DOCKETED

Docket Number:	16-IEPR-02
Project Title:	Natural Gas
TN #:	211379
Document Title:	Calpine reply to comments on the Joint Agency Workshop on Aliso Canyon Action Plan for Local Energy Reliability in Summer 2016
Description:	N/A
Filer:	System
Organization:	Calpine Corp./Matthew Barmack
Submitter Role:	Public
Submission Date:	5/5/2016 9:41:35 PM
Docketed Date:	5/6/2016

Comment Received From: Matthew Barmack
Submitted On: 5/5/2016
Docket Number: 16-IEPR-02

Calpine reply to comments on the Joint Agency Workshop on Aliso Canyon Action Plan for Local Energy Reliability in Summer 2016

Additional submitted attachment is included below.

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May 4, 2016

Calpine welcomes the opportunity to respond to a letter that was recently submitted to the CEC as comments on the April 8, 2016, Joint Agency Workshop on Aliso Canyon Action Plan for Local Energy Reliability in Summer 2016 by La Paloma Generating Plant ("La Paloma").[1]

Calpine is large conventional independent generator with approximately 5,535 MW of gas-fired generation and 725 MW of geothermal generation in California. Our California portfolio consists primarily of modern, efficient combined-cycle gas-turbine (CCGT) generating units similar to La Paloma. In addition, Calpine has approximately 500 MW of new and flexible combustion turbine generating units.

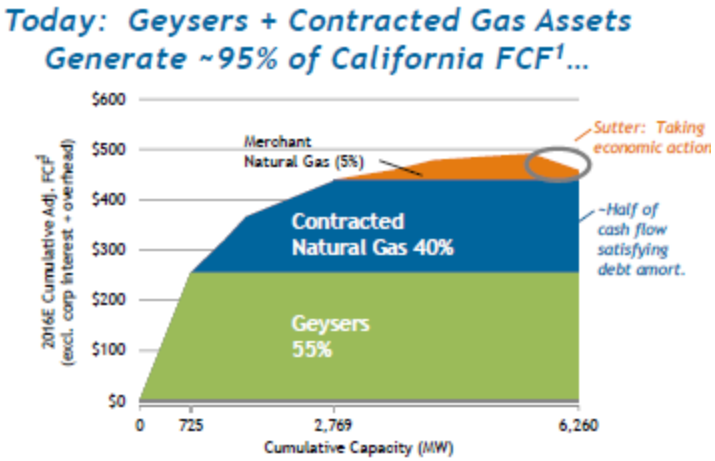
The La Paloma letter makes several important points that are relevant not only to La Paloma but to the state's fleet of modern gas-fired generation as a whole:

First, existing CCGT technology is efficient and low-carbon. The La Paloma letter indicates that La Paloma's heat rate is 7.1 MMBtu/MWh. Calpine's combined-cycle fleet has a heat rate range of 7.0-8.3 MMBtu/MWh depending on the configuration and technology.

Second, the economics of CCGTs without long-term contracts may not support the continued operation of many units. For example, due to poor economics, Calpine recently decided not to operate Sutter, one of its CCGT units, in 2016. The following chart from a recent earnings call presentation provides additional context on the compensation of uncontracted conventional generation in California. It shows that, in 2016, the 3,500 MW of Calpine's uncontracted conventional generation will yield only up to $20 million in cash flow, or $6/kW-year. This is in comparison to the costs that the CEC has estimated are necessary to continue to operate a CCGT plant of approximately $60/kW-year.[2]

[1] http://docketpublic.energy.ca.gov/PublicDocuments/16-IEPR-02/TN211166_20160420T154750_La_Paloma_Generating_Plant_Letter_to_CECCAISOARBCPUC.pdf

[2] See Table E-4 of http://www.energy.ca.gov/2014publications/CEC-200-2014-003/CEC-200-2014-003-SF.pdf Ad valorem, insurance, and fixed O&M costs are generally considered "going forward" costs, i.e., costs that a rational generation owner must recover in order to operate. According to CEC estimates, the sum of these three items is approximately $60/kW-year for a CCGT.



(http://s2.q4cdn.com/469362763/files/doc_presentations/2015/CPN-4Q15-Earnings-Presentation.pdf)

Third, not only are existing CCGT units inherently flexible, but they also can be made significantly more flexible. The La Paloma letter suggests that La Paloma could achieve minimum generation levels equal to 30% of its full capacity through modest upgrades. As Calpine has indicated in previous comments to the CEC, similar upgrades are available across Calpine's fleet.[3]

Calpine recommends renewed focus on the key issue raised in the La Paloma letter, i.e., the economic viability of the gas-fired generation on which the state is planning to rely to meet prospective reliability and renewable integration requirements. Calpine is aware of two venues where this issue could be timely addressed. First, in the CPUC's Integrated Resource Planning proceeding, Calpine and several other existing conventional generators, including High Desert, Inland Empire Energy Center, Diamond Generation, and Cogentrix, have requested that the CPUC include an analysis of the economic viability of existing conventional generation and the consideration of new procurement mechanisms to assure the continued availability of existing conventional generation within the scope of the proceeding.[4] Calpine urges the CPUC to honor this request.

Second, in the 2016-2017 Transmission Planning Process, the CAISO intends to undertake a "special study" to examine the impacts of economic retirement of gas-fired generation on electric reliability.[5] Calpine commends the CAISO for initiating this analysis which will highlight the important role existing conventional generation in maintaining reliability.

The La Paloma letter also claims that the La Paloma plant is uniquely well-suited to addressing electric reliability issues associated with Aliso Canyon because it is not served by SoCal Gas and electrically

[3] http://docketpublic.energy.ca.gov/PublicDocuments/15-IEPR-04/TN203411_20141205T121857_Matthew_Barmack_Comments_Comments_of_Calpine_Corp_on_the_Novemb.pdf

[4] See http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M159/K671/159671116.PDF, http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M159/K697/159697827.PDF, and http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M159/K671/159671444.PDF.

[5] See section 7.4 of https://www.caiso.com/Documents/Final2016-2017StudyPlan.pdf

proximate to Path 26, a major transmission path into Southern California. Calpine notes that there are other plants that are also well-suited to address electric reliability issues associated with Aliso Canyon. For example, Calpine's Pastoria plant is not served by SoCal Gas. In addition, Pastoria is actually located south of Path 26, i.e., in an electrical sense, it is not only close to transmission into Southern California, it is actually in Southern California.