DOCKETED

Docket Number:	06-AFC-09C
Project Title:	Colusa Generating Station - Compliance
TN #:	201661
Document Title:	Letter to CEC re Petition for Project Change
Description:	Petition to house spare Generator Step-Up transformer at the Colusa Generating Station
Filer:	Charles Robert Price
Organization:	Pacific Gas & Electric Co.
Submitter Role:	Applicant
Submission Date:	2/7/2014 9:07:03 AM
Docketed Date:	2/7/2014

Pacific Gas and Electric Company®

Ed Warner
Senior Plant Manager

Mailing Address
Pacific Gas and Electric Company
Colusa Generating Station
P.O. Box 398
Maxwell, CA 95955

530.934.9061
Fax: 530.934.9024

CGS14-L-0005
February 6, 2014

Eric Veerkamp
California Energy Commission
1516 Ninth Street, MS-2000
Sacramento, CA 95814

Subject: **Petition To Amend The Commission Decision For The Colusa Generating Station.**

Docket NO. 06-AFC-09

Dear Eric:

Pursuant to Section 1769 of the California Energy Commission (CEC) Siting Regulations, Colusa Generating Station (CGS) hereby submits the attached Petition for a Staff Approved Project Change to Amend Docket No. 06-AFC-09. The requested changes do not affect the project description or any Conditions of Certification in the Commission Decision or subsequent amendments.

The petition is to allow the Colusa Generating Station to store a spare three-phase 265 MVA Generator Step-Up (GSU) transformer which has previously been stored at Pacific Gas and Electric's Gateway Generating Station in Antioch, CA. The spare GSU would minimize the outage period to replace a defective transformer.

We have reviewed the Commission Decision (06-AFC-09), and we believe that the above requested insignificant project change will not result in any new environmental impacts or require any modification to the existing Conditions of Certification contained in the Final Decision.

If you have any questions regarding this submittal, please feel free to call Charles Price at (530) 934-9007.

Sincerely,

Ed Warner
Senior Plant Manger

cc: File No. 3.6.3.16

Charles Price, PGE
Jason Vann, PGE

COLUSA GENERATING STATION APPLICATION FOR STAFF APPROVED PROJECT CHANGE

As required by Section 1769 of the CEC Siting Regulations, Colusa Generating Station (CGS) hereby submits the following information in support of a staff approved project change.

Pursuant to Section 1769(a)(1)(A) and (B), this section provides a complete description of the proposed modifications, including new language for affected conditions, and the necessity for modifications.

The modification proposes to store one (1) spare three-phase 265 MVA Generator Step-Up (GSU) transformer at the CGS site, which can be used as a replacement for any of the GSU transformers at CGS, or other PG&E combined cycle facility (currently the transformer is being stored at the Gateway Generating Station). It will be mounted on its foundation with secondary containment, to capture oil in case of spillage. Low power electrical supply will be provided for heating elements inside the control cabinet to prevent moisture build-up. Attached are marked-up Facility Layout (for location of the proposed modification), specification sheets, and transformer general arrangement. The Colusa Generating Station will use Bureau Veritas as the Chief Building Official (CBO) for the project.

Pursuant to Section 1769(a)(1)(C), a discussion is required if the modification is based on information that was known by the petitioner during the certification proceeding, and an explanation of why the issue was not raised at that time.

The spare GSU transformer will enable PG&E to quickly restore output of generating unit in about one to two months as opposed to 12 – 14 months that would otherwise be required.

Pursuant to Section 1769(a)(1)(D), a discussion is required on whether the modification is based on new information that changes or undermines the assumptions, rationale, findings, or other bases of the final decision, and explanation of why the change should be permitted.

The need for the modification became apparent with an increase of dissolved gases in the CGS's Steam Turbine GSU that was discovered during the quarterly testing.

Pursuant to Section 17699(a)(1)(E), an analysis of the impacts the modifications may have on the environment and proposed measures to mitigate any significant adverse impacts is required.

The storage of the spare GSU transformer will have no significant adverse impacts on the environment. The spare transformer will use non-PCB insulating oil and the facility

will be provided with secondary containment to adequate capture any potential oil spillage. The facilities Spill Prevention, Containment and Countermeasure (SPCC) plan, Stormwater Pollution Prevention Plan (SWPPP), and Hazardous Materials Business Plan (HMBP) will be modified to capture the additional oil and controls resulting from the new spare GSU. The spare transformer will use non-PCB insulating oil meeting

Pursuant to Section 17699(a)(1)(F), a discussion of the impact of the modification on the facility's ability to comply with applicable laws, ordinances, regulations, and standards is required.

The proposed modification will not have an impact on the facility's ability to comply with applicable laws, ordinances, regulations and standards.

Pursuant to Section 1769(a)(1)(G), a discussion of how the modifications affect the public is required.

The proposed upgrade will have no significant environmental effects and will be in compliance with applicable LORS, therefore there will be no effects to the public.

Pursuant to Section 1769(a)(1)(H), a list of property owners potentially affected by the modification is required.

The proposed upgrade will have no significant environmental effects and will be in compliance with applicable LORS, therefore there will be no effects to the property owners.

Pursuant to Section 1769(a)(1)(I), a discussion of the potential effect on nearby property owners, the public and the parties in the application proceedings is required.

The proposed upgrade will have no significant environmental effects and will be in compliance with applicable LORS, therefore there will be no effects to the property owners, the public or other properties.

Spare Generator Step-Up Transformer Specifications Sheet

Performance and Design Requirements

Applicable Standards	IEEE C57 Series and All Reference Document
Specification	Spare Three-Phase Generator Step-up Transformer Specification

Ratings

Base Bid

MVA Rating	159/212/265 @ 60° C	35° C Average Daily Ambient	45° C Maximum Ambient

Alternate Bid

MVA Rating	159/212/265 @ 55° C	40° C Average Daily Ambient	45° C Maximum Ambient

Cooling Class ONAN/ONAF/ONAF

Winding	**Rated Voltage (kV)**	**Line BIL (kV)**	**Neutral BIL (kV)**	**Connection**
High Voltage; HV	230GrdY/133	900	900	Grd Wye
Low Voltage; XV	18	150	-	Delta

Frequency, Hz	60	**Application**	Outdoor
Number of Phases	3	**Transformer Type**	Step Up Two Windings
Minimum Temperature	-10° C/15° F	**Winding Material**	100% Copper
		Altitude for Design	Below 3300 ft (1000m)

Oil Preservation System	Sealed Bladder Conservator (Elevated conservator tank with a sealed bladder)
Seismic Ground Acceleration Level	_____
Audible sound at Max. MVA (dBA)	Per NEMA TR-1 and ANSI/IEEE Std, ≤85 dBA at 1m

Impedances (at rated voltage, 85° C Reference Temperature 159 MVA Base)

Windings	**Impedance on 159 MVA base (%)**
H-X	**9.5**

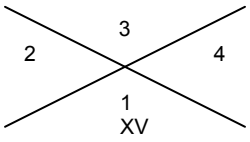
Tap Changers

Regulated Windings	**Type**	**Tap Changer Control**	**Number of Steps**		**Total % Above Rated kV**	**Total % Below Rated kV**
			Plus	**Minus**		
High Voltage; HV	De-energized	Local Manual	2	2	5	5

Bushings

	BIL (kV)	Type	Minimum Porcelain Creep	Termination Compartment?	Termination Flange?	Termination Type	Location	Segment
HV	900	Composite	44 mm/kV	No	No	Cable or hardbus connection to arrestor then arrestor to bushing	Cover	3
H0	150	Composite	44 mm/kV	No	No	Bus to Ground Pad	Cover	1
XV	150	Porcelain	Mfr Std	No	Long	Isolated Phase Bus Duct	Cover	3

The Physical Arrangement and Terminal Identification Shall Be X1-X2-X3 from Left to Right When Facing XV Side, and H1-H2-H3 from Right to Left When Facing HV Side.



Surge Arresters (QTY-One per bushing shown below)

Location	kV Rating	MCOV Rating (kV)	Minimum Porcelain Creep	Mounted on Transformer?	Discharge Counters?	Insulated Base?	Grading Current Meter?
HV Terminals	230	180	44 mm/kV	Yes	Yes	Yes	Yes

Neutral Grounding Equipment

Connection Point	Method	Ohms	Amperes	kV	Time Duration	Mounted on Transformer?
HV	Solid					

Current Transformers

Location Point	Ratio	Accuracy Class	Position on Bushing	Quantity per Bushing	Total
HV Bushing	1200:5 MR	C800 – IEEE Relaying	Lower	1	3
HV Bushing	1200:5 MR	0.3B-1.8 – IEEE Metering	Middle	1	3
HV Bushing	2000:5 MR	C800 – IEEE Relaying	Upper	1	3
H0 Bushing	1200:5 MR	C800 – IEEE Relaying	Lower/Upper	2	2
XV Bushings	12000:5 MR	C800 – IEEE Relaying	Lower	1	3
XV Bushings	12000:5 MR	C800 – IEEE Relaying	Upper	1	3

Paint Systems and Colors

Tank Accessories Color	ANSI 70 Light Gray
Painting System	Mfr Std
Auxiliary/Control Power Supplies	ANSI 70 Light Gray

Auxiliary/Control Power Supplies

Power Supplies	Nominal Voltage	No. of Sources
Auxiliary Power	480V Three Phase	1
Control DC	125V	1
Control AC	To be transformed from the auxiliary power supply	

Accessories

Resistance Temperature Detector (RTD)	Hot Oil and Hot Spot
Combustible Gas Detector	Yes
Annunciator Panel	Yes

Ancillary Equipment Locations

Equipment	Segment
Conservator Tank	2 – REV1
Control Cabinet	2
Neutral Grounding Resistor	N/A
Temperature Indicators	2
Oil Level Indicators	2
Ground Pads	1 and 3

Tests

☒	Ratio Tests	☒	Load Loss Tests
☒	Polarity Tests	☒	Phase Relation Test
☒	Exciting Current	☒	No Load Loss Test
☒	Resistance Measurement Test	☒	Auxiliary Cooling
☒	Impedance Test	☒	Regulation Test
☒	Applied Potential	☒	Induced Potential
☒	Full Wave Impulse	☒	Pulse and Ratio CTs
☒	Corona (Partial Discharge)	☒	Insulation Power Factor Test
☒	Insulation Resistance	☒	Temperature Test
☒	Sound Measurement Test	☐	Switching Impulse Test
☒	Sweep Frequency Response Analyzer Test (FRA)	☒	Bushing Power Factor Tests

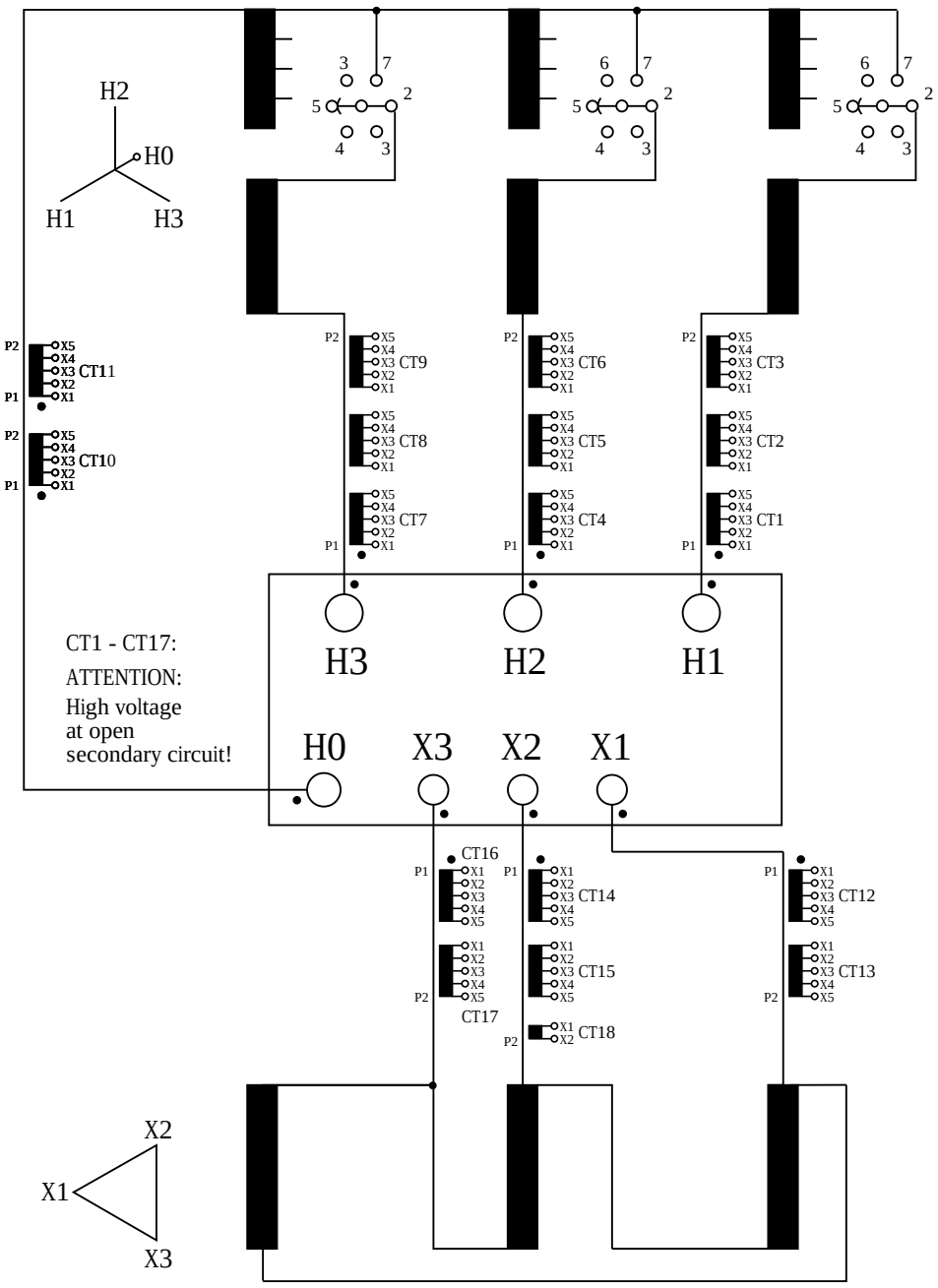
Additional Requirements

1. MAX SIZE FOR BASE
   Looking at SEG 1 or LV side – 9’-1” from tank center or 18’-2” total
   Looking at SEG 2 – 4’-7” from tank center or 9’-2” total
2. MAX Distance from Tank Center to outside edge of Conservator Tank and supports - 14 feet
3. MAX Distance from Tank Center to outside edge of radiator
   SEG 1 side -
4.

Three-phase Power Transformer

S

Type			DO 224 000 / 220E			Serial number	N7425101
Number of specification			ANSI C57			Month / Year of manufacture	08 / 2012
Rated frequency	Hz	60		Type of cooling	ONAN 65 / ONAF1 65 / ONAF2 65	Kind	Step-up and Step-down
Winding / Insulation level		kV	HV / BIL 900 AC 395 BIL 150 AC 50 ... HO	kV	LV / BIL 150 AC 50	Connection symbol	YNd 1
Rated power	Tap	MVA	159 / 212 / 265	MVA	159 / 212 / 265		
	1		241 500GrdY/139 430				
Rated voltage ►	3	V	230 000GrdY/132 791	V	18 000	Impedance voltage at rated current	%
	5		218 500GrdY/126 151				
Rated current		A	399 / 532 / 665	A	5 100 / 6 800 / 8 500	referred to power	MVA 159 000
Symmetrical short-circuit current		kA		kA		Duration maximum	s 3
Tap-changer		Type	MR - DU 800 - 72.5 - 06 05 0D			Serial number	-
				Rated current	A 700	Insulation level	kV BIL 350 AC 140



Posi-tion	Voltage V	Current A			Tap changer connection
High-voltage		Terminal: H1 - H2 - H3 - H0			
1	241 500	380	507	634	2 - 3
2	235 750	389	519	649	2 - 4
3	230 000	399	532	665	2 - 5
4	224 250	409	546	682	2 - 6
5	218 500	420	560	700	2 - 7

! ATTENTION !

Do not operate de-energized tap-changer when transformer is energized!

Low-voltage	Terminal: X3 - X2 - X1				
	18 000	5 100	6 800	8 500	

Ambient temperature	°C	-10 to +45
Total mass	lbs	437 850
Transportation mass excl. oil	lbs	286 600
Untanking mass	lbs	246 500
Mass of tank and fittings	lbs	84 900
Mass of insu-lating oil	lbs	99 000
Dry weight of cellulose insulation	lbs	12 700

Current transformer

Designation	Terminal	A	VA	Class
CT1;CT4;CT7;CT10;CT11	X1 - X5	1 200 / 5 MR		C800
CT2; CT5; CT8	X1 - X5	1 200 / 5 MR		0.3B-1.8
CT3; CT6; CT9	X1 - X5	2 000 / 5 MR		C800
CT12 - CT17	X1 - X5	12 000 / 5 MR		C800
CT18	X1 - X2	8 500 / 5 SR	15	3

Quantity of insulating oil - Tank: 11 770 gallons / conservator: 334 gallons / Cooling unit: 1 070 gallons / Total: 13 174 gallons		
Contains no PCB's as determined by the use of ASTM D 4059	Date of oil-filling / oil-testing: /	
Tank, conservator and cooling unit are designed for full vacuum.	Tank pressure: positive 14.5 psi	Type of insulating oil: Nynas Nytro Lyra X
Instruction manual number: 2036-00/36	Material of LV and HV winding: copper	

CONTRACTOR/SUPPLIER DOCUMENT REVIEW

1. ☑ ACCEPTED – Supplier may proceed

2. ☐ ACCEPTED – Submit final documents. Supplier may proceed

3. ☐ ACCEPTED SUBJECT TO NOTATIONS – Make changes and submit final documents. Supplier may proceed as approved.

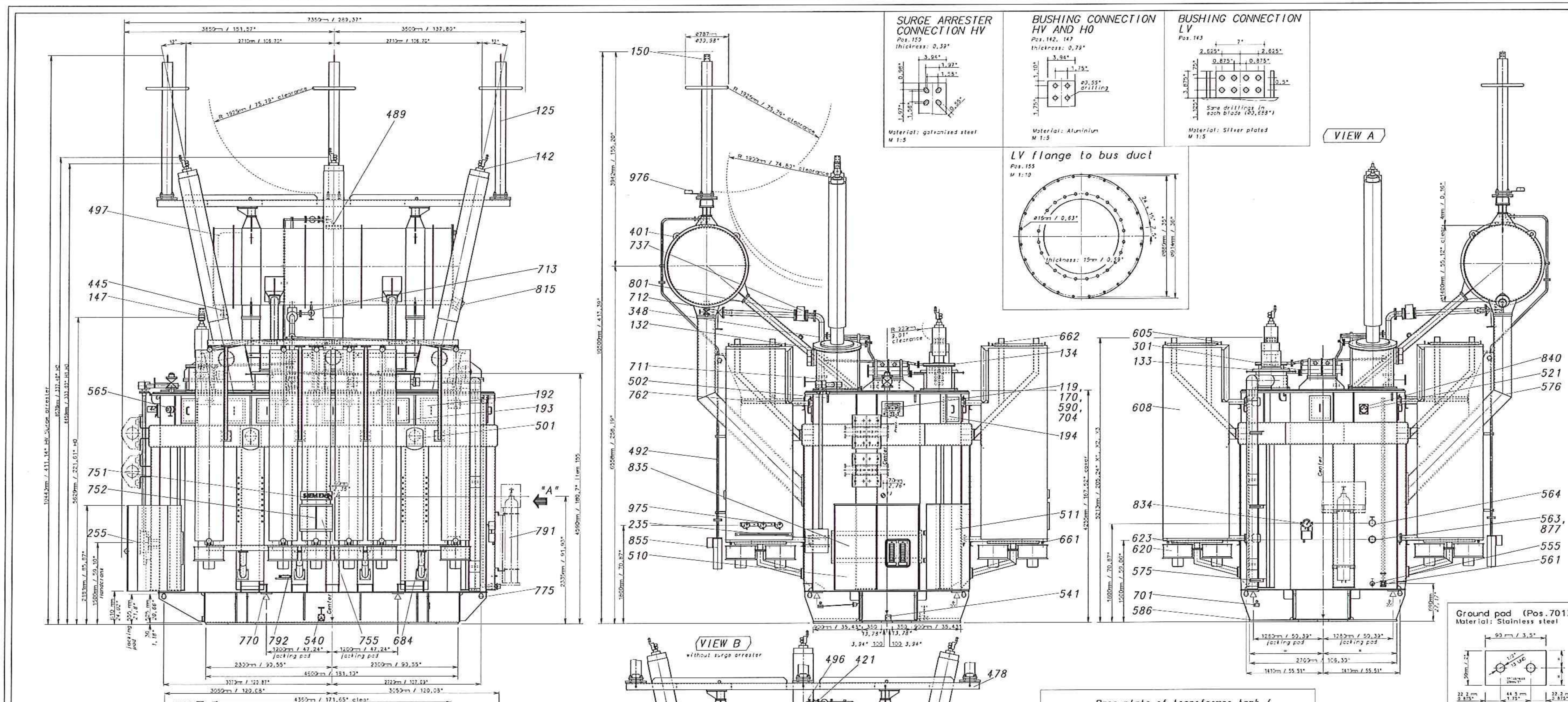
4. ☐ NOT ACCEPTED – Correct and resubmit.

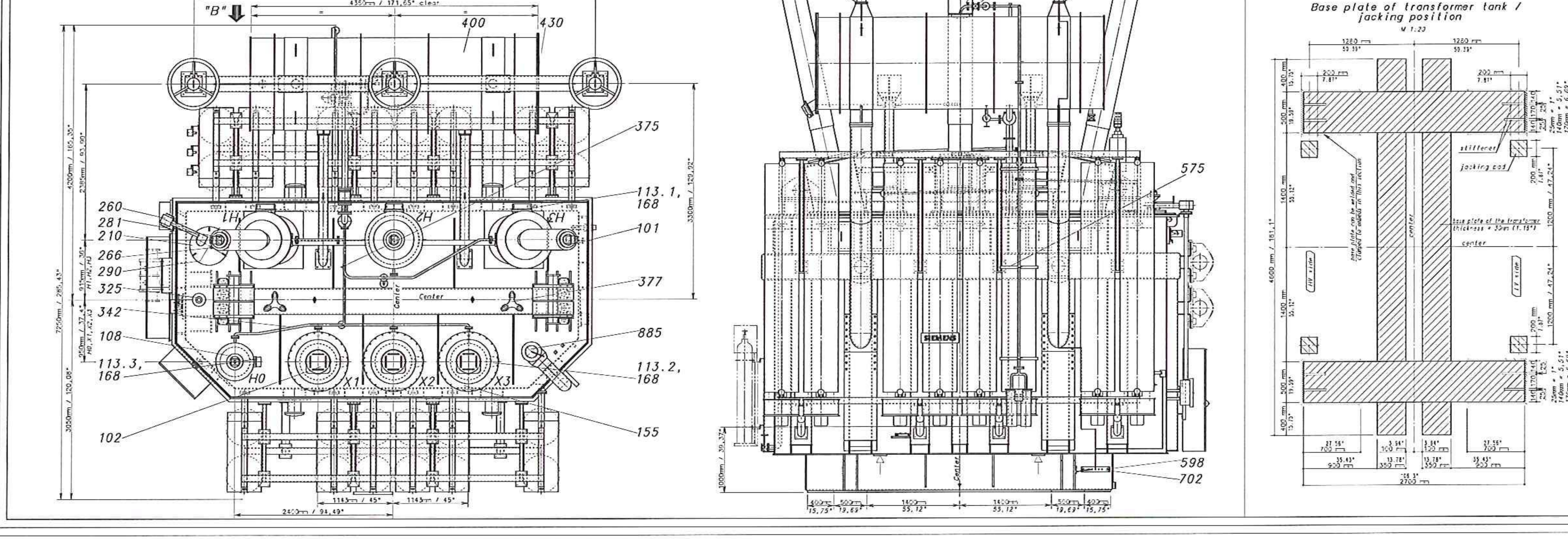
5. ☐ ACCEPTANCE NOT REQUIRED – Supplier may proceed.

Acceptance of this document does not relieve Supplier from full compliance with Contract or Purchase Order requirements.

By: HClune Date: 8/16/12

PG&E: DWG D127088 A0, rev. 2





TRANSFORMER during operation	WEIGHTS	APPROX. CALCULATED NO GAS (if 20)	
	UNTANKABLE PART	111 800 kg	246 478 lbs
	(insulation material)	(6 050 kg)	(13 338 lbs)
	TANK	38 500 kg	84 878 lbs
	OIL	44 900 kg	98 988 lbs
	OIL IN TANK (US gal)	12 135 gal	
	OIL IN RADIATORS (US gal)	1 070 gal	
	CONSERVATOR	3 400 kg	7 496 lbs
	TOTAL WEIGHT	198 600 kg	437 840 lbs
Shipping mass (dry air filled) MAX.		129 600 kg	285 721 lbs

This drawing to be read in conjunction with:
Legend D127089 A4
Transport D127090 A2
Valve location plate D127476 A2

CRANE HOOK HEIGHT:

FOR LIFTING THE COMPLETE TRANSFORMER.....449"/11 400 mm

FOR LIFTING THE UNTANKABLE PART..........655"/16 900 mm

FLANGE CONNECTION :

	POS.	INCH	PN	ØD	Øk	Ød	n	BSP/NPT (female)
	445	1"	10	115	85	14	4	1" NPT
Main drain	540	2"	Milwaukee 506-2011(2")					2" NPT
Oil Fill	551	2"	Milwaukee P 2641 (2")					2" NPT
	555	1"	10	115	85	14	4	1" NPT
Main Return	325	3"	10	200	150	18	8	3" NPT

1) ... centre of gravity for transformer completely assembled with oil

HIGH SEISMIC QUALIFICATION LEVEL
ACC. IEEE STD. 693 - 2005

3 phase Transformer:
265 MVA - H:230000 V ±2•5750 V / X: 18000 V

Purchaser: PG & E
P.O.No.: 3500917256
Specification No.: 5900
Substation: Gateway

OUTDOOR DESIGN

SCALE 1: 25

ORDER NO. N007425 — SERIAL NO. N007425101

DO 224000/220E
Definite dimension drawing

CLIENT: PG & E

SIEMENS
Transformers Austria - Linz

D127088 A0

REV.NO. 1 2

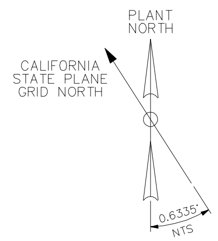
NO.	REVISION	DESIGNER	RELEASE
2	Pos. 737, 801 and 835 changed	120718	
1	Height of HV-bushings changed, crane's hook (transport) added	120120	

DESIGN 120207

SUBST. F. D127088 A0-1 — REPL. BY

PATH: N7425-MB-MB.cdd

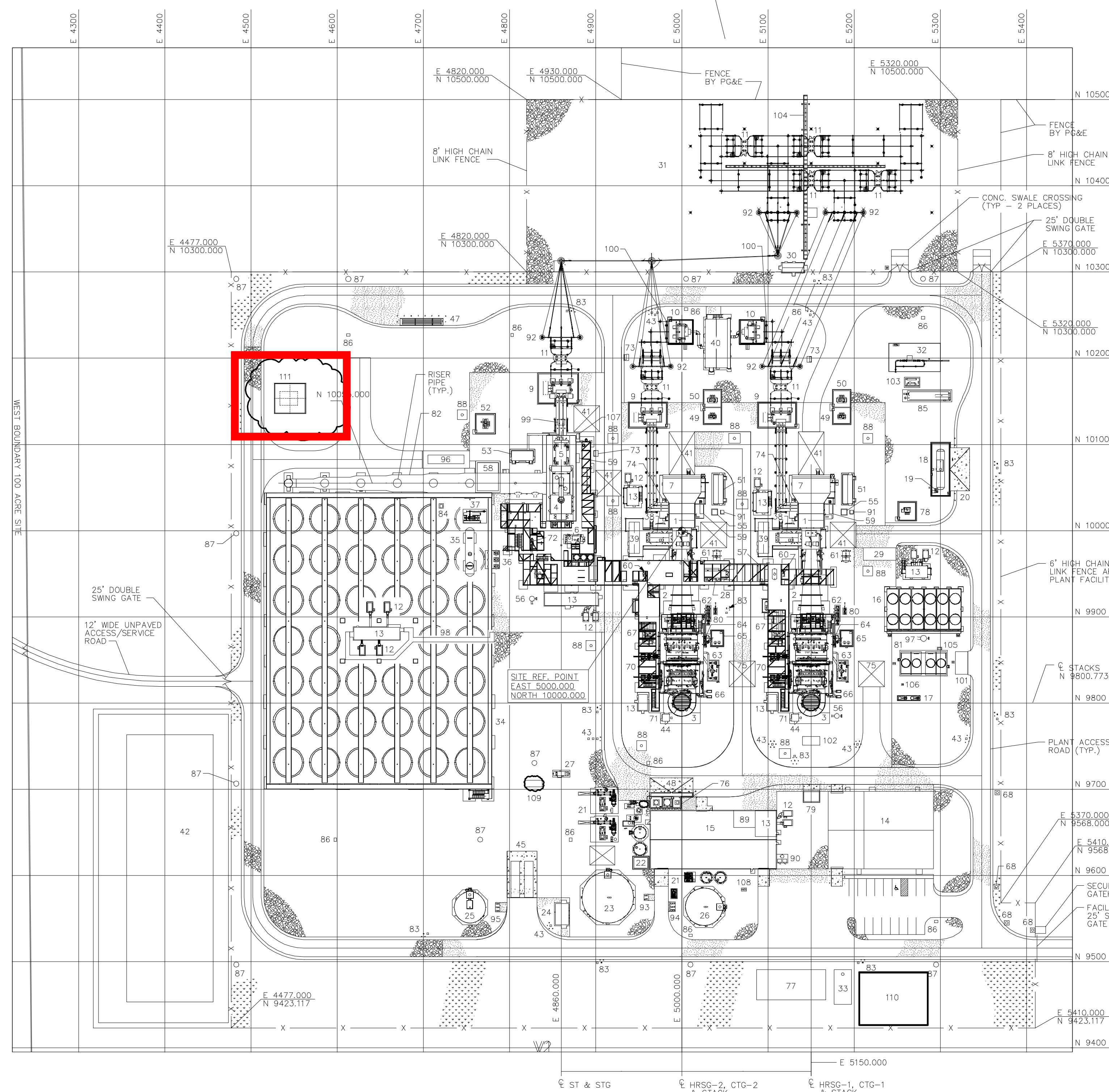
CAD-DRAWING



COORDINATE SYSTEM:

LOCATION	SITE COORDINATE	PLANT COORDINATE
CENTERLINE OF CTG-2 TURBINE BASE ANCHOR SUPPORT NORTH/ SOUTH	N 2259519.171	N 10000.000
CENTERLINE OF CTG-2 UNIT EAST/ WEST	E 6485331.470	E 5000.000
TOP OF CTG FOUNDATION CONC.	EL. 183'-0"	EL. 100'-0"
TOP OF HRSG FOUNDATION CONC.	EL. 183'-0"	EL. 100'-0"
CTG EQUIPMENT BASELINE TOP OF GROUT	EL. 183'-1?"	EL. 100'-1?"
BOTTOM OF NOOTER/ERIKSEN HRSG-1&2 FRAME BASE PL. & STACK BASE RING EL. 0'-0"	EL. 183'-3"	EL. 100'-3"

(SITE COORDINATES BASED ON CALIFORNIA STATE PLANE GRID NAD83, ZONE 2)



NEW PLANT DESCRIPTION

1 COMBUSTION TURBINE
2 HEAT RECOVERY SYSTEM GENERATOR (HRSG)
3 HRSG EXHAUST STACK
4 STEAM TURBINE
5 STEAM TURBINE GENERATOR
6 STEAM TURBINE LUBE OIL SKID
7 COMBUSTION TURBINE AIR INLET
8 NOT USED
9 GSU TRANSFORMER
10 STATION SERVICE TRANSFORMER
11 HIGH VOLTAGE BREAKER
12 SUS TRANSFORMERS
13 POWER DISTRIBUTION CENTER
14 ADMIN/CONTROL/MAINT/WHSE BUILDING (11,000 S.F.)
15 WATER TREATMENT BUILDING (10,000 S.F.)
16 FIN FAN COOLERS
17 CLOSED COOLING WATER PUMPS
18 AMMONIA STORAGE TANK
19 AMMONIA FORWARDING PUMPS
20 AMMONIA UNLOADING AREA
21 ZERO LIQUID DISCHARGE AREA (OUTDOOR)
22 WASTE WATER RECOVERY SUMP
23 RAW/ FIRE WATER STORAGE TANK
24 FIRE WATER PUMP HOUSE
25 DEMINERALIZED WATER STORAGE TANK
26 FILTERED WATER STORAGE TANK
27 OIL WATER SEPARATOR
28 SAMPLE PANEL ENCLOSURE
29 CYCLE CHEMICAL FEED SHELTER
30 SWITCHYARD CONTROL HOUSE (1,800 S.F.)
31 230KV SWITCHYARD
32 GAS METERING AREA
33 SEPTIC TANK
34 AIR COOLED CONDENSER (ACC)
35 CONDENSATE TANK AND DEAERATOR
36 CONDENSATE PUMPS
37 STEAM JET AIR EJECTOR (SJAE) SKIDS (HOLDING & HOGGING)
38 ACCESSORY MODULE
39 PACKAGED ELECTRICAL ELECTRONIC CONTROL CENTER (PEECC)
40 MEDIUM VOLTAGE SWITCHGEAR ENCLOSURE
41 PLANT MAINTENANCE AREAS
42 STORMWATER DETENTION BASIN
43 FIRE PROTECTION PIV
44 CEMS SHELTER
45 DEMINERALIZED WATER TRAILERS
46 NOT USED
47 HYDROGEN STORAGE AREA
48 CHEMICAL UNLOADING AREA
49 CTG EXCITATION TRANSFORMER
50 CTG ISOLATION TRANSFORMER
51 CTG LCI / EXCITATION COMPARTMENT
52 STG EXCITATION TRANSFORMER
53 STG EXCITATION COMPARTMENT
54 NOT USED
55 DC LINK REACTOR
56 AREA SUMP
57 WATER WASH SKID
58 ACC SUMP AND PUMPS
59 CO2 BOTTLE STORAGE RACK
60 CTG FIRE PROTECTION SKID
61 WASH WATER DRAIN TANK (UNDERGROUND)
62 DUCT BURNER SKID
63 AIG SKID
64 BLOWDOWN TANK
65 BLOWDOWN TANK SUMP AND PUMPS
66 RECIRCULATION PUMPS
67 FUEL GAS CONDITIONING SYSTEM SKID
68 ELECTRICAL HANDHOLE
69 NOT USED
70 BOILER FEEDWATER PUMPS
71 HRSG STAIRTOWER
72 GLAND STEAM CONDENSER
73 FIRE PROTECTION VALVE ENCLOSURE
74 AIR PROCESSING UNIT
75 HRSG CATALYST REMOVAL AREA
76 CHEMICAL STORAGE AREA
77 LEACH FIELD
78 ALTERNATE POWER TRANSFORMER
79 OIL & CHEMICAL STORAGE ENCLOSURE
80 DUCT BURNER FUEL GAS PRESSURE REDUCING STATION
81 WET SURFACE AIR COOLER (WSAC)
82 STEAM TURBINE DUCT
83 FIRE HYDRANT
84 A.C.C. CLEANING SKID
85 WATER BATH HEATER
86 STORM DRAINAGE CATCH BASIN
87 STORM DRAINAGE MANHOLE
88 ELECTRICAL MANHOLE
89 POTABLE WATER EQUIPMENT
90 COMPRESSED AIR EQUIPMENT
91 AC LINE REACTOR
92 DEAD END STRUCTURE
93 RAW WATER FORWARDING PUMPS
94 FILTERED WATER FORWARDING PUMPS
95 DEMINERALIZED WATER FORWARDING PUMPS
96 TEMPORARY CONDENSATE POLISHER
97 WET SURFACE AIR COOLER (WSAC) SUMP
98 PDC ASPHALT WALKWAY
99 PT & SURGE PROTECTION CUBICLE
100 CIRCUIT SWITCHER
101 WSAC CHEMICAL FEED SHELTER
102 CO2 RECOVERY AREA
103 FUEL GAS DRY SCRUBBER SKID
104 ELECTRICAL TRENCH
105 WSAC SAMPLE PANEL
106 CLOSED COOLING CHEMICAL FEED TANK
107 ST HYDROGEN GENERATOR
108 DEMIN TRAILER FEED PUMP
109 API EFFLUENT SUMP&PUMPS
110 WAREHOUSE
111 SPARE TRANSFORMER CONTAINTMENT

LEGEND

GRAVEL 0.015	GRAVEL
CONC 0.015	CONCRETE
ASPHLT 0.015	ASPHALT
GRASS 0.01	GRASS

50 0 50 100 150
SCALE: 1"=50'

REFERENCE DRAWINGS:

COLS-1-DW-111-002-001	OVERALL SITE PLAN
COLS-1-DW-111-002-003	WATER TREATMENT/ZLD AREA - GRADE EL.
COLS-1-DW-111-002-101	HRSG-1 AREA - GRADE EL.
COLS-1-DW-111-002-102	HRSG-1 AREA - EL. 155'-2"
COLS-1-DW-111-002-103	CT-1 AREA - GRADE EL
COLS-1-DW-111-002-104	CT-1 & HRSG-1 AREA - EL. LOOKING EAST
COLS-1-DW-111-002-201	HRSG-2 AREA - GRADE EL.
COLS-1-DW-111-002-202	HRSG-2 AREA - EL. 155'-2"
COLS-1-DW-111-002-203	CT-2 AREA - GRADE EL.
COLS-1-DW-111-002-204	CT-2 & HRSG-2 AREA - EL. LOOKING WEST
COLS-1-DW-111-002-301	ST AREA - GRADE EL.
COLS-1-DW-111-002-302	ST AREA - EL. 121'-6"
COLS-1-DW-111-002-303	ST AREA - EL. 142'-9"
COLS-1-DW-111-002-304	ST AREA - ELEV. LOOKING NORTH
COLS-1-DW-111-002-305	ST AREA - ELEV. LOOKING EAST
COLS-1-DW-513-002-001	WATER TREATMENT BLDG. - F.F. EL. 99'-6"
COLS-1-DV-030001-CGS-G-S001	230KV SWITCHYARD SITE PLAN

REV	DATE	DESCRIPTION	DRAWN	CHECKED	LEAD DESIGNER	ENGINEER/ TECH. SPEC.	LEAD DISC ENGINEER	PROJ ENGR MANAGER	PROJECT MANAGER
M	02 27 14	ISSUED FOR INFORMATION ONLY	YU						JAM
L	03 21 11	ISSUED FOR INFORMATION ONLY	RWB		RWB	SJR	SJR	DMW	MAG
K	10 06 09	GENERAL OVERALL UPDATES FOR FINAL ISSUE	RWB		RWB	SJR	SJR	DMW	MAG
J	12 10 08	REV. ARRANGEMENT OF SOUTHWEST WT/ZLD AREA & AS INDICATED	RWB	JW	RWB	SJR	SJR	DMW	MAG
H	09 16 08	REVISED AS INDICATED	RWB	JW	RWB	SJR	SJR	DMW	MAG
G	05 22 08	REVISED AS INDICATED	RWB		RWB	SJR	SJR	DMW	MAG
F	04 28 08	REVISED AS INDICATED	RWB		RWB	SJR	SJR	DMW	MAG
E	04 03 08	GENERAL UPDATES	RWB		RWB	SJR	SJR	DMW	MAG
D	03 17 08	GENERAL UPDATES	RWB		RWB	SJR	SJR	DMW	MAG
C	02 13 08	GENERAL UPDATES	RWB		RWB	SJR	SJR	DMW	MAG
B	01 24 08	GENERAL UPDATES	RWB		RWB	SJR	SJR	DMW	MAG
A	01 14 08	INITIAL PROGRESS ISSUE	RWB		RWB			DMW	MAG

PRELIMINARY STATUS — DATE — REPRESENTS GENERAL DESIGN CONCEPTS BASED ON ASSUMPTIONS. REVIEWED NOT CHECKED.
LDE S.J. RUZZE 01/14/08
APPROVED STATUS — DATE — REPRESENTS REVIEWED AND APPROVED DESIGN. ANY PORTION MARKED "HOLD" RETAINS PRELIMINARY STATUS.
LDE

ORIGINATING PERSONNEL
DRAWN BY: RWB
CHECKED BY: J. WORK
LEAD DESIGNER: R. BREISCH
ENGINEER/TECH SPECIALIST: S.J. RUZZE
PROJECT ENGINEERING MANAGER: D.M. WITZEL
PROJECT MANAGER: M.A. GENCER

Zero Harm — Leadership, No Incidents, Safe Behavior

PROFESSIONAL ENGINEER'S SEAL
ORIGINALLY PREPARED UNDER THE RESPONSIBLE SUPERVISION OF
PE: ____ STATE: ____
LIC. NO.: ____ DATE: ____

WorleyParsons resources & energy
Gemma Power Systems California, Inc.
Pacific Gas and Electric Company
COLUSA GENERATING STATION

GENERAL ARRANGEMENT
SITE PLAN

SCALE 1"=50' — DRAWING SIZE ANSI E (44" x 34")
WORLEYPARSONS DWG. NO. COLS-1-DW-111-002-002 — REV M

VHL: Mon Oct 05 09:47:12 2009