DOCKETED

Docket Number:	15-AFC-01
Project Title:	Puente Power Project
TN #:	206212
Document Title:	Supplemental Information regarding Transmission System Engineering
Description:	N/A
Filer:	Paul Kihm
Organization:	Latham & Watkins LLP
Submitter Role:	Applicant Representative
Submission Date:	9/25/2015 1:16:13 PM
Docketed Date:	9/25/2015

Michael J. Carroll
michael.carroll@lw.com
Marc T. Campopiano
marc.campopiano@lw.com
LATHAM & WATKINS LLP
650 Town Center Drive, Suite 2000
Costa Mesa, CA 92626
(714) 540-1235

STATE OF CALIFORNIA
ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION

In the Matter of:	)	Docket No. 15-AFC-01
	)	
APPLICATION FOR CERTIFICATION FOR THE PUENTE POWER PROJECT	)	SUPPLEMENTAL INFORMATION REGARDING TRANSMISSION SYSTEM ENGINEERING

On September 17, 2015, Applicant received an e-mail request from California Energy Commission staff for a revised Application for Certification Figure 2.7-5b with the proper ratings of the equipment such as: isolated phase bus duct, circuit breakers, and disconnect switches. Applicant hereby provides the requested information.

DATED: September 25, 2015

Respectfully submitted,

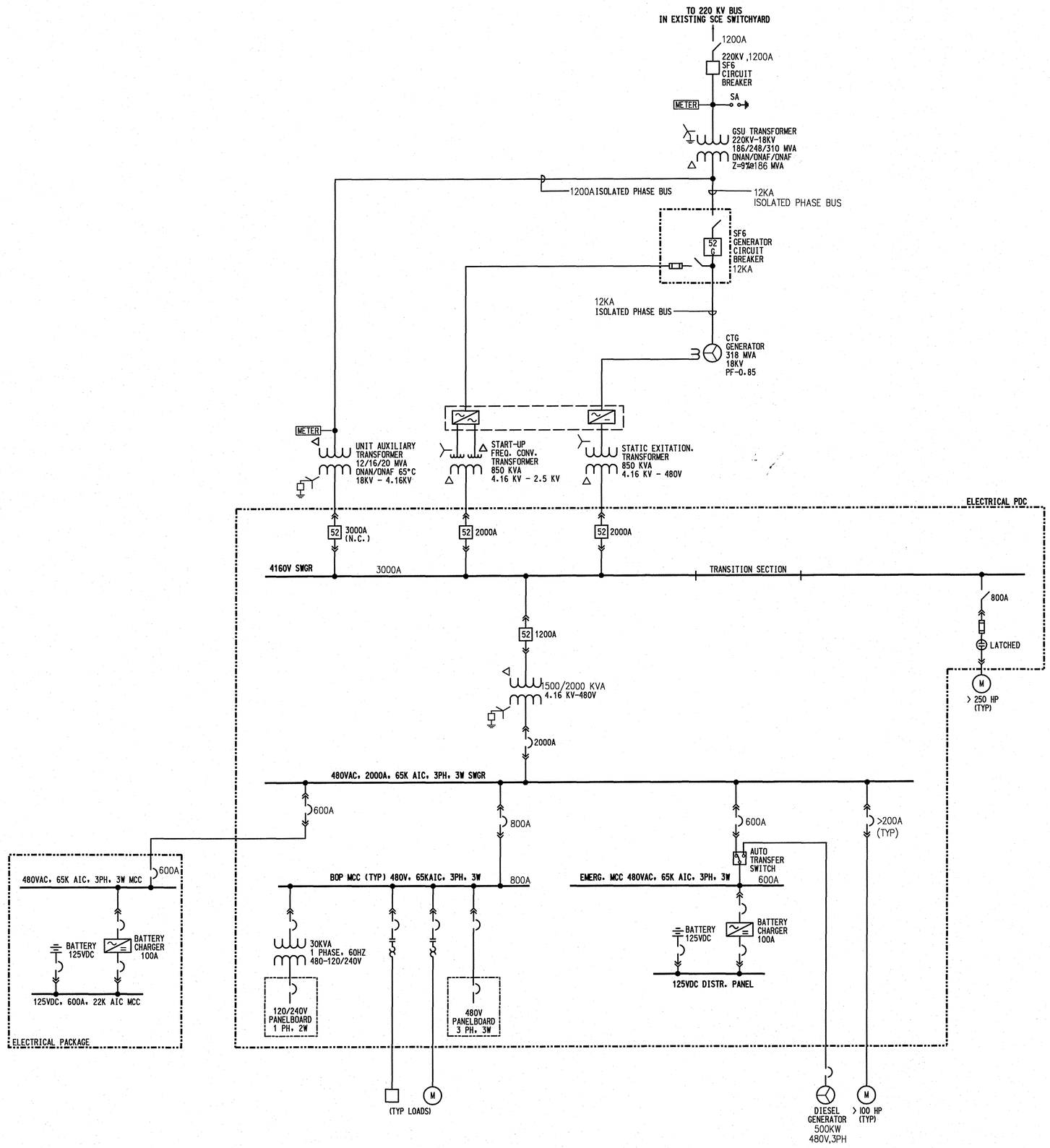
/s/ Michael J. Carroll

Michael J. Carroll
LATHAM & WATKINS LLP
Counsel to Applicant

Puente Power Project (15-AFC-1)
Simple Cycle Project
Electrical Equipment Ratings

As requested, preliminary breaker and bus ratings not previously shown have been added for the electrical equipment on the Key Single Line Diagram 31380-P029-MAN-SK 2. The ratings added are as follows:

- 220kV disconnect switch – The continuous current rating of 1200A was added. This is the next higher standard disconnect switch size above the maximum output capability of the GSU transformer at 220kV.
- 220kV breaker – The continuous current rating of 1200A was added. This is the next higher standard breaker size above the maximum output capability of the GSU transformer. The breaker interrupting rating will probably be 63kAIC but is not shown since insufficient information from the utility is available at this time to determine that rating.
- Isolated phase bus duct – The main bus duct run from the GSU transformer to the generator breaker and from the generator breaker to the generator is sized for a continuous current of 12kA. This is the next higher standard rating for self-cooled isolated phase bus above the maximum generator output current level at the generator minimum voltage (17.1kV). The isolated phase bus duct tap bus from the main bus to the auxiliary transformer is rated at 1200A continuous current. This is the next higher standard self-cooled rating above the maximum auxiliary transformer rating.
- Generator breaker and disconnect switch – The generator breaker and disconnect package is rated at 12kA continuous current which is the next larger standard size above the rated generator output level at minimum generator voltage. The fused disconnect shown from this equipment to the starting frequency conversion equipment is for control purposes only. Interrupting rating for the generator breaker is not shown since dependent upon the manufacturer of this equipment. Calculations indicate the interrupting rating required would be 65kAIC or greater based upon the maximum let through current for a 9% @ 186MVA impedance in the GSU transformer and an assumed x''_d of 0.2 for the generator.
- 480V switchgear motor feeder breaker – The typical motor feeder breaker from the 480V switchgear would be a nominal 800A frame size with trip device selected to protect the motor. Typical motor sizes of 100HP and higher would require breaker trip settings typically in the range of 200A or higher. The actual trip device setting would be dependent upon the switchgear vendor selected and set based upon National Electrical Code (NEC) requirements. Interrupting ratings for all switchgear breakers are 65kAIC as indicated on the 480V bus.
- 480V Electrical Package MCC main breaker – The MCC main breaker will have the same current rating as the feeder breaker in the 480V switchgear. Interrupting rating for the MCC main breaker is 65kAIC as indicated on the 480V MCC bus.



NOTES:

1. REVENUE METER IS PROVIDED AT THE HV SIDE OF THE GSU XFMR.
2. ONE SET OF METERING EQUIPMENT IS PROVIDED ON THE HV SIDE OF THE UNIT AUX XFMR TO MEASURE THE UNIT AUXILIARY LOAD.
3. RATINGS AND EQUIPMENT CONFIGURATION SHOWN ARE PRELIMINARY AND WILL BE FINALIZED DURING DETAIL DESIGN.

SYMBOLS

- GENERATOR
- DRAWOUT CIRCUIT BREAKER
- GAS CIRCUIT BREAKER
- DISCONNECT SWITCH
- M — MOTOR
- 2 WINDING TRANSFORMER
- 52 — VACUUM CIRCUIT BREAKER
- DRAWOUT FUSED CONTACTOR
- DELTA TRANSFORMER CONNECTION
- WYE, SOLIDLY GROUNDED NEUTRAL TRANSFORMER CONNECTION
- WYE, RESISTOR GROUNDED NEUTRAL TRANSFORMER CONNECTION
- AUTOMATIC TRANSFER SWITCH
- SURGE ARRESTOR

PRELIMINARY
09/24/15

REVISION APPROVAL RECORD				REV		REV NO.	DATE	REVISIONS	BY	CHKR
DISCIPLINE	BY	DATE	DISCIPLINE	BY	DATE	A	01/07/15	PRELIMINARY – FOR REVIEW	JM	ACE
ARCH.			MECHANICAL			B	01/12/15	PRELIMINARY – INCORPORATED CLIENT COMMENTS	JM	ACE
BUILDING SERVICES			PIPING			C	04/28/15	PRELIMINARY – INCORPORATED CLIENT COMMENTS	JM	
CIVIL			PROCESS			D	09/24/15	PRELIMINARY – EQUIPMENT RATINGS INCORPORATED	JRH	SLR
ELECTRICAL			QA / QC							
ENVIRON.			STRUCTURAL							
GEN. ARRANG.										
I & C										

DRAWING STATUS					
ISSUED	REV	DATE	SDE	PEM	
PRELIMINARY	D	(09/24/15)			
APPROVED FOR CONSTRUCTION					

NOT APPROVED FOR CONSTRUCTION UNLESS SIGNED AND DATED. DESTROY ALL PRINTS BEARING EARLIER DATE AND/OR REV.NO.

PROJECT NO.:

DRAWN: JM DATE: 12-29-14

CHECKED: DATE:

SCALE: N.T.S.

URS
URS ENERGY & CONSTRUCTION, Inc.
510 Carnegie Center
Princeton, NJ
609-720-2000

PUENTE POWER PROJECT
SIMPLE CYCLE PROJECT
KEY SINGLE LINE DIAGRAM

DWG. NO. 31380-P029-MAN-SK 2 REV D

INCHES / CENTIMETERS

URS_EC_E_S12x.tdf