

DOCKETED

Docket Number:	06-AFC-09C
Project Title:	Colusa Generating Station - Compliance
TN #:	203610
Document Title:	Application for Staff Approved Project Change to Amend Docket
Description:	Fin Fan Cooler
Filer:	Charles Robert Price
Organization:	Pacific Gas & Electric Co.
Submitter Role:	Applicant
Submission Date:	2/6/2015 9:17:02 AM
Docketed Date:	2/6/2015



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

CGS15-L-009
February 6, 2015

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 CGS plans to add a fin fan cooling apparatus to dry cool the Heat Recovery Steam Generator (HRSG) Blowdown effluent water in order for the temperature to meet the necessary specifications to be reprocessed through the facilities Ultra Filtration system for immediate reuse as process water. Through the operation of the facility it has been determined that the attemperation of the blowdown is inadequate.

The proposed changes will not impact the environment, will not conflict with any applicable laws, ordinances, regulations or standards, and the improvements do not result in a significant change in operation. This petition along with the proposed modified general arrangement drawing is being submitted per the request of CEC staff. CGS staff will work with Bureau Veritas for design, installation and construction compliance confirmation.

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

Sincerely,

A handwritten signature in black ink that reads "Charles Price". The signature is written in a cursive, flowing style.

Charles Price
Senior Environmental Consultant

cc: File No. 3.6.3.16

Ed Warner, PGE
Jim Moen
Sarah Gassner, 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 CGS plans to install dry cooling equipment, specifically fin fan units, to reduce the temperature of effluent water from the Heat Recovery Steam Generating (HRSG) unit blowdown tanks.

Currently, the HRSG blowdown system is unable to sufficiently attemperate the effluent to less than 110° F at the Ultrafiltration (UF) feed tank. Water temperatures greater than 110° F will damage the fibers in the UF modules. Once the upper limit is reached the UF is tripped off-line, preventing the generation of demineralized water until the temperature is lowered below the upper limit. Under the original plant configuration, the hot water is bypassed to the Raw Water tank. The raw water is the source of HRSG blowdown quench water, thus exacerbating the issue with attemperation.

To solve the issue, a permanent system modification consisting of the addition of a two fan, single cell, fin fan air cooler, will be installed to remove sufficient heat from the HRSG effluent. The modification will include redirecting the effluent prior to the UF Feed Tank to the fin fan cooler. The effluent of the fin fan will pass directly into the UF Feed Tank at a temperature <110 F.

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 need for the improvement was discovered through operation of the facility.

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 addition of a fin fan cooler for HRSG Blowdown water does not change or undermine the assumptions, rationale, findings, or other bases of the final decision.

The change should be permitted as there are no significant impacts as a result of the fin fan addition. The change will increase the efficiency of the water treatment system and no Conditions of Certification will be affected.

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 facility will continue to meet all existing environmental regulations. The system uses dry cooling so no additional water usage or potential increase in air emissions from particulate will occur. There will be no addition or increases in chemical use at the facility as a result of the fin fan addition.

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 facility improvement 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.

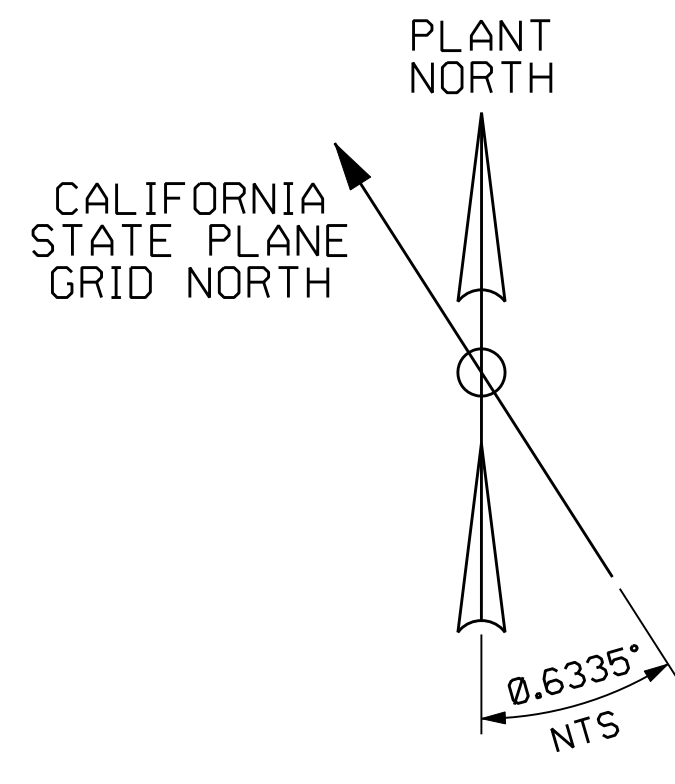
The proposed upgrade will have no significant environmental effects and will be in compliance with applicable LORS, therefore there will be no effects to the public.

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.



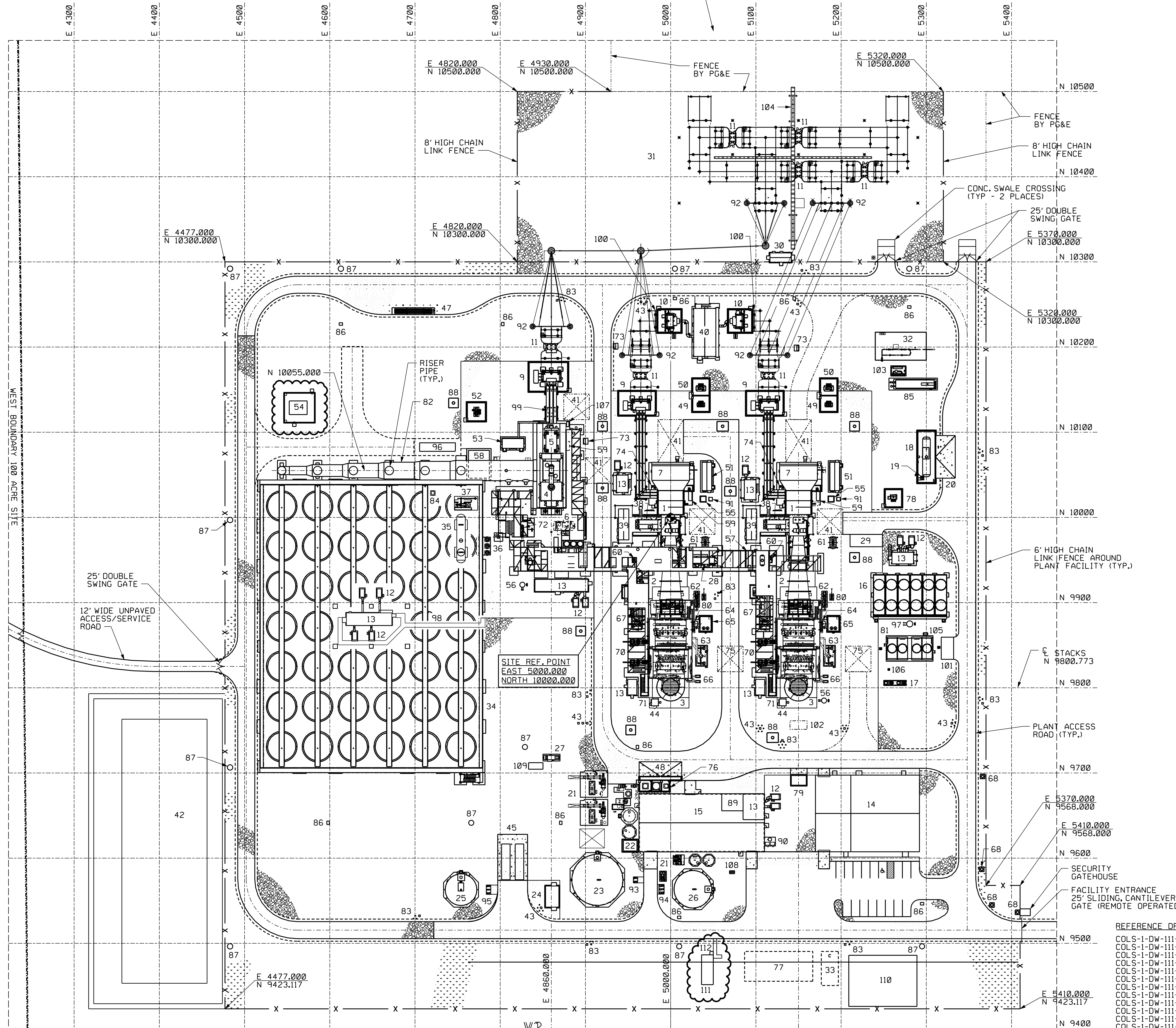
COORDINATE SYSTEM:

LOCATION	SITE COORDINATE	PLANT COORDINATE
CENTERLINE OF CTG-2 TURBINE BASE ANCHOR SUPPORT NORTH/ SOUTH	N 225919.171	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 1/2"	EL. 100'-1 1/2"
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)

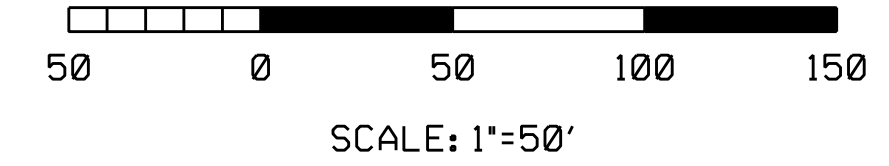
NEW PLANT DESCRIPTION

- 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 CSU 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 SPARE TRANSFORMER FOUNDATION
- 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 STARTOWER
- 72 GLAND STRAIN 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 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 FIN FAN
- 112 MCC



LEGEND

- GRAVEL 0.015
- CONC 0.015
- ASPHLT 0.015
- GRASS 0.01



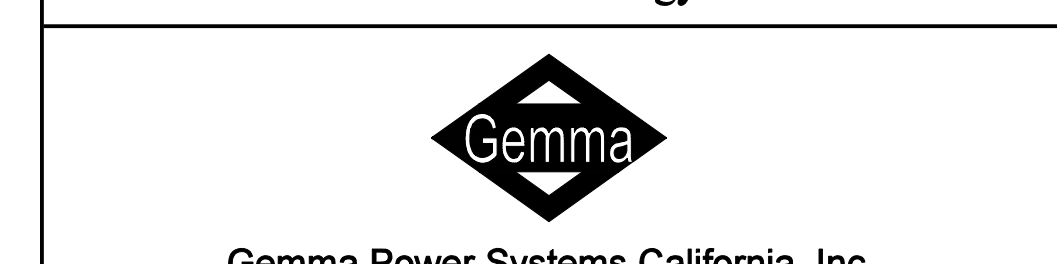
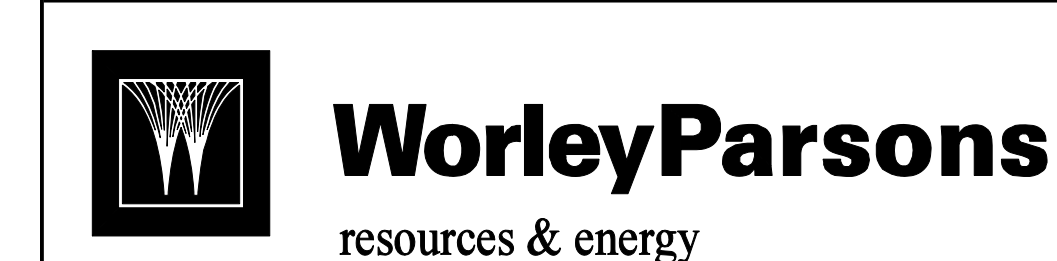
REFERENCE DRAWINGS:

- 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-DW-030001-CGS-G-5001 230KV SWITCHYARD SITE PLAN

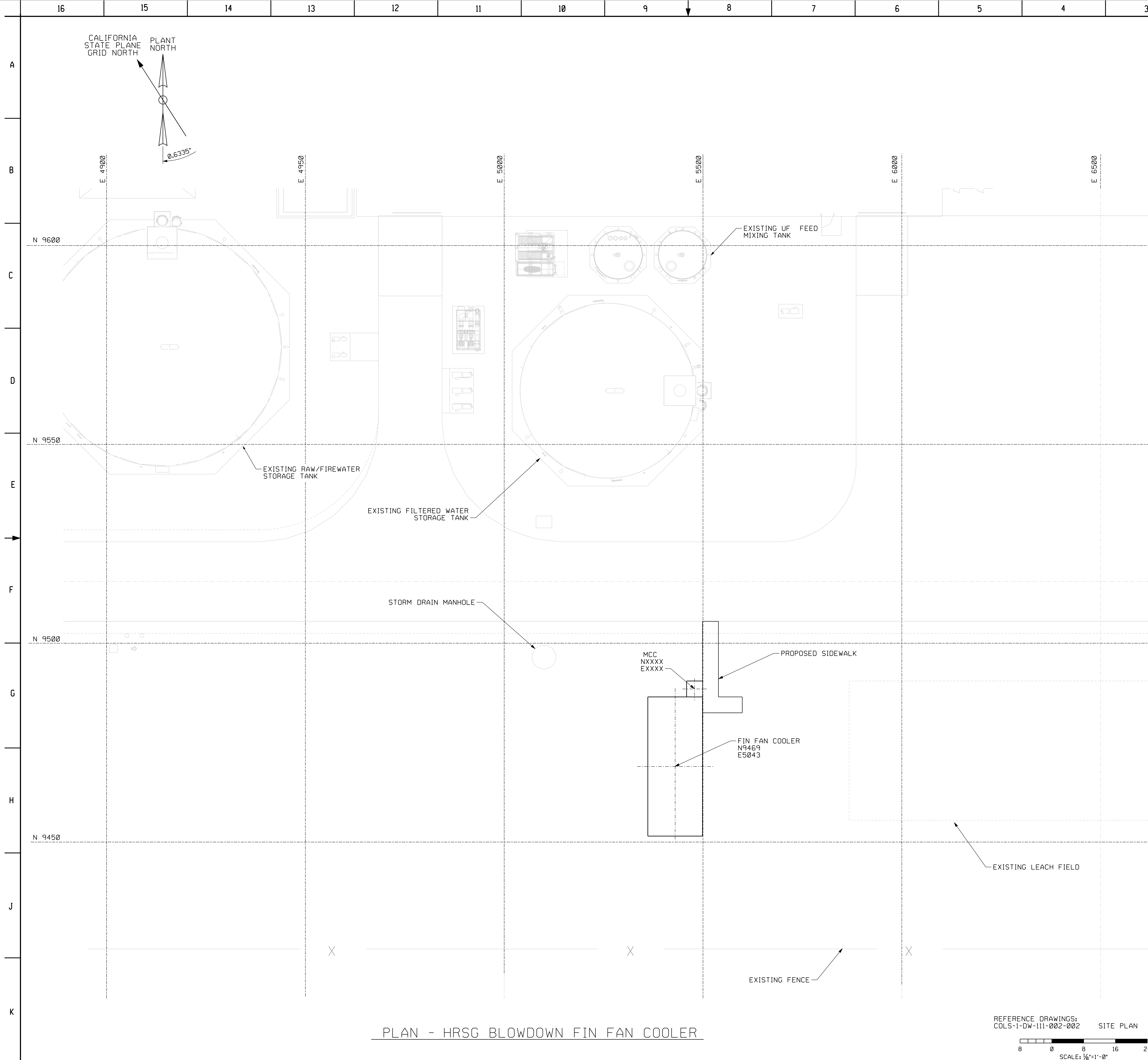
NO.	DESCRIPTION	APPROVED	DATE	BY	FOR
M 01/14/08	FIN FAN ADDITION	AP	SDR	MC	JO
L 03/11/08	ISSUED FOR INFORMATION ONLY	RWB		RWB	SJR
K 10/16/07	GENERAL OVERALL UPDATES FOR FINAL ISSUE	RWB		RWB	SJR
J 12/10/07	REV. ARRANGEMENT OF SOUTHWEST 80%/ZLD AREA & AS INDICATED	RWB		RWB	SJR
H 05/16/07	REVISED AS INDICATED	RWB		RWB	SJR
G 05/02/07	REVISED AS INDICATED	RWB		RWB	SJR
F 05/28/07	REVISED AS INDICATED	RWB		RWB	SJR
E 03/03/07	REVISED AS INDICATED	RWB		RWB	SJR
D 01/17/07	GENERAL UPDATES	RWB		RWB	SJR
C 02/03/07	GENERAL UPDATES	RWB		RWB	SJR
B 02/24/07	GENERAL UPDATES	RWB		RWB	SJR
A 01/14/08	INITIAL PROGRESS ISSUE	RWB		RWB	SJR

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	PROFESSIONAL ENGINEER'S SEAL
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	



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



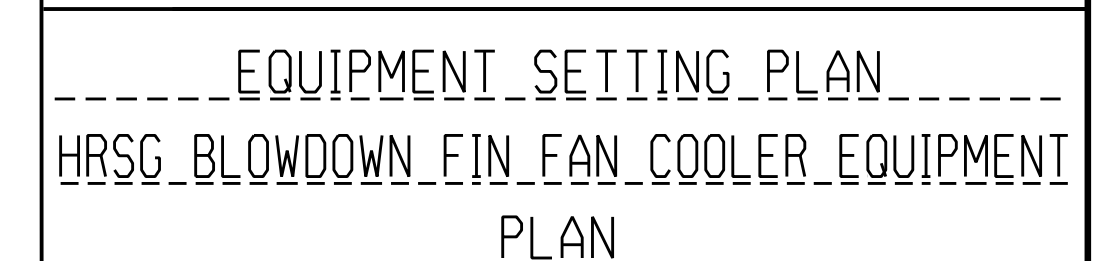
- NOTES:
1. ELEVATIONS, COORDINATES AND NORTH ARE BASED ON THE PLANT DESIGN COORDINATE SYSTEM.
 2. COORDINATE LOCATIONS SHOWN ARE FOR REFERENCE ONLY. FIELD TO MAKE MINOR ADJUSTMENTS AS REQUIRED.
 3. FOF INDICATES FACE OF FLANGE, CL INDICATES CENTERLINE, TOC INDICATES TOP OF CONCRETE.
 4. CONTRACTOR TO LOCATE AND FIELD VERIFY PRIOR TO CONSTRUCTION.

REV	DATE	DESCRIPTION	APPROVED	DATE	DESCRIPTION
0					
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

PROGRESS PRINT

PRELIMINARY STATUS	DATE	REPRESENTS GENERAL DESIGN CONCEPTS BASED ON ASSUMPTIONS. REVIEWED NOT CHECKED.
APPROVED STATUS	DATE	REPRESENTS REVIEWED AND APPROVED DESIGN. ANY PORTION MARKED "HOLD" RETAINS PRELIMINARY STATUS.

ORIGINATING PERSONNEL: A. PRATT
 CHECKED BY: _____
 LEAD DESIGNER: _____
 ENGINEER/TECH SPECIALIST: _____
 PROJECT ENGINEERING MANAGER: _____
 PROJECT MANAGER: _____



COLUSA GENERATING STATION
 EQUIPMENT SETTING PLAN
 HRSG BLOWDOWN FIN FAN COOLER EQUIPMENT PLAN
 SCALE: 1/8" = 1'-0" ANSI E (44" x 34")
 DRAWING NO.: COLS-1-DW-111-012-907
 REV: A

PLAN - HRSG BLOWDOWN FIN FAN COOLER

