DOCKETED

Docket Number:	08-AFC-09C
Project Title:	Palmdale Energy Project (Formerly Palmdale Hybrid Power Plant) - Compliance
TN #:	210662
Document Title:	Palmdale Energy response to Transmission system equipment rating questions
Description:	Response from Thomas Johns with Summit Power to transmission staff question about Palmdale system hardware ratings
Filer:	Eric Veerkamp
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	3/9/2016 1:14:21 PM
Docketed Date:	3/9/2016

From: Thomas Johns <tjohns@summitpower.com>
Sent: Wednesday, March 09, 2016 11:10 AM
To: Ng, Laiping@Energy; Scott Galati; Veerkamp, Eric@Energy; Hesters, Mark@Energy
Cc: Robert Gavahan; Tom Cameron
Subject: RE: Transmission Call - Response to questions

Good morning Laiping
The following is our response to your questions. We can more fully discuss this on the call today. Please
let us know if we have not provided what you need or if you have additional questions. Tom

1. Should there be a breaker and a disconnect switch between the STG1 and the
transformer? There is no breaker: the gas turbines have generator breakers so that the two unit
auxiliary transformers (1BBT01 and 12BBT01) can be powered while the gas turbine generators
are isolated from the facility switchyard. There is not a unit auxiliary transformer associated with
the steam turbine generator and it therefore does not have a generator breaker. What are their
ratings for the missing transformer and disconnect switch? Assume this means missing breaker,
not missing transformer. If so, there is no missing breaker; there is a disconnect switch. See
below for switch ratings. What are the MW outputs for these three generators? See below.

Step Transformer high side switch ratings
Voltage Rating
230 kV
Ampacity Rating
3000 amps

Generator Ratings
Ambient Conditions
Gas Turbine Generator Gross Output (per gas turbine)
Steam Turbine Generator Gross Output
6°F / 92% Relative Humidity
Evap Cooler OFF / Duct Burners ON
231.6 MW

64°F / 40% Relative Humidity
Evap Coolers ON / Duct Burners ON

276.2 MW

2. What are the ratings for the GTG1 and GTG2 breaker ratings, and what are the ratings for the
disconnect switches?
Generator Breaker Ratings
Voltage Rating

Rated maximum voltage 25.3 kV
Ampacity Rating
Up to 10,000A at 40°C
Clearing Time – Opening Time
34±5 ms
Rated Interrupting time
68 ms

For Figure 3-1b (Same as the second figure which was submitted on 3/4/2016. The figure is dated:
2015-04-10, revision: 1, page: 1): See Data Request 55.

Provide ratings of the generator breakers (GCB 12BAC01, GCB 11BAC01), disconnect switches,
ISO-phase bus (12BAA, 11BAA, 10BAA) ratings? Should there be a generator breaker and
disconnect between the STG and the transformer?? No, see comment above.

Generator Breaker Ratings
Voltage Rating
Rated maximum voltage 25.3 kV
Ampacity Rating
Up to 10,000A at 40°C
Clearing Time – Opening Time
34±5 ms
Rated Interrupting time
68 ms

Disconnect switch ratings;
The switch depicted on the line to the step up transformer on Figure 3-1b is a representation of the
generator circuit breaker. The generator circuit breaker does have as an accessory a disconnect switch but
this disconnect is not depicted on the single line. The switch depicted on the transformer side of the
breaker is a representation of the actual generator circuit breaker. The breaker's accessory disconnect
switch is rated at 10,000 amps and 36 kV.

Iso-phase Bus Duct Ratings
Gas Turbine Iso-phase Bus
10,000A at 40°C
Steam Turbine Iso-phase Bus
12,500A at 40°C

From: Ng, Laiping@Energy [mailto:Laiping.Ng@energy.ca.gov]
Sent: Tuesday, March 08, 2016 9:35 AM
To: Scott Galati <sgalati@dayzenllc.com>; Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>;
Thomas Johns <tjohns@summitpower.com>; Hesters, Mark@Energy <Mark.Hesters@energy.ca.gov>

Subject: RE: Transmission Call

Scott,

The “corrected” drawings are basically the same ones we received before except for the length of the
gen-tie line was changed from 13.7 miles to 35.6 miles on Figure A01.

We have been requested the same items since the beginning, no new ones; however, we have not
receiving answers we requested.

Please see below, I am copying what we have sent and with updated details in blue.

Questions:
For Figure A01 (old figure number 3-1a), dated 02/26/16, new date: 03/3/16.
1. Should there be a breaker and a disconnect switch between the STG1 and the
transformer? What are their ratings for the missing transformer and disconnect switch? What
are the MW outputs for these three generators?
2. What are the ratings for the GTG1 and GTG2 breaker ratings, and what are the ratings for the
disconnect switches?
For Figure 3-1b (Same as the second figure which was submitted on 3/4/2016. The figure is dated:
2015-04-10, revision: 1, page: 1): See Data Request 55.

Provide ratings of the generator breakers (GCB 12BAC01, GCB 11BAC01), disconnect switches,
ISO-phase bus (12BAA, 11BAA, 10BAA) ratings? Should there be a generator breaker and
disconnect between the STG and the transformer??

Thanks!

Laiping

From: Scott Galati [mailto:sgalati@dayzenllc.com]
Sent: Monday, March 07, 2016 5:01 PM
To: Veerkamp, Eric@Energy; Thomas Johns; Ng, Laiping@Energy; Hesters, Mark@Energy
Subject: Transmission Call

Eric, Mark and Laiping,

Have you had a chance to review our corrected drawings? Do they answer your questions? Do we still
need the call on Wednesday? Thanks

Scott A. Galati
President
2501 Capitol Avenue, Suite 201
Sacramento, CA 95814
Direct Line (916) 441-6574
Mobile (916) 505-6570