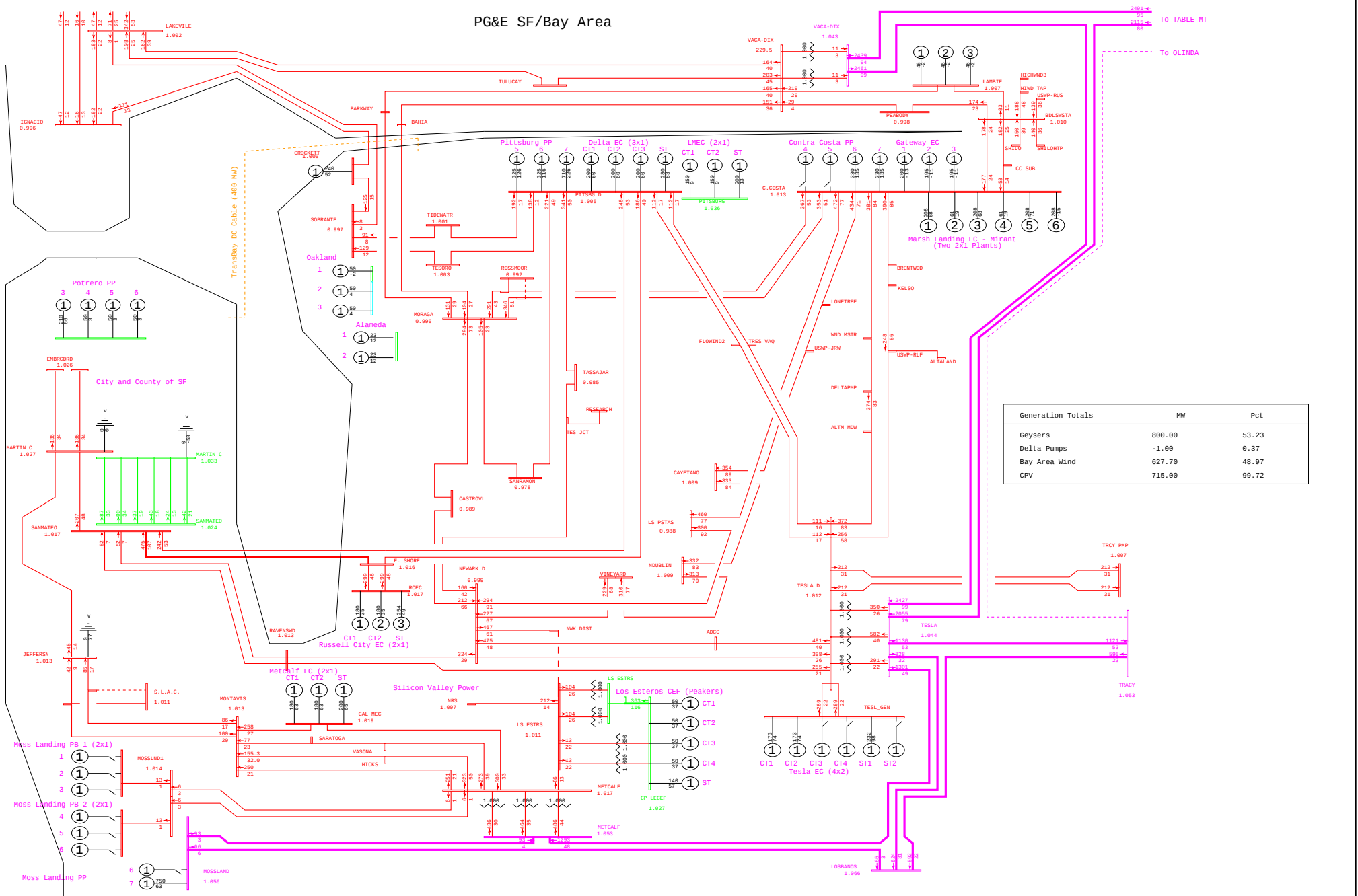
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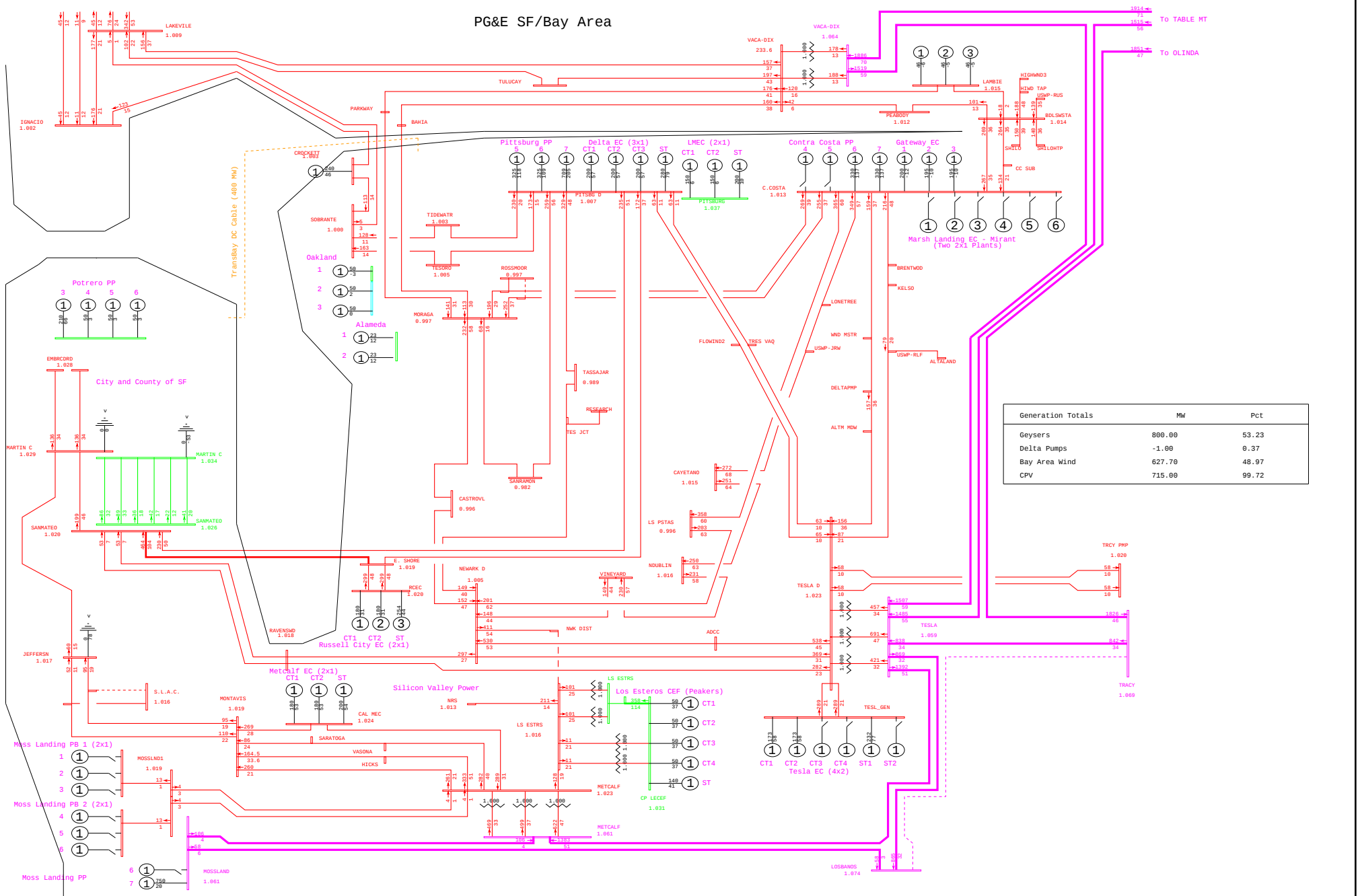


PG&E 2008 TRANSMISSION EXPANSION PLAN ASSESSMENT - 2013MRNT_PRE_V1.sav
 2013 SUMPK: SYSTEM CASE (1-IN-10 LOAD)
 COI=4800(n2s); P26=4000(n2s); PDCI=3100(n2s)

N-1 MAXWELL-TRACY 500kV LINE
 MRSHLNDV1.PFP, STEADY STATE, CASE NUMBER 104

MW/% rate
 bayarea_2013_PGE_v4.drw
 Rating = 2





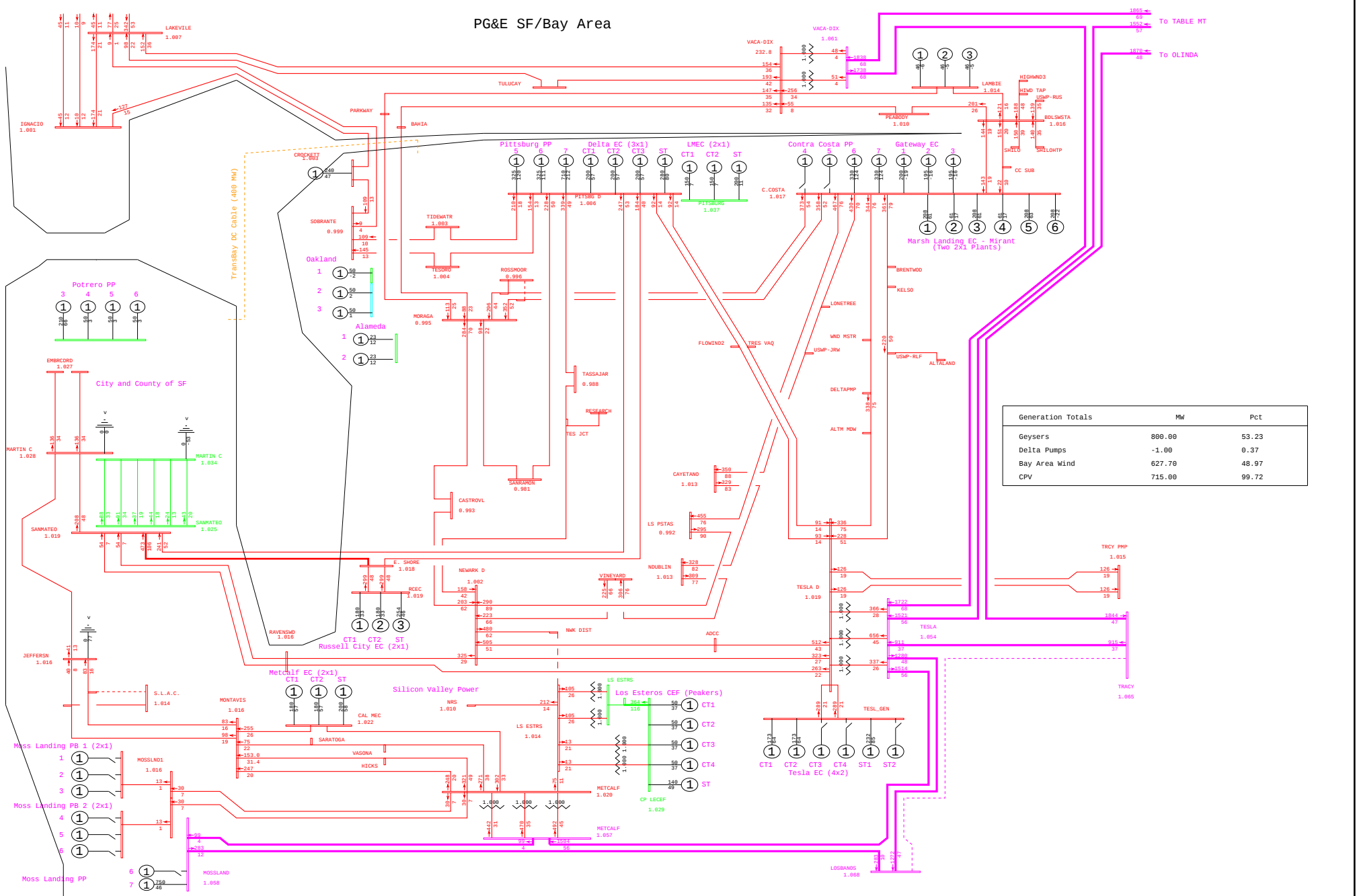
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PG&E 2008 TRANSMISSION EXPANSION PLAN ASSESSMENT - 2013MRNT_PRE_V1.sav
 2013 SUMPK: SYSTEM CASE (1-IN-10 LOAD)
 COI=4800(n2s); P26=4000(n2s); PDCI=3100(n2s)

N-1 TRACY-LOSANOS 500KV LINE
 MRSHLNDV1.PFP, STEADY STATE, CASE NUMBER 105

MW/% rate
 bayarea_2013_PGE_v4.drw
 Rating = 2



General Electric International, Inc. PSLF Program Fri Sep 12 13:53:19 2008 MRSHLNDv1-2013MRNT_PST_MSLNDG-105.sav



PG&E 2008 TRANSMISSION EXPANSION PLAN ASSESSMENT - 2013MRNT_PST_MSLNDG.sav

2013 SUMPK: SYSTEM CASE (1-IN-10 LOAD)

COI=4800(n2s); P26=4000(n2s); PDCI=3100(n2s)

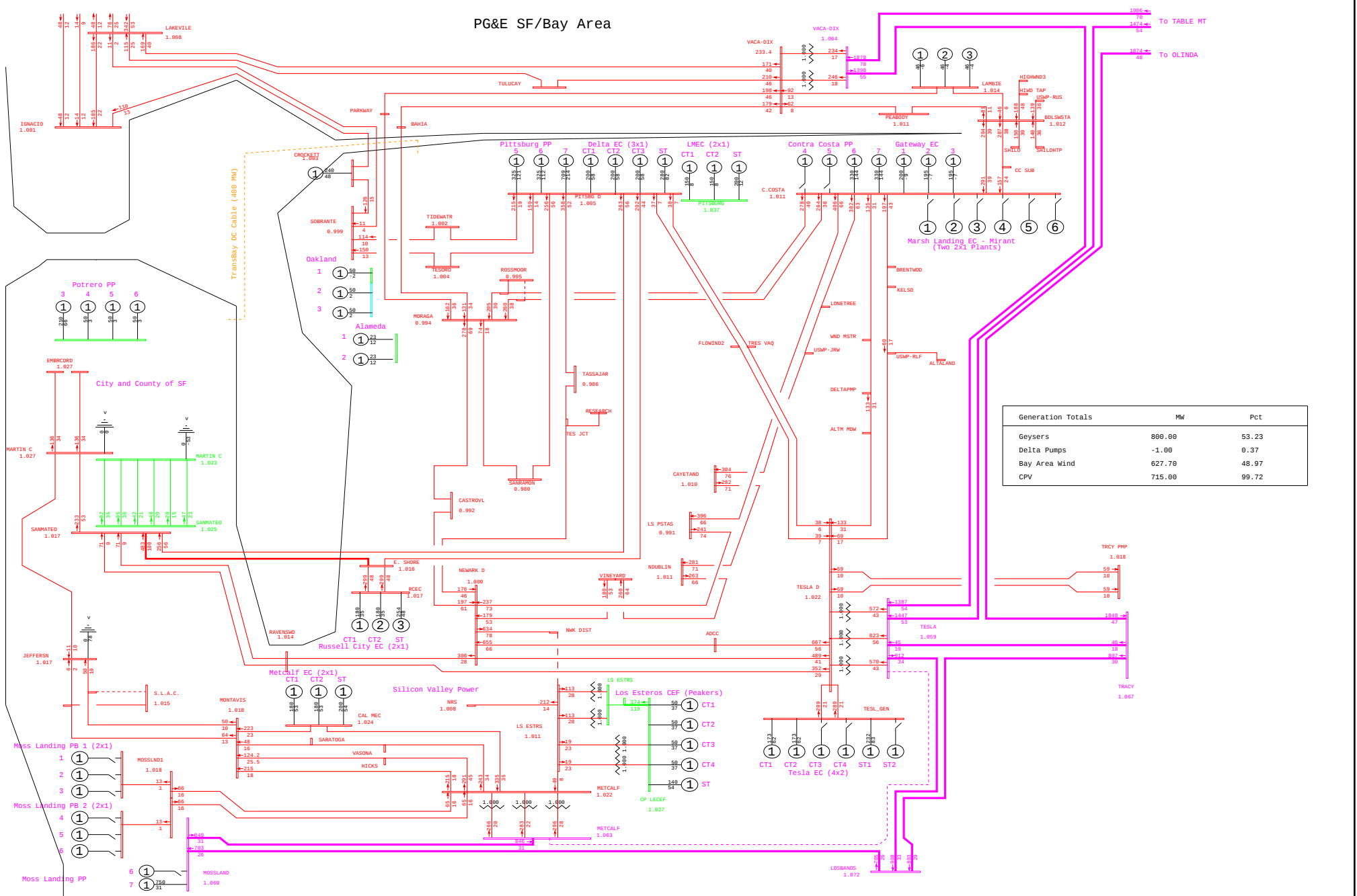
N-1 TRACY-LOS BANOS 500KV LINE

MRSHLNDV1.PFP, STEADY STATE, CASE NUMBER 105

MW/% rate

bayarea_2013_PGE_v4.drw

Rating = 2



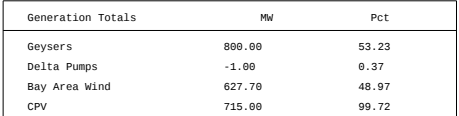
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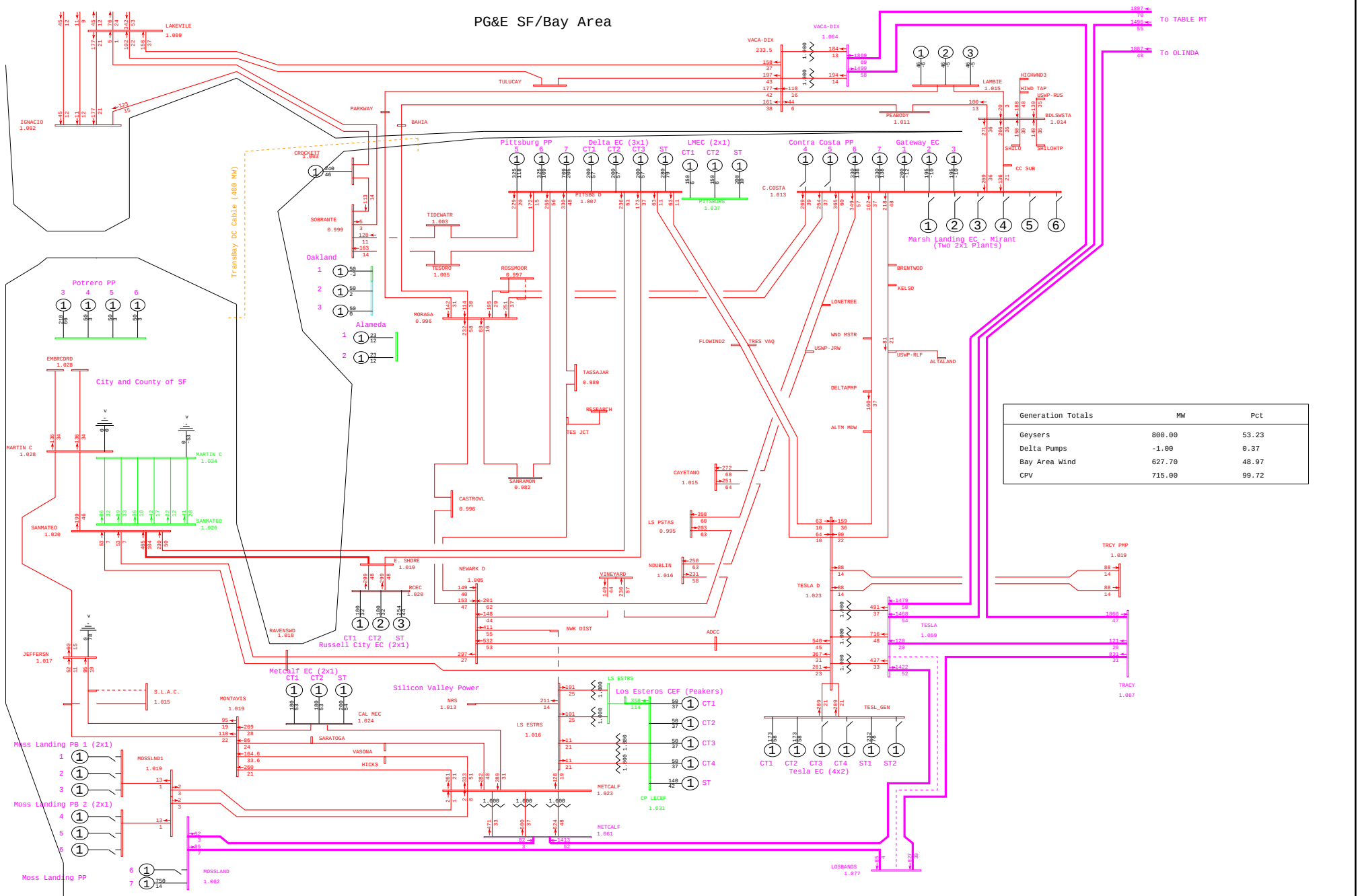


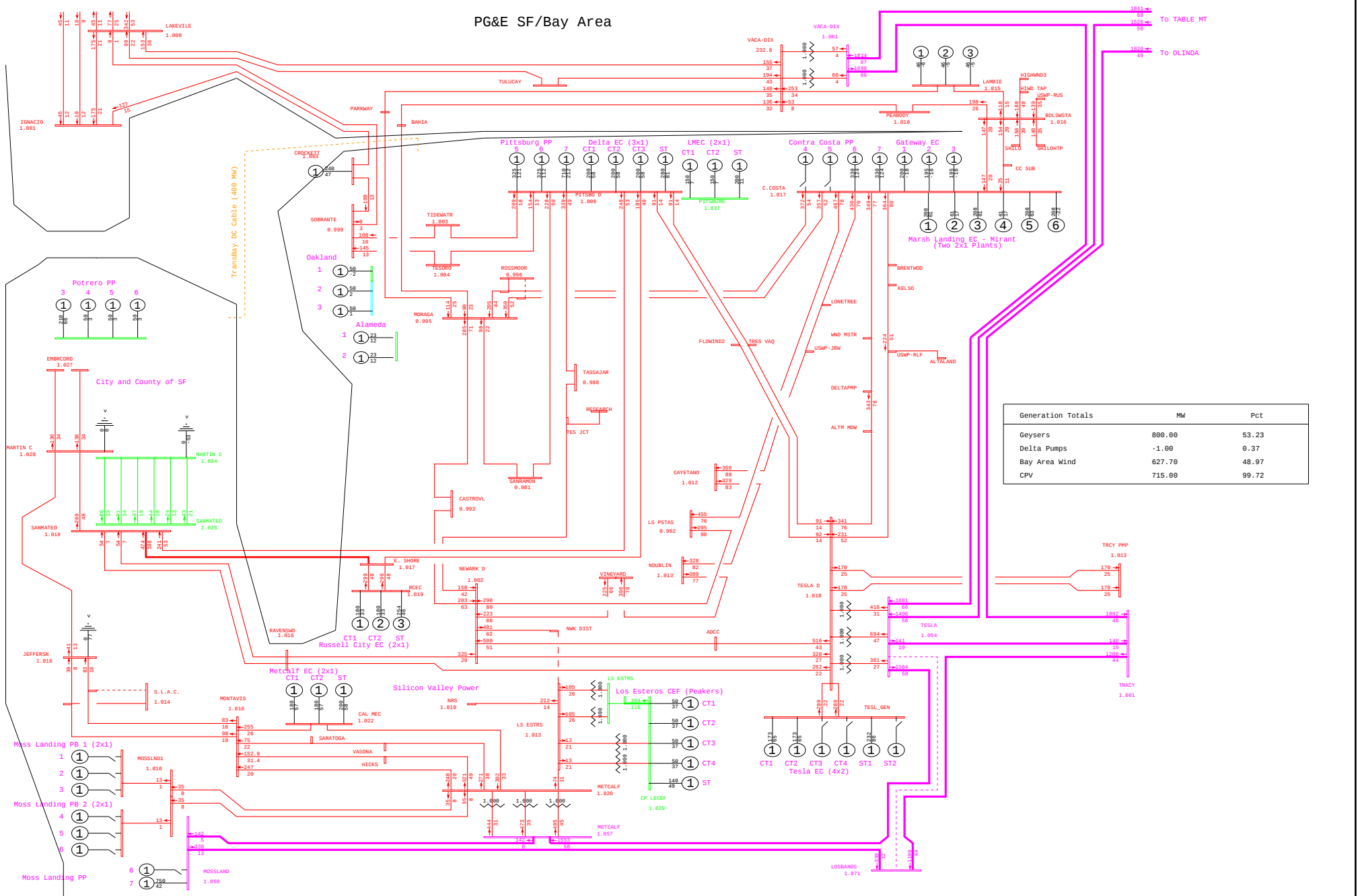
PG&E 2008 TRANSMISSION EXPANSION PLAN ASSESSMENT - 2013MRNT_PRE_V1.sav
 2013 SUMPK: SYSTEM CASE (1-IN-10 LOAD)
 COI=4800(n2s); P26=4000(n2s); PDCI=3100(n2s)

N-1 TESLA-METCALF 500kV LINE
 MRSHLNDV1.PFP, STEADY STATE, CASE NUMBER 107

Mw/% rate
 bayarea_2013_PGE_v4.drw
 Rating = 2

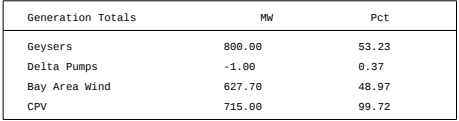


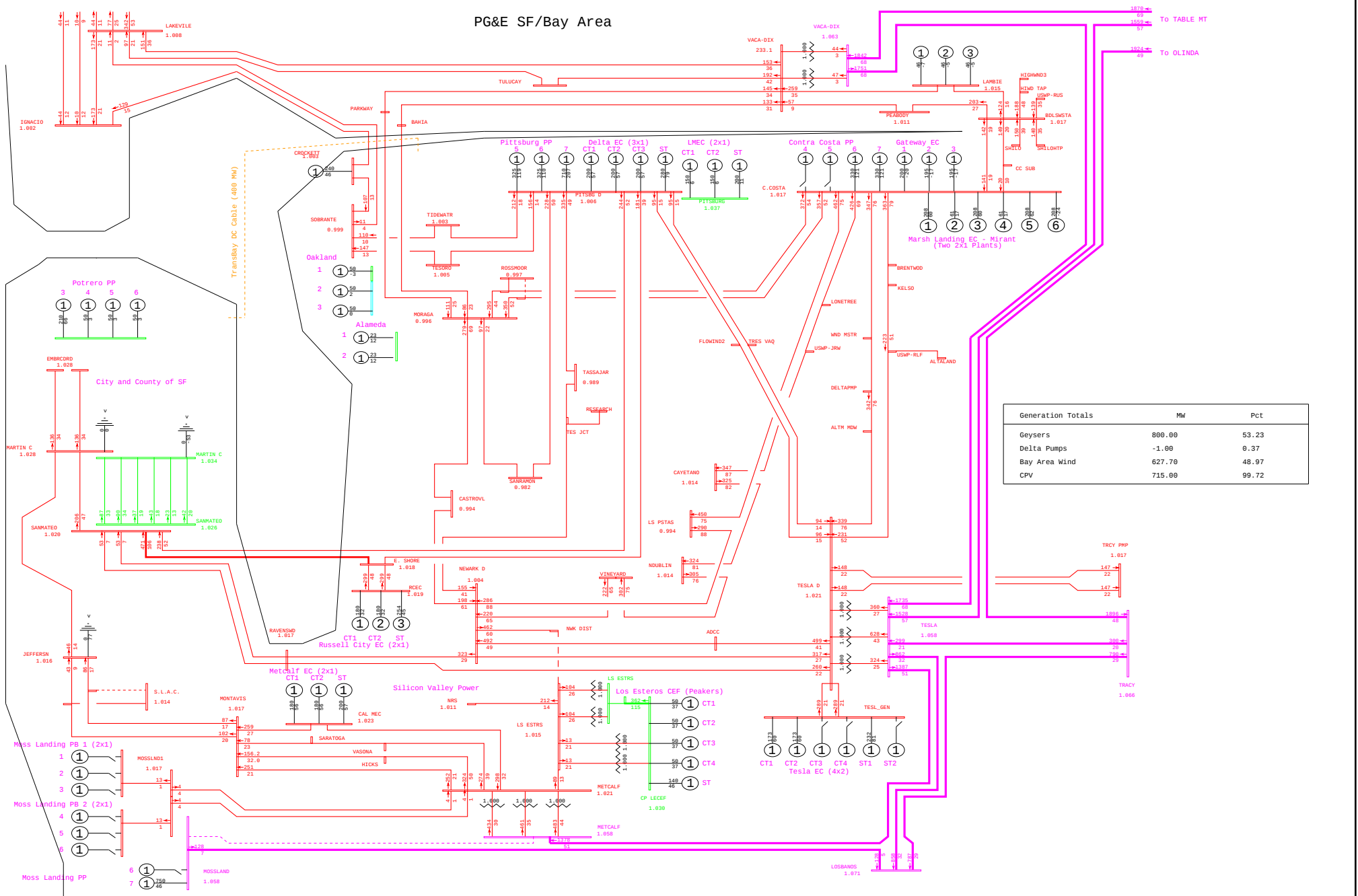




Generation Totals	MW	Pct
Geysers	800.00	53.23
Delta Pumps	-1.00	0.37
Bay Area Wind	627.70	48.97
CPV	715.00	99.72







General Electric International, Inc. PSLF Program Fri Sep 12 13:53:22 2008 MRSHLNDv1-2013MRNT_PST_MSLNDG-109.sav



PG&E 2008 TRANSMISSION EXPANSION PLAN ASSESSMENT - 2013MRNT_PST_MSLNDG.sav

2013 SUMPK: SYSTEM CASE (1-IN-10 LOAD)

COI=4800(n2s); P26=4000(n2s); PDCI=3100(n2s)

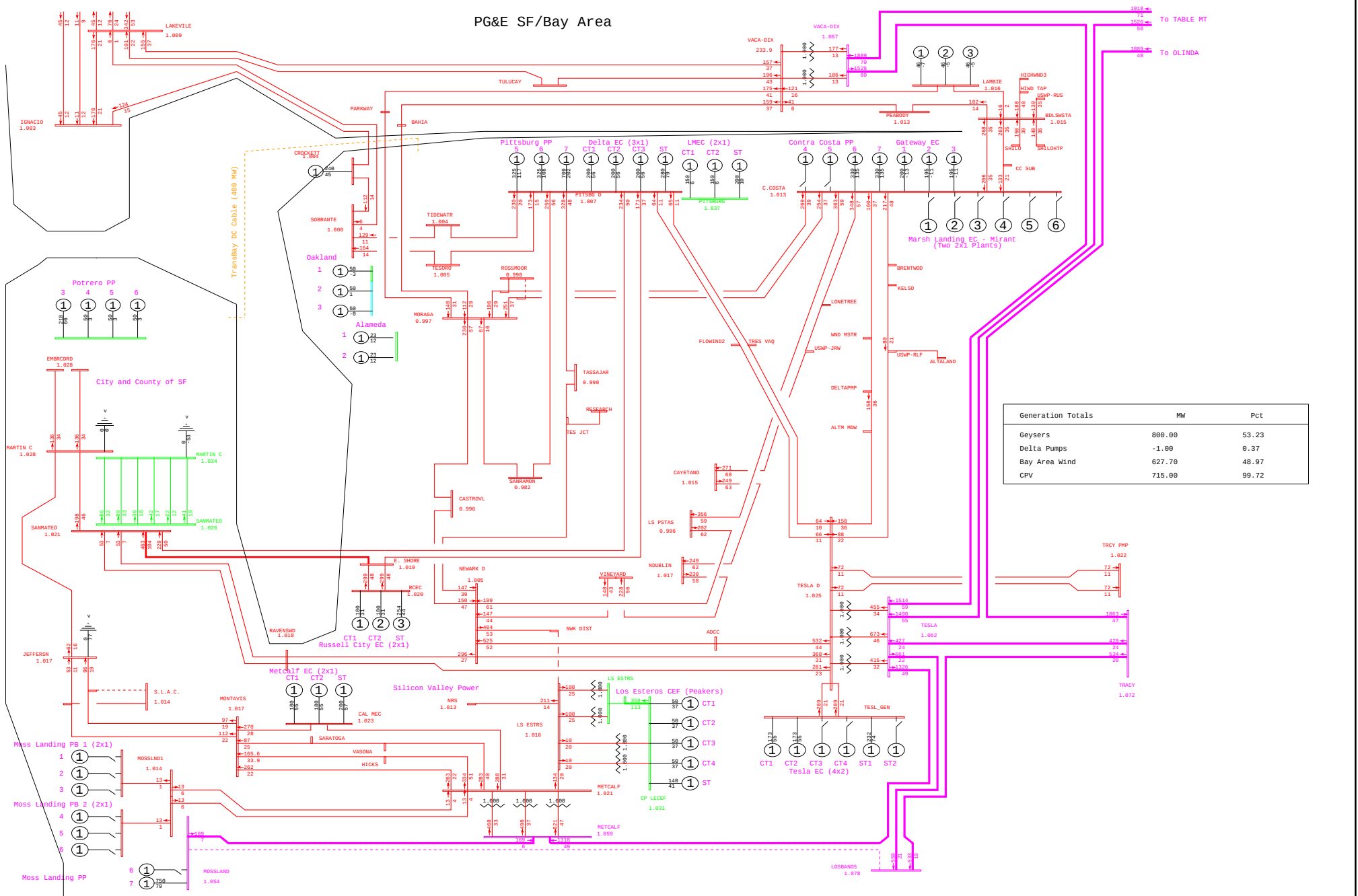
N-1 METCALF-MOSSLAND 500kV LINE

MRSHLNDv1.PFP, STEADY STATE, CASE NUMBER 109

Mw/% rate

bayarea_2013_PGE_v4.drw

Rating = 2



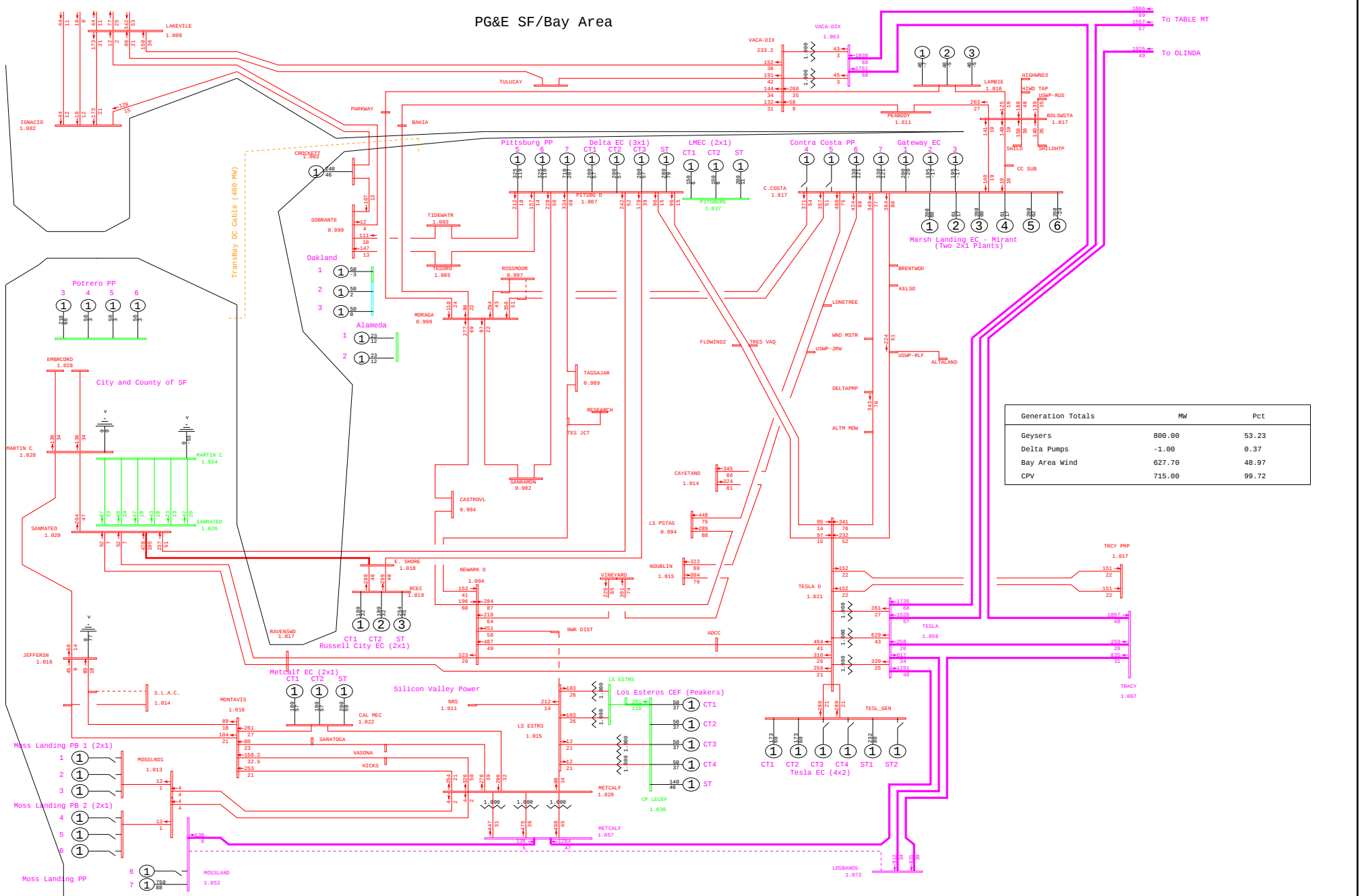
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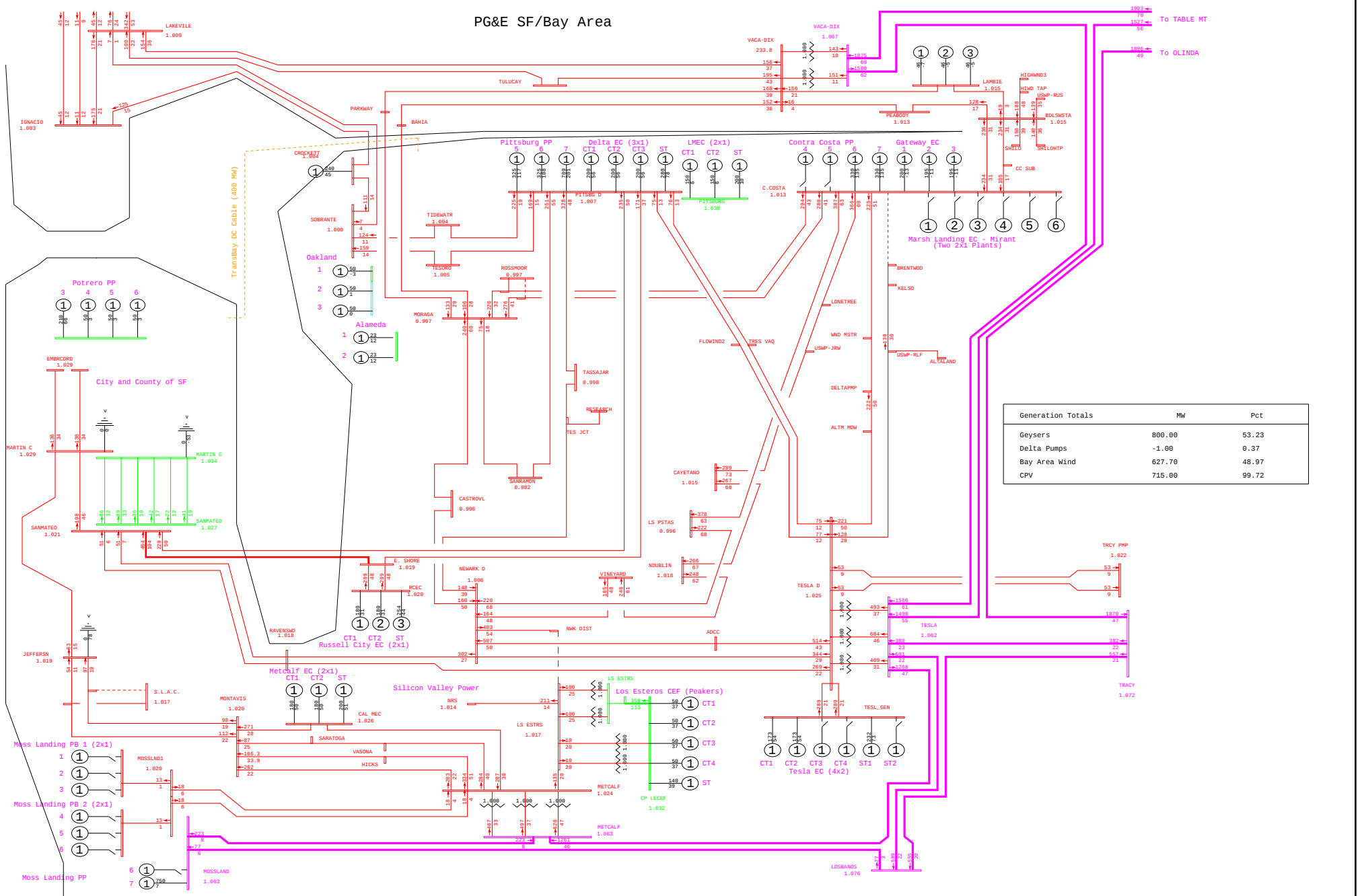


PG&E 2008 TRANSMISSION EXPANSION PLAN ASSESSMENT - 2013MRNT_PRE_V1.sav
 2013 SUMPK: SYSTEM CASE (1-IN-10 LOAD)
 COI=4800(n2s); P26=4000(n2s); PDCI=3100(n2s)

N-1 MOSSLAND-LOSBANOS 500kV LINE
 MRSHLNDV1.PFP, STEADY STATE, CASE NUMBER 110

MW/% rate
 bayarea_2013_PGE_v4.drw
 Rating = 2





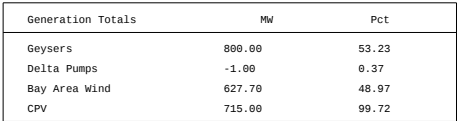
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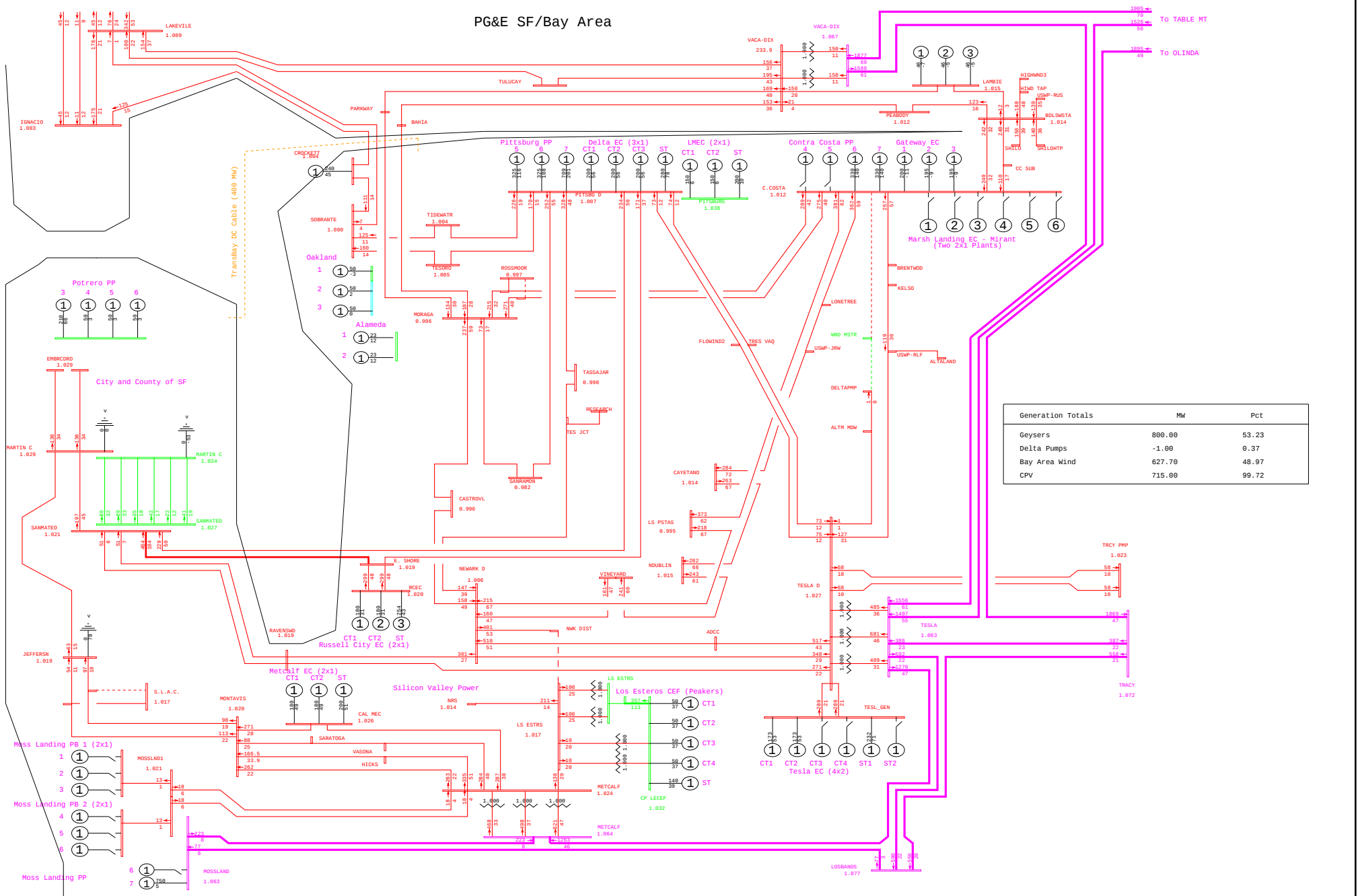


PG&E 2008 TRANSMISSION EXPANSION PLAN ASSESSMENT - 2013MRNT_PRE_V1.sav
 2013 SUMPK: SYSTEM CASE (1-IN-10 LOAD)
 COI=4800(n2s); P26=4000(n2s); PDCI=3100(n2s)

N-1 C.COSTA - BRENTWOOD 230KV LINE
 MRSHLNDV1.PFP, STEADY STATE, CASE NUMBER 134

MW/% rate
 bayarea_2013_PGE_v4.drw
 Rating = 2





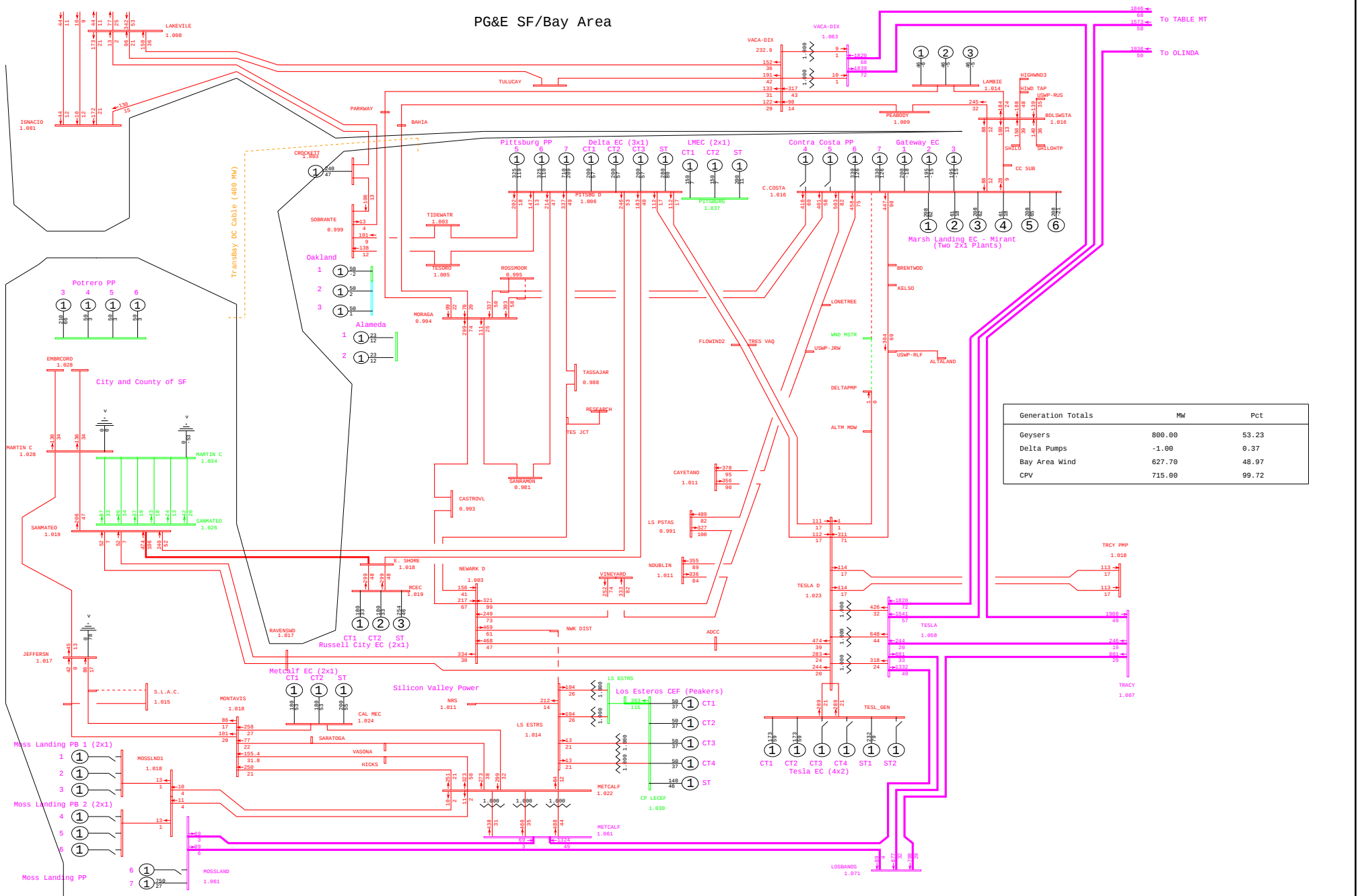
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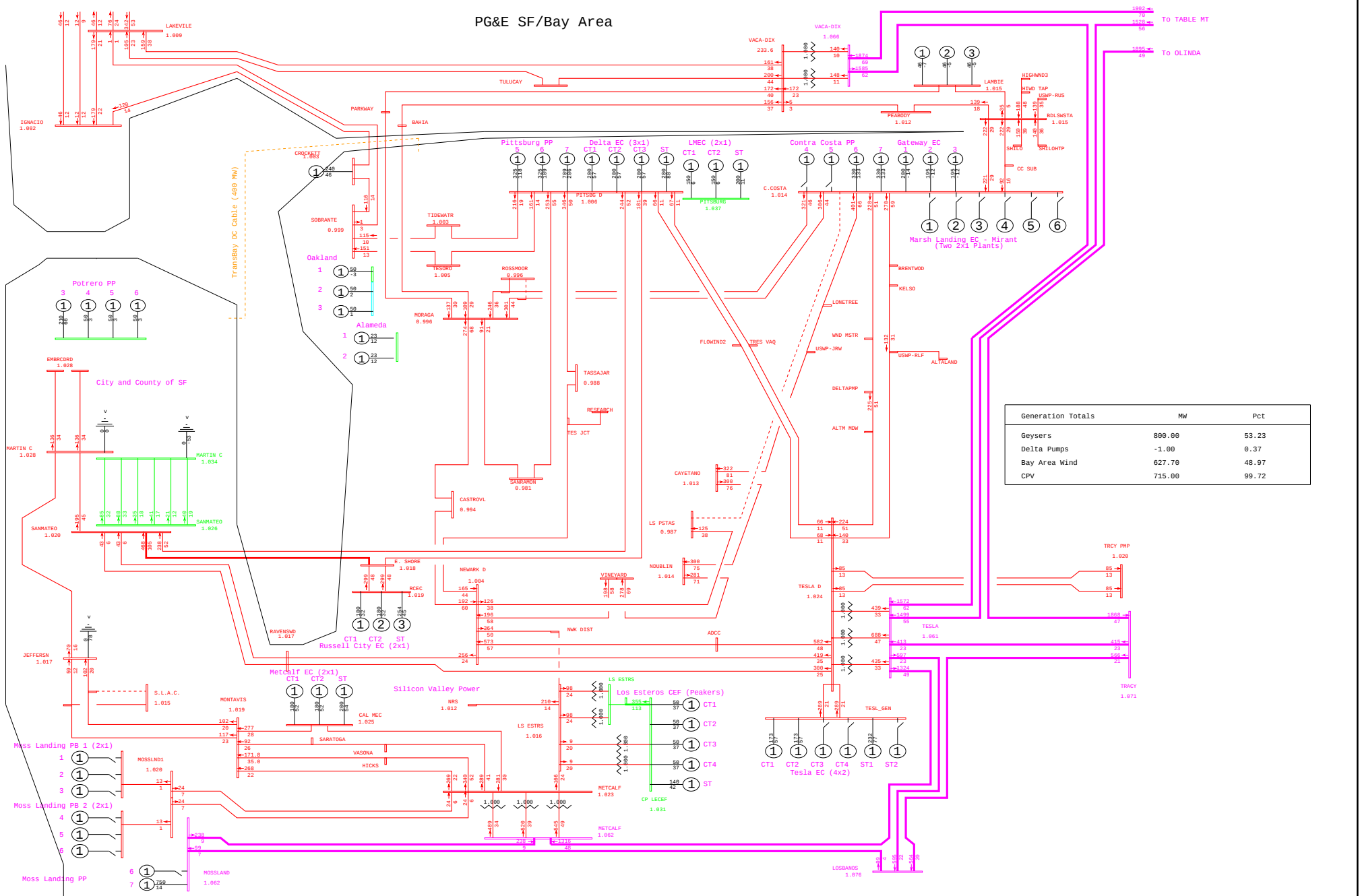


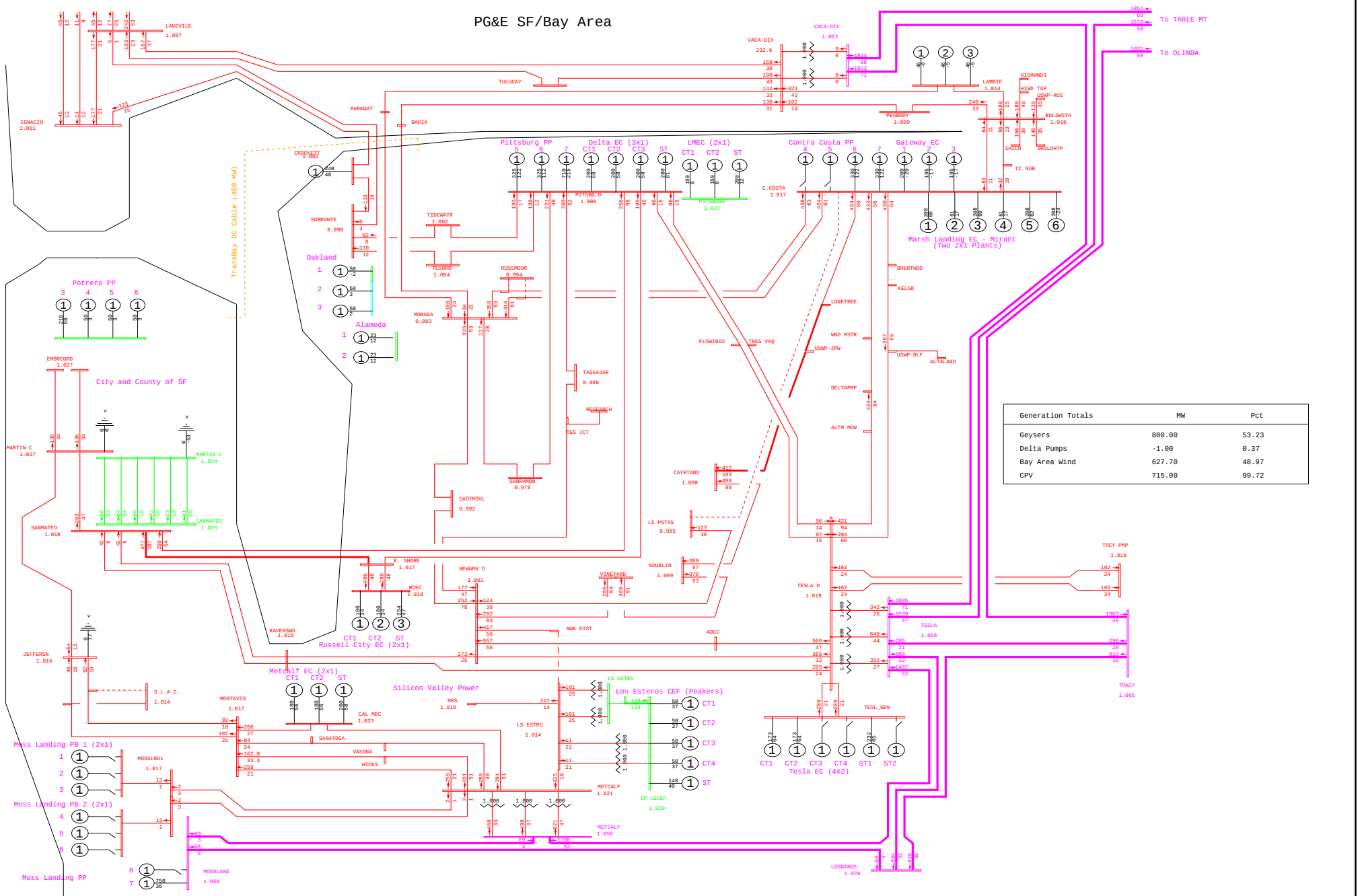
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 2013 SUMPK: SYSTEM CASE (1-IN-10 LOAD)
 COI=4800(n2s); P26=4000(n2s); PDCI=3100(n2s)

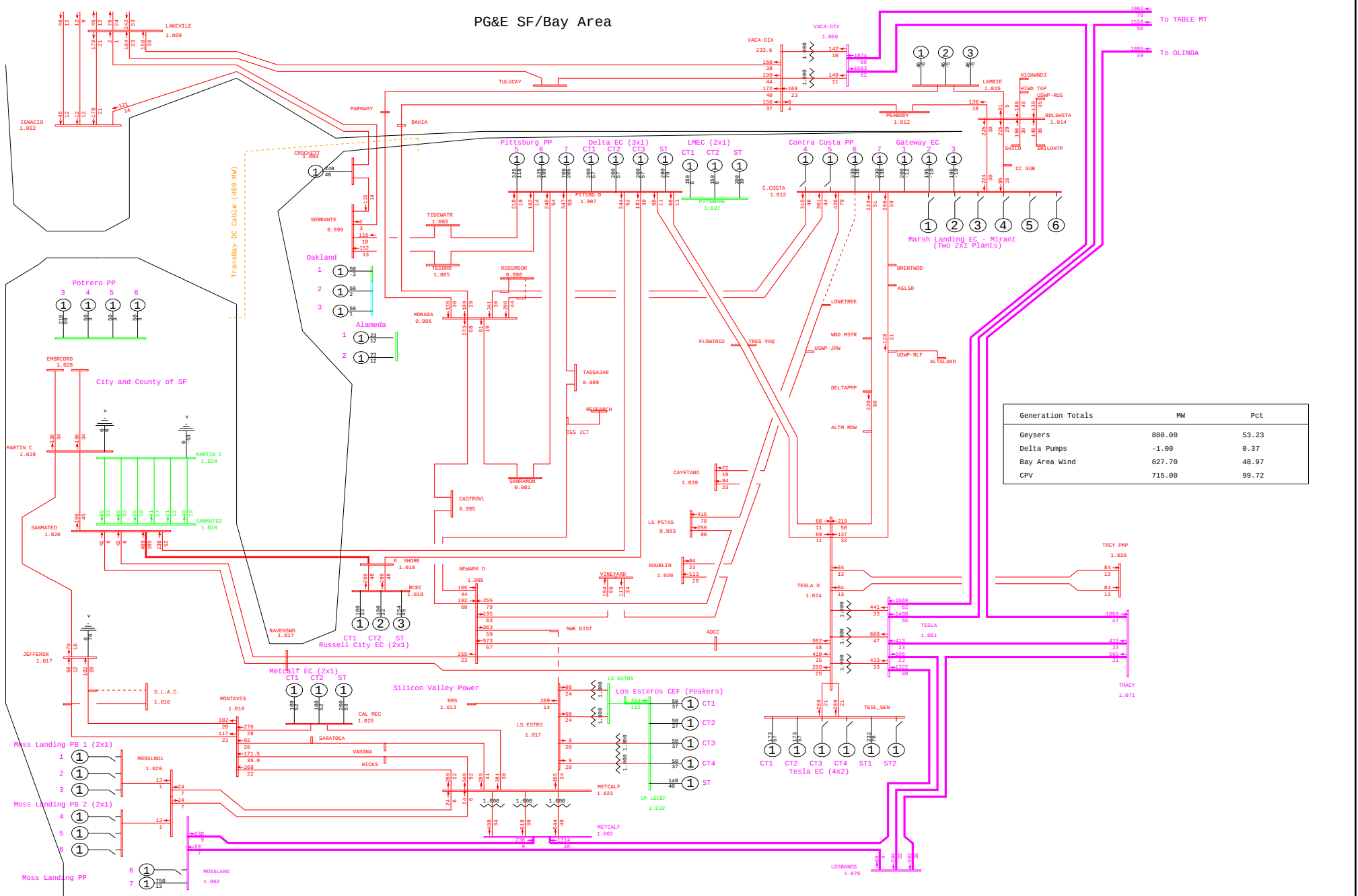
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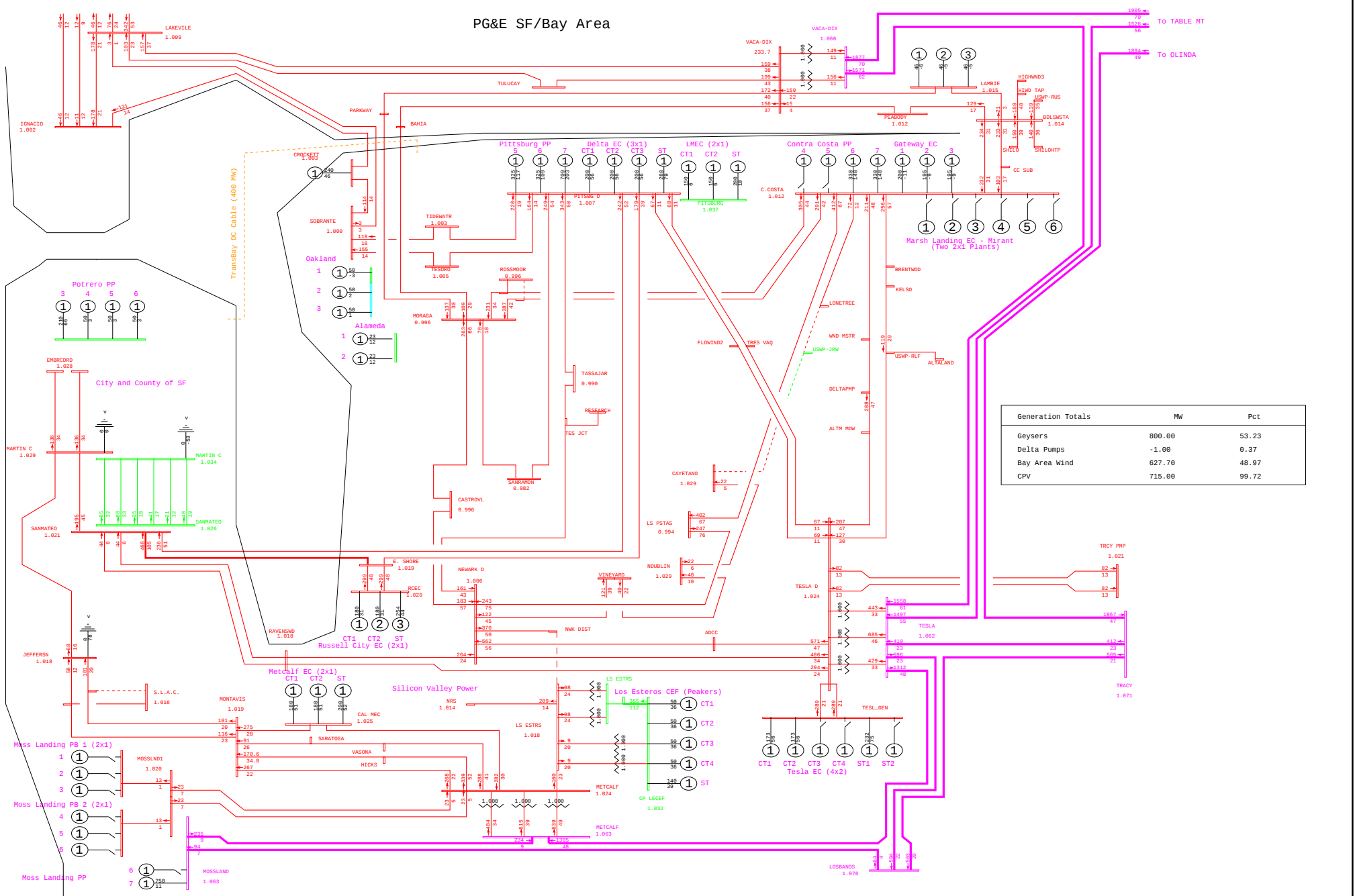
MW/% rate
 bayarea_2013_PGE_v4.drw
 Rating = 2











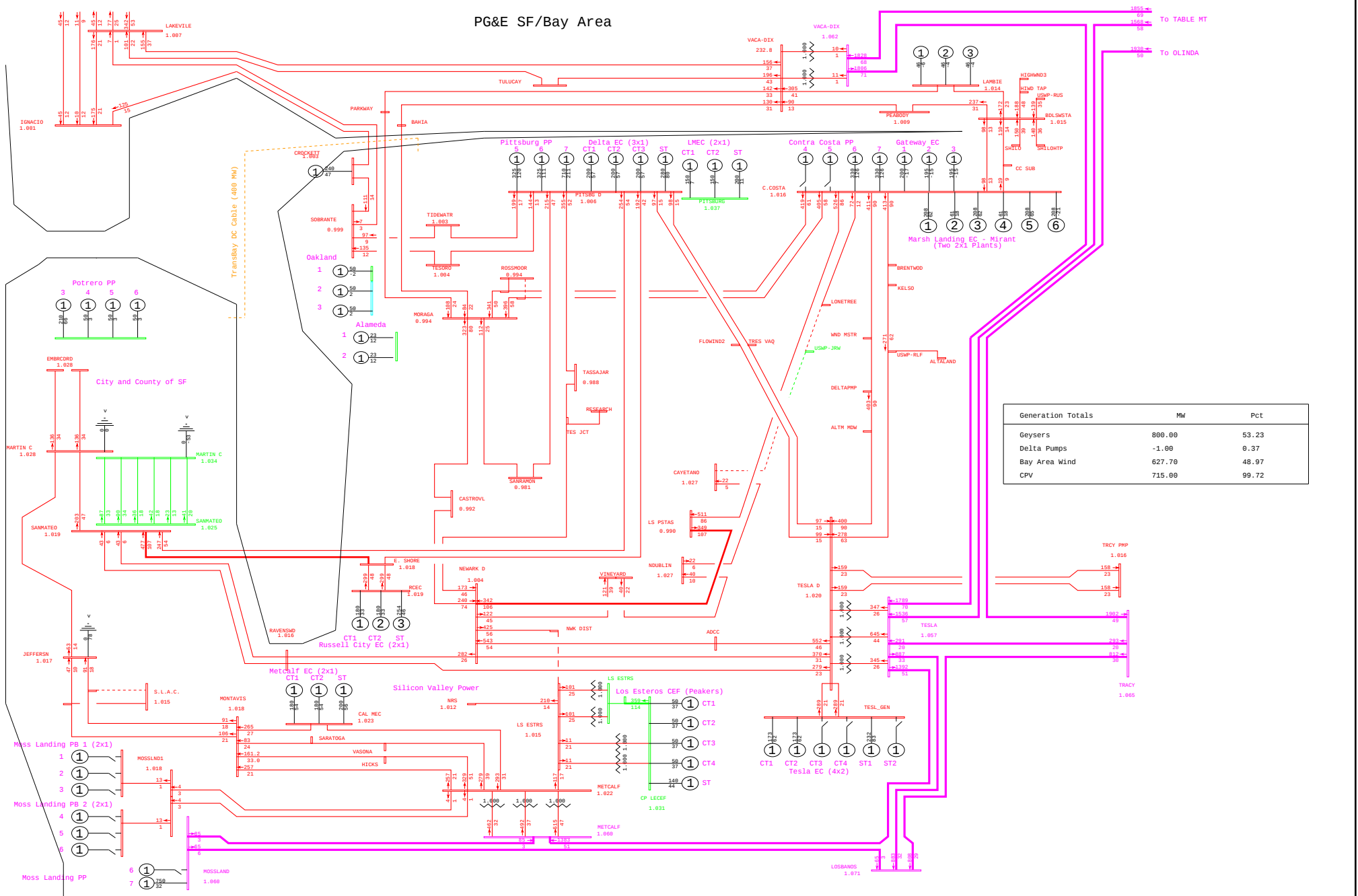
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PG&E 2008 TRANSMISSION EXPANSION PLAN ASSESSMENT - 2013MRNT_PRE_V1.sav
 2013 SUMPK: SYSTEM CASE (1-IN-10 LOAD)
 COI=4800(n2s); P26=4000(n2s); PDCI=3100(n2s)

N-1 CAYETANO-LONETREE 230kV LINE
 MRSHLNDV1.PFP, STEADY STATE, CASE NUMBER 138

MW/% rate
 bayarea_2013_PGE_v4.drw
 Rating = 2



General Electric International, Inc. PSLF Program Fri Sep 12 13:53:47 2008 MRSHLNDv1-2013MRNT_PST_MSLNDG-138.sav



PG&E 2008 TRANSMISSION EXPANSION PLAN ASSESSMENT - 2013MRNT_PST_MSLNDG.sav

2013 SUMPK: SYSTEM CASE (1-IN-10 LOAD)

COI=4800(n2s); P26=4000(n2s); PDCI=3100(n2s)

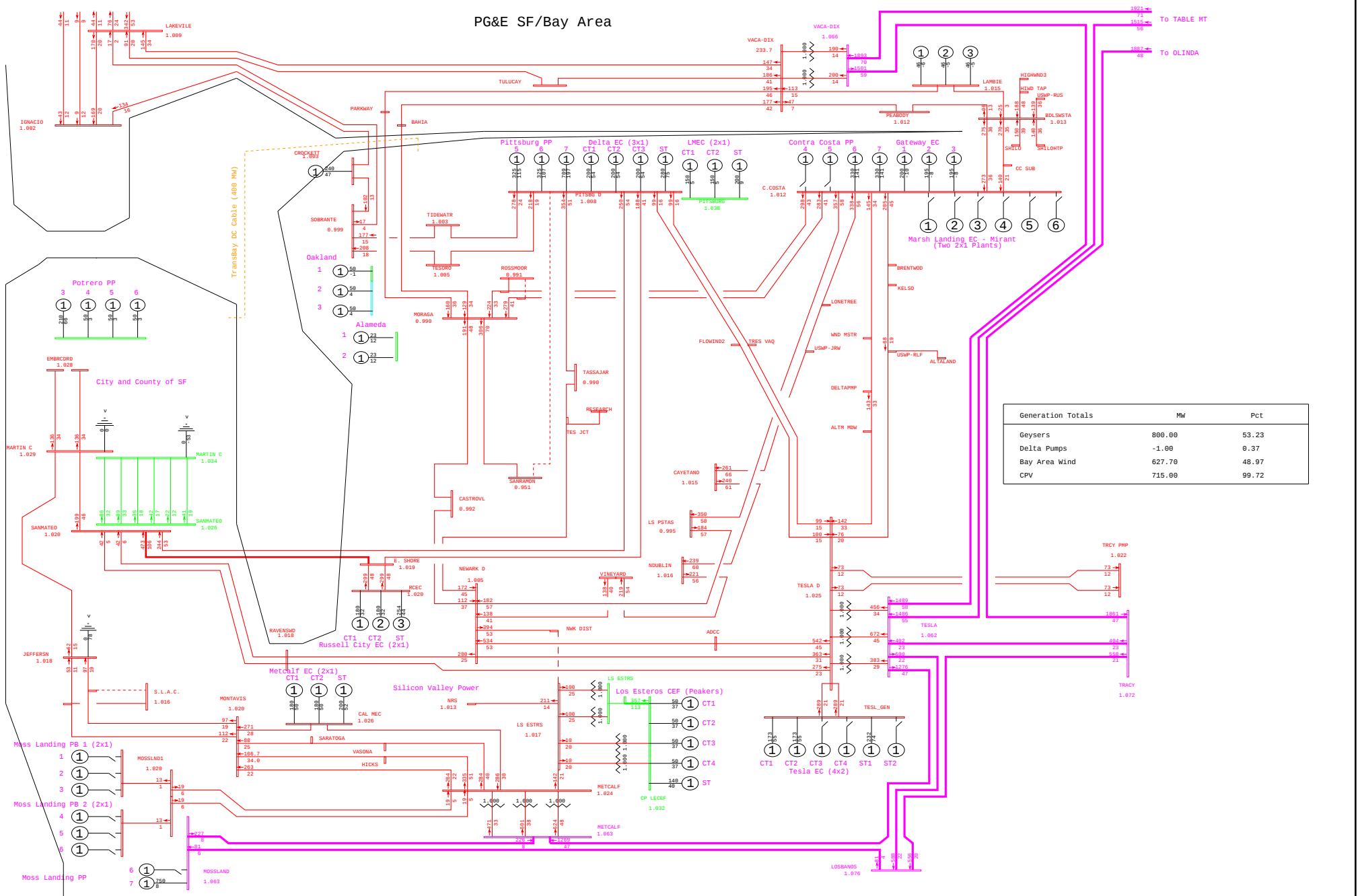
N-1 CAYETANO-LONETREE 230kV LINE

MRSHLNDv1.PFP, STEADY STATE, CASE NUMBER 138

MW/% rate

bayarea_2013_PGE_v4.drw

Rating = 2



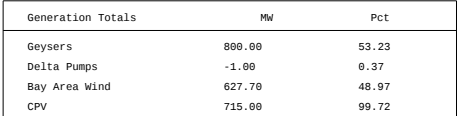
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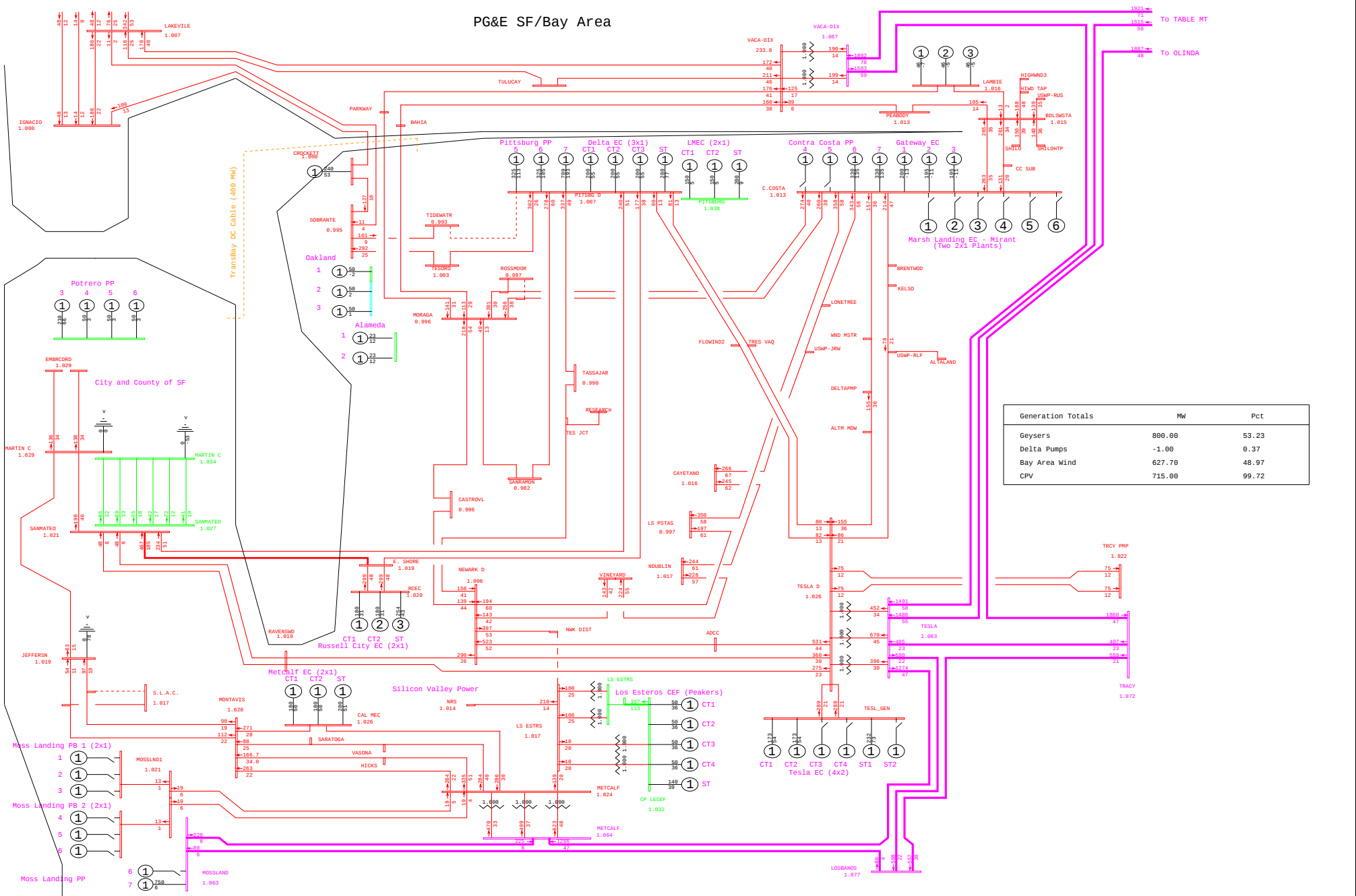
PG&E 2008 TRANSMISSION EXPANSION PLAN ASSESSMENT - 2013MRNT_PRE_V1.sav
 2013 SUMPK: SYSTEM CASE (1-IN-10 LOAD)
 COI=4800(n2s); P26=4000(n2s); PDCI=3100(n2s)

N-1 PITTSBURG - SAN RAMON 230kV LINE
 MRSHLNDV1.PFP, STEADY STATE, CASE NUMBER 141

MW/% rate
 bayarea_2013_PGE_v4.drw
 Rating = 2



PG&E SF/Bay Area



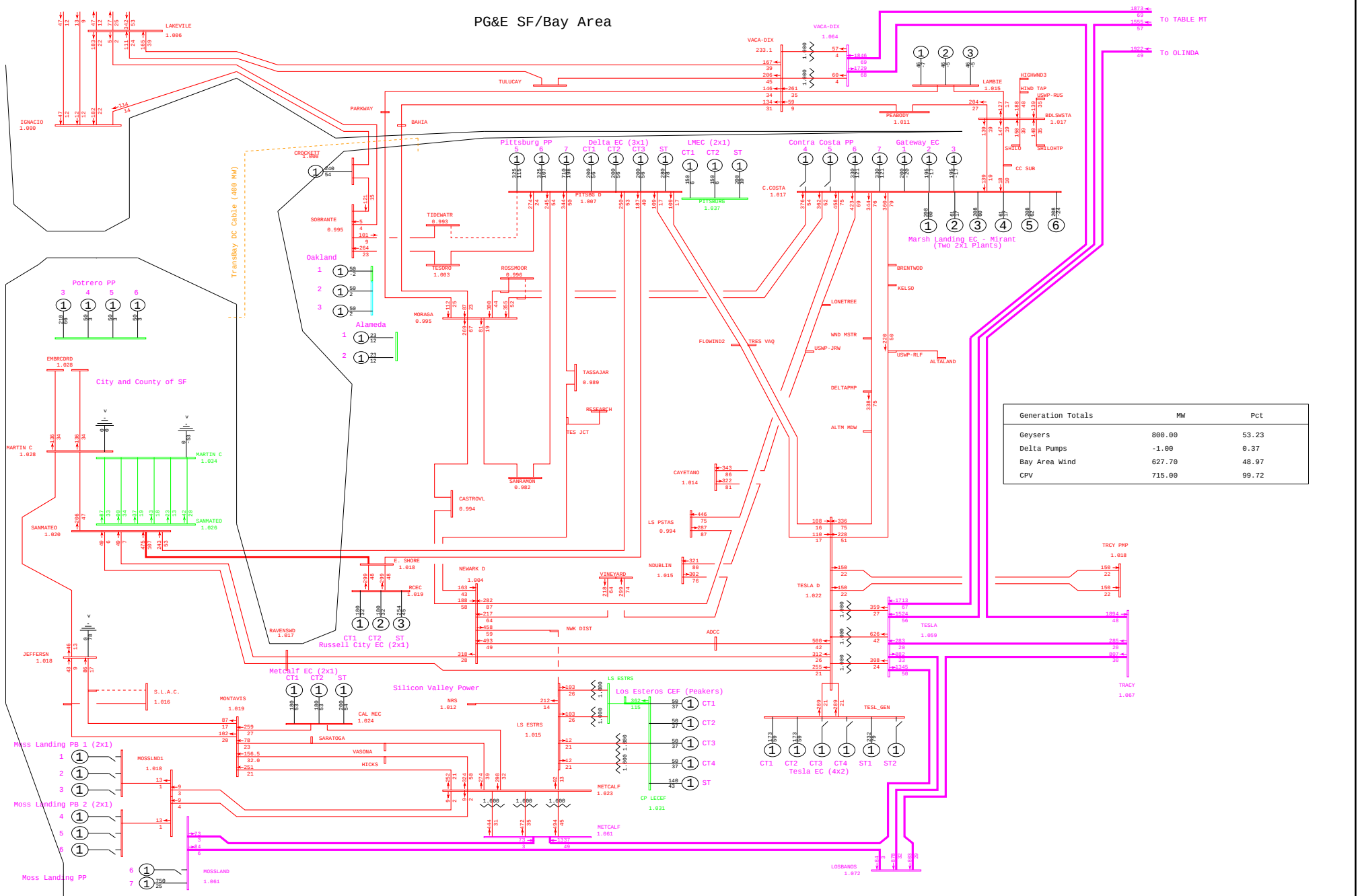
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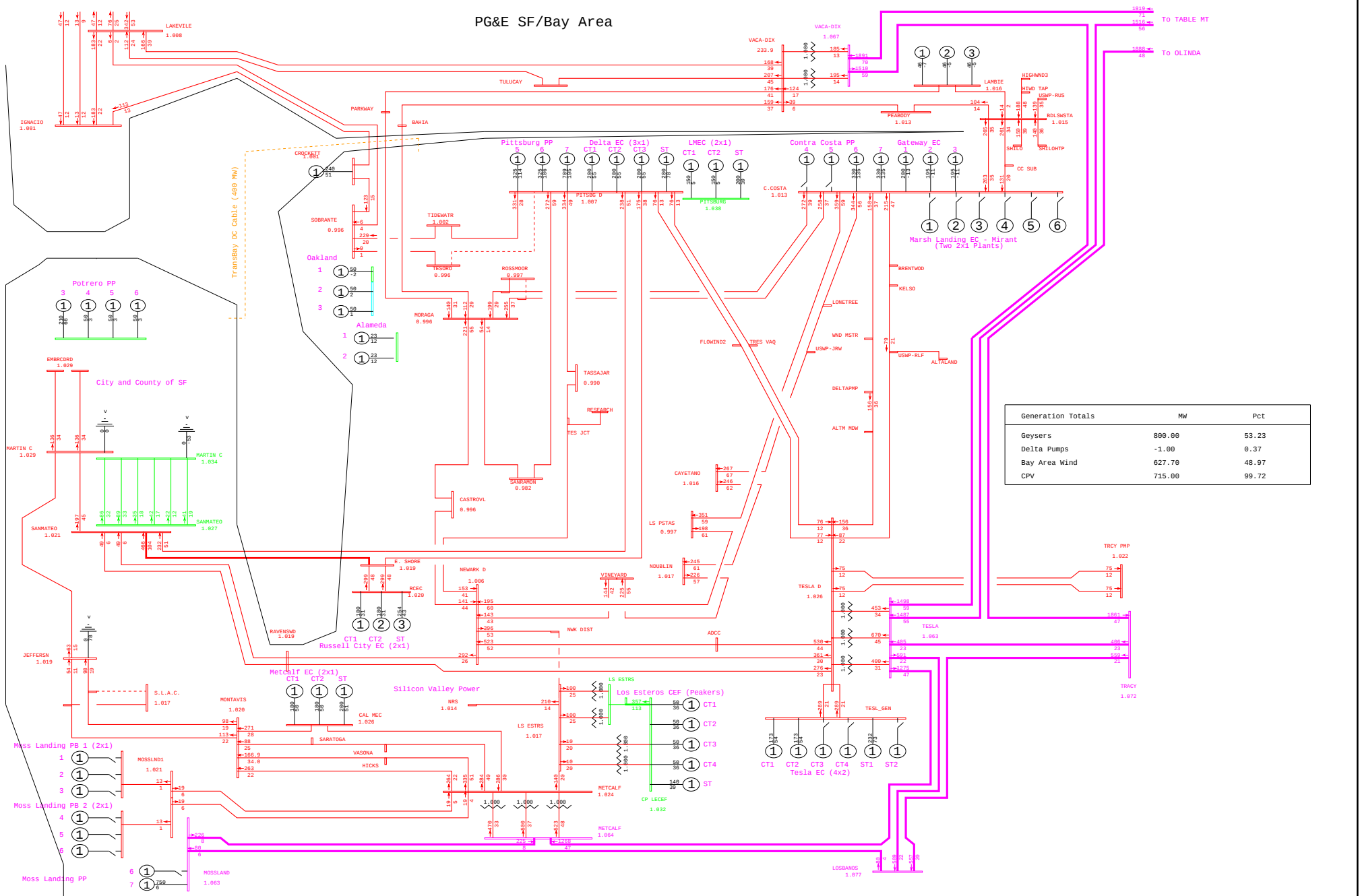


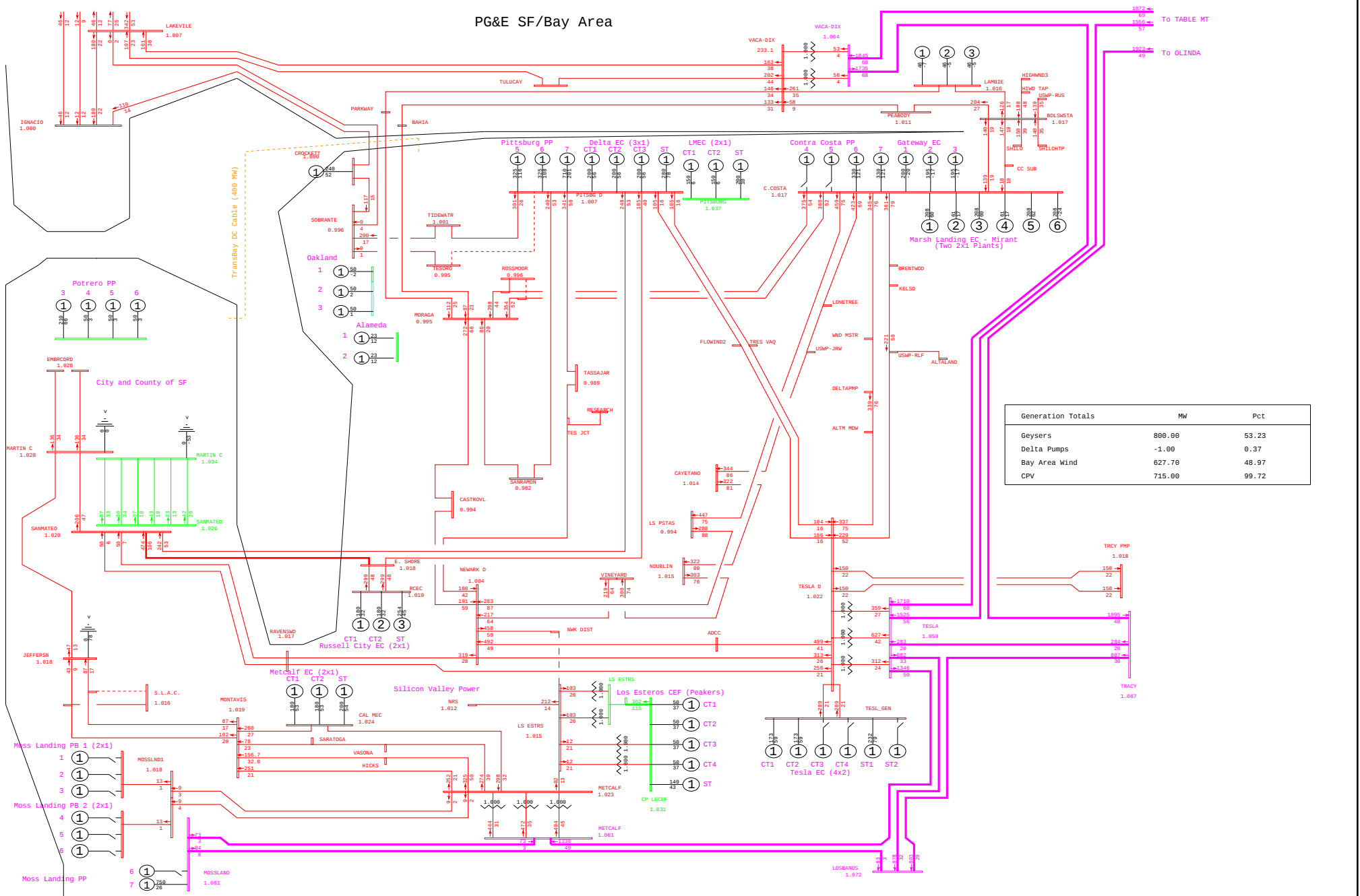
PG&E 2008 TRANSMISSION EXPANSION PLAN ASSESSMENT - 2013MRNT_PRE_V1.sav
 2013 SUMPK: SYSTEM CASE (1-IN-10 LOAD)
 COI=4800(n2s); P26=4000(n2s); PDCI=3100(n2s)

N-1 PITTSBURG - TIDEWATR 230kV LINE
 MRSHLNDV1.PFP, STEADY STATE, CASE NUMBER 143

MW/% rate
 bayarea_2013_PGE_v4.drw
 Rating = 2







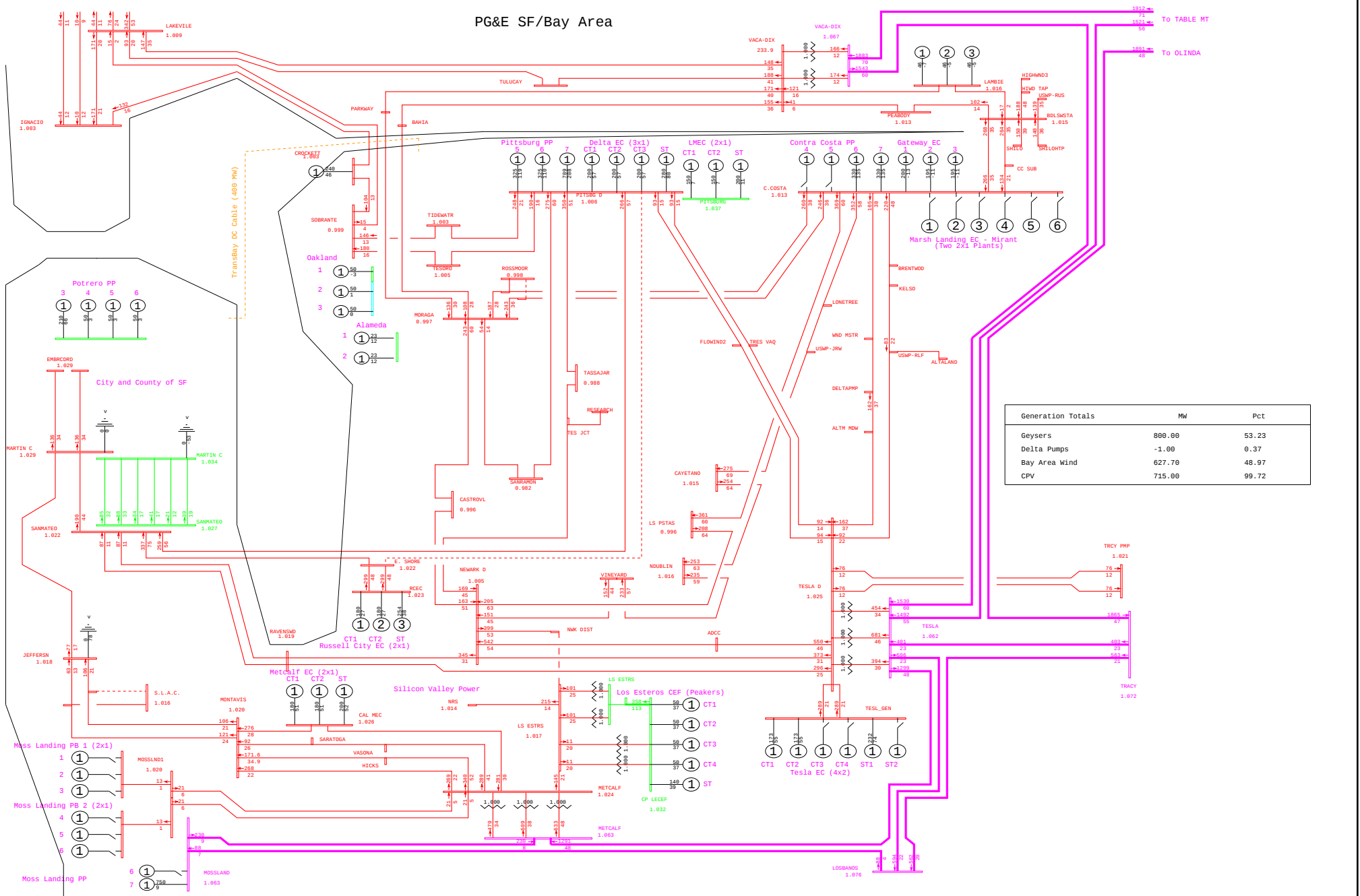
General Electric International, Inc. PSLF Program Fri Sep 12 13:53:52 2008 MRSHLNDv1-2013MRNT_PST_MSLNDG-144.sav



PG&E 2008 TRANSMISSION EXPANSION PLAN ASSESSMENT - 2013MRNT_PST_MSLNDG.sav
 2013 SUMPK: SYSTEM CASE (1-IN-10 LOAD)
 COI=4800(n2s); P26=4000(n2s); PDCI=3100(n2s)

N-1 PITTSBURG - TESORO 230kV LINE
 MRSHLNDV1.PFP, STEADY STATE, CASE NUMBER 144

Mw/% rate
 bayarea_2013_PGE_v4.drw
 Rating = 2



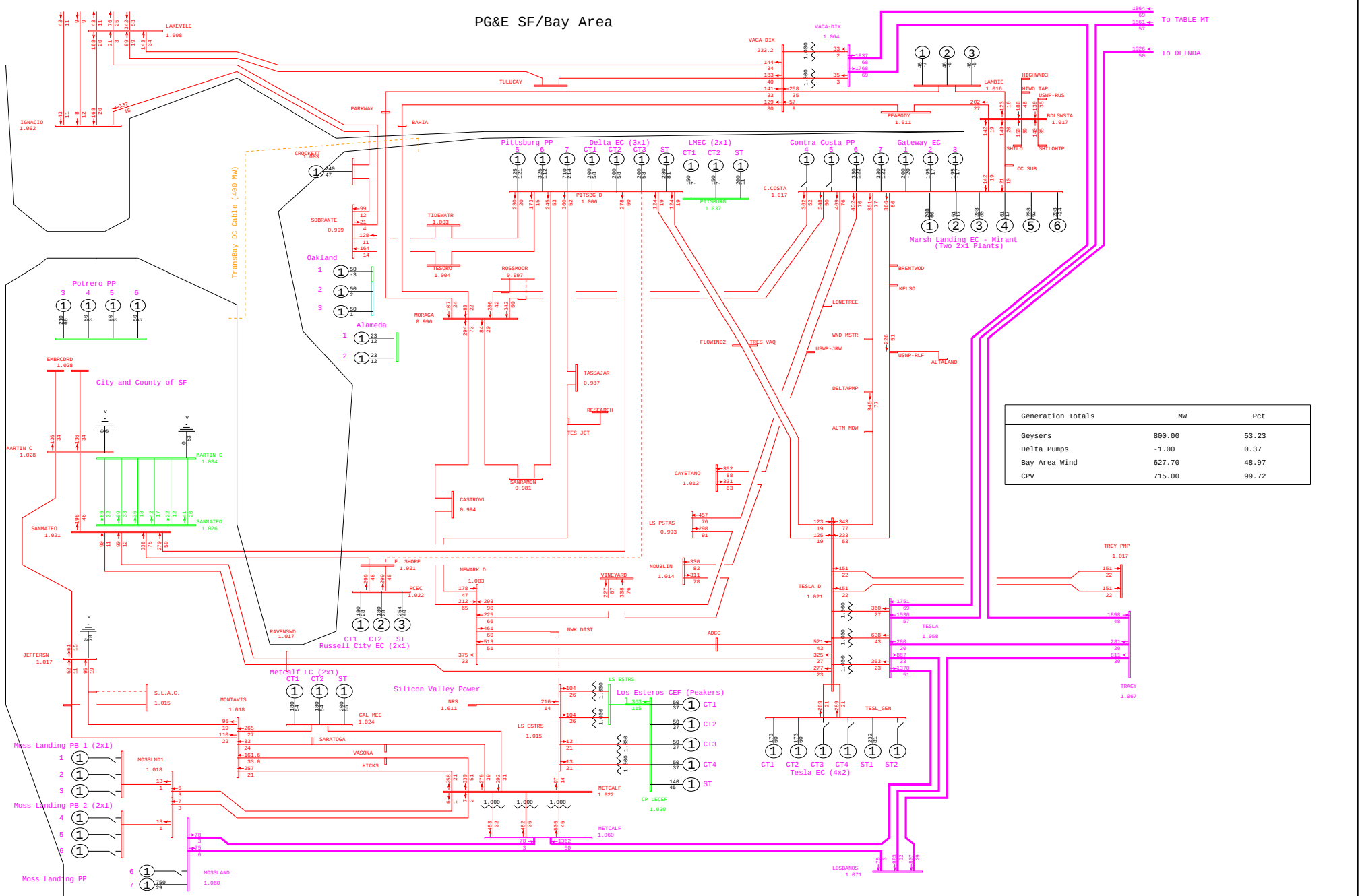
General Electric International, Inc. PSLF Program Fri Sep 12 13:45:55 2008 MRSHLNDv1-2013MRNT_PRE_V1-145.sav

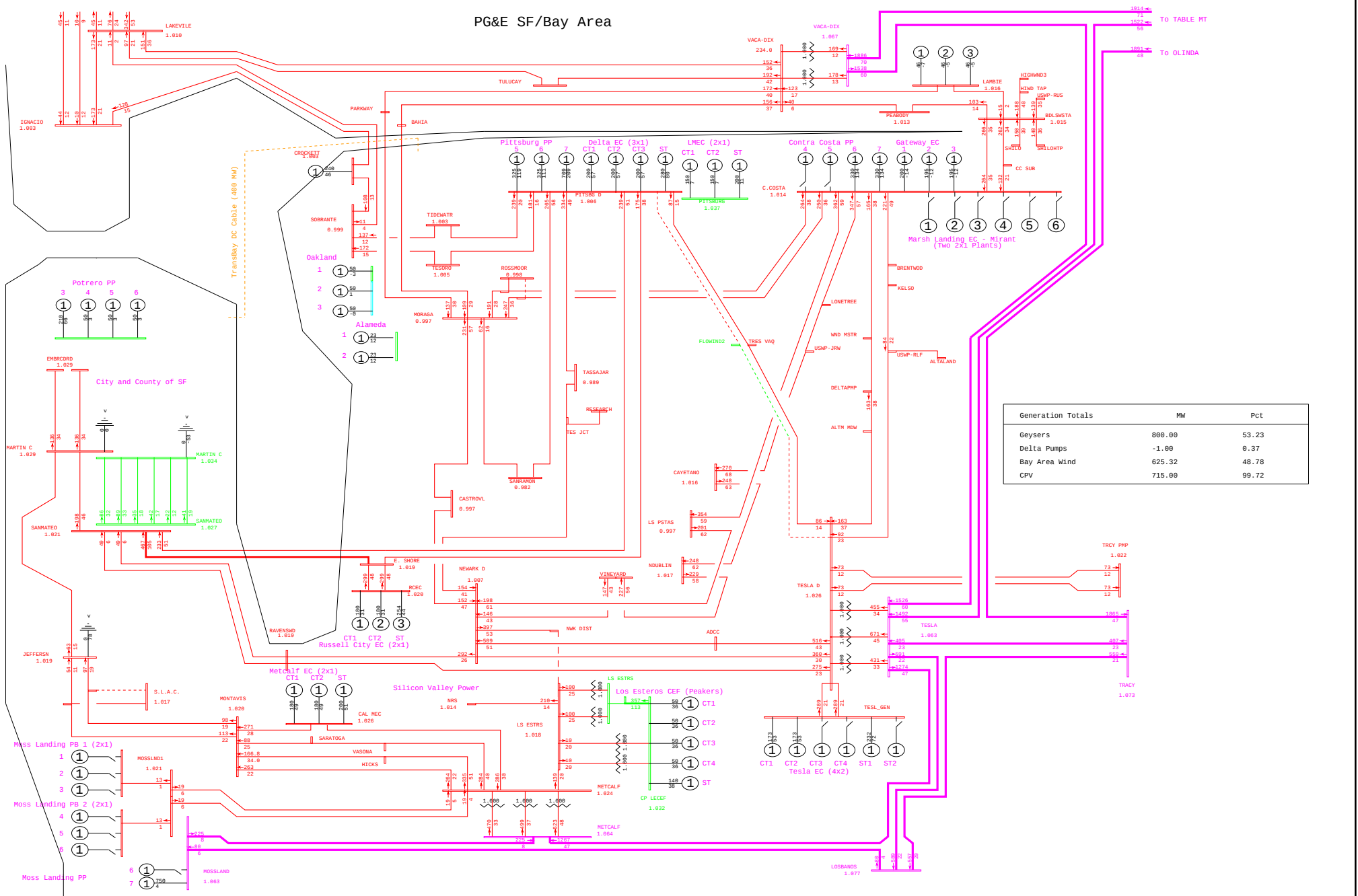


PG&E 2008 TRANSMISSION EXPANSION PLAN ASSESSMENT - 2013MRNT_PRE_V1.sav
 2013 SUMPK: SYSTEM CASE (1-IN-10 LOAD)
 COI=4800(n2s); P26=4000(n2s); PDCI=3100(n2s)

N-1 PITTSBURG - EAST SHORE 230kV LINE
 MRSHLNDV1.PFP, STEADY STATE, CASE NUMBER 145

Mw/% rate
 bayarea_2013_PGE_v4.drw
 Rating = 2





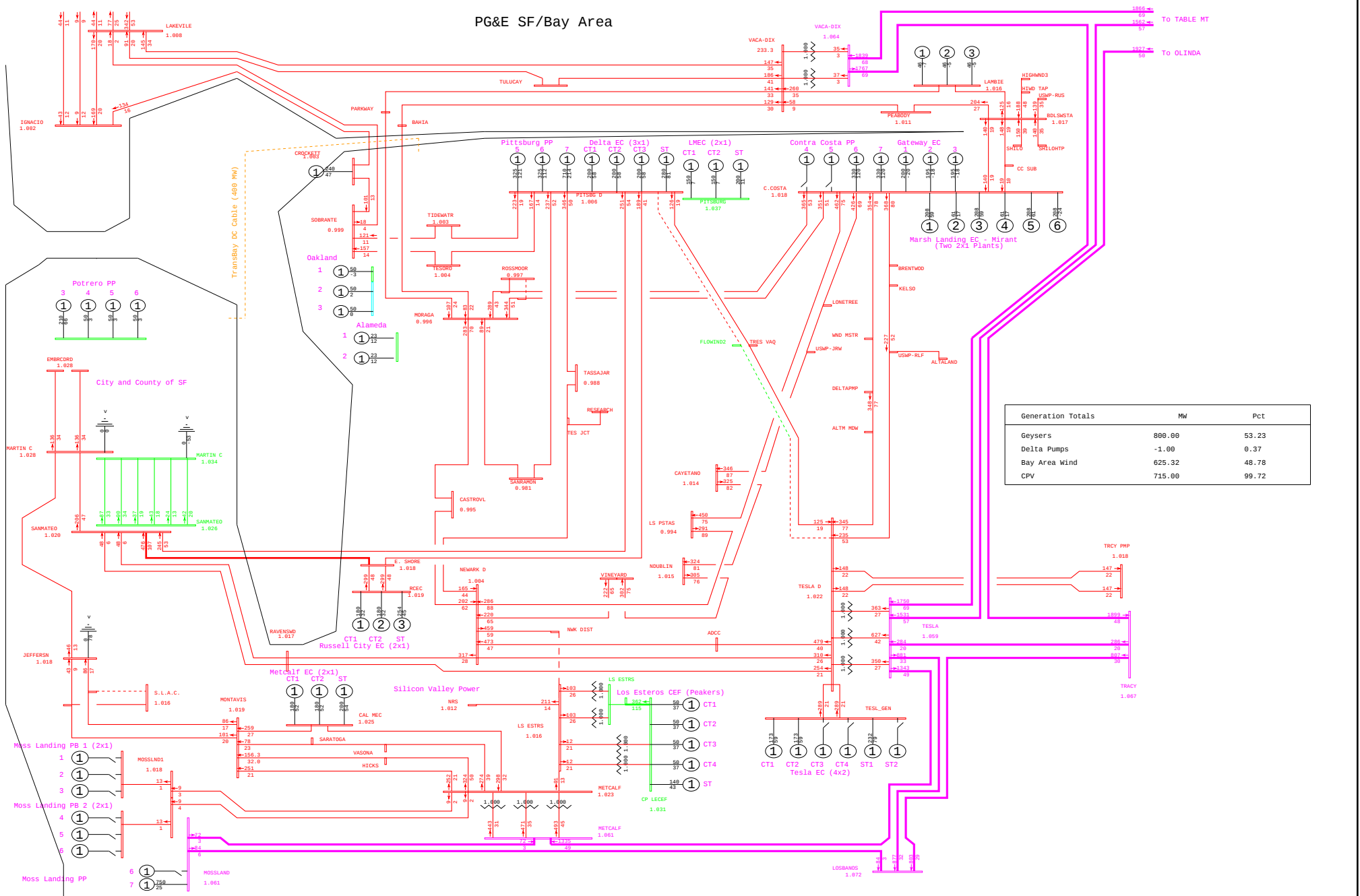
General Electric International, Inc. PSLF Program Fri Sep 12 13:45:56 2008 MRSHLNDv1-2013MRNT_PRE_V1-146.sav

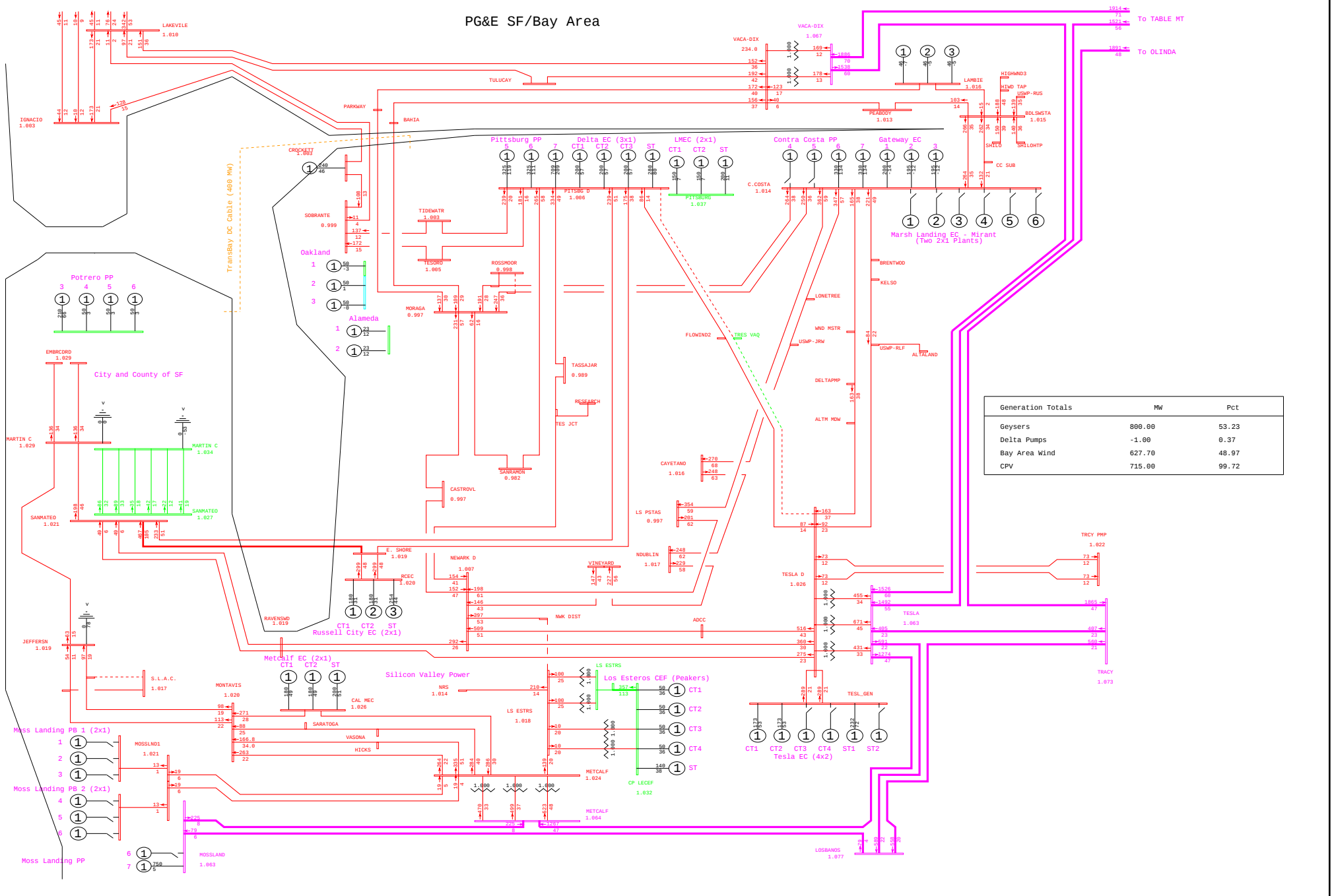


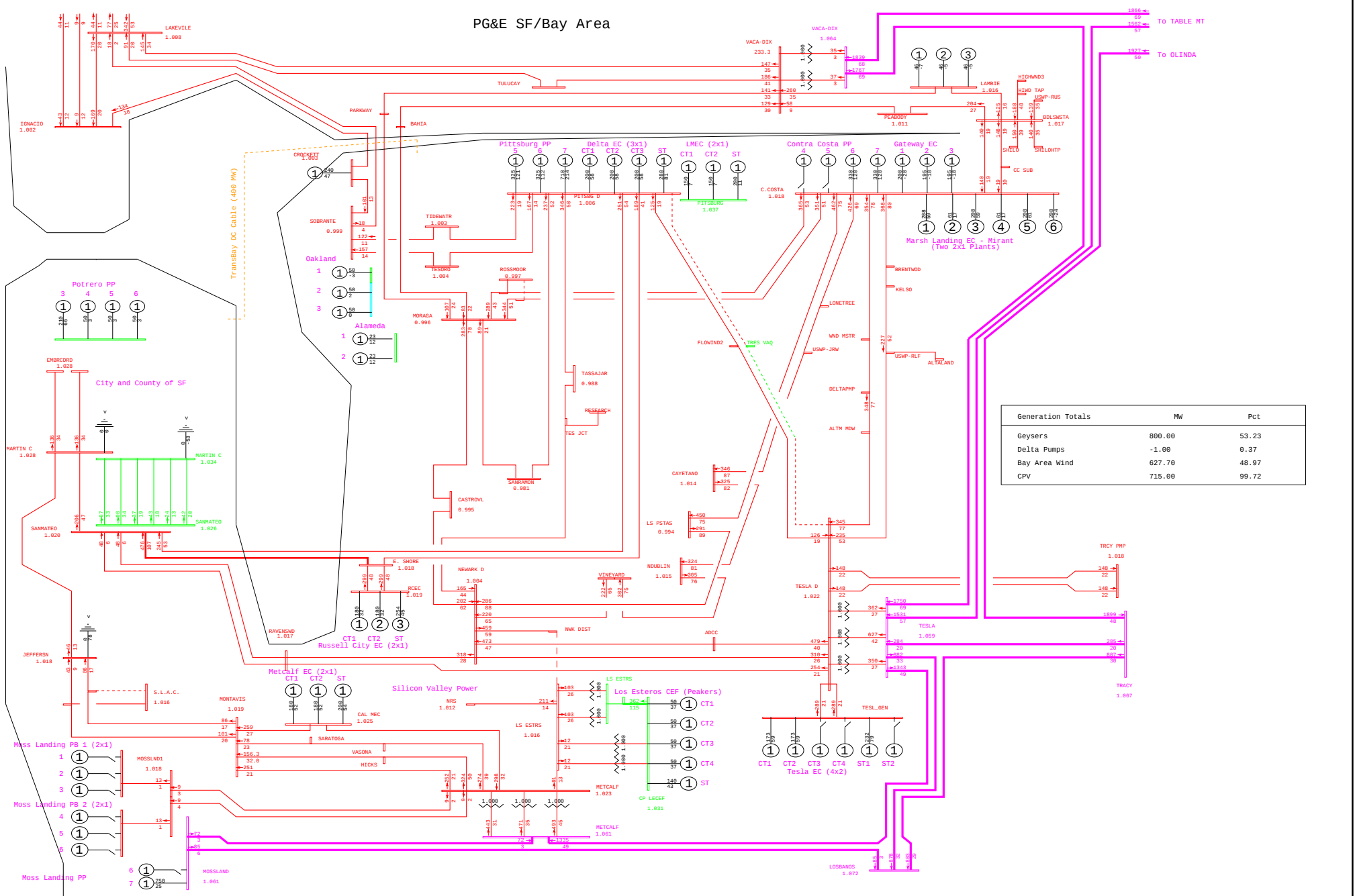
PG&E 2008 TRANSMISSION EXPANSION PLAN ASSESSMENT - 2013MRNT_PRE_V1.sav
 2013 SUMPK: SYSTEM CASE (1-IN-10 LOAD)
 COI=4800(n2s); P26=4000(n2s); PDCI=3100(n2s)

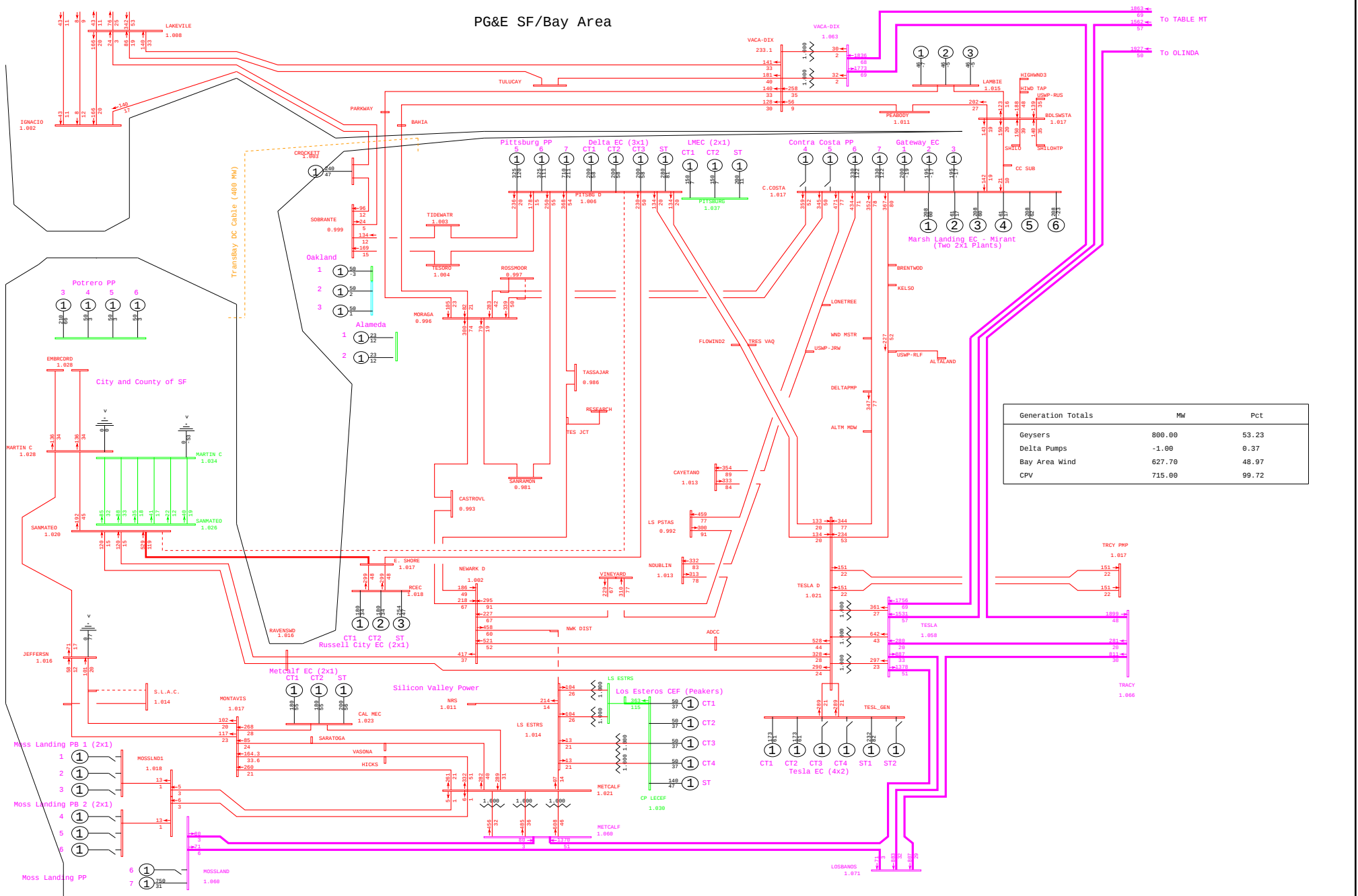
N-1 PITTSBURG - TESLA C 230kV #1 LINE
 MRSHLNDV1.PFP, STEADY STATE, CASE NUMBER 146

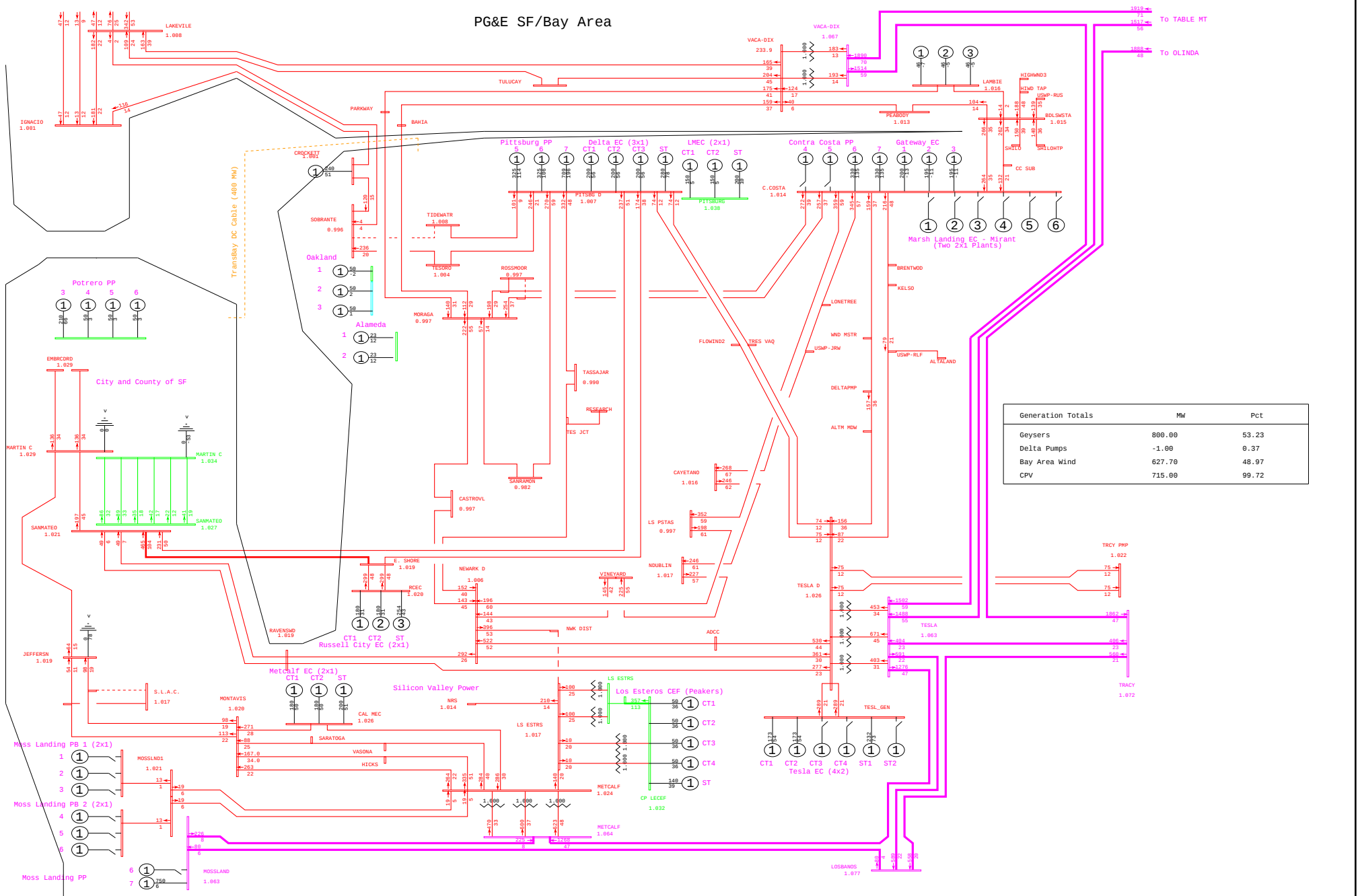
Mw/% rate
 bayarea_2013_PGE_v4.drw
 Rating = 2











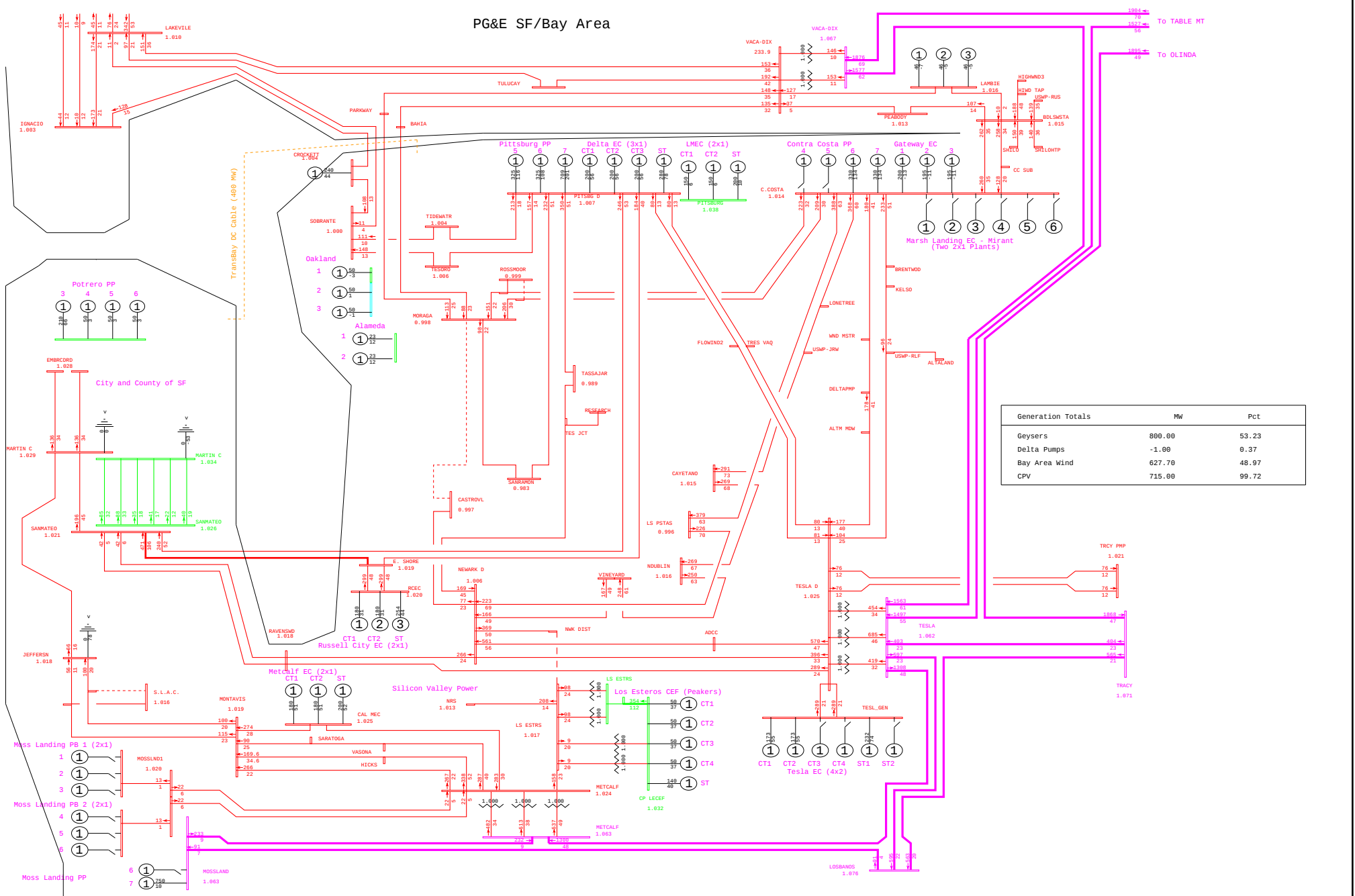
General Electric International, Inc. PSLF Program Fri Sep 12 13:45:59 2008 MRSHLNDv1-2013MRNT_PRE_V1-149.sav



PG&E 2008 TRANSMISSION EXPANSION PLAN ASSESSMENT - 2013MRNT_PRE_V1.sav
 2013 SUMPK: SYSTEM CASE (1-IN-10 LOAD)
 COI=4800(n2s); P26=4000(n2s); PDCI=3100(n2s)

N-1 TIDEWATR - SOBRANTE 230KV LINE
 MRSHLNDV1.PFP, STEADY STATE, CASE NUMBER 149

MW/% rate
 bayarea_2013_PGE_v4.drw
 Rating = 2



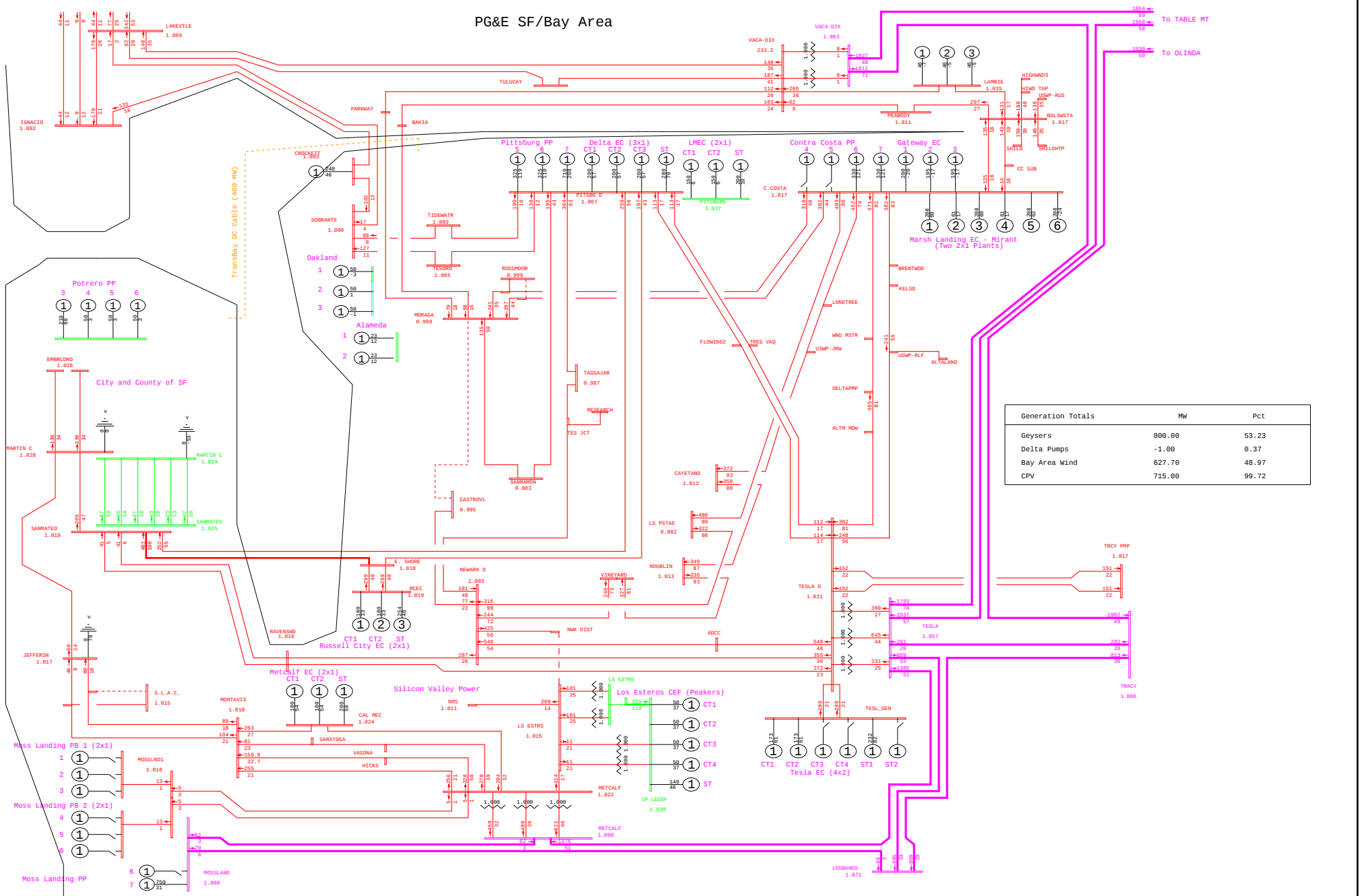
General Electric International, Inc. PSLF Program Fri Sep 12 13:46:00 2008 MRSHLNDv1-2013MRNT_PRE_V1-150.sav

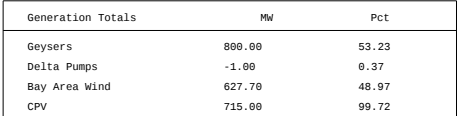


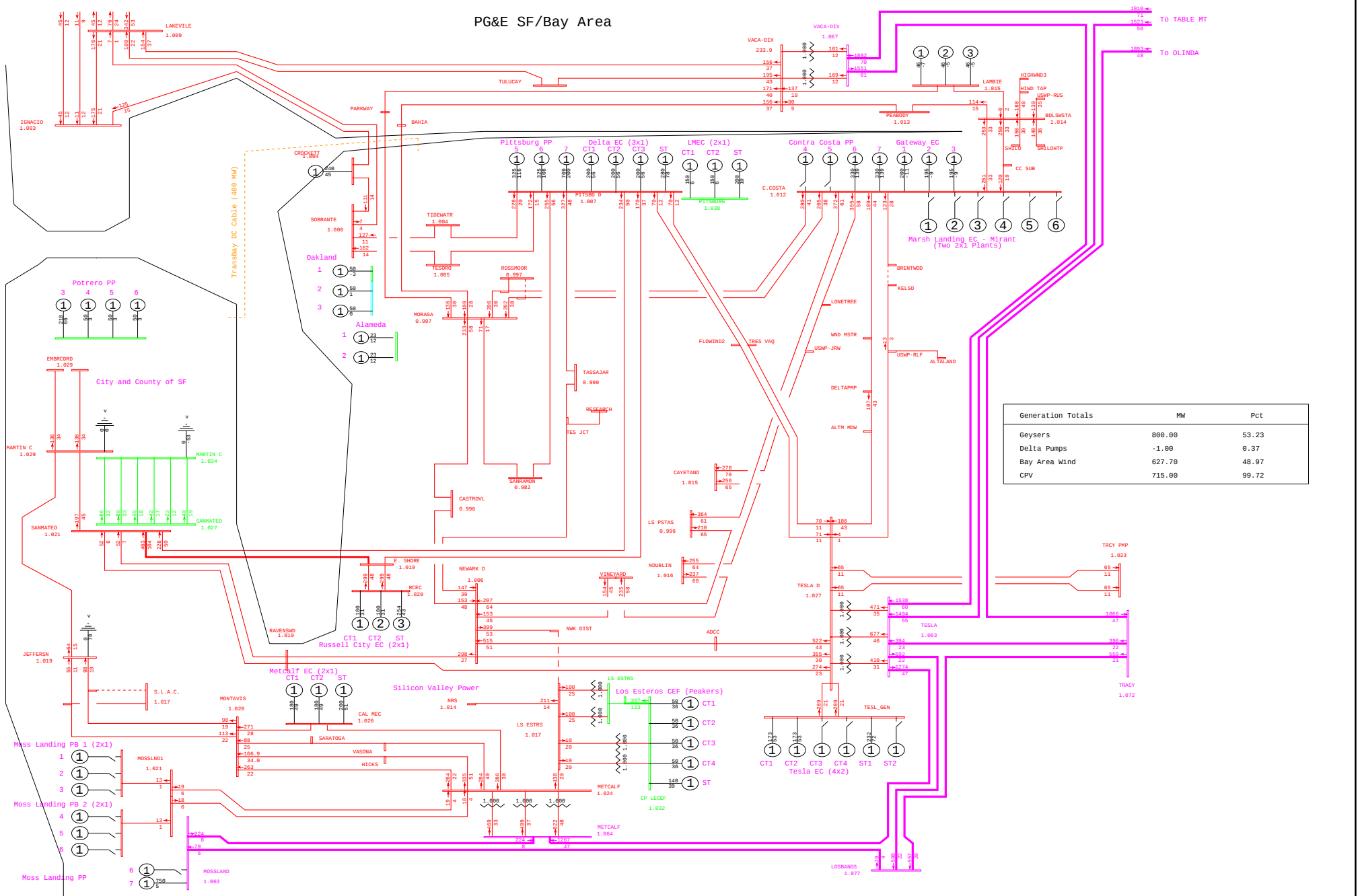
PG&E 2008 TRANSMISSION EXPANSION PLAN ASSESSMENT - 2013MRNT_PRE_V1.sav
 2013 SUMPK: SYSTEM CASE (1-IN-10 LOAD)
 COI=4800(n2s); P26=4000(n2s); PDCI=3100(n2s)

N-1 MORAGA - CASTROVL 230kV LINE
 MRSHLNDV1.PFP, STEADY STATE, CASE NUMBER 150

MW/% rate
 bayarea_2013_PGE_v4.drw
 Rating = 2







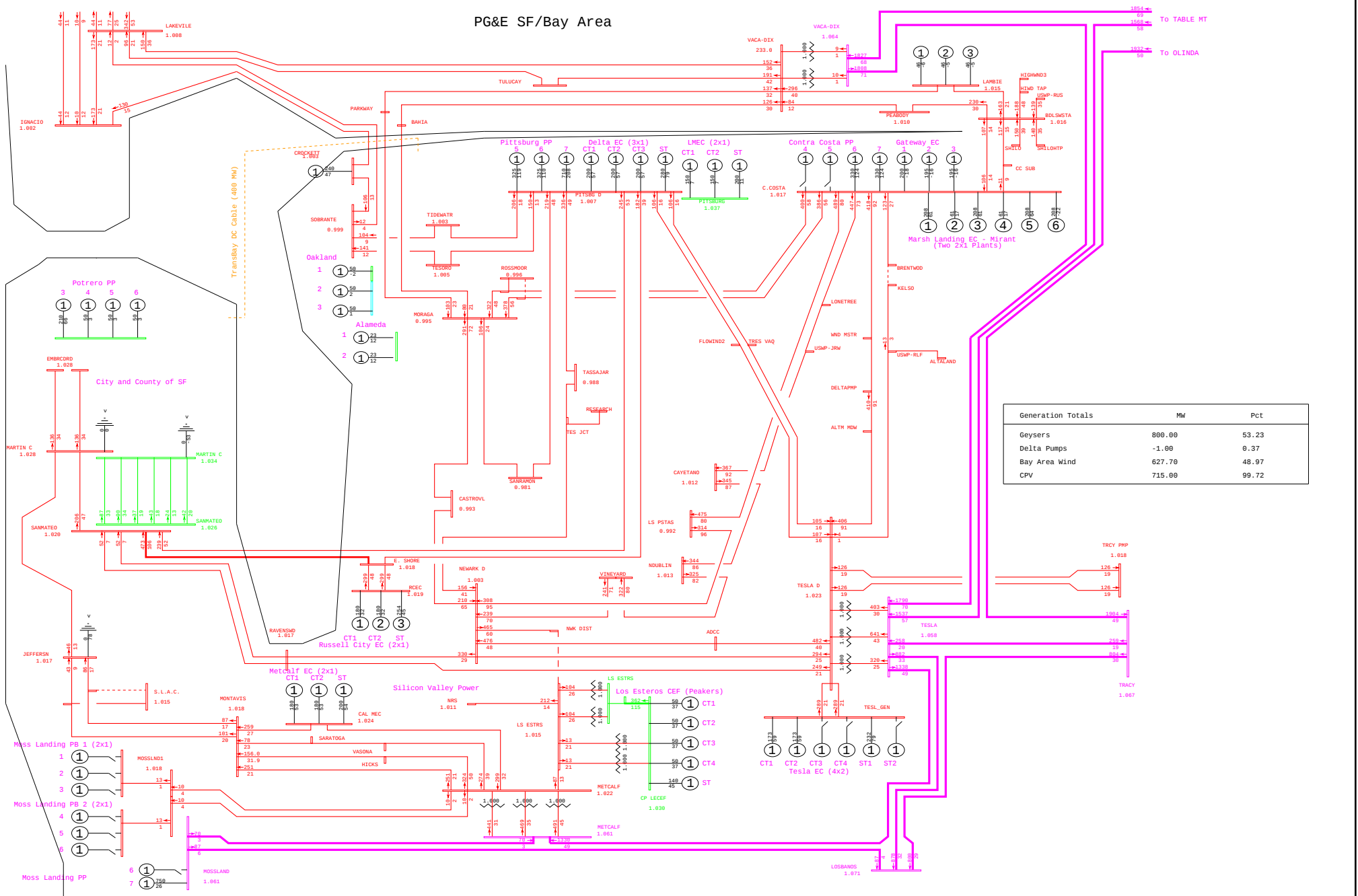
General Electric International, Inc. PSLF Program Fri Sep 12 13:46:02 2008 MRSHLNDv1-2013MRNT_PRE_V1-153.sav

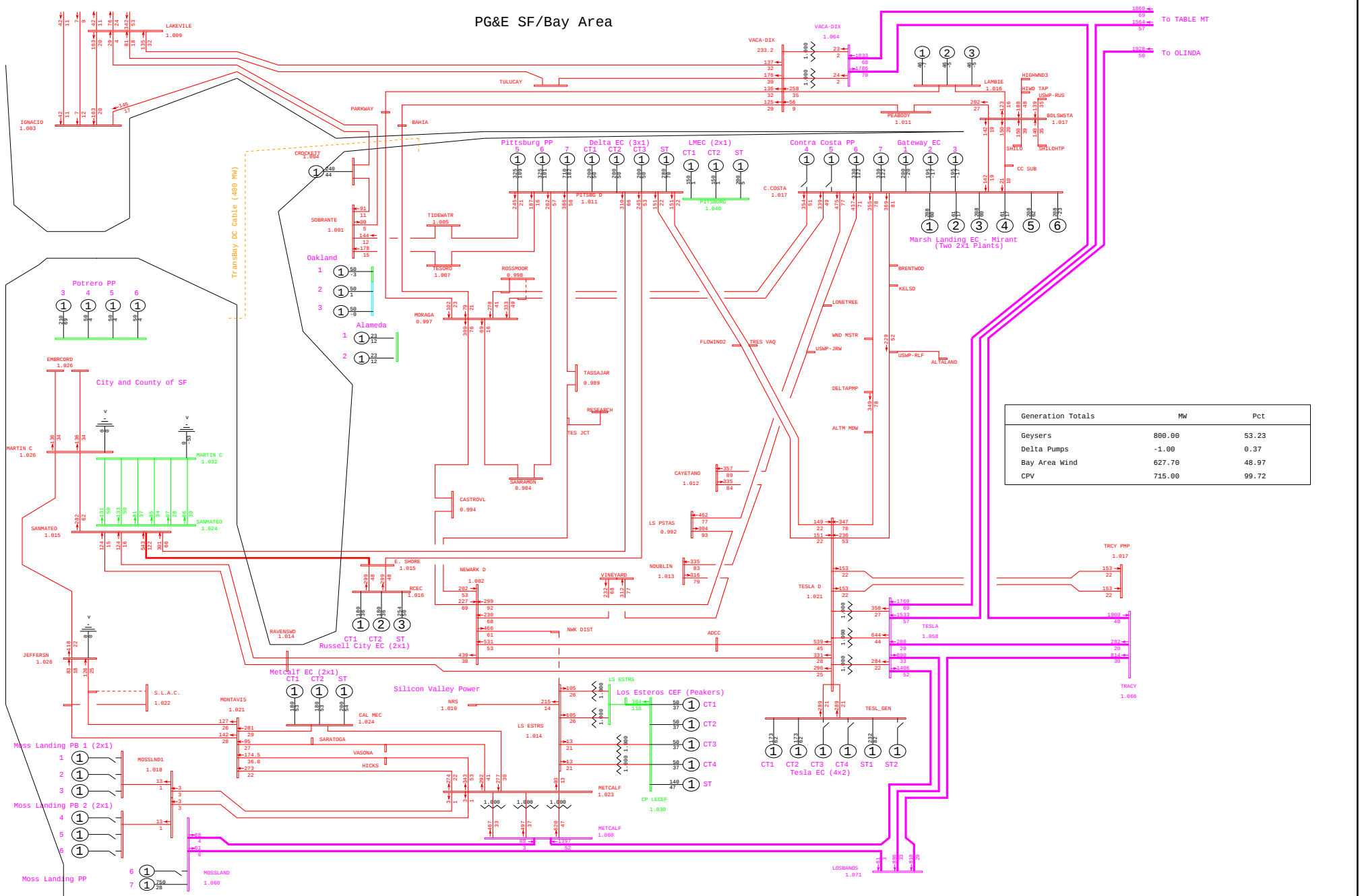


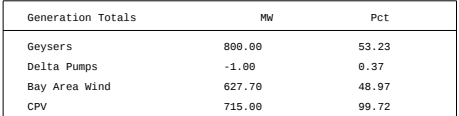
PG&E 2008 TRANSMISSION EXPANSION PLAN ASSESSMENT - 2013MRNT_PRE_V1.sav
 2013 SUMPK: SYSTEM CASE (1-IN-10 LOAD)
 COI=4800(n2s); P26=4000(n2s); PDCI=3100(n2s)

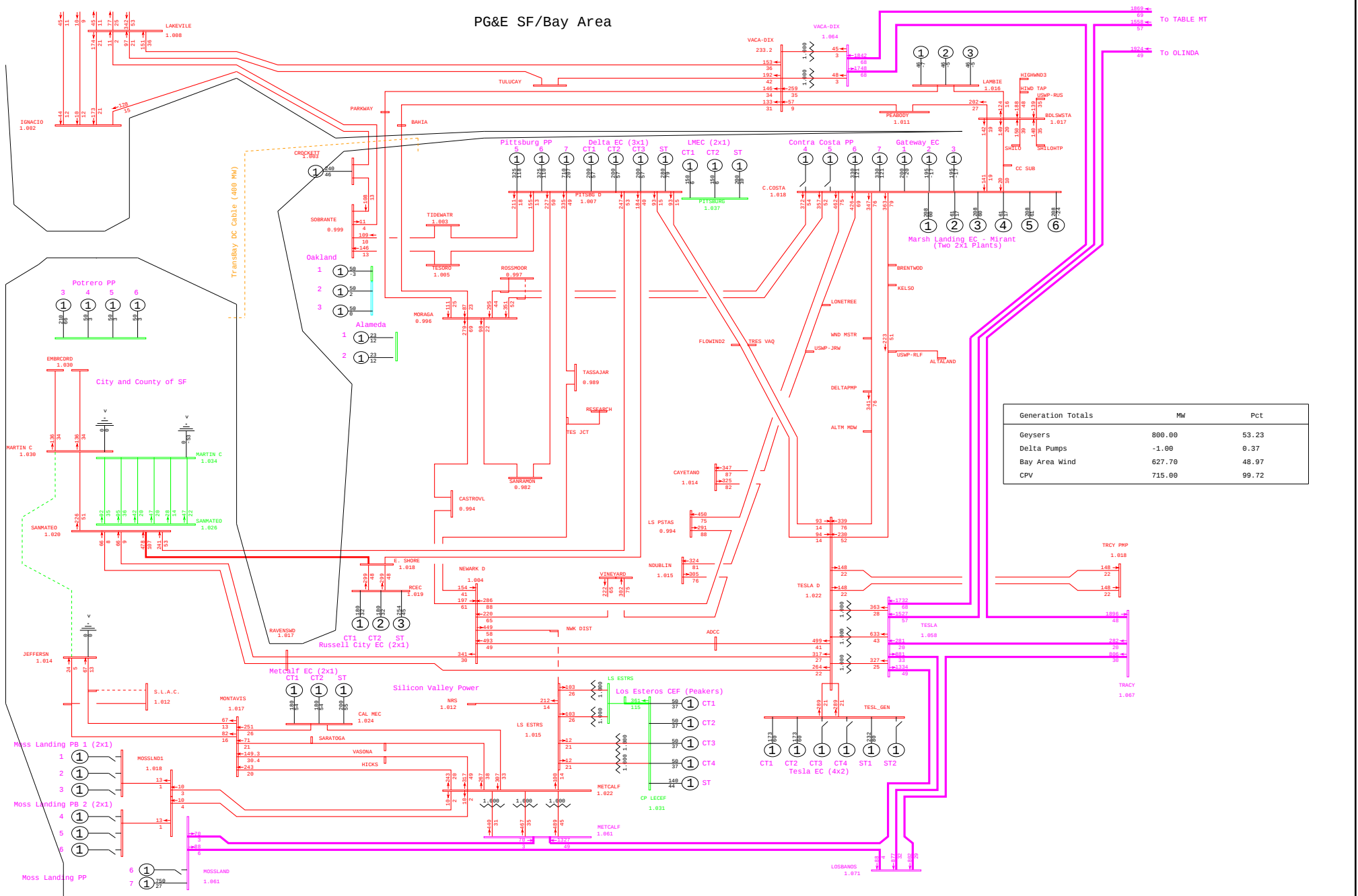
N-1 BRENTWOOD - KELSO 230kV LINE
 MRSHLNDV1.PFP, STEADY STATE, CASE NUMBER 153

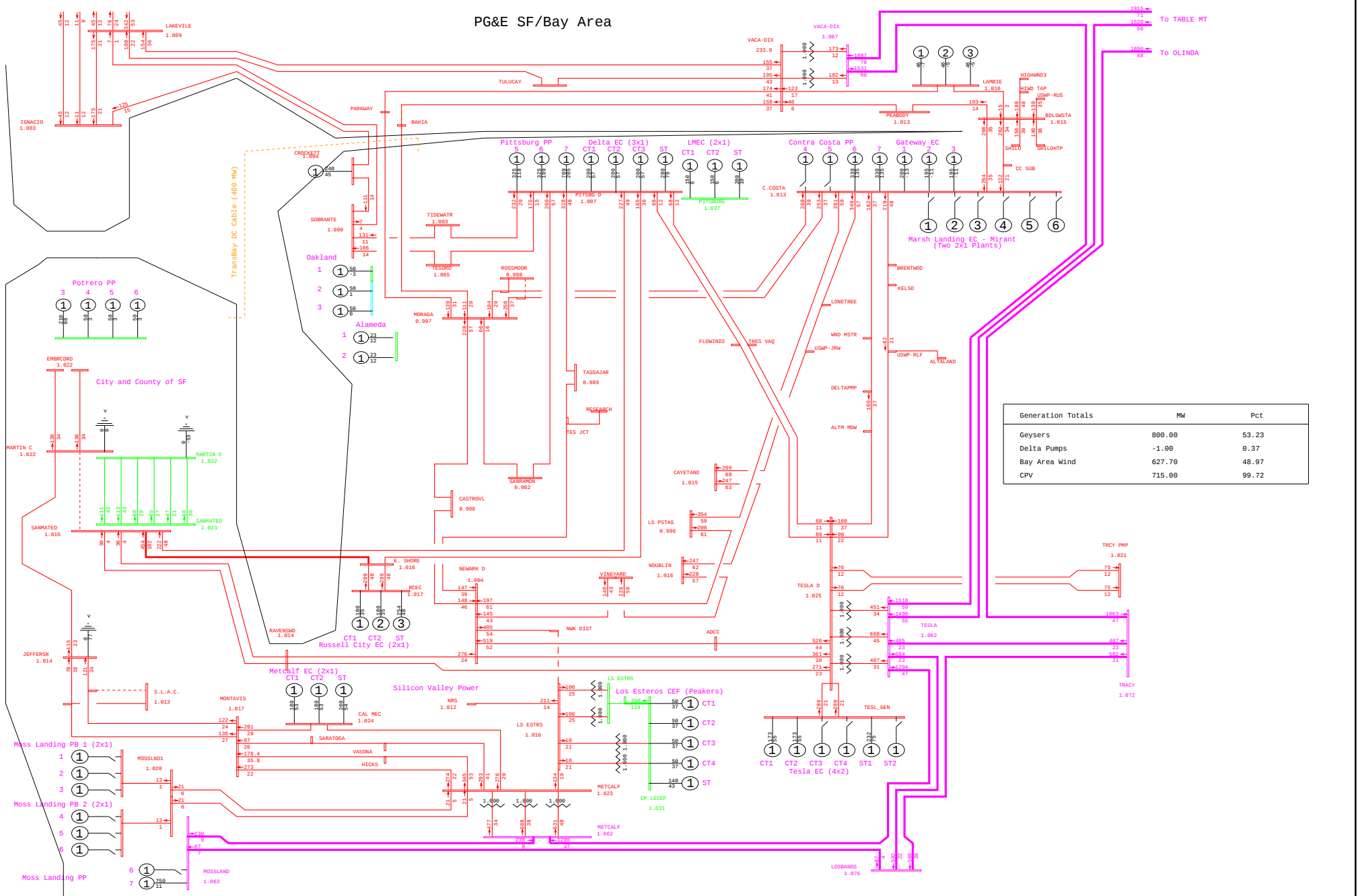
Mw/% rate
 bayarea_2013_PGE_v4.drw
 Rating = 2

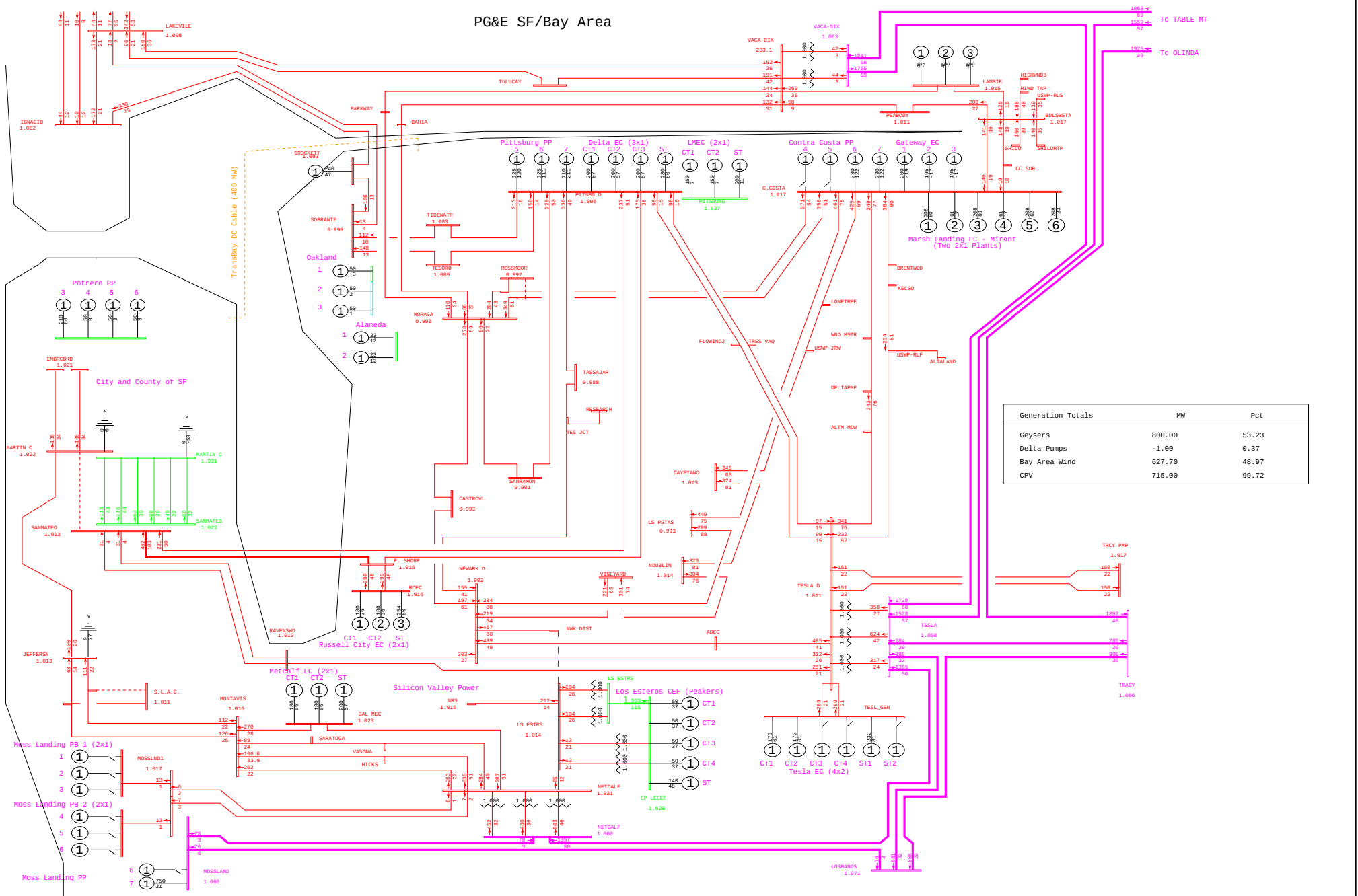


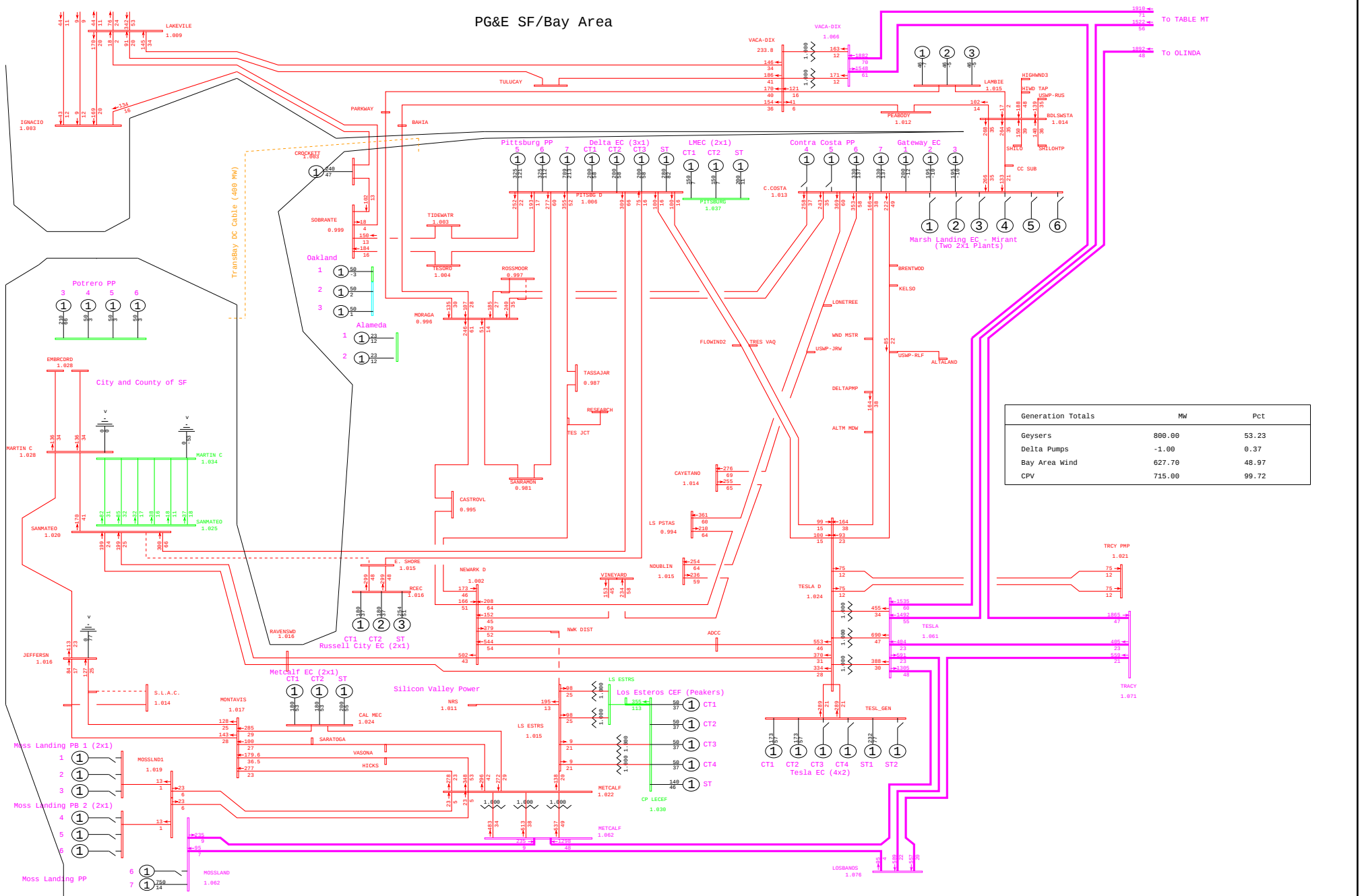


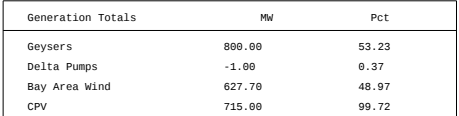


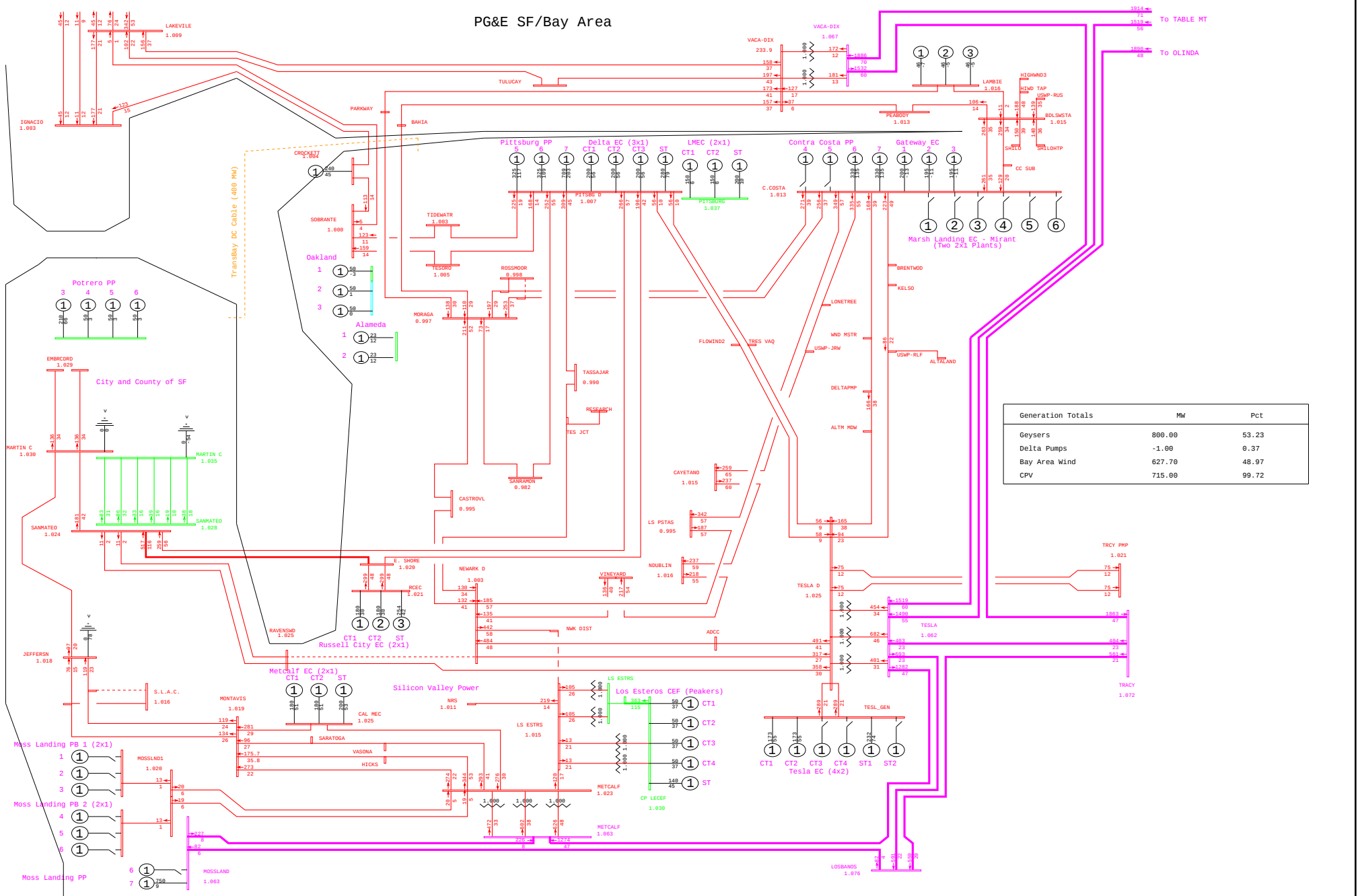












General Electric International, Inc. PSLF Program Fri Sep 12 13:46:09 2008 MRSHLNDv1-2013MRNT_PRE_V1-160.sav



PG&E 2008 TRANSMISSION EXPANSION PLAN ASSESSMENT - 2013MRNT_PRE_V1.sav

2013 SUMPK: SYSTEM CASE (1-IN-10 LOAD)

COI=4800(n2s); P26=4000(n2s); PDCI=3100(n2s)

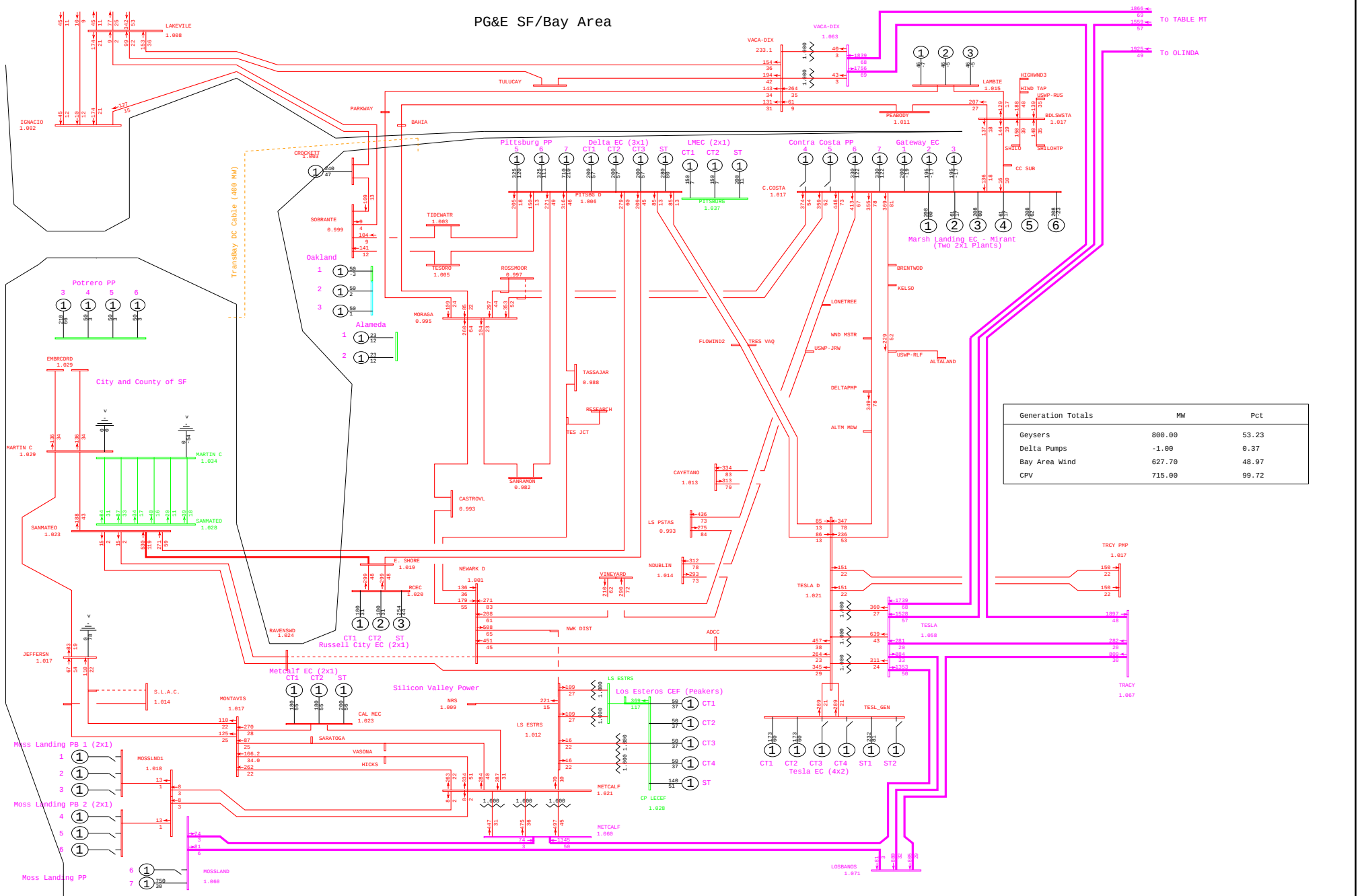
N-1 NEWARK - RAVENSWOOD 230KV LINE

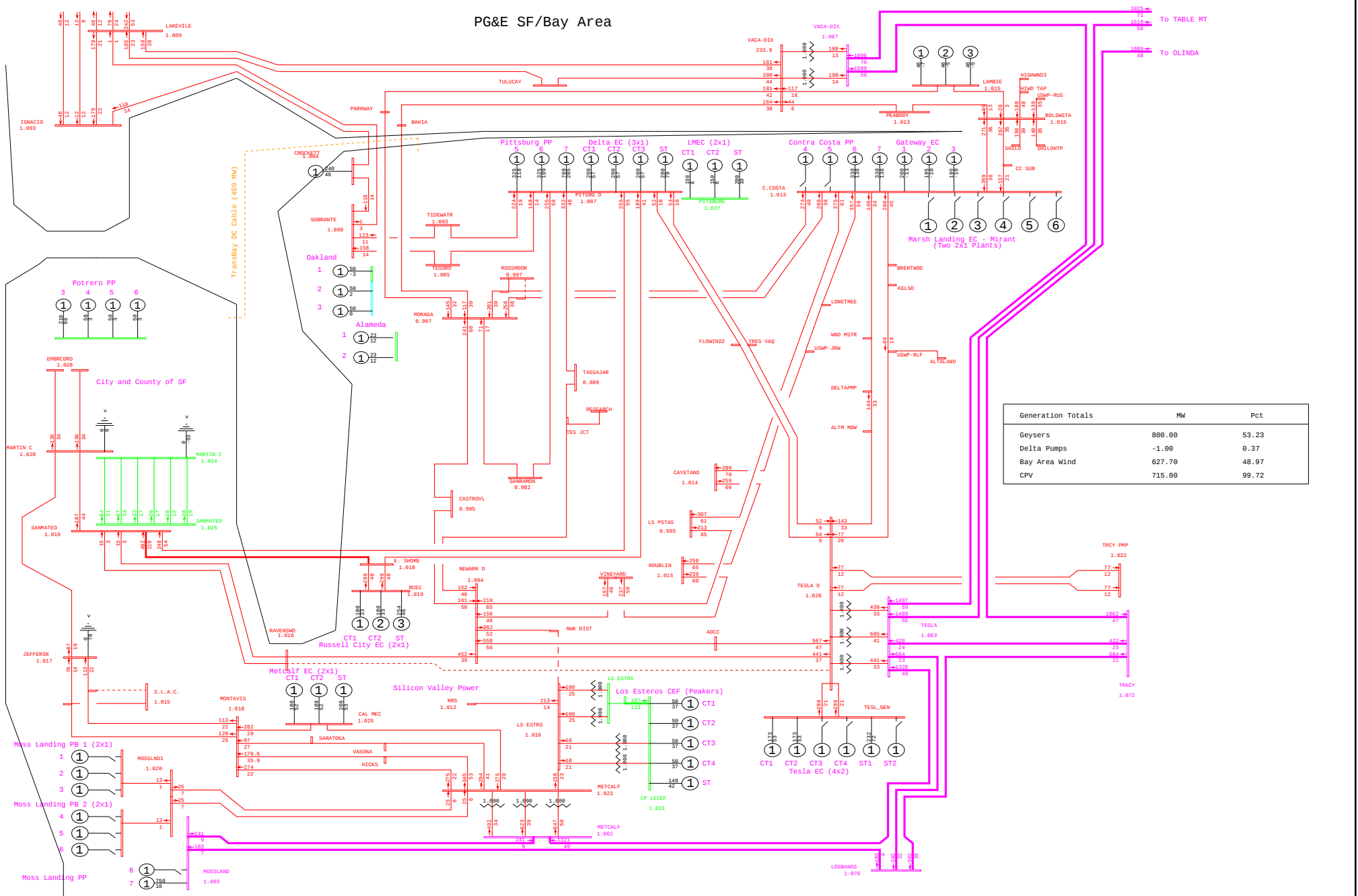
MRSHLNDV1.PFP, STEADY STATE, CASE NUMBER 160

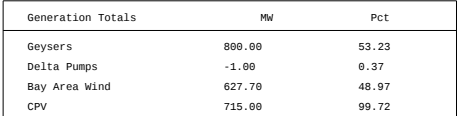
Mw/% rate

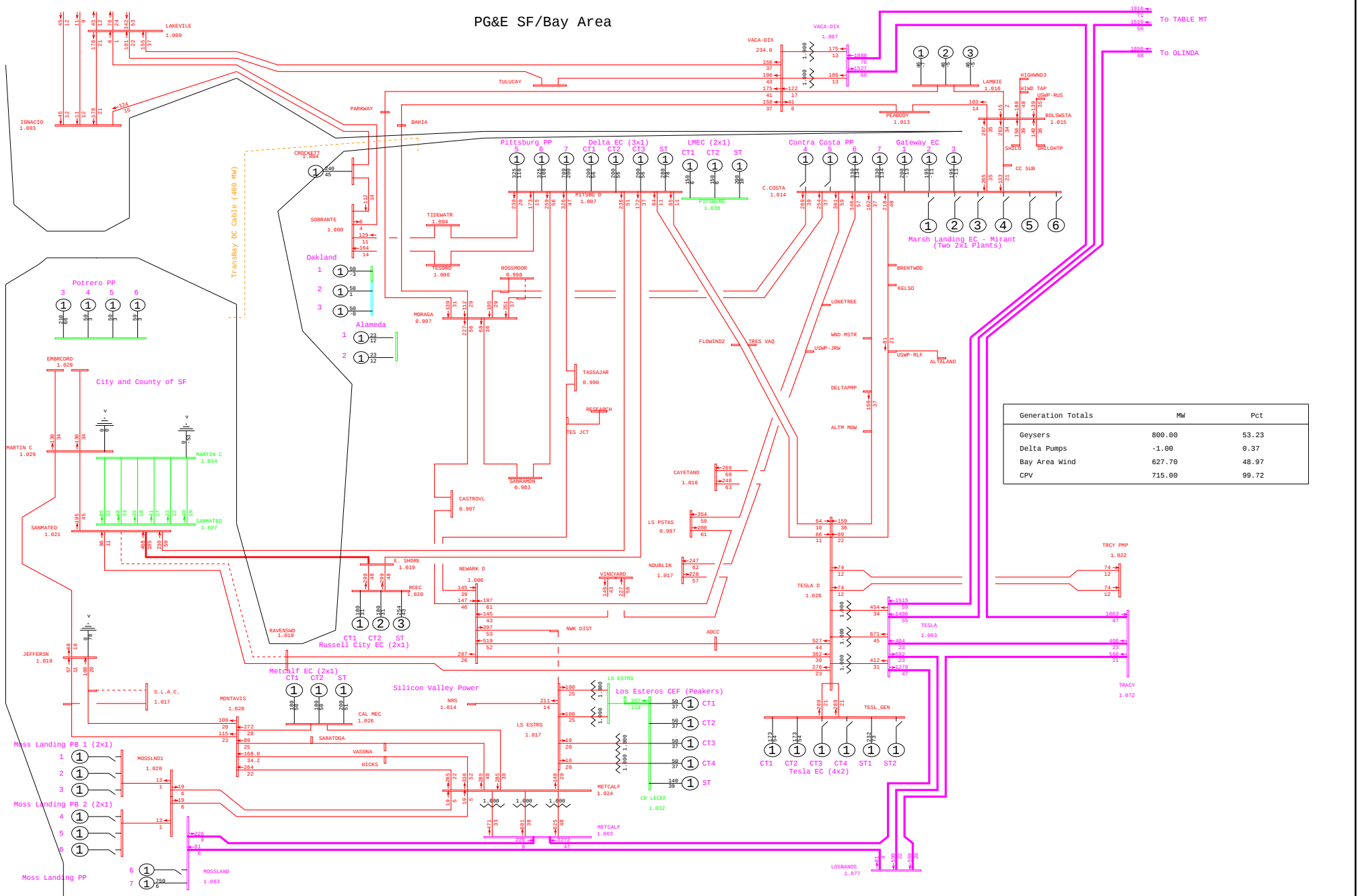
bayarea_2013_PGE_v4.drw

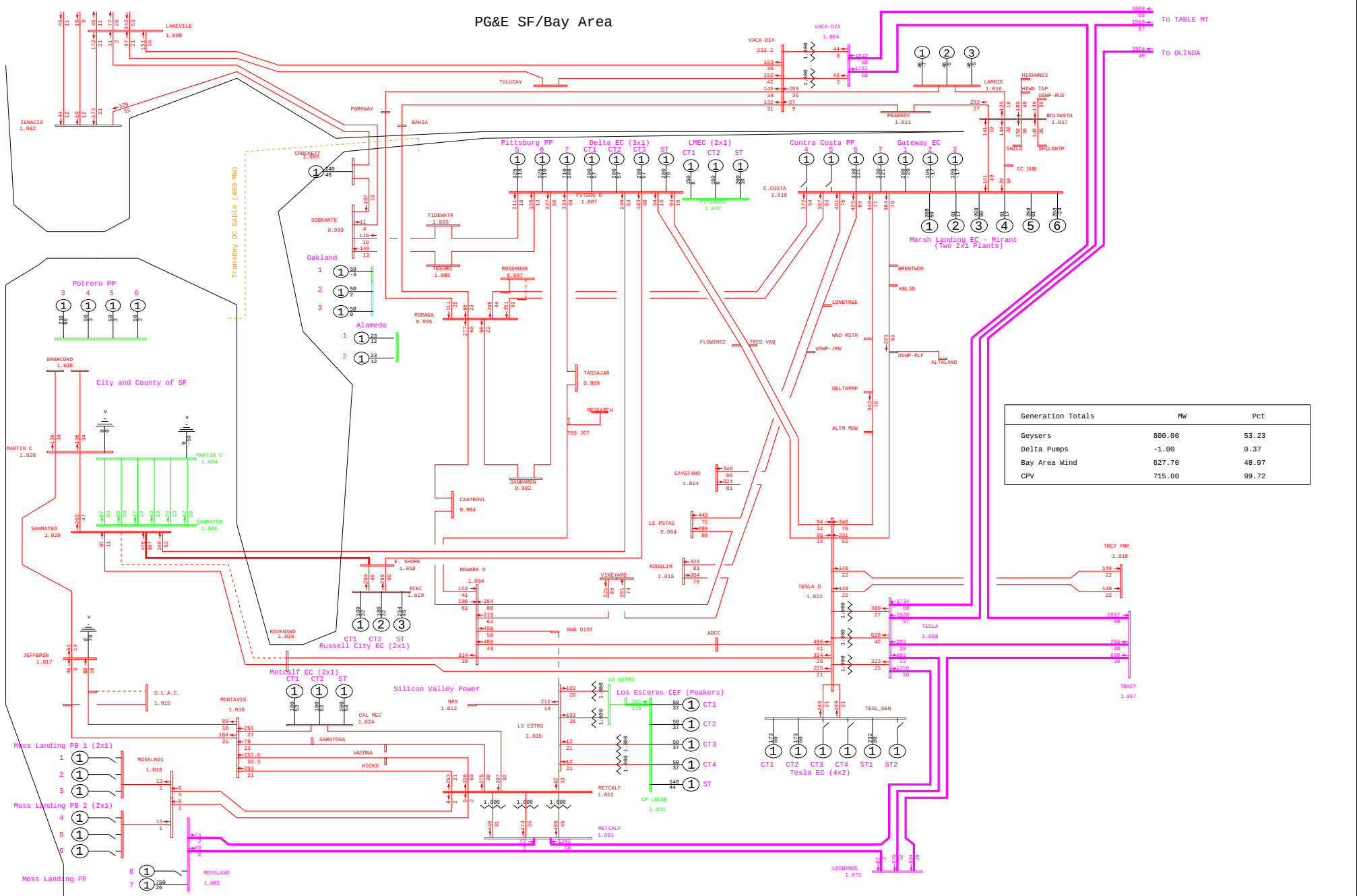
Rating = 2

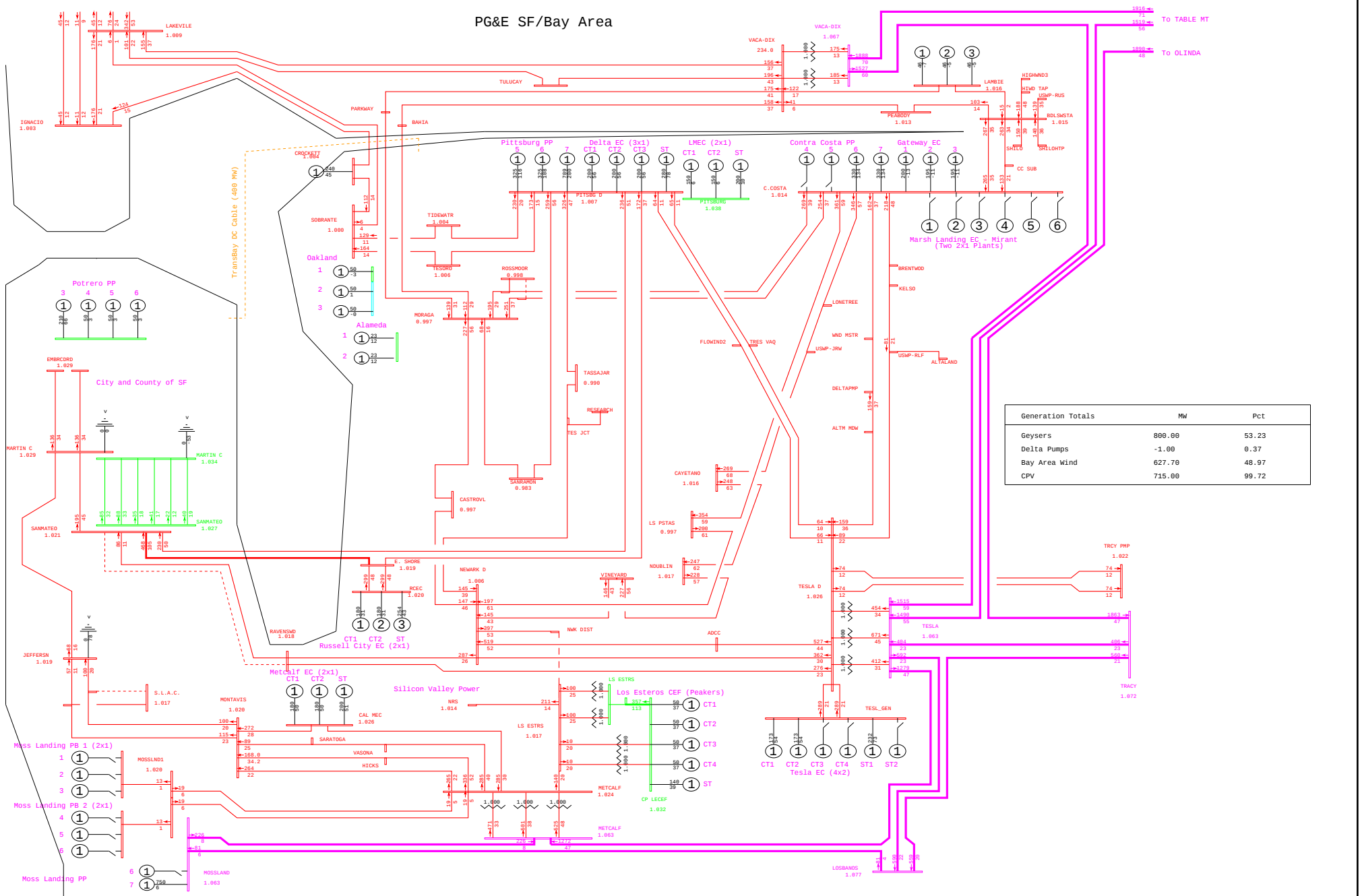


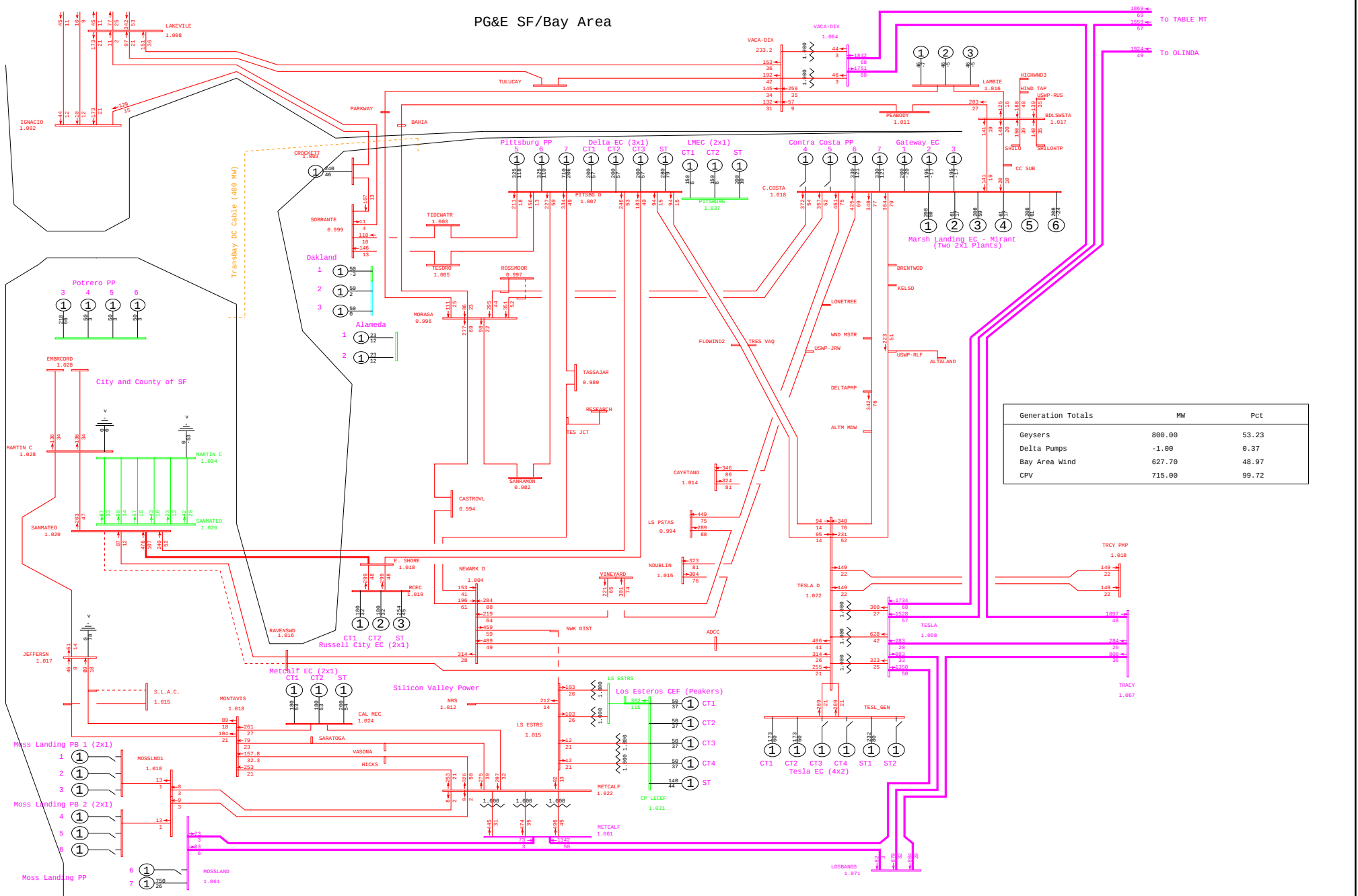


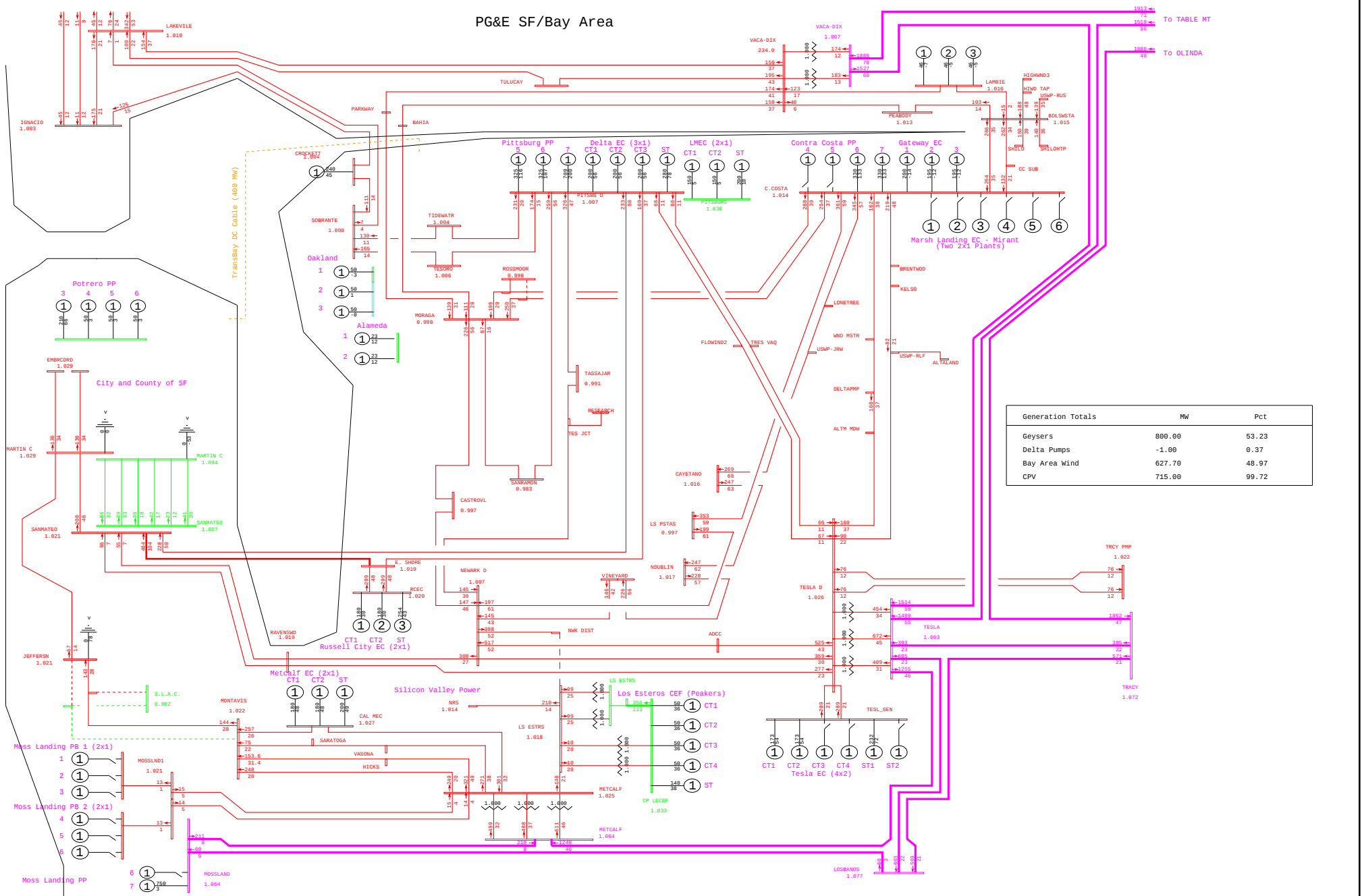


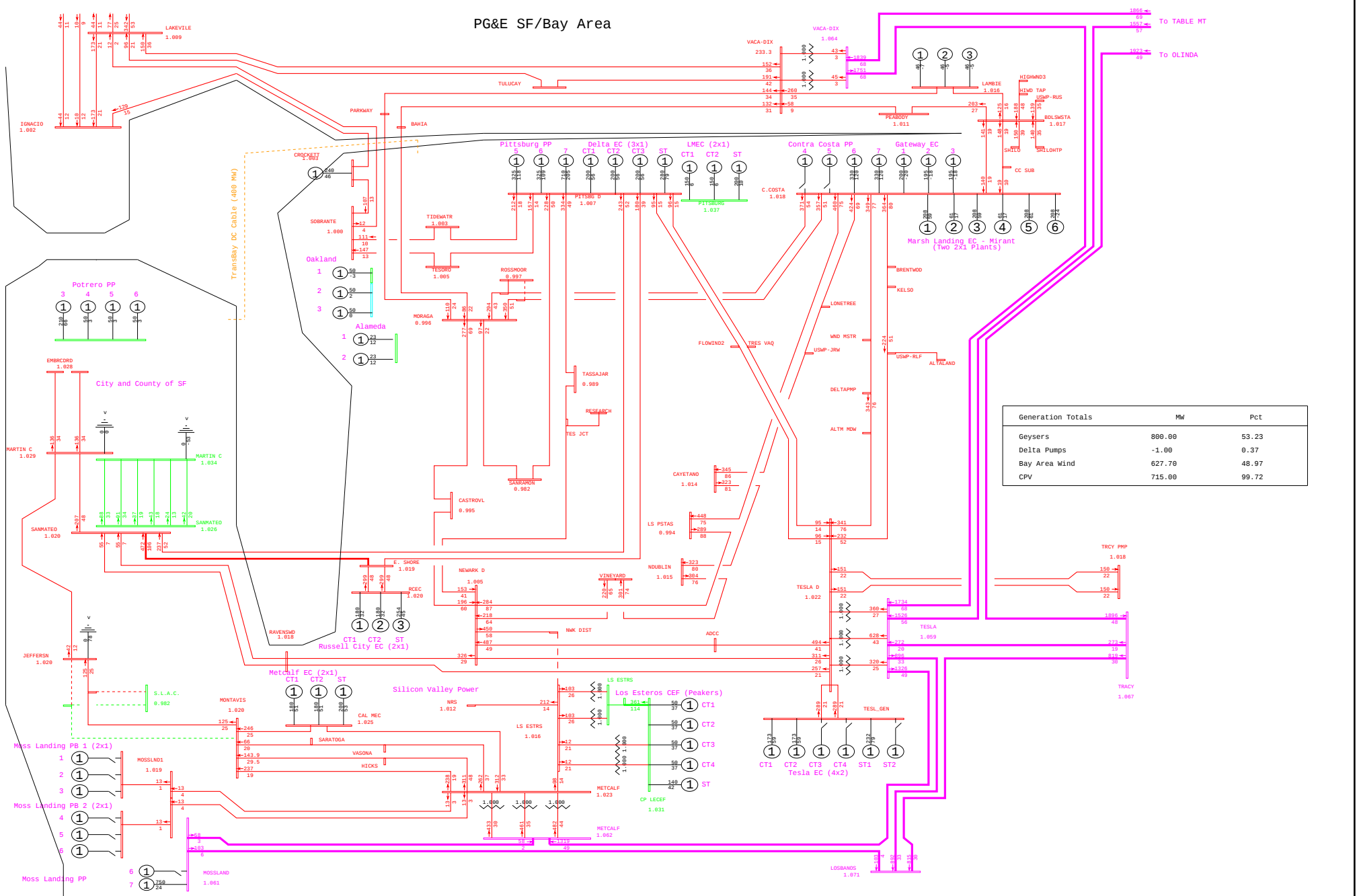


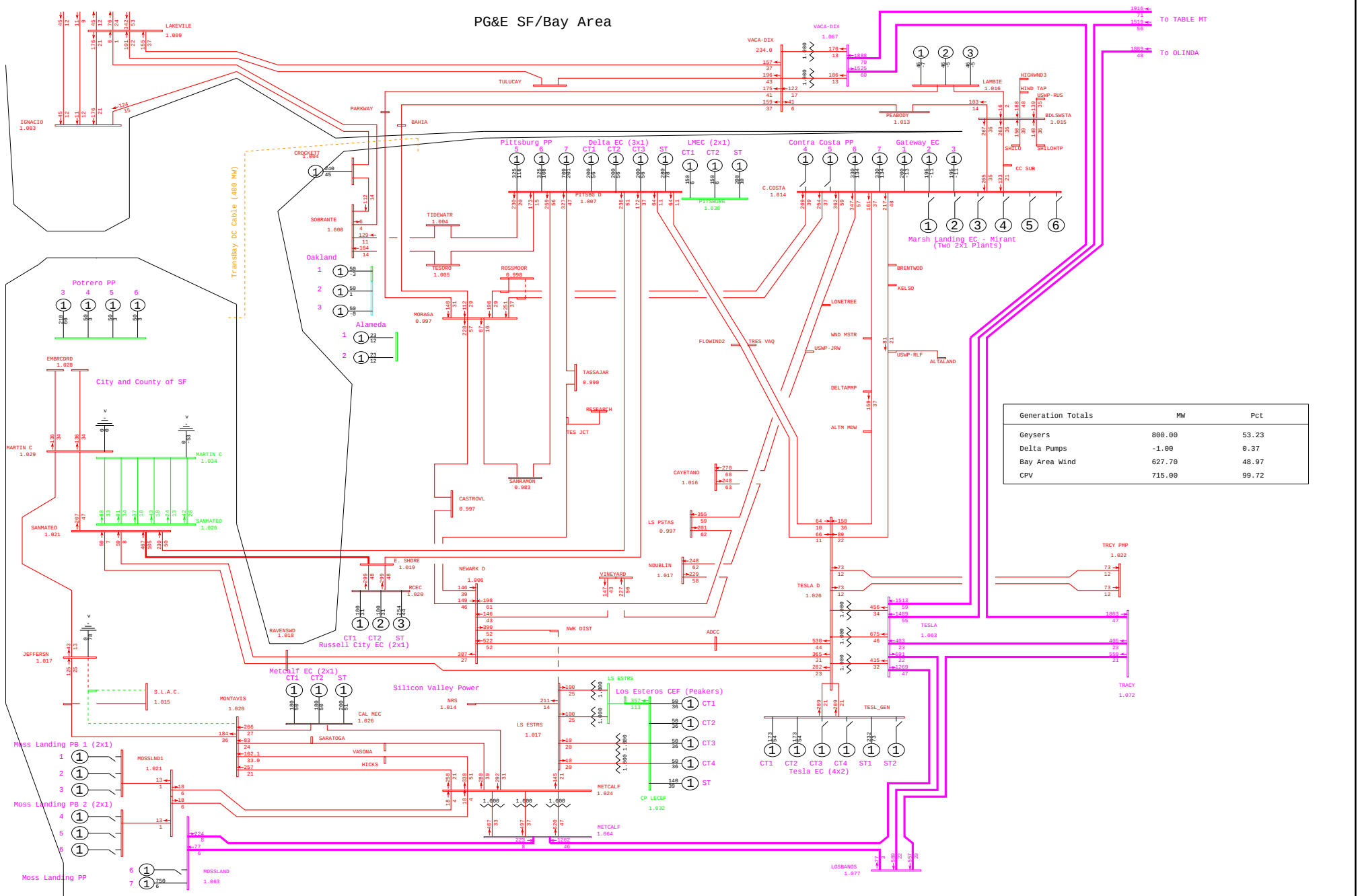












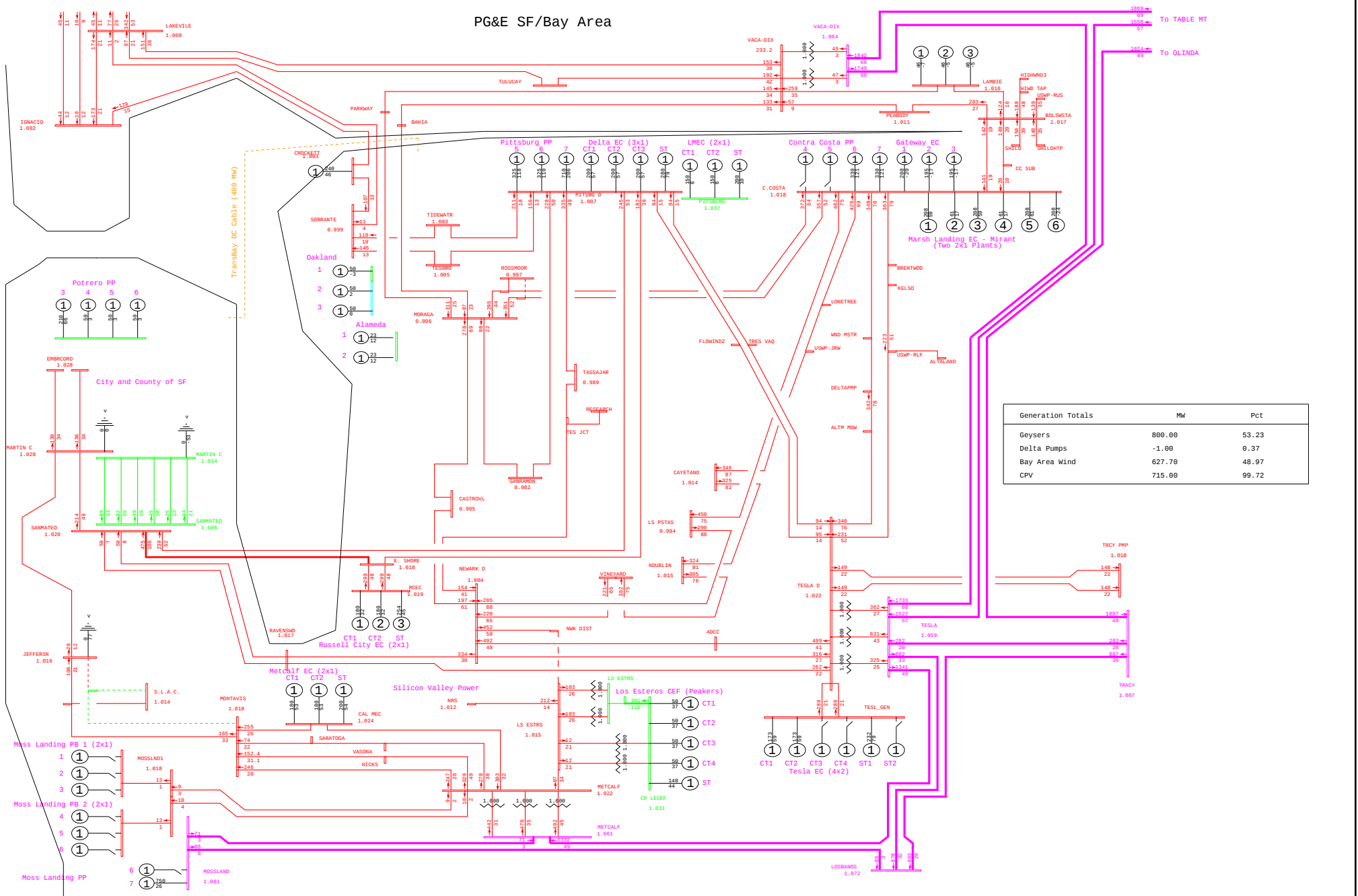
General Electric International, Inc. PSLF Program Fri Sep 12 13:46:14 2008 MRSHLNDv1-2013MRNT_PRE_V1-165.sav

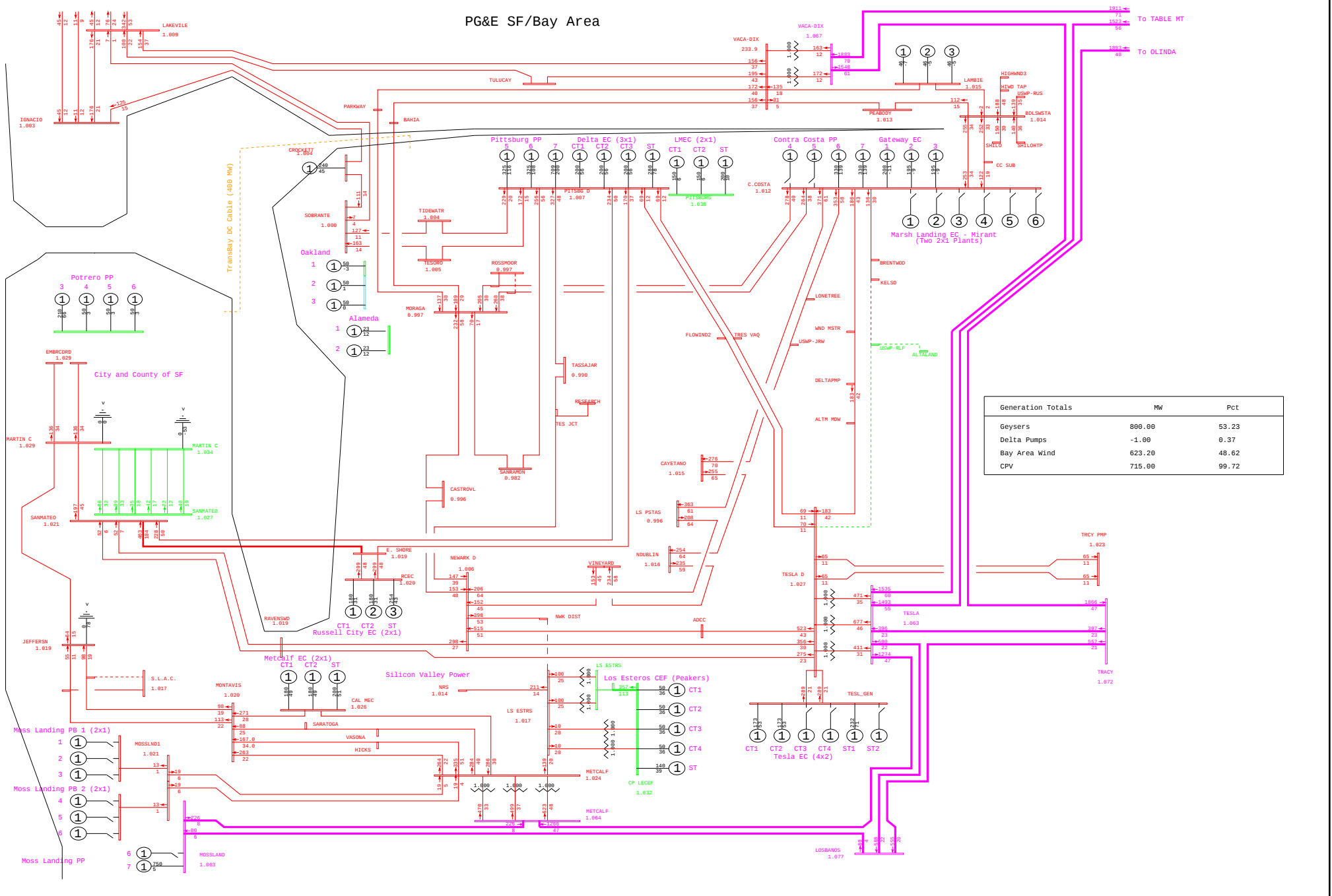


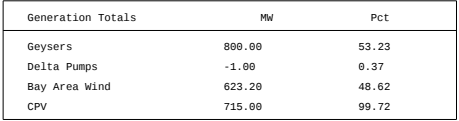
PG&E 2008 TRANSMISSION EXPANSION PLAN ASSESSMENT - 2013MRNT_PRE_V1.sav
 2013 SUMPK: SYSTEM CASE (1-IN-10 LOAD)
 COI=4800(n2s); P26=4000(n2s); PDCI=3100(n2s)

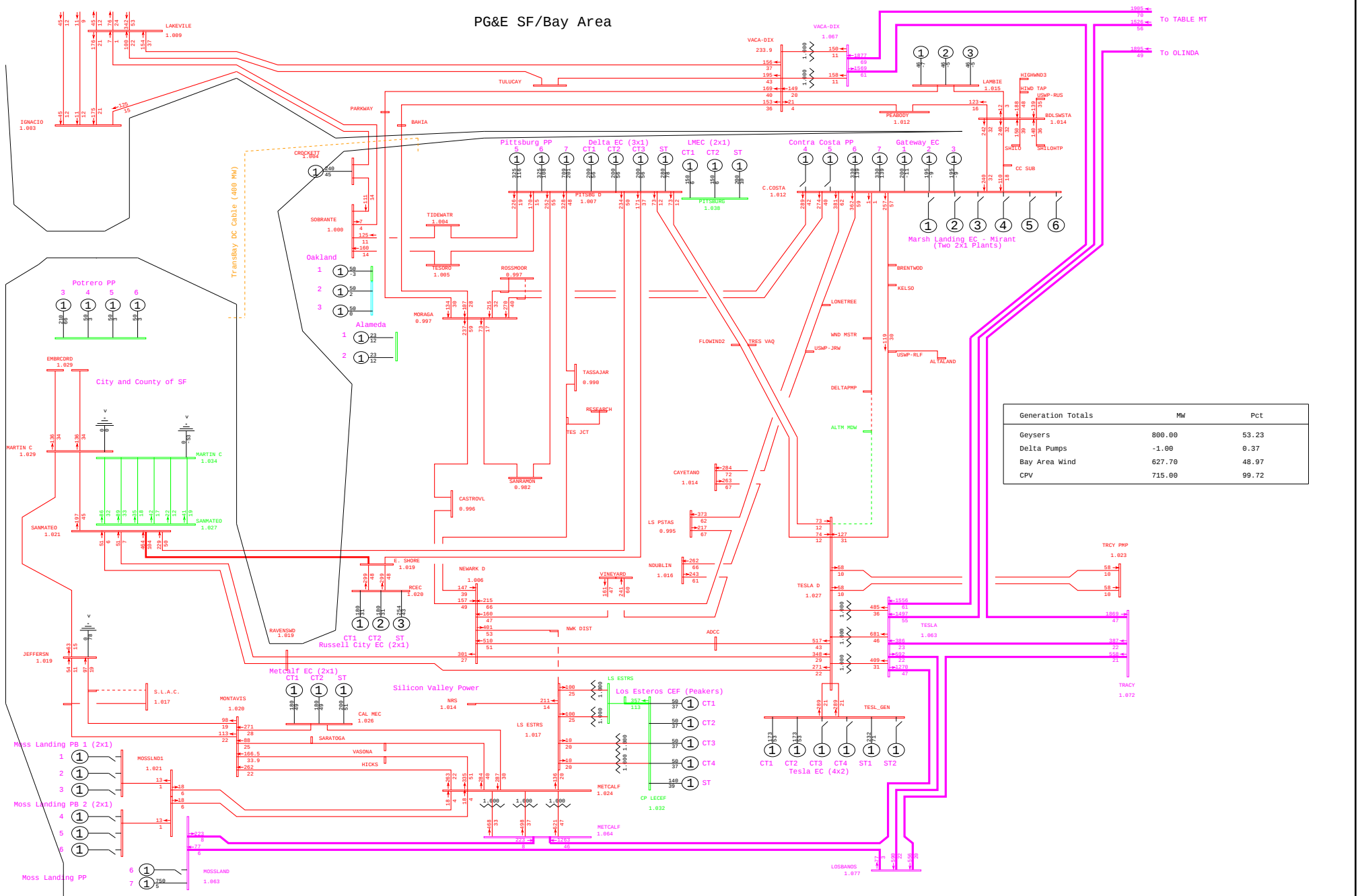
N-1 MONTA VISTA - JEFFERSON #2 230kV LINE
 MRSHLNDV1.PFP, STEADY STATE, CASE NUMBER 165

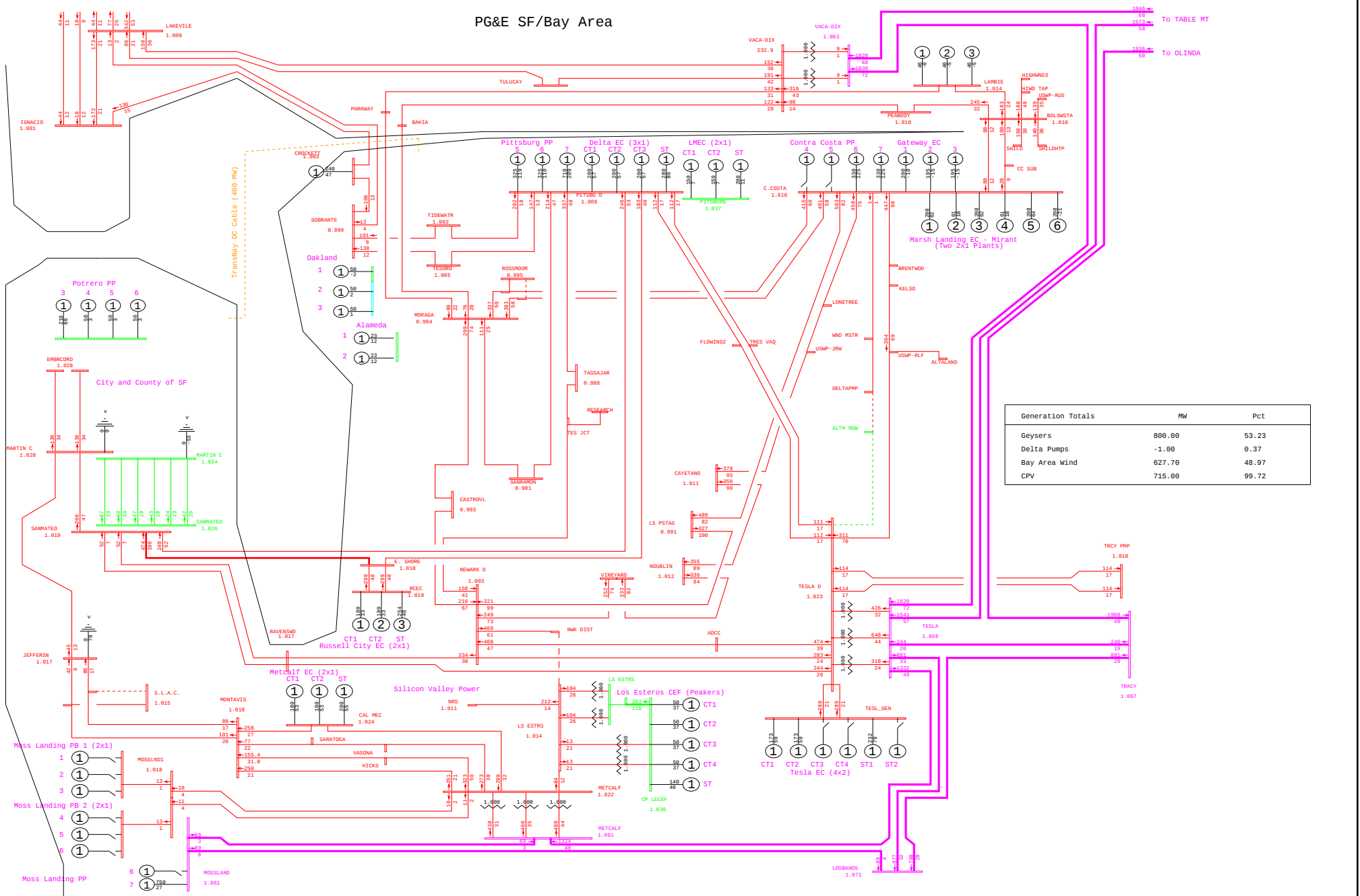
Mw/% rate
 bayarea_2013_PGE_v4.drw
 Rating = 2











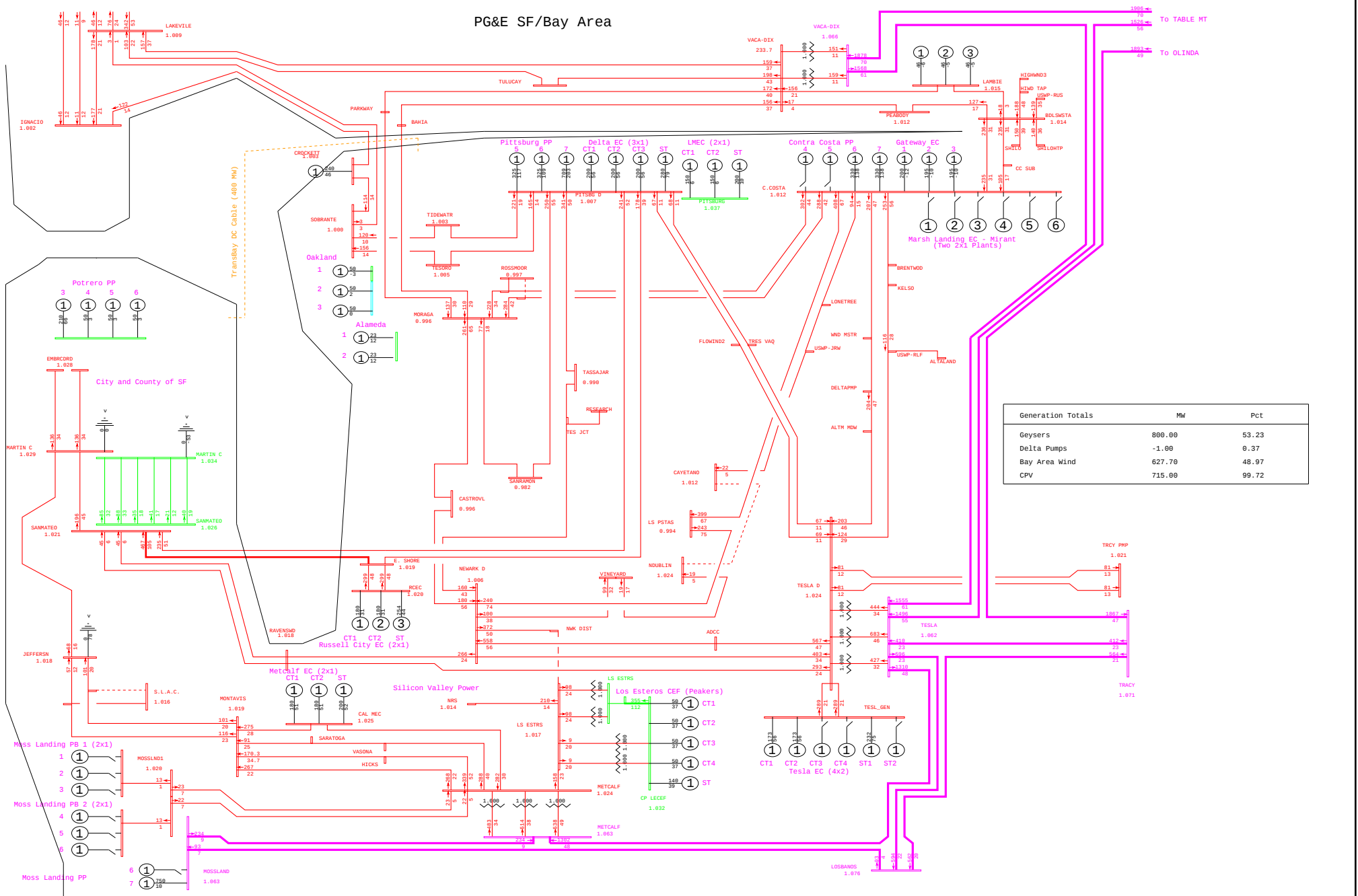
General Electric International, Inc. PSLF Program Fri Sep 12 13:54:15 2008 MRSHLNDv1-2013MRNT_PST_MSLNDG-167.sav



PG&E 2008 TRANSMISSION EXPANSION PLAN ASSESSMENT - 2013MRNT_PST_MSLNDG.sav
 2013 SUMPK: SYSTEM CASE (1-IN-10 LOAD)
 COI=4800(n2s); P26=4000(n2s); PDCI=3100(n2s)

N-1 DELTAPMP - TESLA D 230kV LINE
 MRSHLNDV1.PFP, STEADY STATE, CASE NUMBER 167

MW/% rate
 bayarea_2013_PGE_v4.drw
 Rating = 2



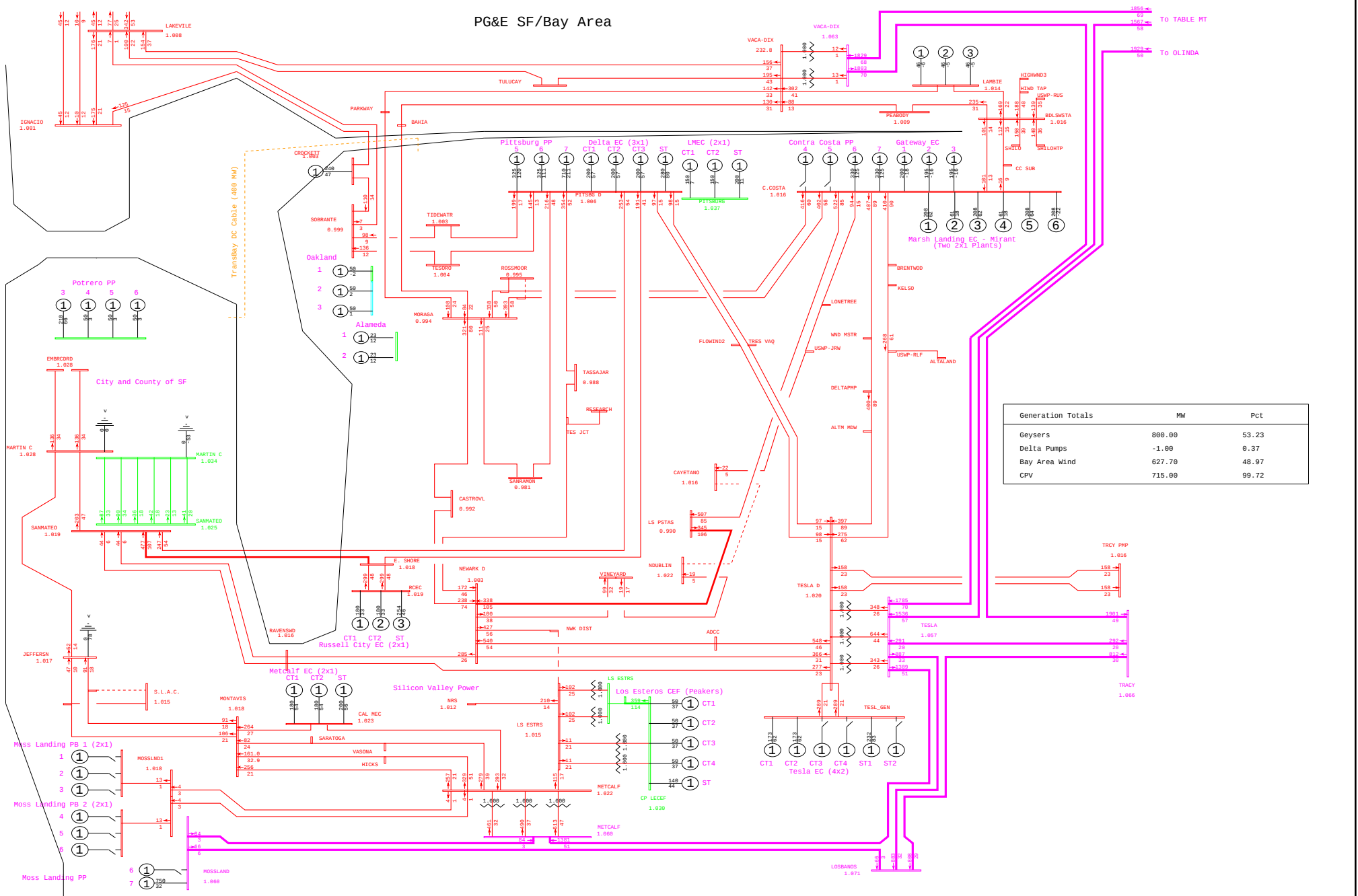
General Electric International, Inc. PSLF Program Fri Sep 12 13:46:17 2008 MRSHLNDv1-2013MRNT_PRE_V1-169.sav

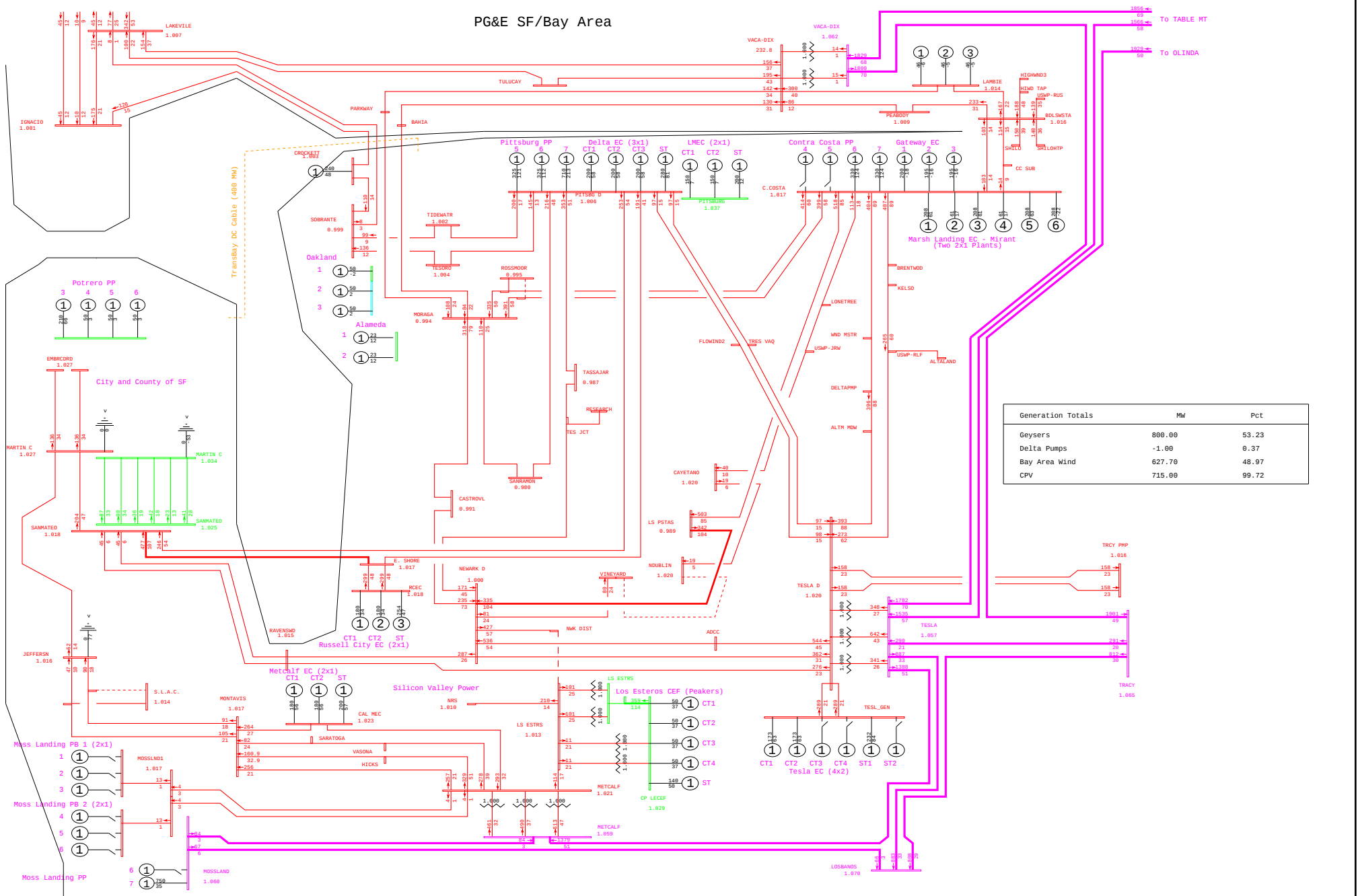


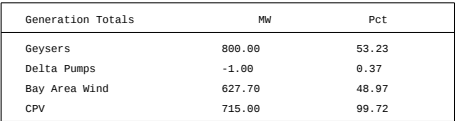
PG&E 2008 TRANSMISSION EXPANSION PLAN ASSESSMENT - 2013MRNT_PRE_V1.sav
 2013 SUMPK: SYSTEM CASE (1-IN-10 LOAD)
 COI=4800(n2s); P26=4000(n2s); PDCI=3100(n2s)

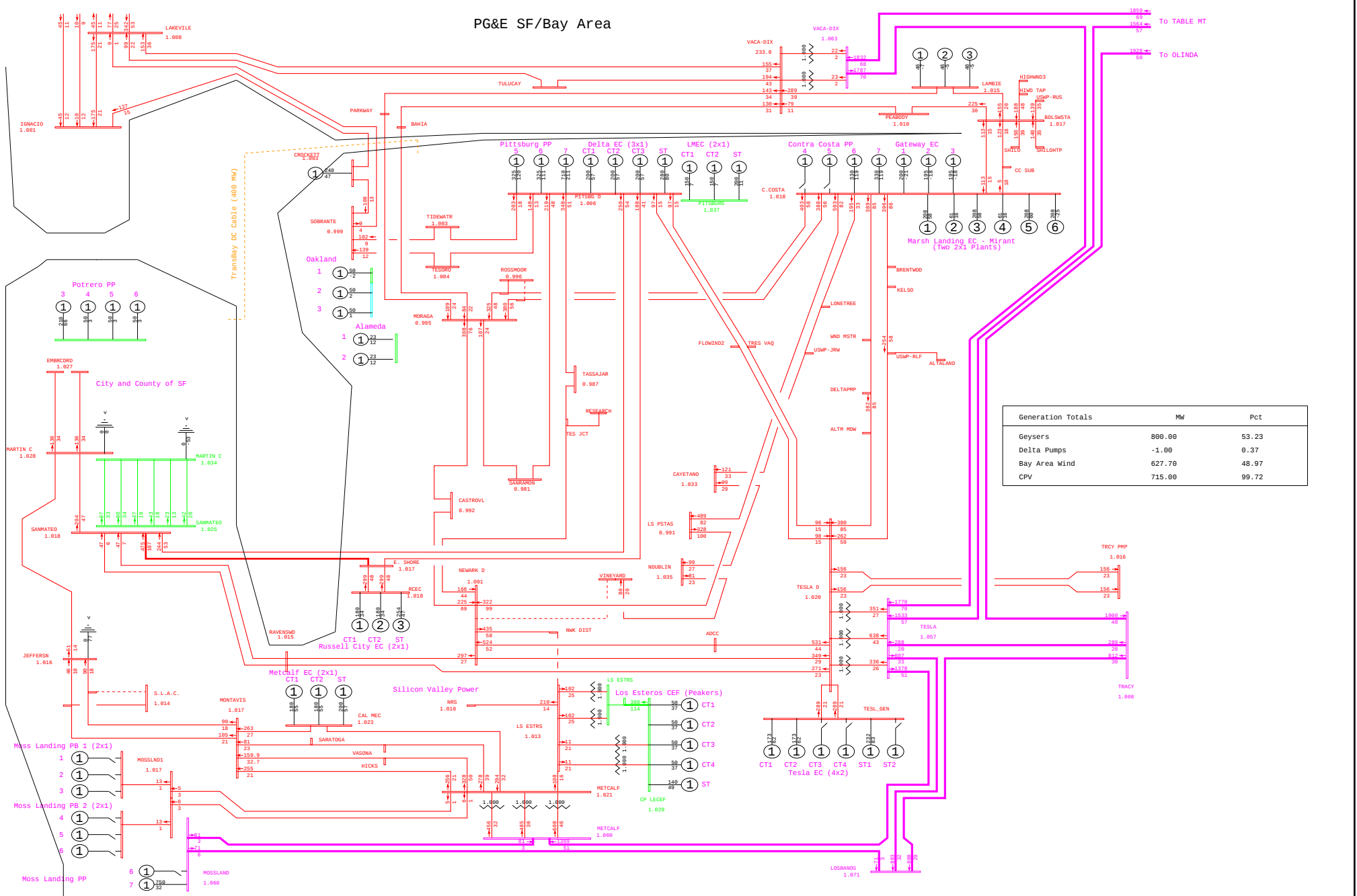
N-1 CAYETANO-NDUBLIN 230kV LINE
 MRSHLNDv1.PFP, STEADY STATE, CASE NUMBER 169

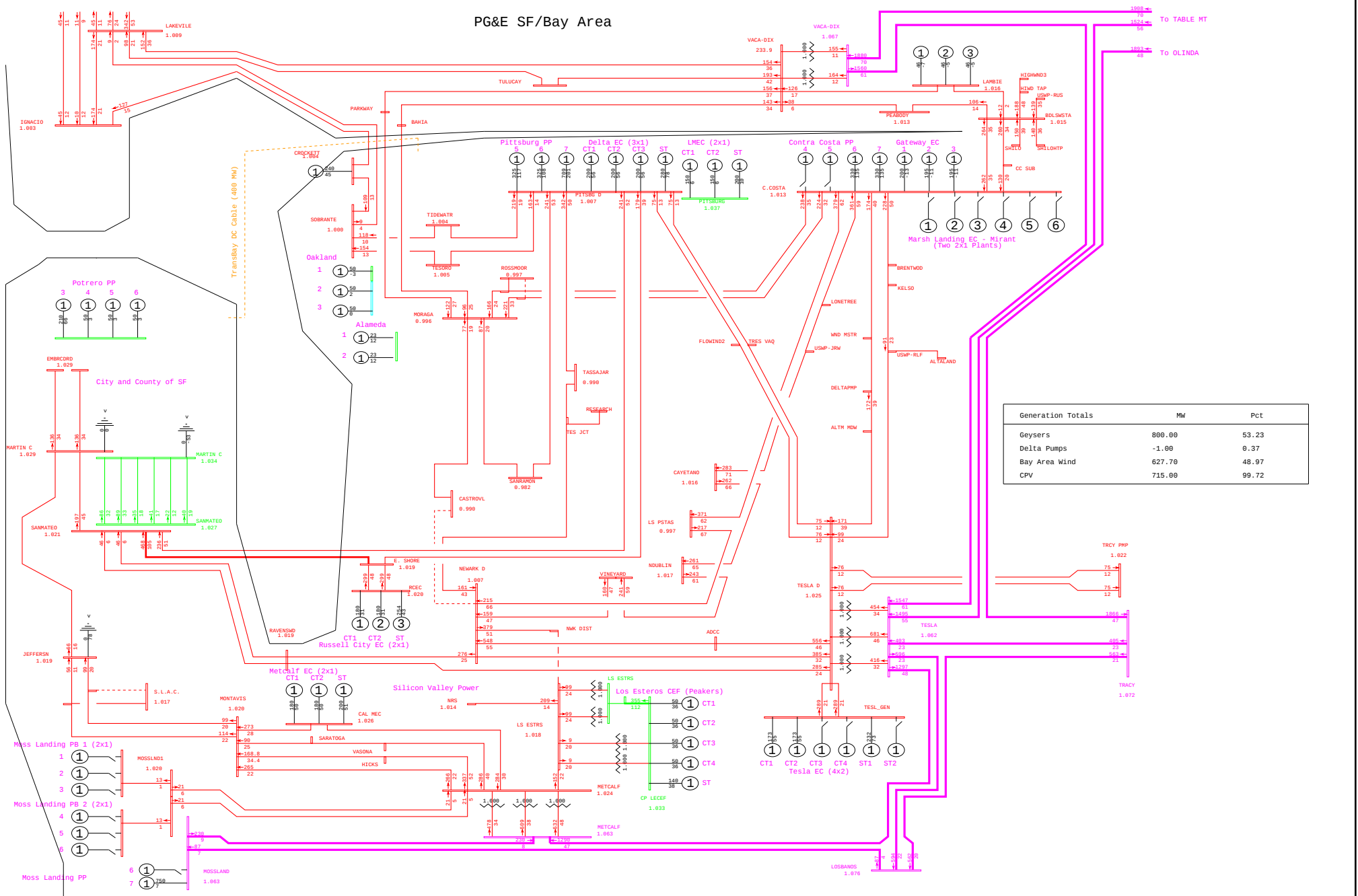
MW/% rate
 bayarea_2013_PGE_v4.drw
 Rating = 2











General Electric International, Inc. PSLF Program Fri Sep 12 13:46:20 2008 MRSHLNDv1-2013MRNT_PRE_V1-172.sav



PG&E 2008 TRANSMISSION EXPANSION PLAN ASSESSMENT - 2013MRNT_PRE_V1.sav

2013 SUMPK: SYSTEM CASE (1-IN-10 LOAD)

COI=4800(n2s); P26=4000(n2s); PDCI=3100(n2s)

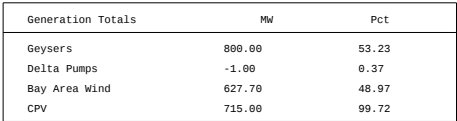
N-1 CASTROVL - NEWARK 230kV LINE

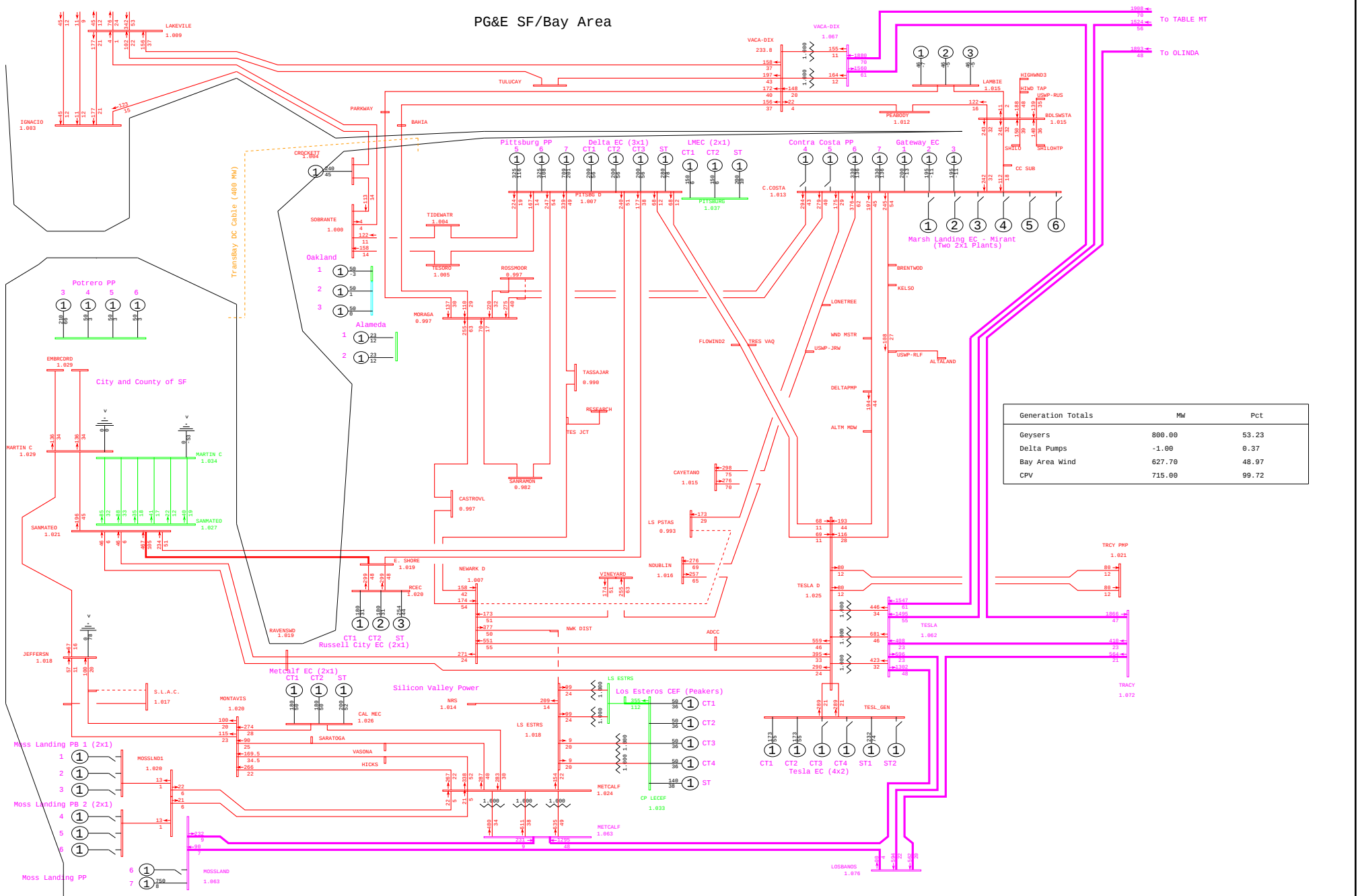
MRSHLNDV1.PFP, STEADY STATE, CASE NUMBER 172

MW/% rate

bayarea_2013_PGE_v4.drw

Rating = 2





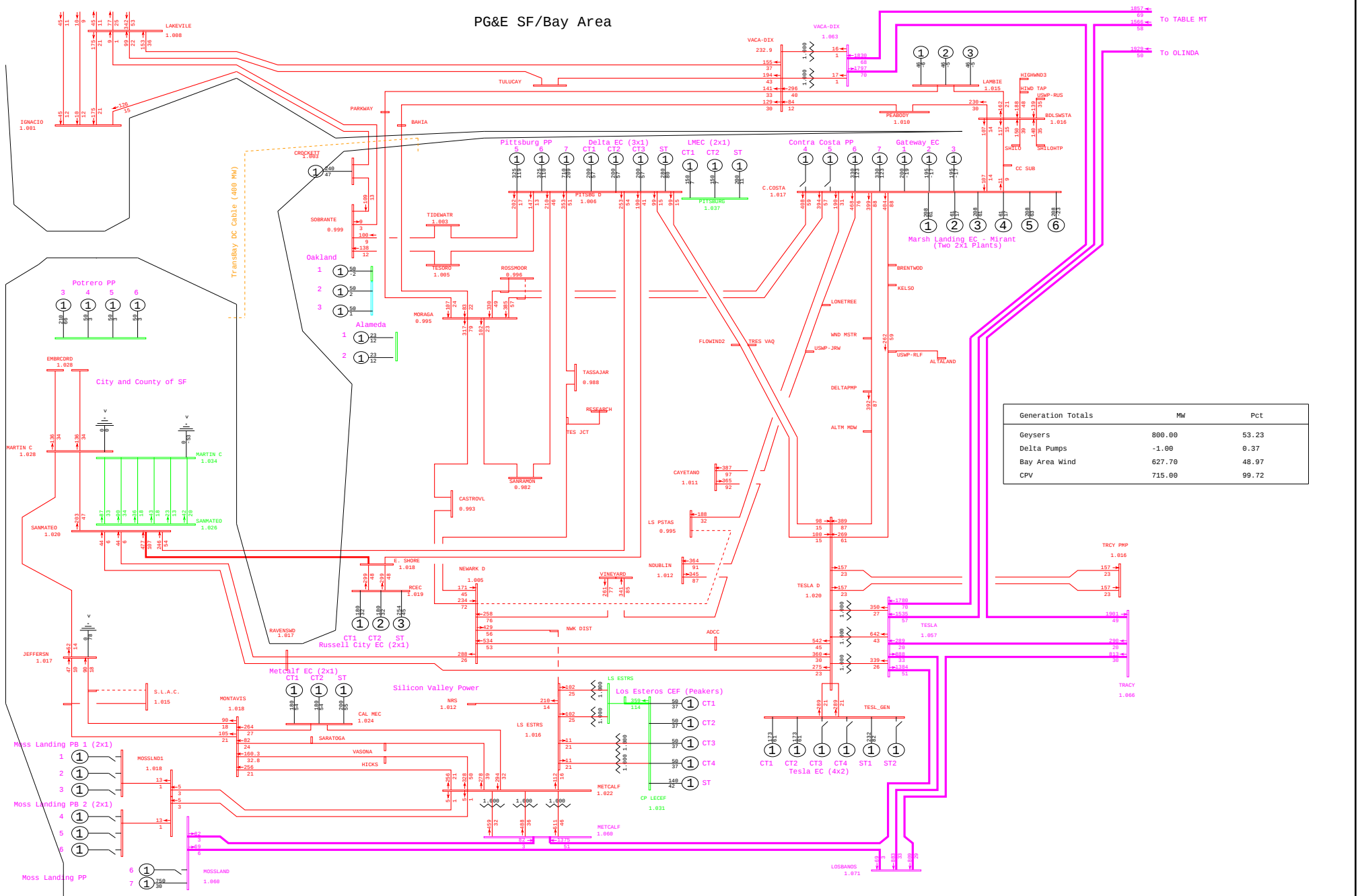
General Electric International, Inc. PSLF Program Fri Sep 12 13:46:23 2008 MRSHLNDv1-2013MRNT_PRE_V1-175.sav

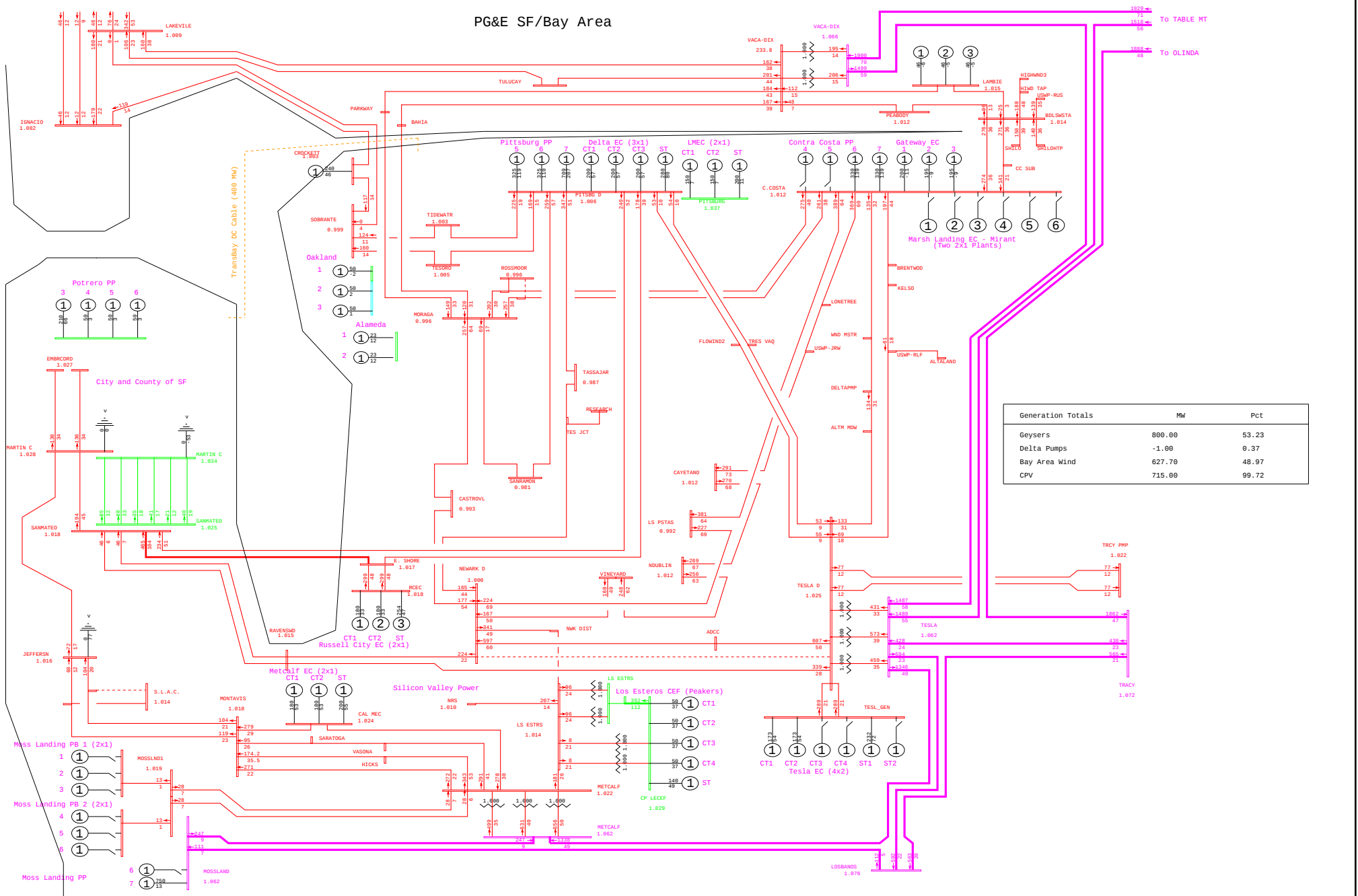


PG&E 2008 TRANSMISSION EXPANSION PLAN ASSESSMENT - 2013MRNT_PRE_V1.sav
 2013 SUMPK: SYSTEM CASE (1-IN-10 LOAD)
 COI=4800(n2s); P26=4000(n2s); PDCI=3100(n2s)

N-1 LS PSTAS - NEWARK 230kV LINE
 MRSHLNDV1.PFP, STEADY STATE, CASE NUMBER 175

Mw/% rate
 bayarea_2013_PGE_v4.drw
 Rating = 2





General Electric International, Inc. PSLF Program Fri Sep 12 13:46:24 2008 MRSHLNDv1-2013MRNT_PRE_V1-176.sav



PG&E 2008 TRANSMISSION EXPANSION PLAN ASSESSMENT - 2013MRNT_PRE_V1.sav
 2013 SUMPK: SYSTEM CASE (1-IN-10 LOAD)
 COI=4800(n2s); P26=4000(n2s); PDCI=3100(n2s)

N-1 TESLA - NEWARK 230kV #1 LINE
 MRSHLNDV1.PFP, STEADY STATE, CASE NUMBER 176

MW/% rate
 bayarea_2013_PGE_v4.drw
 Rating = 2

