

DOCKETED

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CALIFORNIA ENERGY COMMISSION

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December 24, 2013

Ms. Barbara McBride, Director, Environmental, Health & Safety
Calpine Corporation
4160 Dublin Boulevard
Dublin, CA 94568

**RE: SUTTER ENERGY CENTER AMENDMENT (97-AFC-2C)
FORMAL DATA REQUEST SET No. 2 (Nos. 7–25)**

Dear Ms. McBride:

California Energy Commission staff has reviewed the Petition to Amend (Petition) for the Sutter Energy Center and requires additional information to supplement the environmental analysis in the Petition, pursuant to Title 20, California Code of Regulations, section 1769(a)(1)(E). Energy Commission staff seeks the information specified in the enclosed data requests. The information requested is necessary to more fully understand the project, assess whether the project would result in significant environmental impacts, and assess potential mitigation measures.

This set of data requests (Nos. 7–25) is being made in the areas of Project Description (Nos. 7-10) Transmission System Engineering (Nos. 11–14), Air Quality (Nos. 15-18), Soil and Water Resources (Nos. 19-23), Socioeconomics (No. 24), and Traffic and Transportation (No. 25). Staff requests that written responses to the enclosed data requests be provided on or before January 24, 2014.

If you are unable to provide the information requested, need additional time, or you object to providing the requested information, please send written notice to me within 20 days of receipt of this information request. The notification should contain the reasons for not providing the information and the grounds for any objections.

If you have any questions, please call me (916) 654-4840, or email me at beverly.bastian@energy.ca.gov.

Sincerely,

Beverly E. Bastian
Compliance Project Manager
Siting, Transmission, & Environmental Protection Division

Enclosure: Formal Data Request Set No. 2

INTRODUCTION

On March 22, 2013, Calpine Construction Finance Company, L.P. (CCFC), filed with the Energy Commission a Petition to Amend (petition) the Final Decision for the Sutter Energy Center (SEC). The proposed modification is described as, “a new, underground replacement generator tie-line and substation that would connect with PG&E’s Table Mountain-to-Tesla 500-kV transmission line.... PG&E will construct the new substation on a 25-35-acre site..., and CCFC will install a bank of step-up transformers on a 3-5-acre site adjacent to the new PG&E substation to transform power from 230 kV to 500 kV for export on the PG&E line. The first point of interconnection with the CAISO-controlled grid will be the PG&E bus on the high side of the CCFC transformers. The new substation will be designed, constructed, owned, and operated by PG&E under authorization from the California Public Utilities Commission. Nevertheless, this Petition considers the environmental effects of the new substation because it is a direct consequence of constructing the new generator tie-line [emphasis added].”

Staff checked state transmission network planning documents (the approved California ISO 2012-2013 Transmission Plan; the Study Results for the 2013-14 Transmission Plan; the California ISO Generator Interconnection Queue) and found that they do not include the proposed 500/230-kV SEC substation and do not identify it as an interconnection for multiple generators. So the SEC is the only generator in the interconnection queue with the new substation as its interconnection point.

CCFC asserts that since PG&E is constructing the new 500/230-kV substation, the substation is not part of the project and the Energy Commission only has jurisdiction up to the 500-kV bus of the new substation.

Energy Commission staff asserts that the new 500/230-kV substation is part of the project because it is not needed for any reason but the interconnection of the SEC. Thus, since the Energy Commission has jurisdiction up to the first point of interconnection with the existing network (regardless of who constructs the facilities), that point is where the substation connects to PG&E’s Table Mountain-to-Tesla 500-kV transmission line.

The following Data Requests regarding the substation construction and operation are being submitted to CCFC because the petition does not provide sufficiently detailed information on the environmental effects of the new substation. More detailed information is needed to enable technical and environmental specialists to fully analyze the potential environmental impacts of the proposed substation.

Technical Area: Project Description
Author: Beverly E. Bastian

BACKGROUND

In an e-mail exchange with staff on May 30, 2013, regarding the potential delivery roads for substation construction, David Tomm, a Sutter County Public Works Department engineer, commented on the elevation of the substation, relative to the 100-year flood elevation, as follows:

“... in Section 3.10.1.1, under heading 'Fema Flood Zones,' it would be good to note the following: Existing ground elevation at the new substation site (Northwest corner of APN 21-230-022) is approximately 32.5 ft (NGVD 1929), the Base Flood Elevation is 49.2 ft (NGVD 1929). FEMA regulations and County Ordinance require that any new building finish floor be elevated a minimum of one foot above the base flood elevation and that utilities be protected to that same elevation.”

The petition text that Mr. Tomm references (p. 3-85) states: “SEC, the substation, and generator tie-line route and much of the surrounding areas are located within the Federal Emergency Management Agency (FEMA) Flood Zone A, also referred to as the 100-year flood zone. Construction of new above-ground structures such as the new PG&E substation and CCFC transformers, may require revisions to the Floodplain Insurance Rate Map, and will likely require mitigation or project design measures such as berming or raising certain equipment to a level above the 100-year floodplain to meet building code standards.” Another possibility, not mentioned by the petition, would be raising the grade of the substation and transformer bank sites above the flood level.

Additionally, included in the petition as Appendix 2.1A, the Cluster 1/Cluster 2 Phase II Interconnection Study Report: Final Group Report for the PG&E North Area (Revision 1, January 13, 2012) provides PG&E's Preliminary PG&E Substation Job Scope (Phase II Study, CPN Sutter Energy Center #2, 600-MW Generating Facilities), including the following “Assumptions and Clarifications” for the substation: No. 4. “For the purposes of this study, it is assumed that the Customer [CCFC] will provide a fully graded and compacted site prior to any construction activity by PG&E” (App. A, Q569, January 13, 2012 revision, CAISO, for Calpine, Att. 8, “Substation and Transmission Detailed Work and Estimates,” Revision 1, n.p.).

This suggests that since CCFC would have to either construct a berm and stormwater control system or raise the grade at the transformer bank site, it would also be CCFC's responsibility to provide the same flood prevention at the substation site. For this to be done, it seems likely that CCFC would have to own or hold a longtime lease to the substation parcel. Either raising the grade or building a berm and stormwater control system could result in impacts to off-site borrow areas and possibly impacts of concern to other technical and environmental areas as well. The only flood protection measure on the substation site that would be entirely PG&E's responsibility, and that would have little environmental impact, would be raising the installed equipment above flood level.

Also lacking in the petition was a figure distinguishing the substation parcel from the transformer bank parcel. Staff also found discrepancies in different sections of the petition in the stated length of the gen-tie line (1.71 miles on p. ES-1; 1.75 miles on p. 4 of Appendix A–Q569 and p. 1 of the “Preliminary Delineation of Wetlands and Other Water Bodies for the Sutter Linears Enhancement Project”; and 1.76 mile on p. 3-50) and in the stated acreage of the substation site (25-35 acres on p. 3-45; 28 acres on p. 3-89 and in several tables in Appendix 3.10A; and 35 acres on p. 1 of the “Preliminary Delineation of Wetlands and Other Water Bodies for the Sutter Linears Enhancement Project”).

To fully analyze all impacts from the construction and operation of the substation, staff needs additional information on the size and shape of the substation parcel and the transformer bank parcel, and on the correct length of the gen-tie line and correct acreage of the substation site. Staff also needs more information on CCFC's ownership and pre-construction preparation of the substation site and the transformer bank site.

DATA REQUESTS

7. Please provide a scaled figure showing the sizes and shapes of the substation parcel and the transformer bank parcel, distinguishing them from each other, and in relationship to the proposed underground generator tie-line trench and construction easement.
8. Please explain what ownership or lease arrangement CCFC expects to hold on the substation parcel and the transformer bank parcel.
9. Please provide the correct length of the gen-tie line.
10. Please provide the correct acreage of the substation site.

Technical Area: Transmission System Engineering
Authors: Ajoy Guha, P. E., and Mark Hesters

BACKGROUND

The CCFC October, 2013 responses to Energy Commission Transmission System Engineering Data Requests Nos.1-5 were insufficiently detailed. Staff needs the following additional information to fully analyze the impacts of constructing and operating the substation. Energy Commission staff can be contacted for further explanation, if needed: Ajoy Guha, Transmission System Engineering, (916) 654-5012.

DATA REQUESTS

11. Follow-up on CCFC-provided response to Energy Commission Formal Data Request #1 and CCFC-provided Fig. DR1-1:
 - a. Please provide the ratings of the proposed 500-kV buses, breakers, and disconnect switches.
 - b. Please provide the approximate lengths of the overhead transmission outlets to the existing PG&E Table Mountain-to-Tesla 500-kV transmission line, along with their sizes and ratings.
 - c. Please provide the ratings of additional series capacitors, shunt reactors and related breakers, disconnect and/or bypass switches, as shown in Fig. DR1-1, if necessary according to the PG&E plan.
 - d. Please provide a one-line electrical diagram showing the 500/230-kV transformer bank with its ratings; configuration of the 230-kV bus with ratings for buses, breakers, and disconnect switches; and connection links of the transformer to high- and low-side buses, along with their sizes and ratings.
12. Follow-up on CCFC-provided response to Energy Commission Formal Data Request #2 and CCFC-provided Figs. DR2-1 and DR2-2:

- a. Please provide a tentative physical layout drawing of the proposed, complete 500/230-kV substation in proximity to the PG&E Table Mountain-to-Tesla 500-kV transmission line, showing the fence lines and all major equipment with approximate measurements, high- and low-side buses, and all major equipment, including the 500/230-kV transformer bank, 230-kV cable pothead structure, and the transmission outlets to the PG&E Table Mountain-to-Tesla 500-kV transmission line, along with their respective routes and the location of any additional structures/poles, if any, between the substation and the PG&E Table Mountain-to-Tesla 500-kV transmission line.
 - b. Resubmit Figs. DR2-1 and DR2-2, showing the height and width of the 230-kV cable pothead structure and the height of the cable pothead.
13. Follow-up on CCFC-provided response to Energy Commission Formal Data Request #3 and CCFC-provided Figs. DR3-1a through 3-1d: Please resubmit Figs. DR3-1a through DR3-1d, marking width(s) of the Rights-of-Way at strategic points along the route of the proposed 230-kV, underground generator tie-line.
14. Follow-up on CCFC-provided response to Energy Commission Formal Data Request #4 and CCFC-provided Fig. DR4-1:
- a. Please identify the normal current rating and type of conductor for the 2,000 KCMIL XLPE 230-kV cable.
 - b. Resubmit Fig. DR4-1 with corrections according to G. O. 128 and OSHA standards. A typical drawing for 230-kV, underground cable Duct Bank construction is attached for your information.

Technical Area: Air Quality
Author: Jacquelyn Leyva

BACKGROUND

Staff needs the following additional information to fully analyze impacts to air quality during construction of the proposed substation.

DATA REQUESTS

- 15. Please provide estimated substation construction period delivery and hauling emissions for all criteria pollutants in pounds per day (lb/day) and tons per year (tpy).
- 16. Please provide an estimate of fugitive dust emissions from any access roads to the substation.
- 17. Please provide off-site emissions for estimated worker travel to the substation during its construction.
- 18. Please provide on-site substation construction emissions for fugitive dust from paved and unpaved roads and any track-out to paved roads.

Technical Area: Soil and Water Resources
Author: Christopher Dennis, PG, CHG

BACKGROUND

The proposed PG&E substation would be constructed in the 100-year flood zone identified by FEMA. Federal regulations and Sutter County ordinances require CCFC to construct flood-proofing structures to protect its transformers and also, presumably, PG&E's substation and to ensure that there are no up- or downstream impacts from diversion of floodwaters. CCFC has not identified in its petition how the proposed facilities would be protected from flooding and how potential impacts from diversion of flood flows would be mitigated. Staff needs information on the proposed design to mitigate potential on-site and off-site flood impacts. If the flood protection system would require the importation of fill material for construction, staff needs information on how much fill would be required and the source and quality of the fill material. This information is needed to analyze potential impacts related to soil erosion and sedimentation and to ensure compliance with laws, ordinances, regulations, and standards.

DATA REQUESTS

19. Please provide scaled plans and a detailed description of the flood protection system proposed for the transformer bank site and for the substation site.
20. If fill material would be used to construct the flood protection system, please provide preliminary grading plans showing the flood protection system configuration and anticipated volumes of material required.
21. If a berm or fill pad would be constructed, please identify the proposed source or sources of material, the volumes that would be required for construction, and an identification of physical and chemical characteristics of the soil.
22. Please provide an assessment of whether the proposed fill material volume and disturbed fill material source area would require compliance with or qualify for exemption from the Surface Mining and Reclamation Act requirements.
23. Please provide preliminary plans and information showing how the proposed flood protection system may have an impact on up- and downstream resources.

Technical Area: Socioeconomics
Author: Jim Adams

BACKGROUND

Staff needs additional information to conduct the Socioeconomics analysis.

DATA REQUEST

24. Please provide an estimate of the time needed to construct the proposed substation and the number of workers required. Please identify peak times when the maximum number of workers would be needed.

Technical Area: Traffic and Transportation
Authors: Steven Kerr

BACKGROUND

As clarified in CCFC's response to Informal Data Request 17, the trip generation estimates provided within section 3.11.2 of the petition do not include the construction trips for PG&E construction activities at the substation. Staff needs to review the potential effects of the substation as a part of the project. Additionally, per the background information provided above in the Project Description section of this Data Request set, staff is concerned that construction trips for flood prevention and pre-construction preparation of the proposed substation site and the proposed transformer bank site may not have been included in section 3.11.2 of the petition. Staff needs the following additional Traffic and Transportation information to fully analyze the impacts of constructing and operating the substation and transformer bank.

DATA REQUEST

25. Please provide an update to section 3.11.2 of the petition that incorporates the additional estimated construction trips for PG&E construction activities, based on similar circumstances (building a 500-kV substation). Please also include any additional trips, not previously accounted for, related to flood prevention and pre-construction site preparation activities. Please explain your methodology, and specify how many trips were added to account for each activity that was not included in the petition.