

ORA DATA REQUEST
ORA-SDG&E-DR-041-KMC
SDG&E 2016 GRC – A.14-11-003
SDG&E RESPONSE
DATE RECEIVED: JANUARY 15, 2015
DATE RESPONDED: JANUARY 30, 2015

Exhibit Reference: SDG&E-11

Subject: Palomar LTSA

Please provide the following:

1. Please provide a detailed description of the Advanced Gas Path upgrade at PEC referred to in SDG&E-11 on pp. CSL-15.

SDG&E Response:

Upgrade of Turbine Advanced Gas Path Technology:

SDG&E proposes to upgrade the AGP technology on existing Power Station Unit No. 1 and Power Station Unit No. 2, nominally rated at 165 megawatts (MW) each. GE has made advancements in the hot gas path components and control system to improve overall performance. The improved materials, aerodynamics, seals and cooling design provide higher efficiency performance and greater power output.

The increase in efficiency will be accomplished by increasing the turbine firing temperature, reducing clearances between parts in the turbine, improving nozzle and bucket aerodynamics, and by installing low pressure drop combustion liners. The existing hot gas path components such as buckets, shrouds, nozzles, and associated structural elements will be replaced with functionally identical equipment designed to operate at higher temperatures. Replacement of the hot gas path components will be included with the AGP technology to support increased operating temperatures; the parts will be fabricated from temperature resistant alloys. The proposed modification will increase the electrical output of each turbine by approximately 5.4 percent, from a nominal 165 megawatts (MW) to 174 MW, with a fuel increase of only approximately 1.5%. At all operating loads there will be a reduction in fuel use for the MW output produced. The improved MW output and efficiency of the turbines could also potentially result in lower cumulative duct burner loads and fuel use.

The proposed AGP technology upgrades are necessary to improve performance, operational flexibility, fuel capability, and serviceability. The new AGP components are more durable than the components being replaced and may extend the equipment maintenance intervals. The proposed upgrades will allow SDG&E to meet customer energy demands more efficiently without affecting existing emission limits.

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2. Please confirm that the \$30 million shown at line 12 SDG&E-11 on pp. CSL-15 is only for materials related to the Advanced Gas Path upgrade at PEC.

SDG&E Response:

The purchase price includes three (3) sets of AGP hardware in the amount of \$30 million. The purchase price also includes the return of two (2) sets of GE .03 HGP hardware to be replaced during the AGP installation in each covered unit and the return of one (1) set of GE .03 HGP hardware stored at Palomar Energy Center. GE will provide installation services for the first two (2) sets of AGP parts at no additional cost to SDG&E.

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3. Please provide a status update for Q968 Palomar Energy Center (PEC) 2- Cluster Interconnection Study mentioned in SDG&E-11 on pp. CSL-15 relating to the Advanced Gas Path upgrade at PEC.

SDG&E Response:

Phase II of the Q968 Palomar Energy Center (PEC) 2 – Cluster Interconnection Study is complete. The next step is to tender a Generation Interconnect Agreement with SDG&E transmission for the project.

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4. Please provide a status update regarding San Diego Air Pollution Control District permit change SDG&E-11 on pp. CSL-15 relating to the Advanced Gas Path upgrade at PEC. Also provide any and all docket numbers associated with this permit change.

SDG&E Response:

SDG&E has conducted preliminary discussions with the San Diego Air Pollution Control District, and continues to work with them on necessary permitting / approval for the project.

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5. Please provide a status update regarding authorization of the Advanced Gas Path upgrade at PEC by the California Energy Commission. Also provide any and all docket numbers associated with this authorization.

SDG&E Response:

On February 22, 2013, SDG&E filed a petition with the California Energy Commission (CEC) requesting to modify Palomar Energy Center. The modification will upgrade the hot gas path (Advanced Gas Path) to the gas turbines, thereby improving overall performance. SDG&E is collecting additional technical and engineering specifications for the proposed upgrade. Once the information is collected, SDG&E will submit the information to CEC for review and final approval. The PEC project docket number is 01-AFC-24C.

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6. Please provide SDG&E's anticipated timeline for the Advanced Gas Path upgrade.

SDG&E Response:

The Advanced Gas Path upgrade is tentatively planned for April of 2018.

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7. In SDG&E 11 on pp CSL-15, SDG&E states, “The agreement requires the components, valued at \$30 million which is net of trade-in of older components currently in service, to be purchased in 2014.
- a. Have these components been purchased?
 - b. If so, please provide a list of the components that were purchased as part of this agreement.
 - c. Please provide the purchase price of each component that was purchased as part of this agreement.
 - d. Please provide a list of the components that were traded in as part of this agreement.
 - e. Please provide an approximate value for each component that was traded in as part of this agreement.

SDG&E Response:

- a. Yes, all components have been purchased.
- b. See attached document “CONFIDENTIAL - Palomar AGP Prices_Customer_Final.pdf”. *This attachment should be treated as **CONFIDENTIAL PURSUANT TO P.U.CODE SECTION 583 & G.O.66-C.***
- c. See attached document “CONFIDENTIAL - Palomar AGP Prices_Customer_Final.pdf”. *This attachment should be treated as **CONFIDENTIAL PURSUANT TO P.U.CODE SECTION 583 & G.O.66-C.***
- d. The components that were/will be traded in as part of the agreement are as follows:

Component

3 sets of Stage 1-3 Buckets
3 sets of Stage 1-3 Nozzles
3 sets of Stage 1-3 Shrouds
3 sets of combustion liners

One set of components have already been returned to GE. The remaining two sets of components will be returned to GE upon installation of the new components.

- e. See attached document “CONFIDENTIAL – TRADE IN COMPONENT VALUE”. *This attachment should be treated as **CONFIDENTIAL PURSUANT TO P.U.CODE SECTION 583 & G.O.66-C.***

RESPONSE REMOVED DUE TO CONFIDENTIALITY

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8. Please provide a copy of the Palomar LTSA referenced in SDG&E-11 on pp. CSL-14 and CSL-15.

SDG&E Response:

See attached document “CONFIDENTIAL – Palomar LTSA.pdf”. *This attachment should be treated as **CONFIDENTIAL PURSUANT TO P.U.CODE SECTION 583 & G.O.66-C.***

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9. In response to ORA Data Request ORA-SDG&E-DR-012-KMC, SDG&E stated that it, “used information from a contracted third party to forecast what the cost would be to replace the LTSA with a self-performed maintenance program.” Please provide all information provided by this contracted third party to SDG&E relating to the decision to terminate the Palomar LTSA.

If this information is not currently available, please provide to ORA as it becomes available.

SDG&E Response:

See attached document “CONFIDENTIAL – Palomar_Base_20131028”. *This attachment should be treated as CONFIDENTIAL PURSUANT TO P.U.CODE SECTION 583 & G.O.66-C.*