CALIFORNIA ENERGY COMMISSION
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October 23, 2009

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09-AFC-03
DATE OCT 23 2009
RECD. OCT 23 2009

Mr. Bohdan Buchynsky
Diamond Generating Corporation
333 S. Grand Ave., Suite 1570
Los Angeles, CA 90071

RE: MARIPOSA ENERGY PROJECT (MEP) (09-AFC-3)
DATA REQUEST SET 1 (Nos. 1-57)

Dear Mr. Buchynsky:

Pursuant to Title 20, California Code of Regulations, Section 1716, the California Energy Commission staff seeks the information specified in the enclosed data requests. The information requested is necessary to: 1) more fully understand the project, 2) assess whether the facility will be constructed and operated in compliance with applicable regulations, 3) assess whether the project will result in significant environmental impacts, 4) assess whether the facilities will be constructed and operated in a safe, efficient and reliable manner, and 5) assess potential mitigation measures.

This set of data requests (Nos. 1-57) is being made in the areas of Air Quality (Nos 1-14), Alternatives (Nos. 15-17), Biological Resources (Nos. 18-23), Cultural Resources (Nos. 24-49), Geological Hazards (No. 50), Traffic and Transportation (Nos. 51-55), and Transmission System Engineering (Nos. 56-57). Written responses to the enclosed data requests are due to the Energy Commission staff on or before November 16, 2009, or at such later date as may be mutually agreeable.

A second data request set is currently being prepared and will be submitted at a later date. This second data request set will include data requests for Soil and Water Resources.

If you are unable to provide the information requested, need additional time, or object to providing the requested information, please send a written notice to both the Committee and me within 20 days of receipt of this notice. The notification must contain the reasons for not providing the information, and the grounds for any objections (see Title 20, California Code of Regulations, Section 1716 (f)).

If you have any questions, please call me at (916) 654-4781 or email me at choffman@energy.state.ca.us.

Sincerely,

Craig Hoffman
Project Manager

Enclosure

PROOF OF SERVICE (REVISED 9/15/09) FILED WITH
ORIGINAL MAILED FROM SACRAMENTO ON 10/23/09
MF

Technical Area: Air Quality
Author: Jacquelyn Leyva and Brewster Birdsall

BACKGROUND: AIR QUALITY PERMIT APPLICATION

The proposed project will require a Determination of Compliance (DOC) analysis from the Bay Area Air Quality Management District (BAAQMD or "District"), which will be integrated into the staff analysis. Therefore, staff will need copies of relevant correspondence between the applicant and the District in a timely manner in order to stay up to date on any issues that arise prior to completion of the Preliminary or Final Staff Assessment.

DATA REQUEST

1. Please provide copies of all substantive District correspondence regarding the Mariposa Energy Project permit application, including e-mails, within one week of submittal or receipt. This request is in effect until the final Commission Decision has been recorded.

BACKGROUND: BACT ANALYSIS

In AFC Section 5.1.6.2.2 BACT Analysis, the AFC states, "A summary of the Best Alternative Control Technology analysis is presented in Appendix 5.1E". However, Appendix 5.1E is the permit application sent to BAAQMD. Of special concern is the proposal for BACT of carbon monoxide (CO), which is at an emission rate (6.0 parts per million) that is higher than other proposals Energy Commission staff is currently reviewing (namely 4.0 ppm CO proposed by Turlock Irrigation District for the Almond 2 Power Plant).

DATA REQUESTS

2. Please provide the summary of the BACT analysis.

3. Please describe whether the proposed LM6000 combustion turbines would be able to achieve 4.0 ppm CO.

BACKGROUND: INITIAL COMMISSIONING

The initial commissioning values according to AFC Table 5.1-11 (per turbine) seem to exceed the maximum low-load and startup emissions expected for the LM6000s. For nitrogen oxides (NOx), the hourly emission rate expected during commissioning (51 lb/hr) exceeds even the uncontrolled NOx emissions shown (44 lb/hr) on the vendor sheet (AFC Appendix 5-1B, Table 5.1B.2). Additionally, the initial commissioning steps described in the AFC do not contain information regarding how emissions would be monitored during the phase. The AFC (p. 5.1-24 and Table 5.1-25) describes how up to three turbines may simultaneously undergo commissioning and that the fire pump engine was not included in the commissioning impact analysis.

DATA REQUESTS

4. Please provide a discussion for any proposed mitigation during the commissioning period. For example, describe whether additional mitigation would be provided beyond that proposed for routine operations?

5. Please provide an explanation of how the hourly NOx, carbon monoxide (CO), and volatile organic compound (VOC) commissioning emission rates for the LM6000s were derived.

6. Please include the criteria pollutant emissions monitoring techniques, to be used during the initial commissioning monitoring. For example, describe which commissioning tests would occur with continuous emissions monitoring (CEM) systems installed and operational.

7. Please describe whether MEP would accept a prohibition on simultaneous commissioning of more than three combustion turbines and a prohibition on commissioning with fire pump engine testing.

BACKGROUND: EMISSION OFFSETS

The applicant's proposed offset package is uncertain. Information (including confidential information) submitted by MEP to Energy Commission staff do not provide detail regarding the specific emission reduction credits (ERCs) that are going to be used for the project. Staff eventually needs to know the exact location, the amount, and the offset ratios, including interpollutant offset ratios, applicable to each ERC that MEP proposes to use. This information may be submitted under confidential cover to staff, but staff expects to make this information available to the public with the staff assessment. Staff requires a finalized offset package to complete our analysis.

DATA REQUEST

8. Please provide a tabulated list showing expected emissions and emission offset accounting indicating the proposed quantity of offsets, including the location of emission reductions, in a quantity sufficient to fully offset the project's emissions. Please show the current updated ERC certificate number and former certificate number for all certificates that have been recently split and/or re-issued in the name of the project.

BACKGROUND: EMISSION OFFSETS

The applicant proposes to offset NOx and VOCs to comply with BAAQMD local requirements by securing emission reduction credits. Because the project is likely to also affect air quality in the San Joaquin Valley Air Basin, Energy Commission staff may require additional specific mitigation for particulate matter (PM10) and sulfur oxides (SOx) to ensure localized benefits to the area impacted directly by the Mariposa Energy Project. A complete mitigation strategy would provide one-to-one emission reductions for proposed PM10 and SOx emission increases.

DATA REQUESTS

9. Please identify and quantify a complete package of proposed mitigation, especially for PM10. For example, if proposed by MEP, strategies to reduce emissions in the San Joaquin Valley and the effectiveness of such strategies would need to be explicitly identified by MEP and preferably developed in consultation with Energy Commission staff before staff makes the information available in the staff assessment.

10. Please identify and quantify a mitigation strategy for proposed SOx emissions to ensure that MEP avoids contributing to additional PM10 violations of ambient air quality standards.

BACKGROUND: CUMULATIVE MODELING ANALYSIS

Applicant states in the AFC they are working with San Joaquin Valley Air Pollution District (SJVAPCD) along with BAAQMD to complete all the background information for the cumulative air impact analysis, and are currently trying to identify other applicable sources from SJVAPCD to get a complete cumulative air impact analysis.

DATA REQUESTS

11. Please provide a copy of the Districts' correspondence regarding existing and planned cumulative projects located within six miles of the MEP site.

12. Please provide the progress for the cumulative air quality impact analysis following the protocol proposed in the AFC.

13. Please provide the cumulative air quality impact analysis.

BACKGROUND: DIESEL FIRE PUMP ENGINE

The proposed diesel fire pump engine would meet stringent Tier 3 emission standards, but in the MEP emission inventory and impact analysis, a 20-minute testing duration is assumed (AFC Appendix 5.1B, Table 5.1B.7) instead of the typical one-hour emission rate. It is not clear if MEP is proposing to limit NOx and Nitrogen Dioxide (NO2) impacts from this source by limiting its testing to 20 minutes per test.

DATA REQUEST

14. Please describe whether MEP would accept a prohibition on using the fire pump engine for durations of more than 20 minutes per test, and if not, please provide a revised air modeling analysis using the one-hour test duration.

Technical Area: Alternatives
Author: Craig Hoffman

BACKGROUND

The AFC describes alternative water supplies and routes from the City of Tracy waste water treatment plant and the Mountain House waste water treatment plant (6.5.3.1). These descriptions provide an overview of the route pipelines would take to provide water to the site, however, there are no graphics which depict these routes.

DATA REQUEST

15. Please provide maps (at no greater scale than 1 inch = 1 mile) showing the routes of the alternative water sources from Tracy and Mountain House to the MEP site. Each route should be clearly depicted on an individual figure or graphic.

BACKGROUND

The AFC identifies that alternative water supplies from Mountain House and the City of Tracy were not feasible because of existing waste water allocation to other uses.

DATA REQUEST

16. Please provide the contact information for the Mountain House Waste Water Treatment Plant or Mountain House Community Services District, and letters identifying that recycled water supply cannot be provided by the Mountain House CSD.

17. Please provide the contact information for the City of Tracy Waste Water Treatment Plant, and letters identifying that recycled water supply cannot be provided by the City of Tracy waste water treatment plant.

Technical Area: Biological Resources
Author: Anne Wallace

BACKGROUND

The AFC (page 5.2-2, last paragraph) states that equipment and supplies related to transmission-line work will be stored in a temporary laydown area located immediately adjacent to PG&E's gas compressor station and along the work corridor as determined feasible. Uncertainty about the location of where disturbance is likely to occur will make it difficult for staff to complete its analysis and, if necessary, recommend mitigation measures.

DATA REQUEST

18. Please identify where an alternate laydown area might be if the proposed location is not determined feasible.

BACKGROUND

Protocol rare-plant surveys were conducted for early-blooming species in April of 2009. For plants blooming mid to late season, protocol surveys were planned for late spring and summer of 2009. The AFC (page 5.2-18) states that the results of all three surveys will be summarized in a rare plant report. Staff needs the final rare plant report to complete its analysis and, if necessary, recommend mitigation measures.

DATA REQUEST

19. Please provide the results of the three rare-plant surveys including any proposed impact avoidance, minimization, and mitigation measures beyond those provided in the AFC.

BACKGROUND

AFC Section 5.2.1.4.1 Special-status Plants explains that 34 special-status plant species were initially considered for the project but that habitats were not suitable for 10 of those plants. Paragraph two of this section (page 5.2-17) names only 9 special-status plants and explains why they are considered unlikely to occur.

DATA REQUEST

20. Please provide a full list of special-status plant species considered, and name all those that were eliminated from further consideration and why.

BACKGROUND

AFC Section 5.2.1.4.2 Special-status Wildlife (page 5.2-21) states that information acquired from several sources resulted in a list of 34 special-status wildlife species that could occur within a nine USGS-quadrangle search area of the California Natural Diversity Database. The AFC states that these are listed in Table 5.2-3; however, this

table names only 29 special-status wildlife species. This comprehensive list was then refined to 17 species potentially affected by the project based on the results of reconnaissance field surveys and an analysis of habitat suitability, coupled with known species ranges. The focused list is provided in Table 5.2-5; however, there are only 13 species listed in this table. In order to complete its analysis, staff must fully understand how many and which wildlife species were initially considered, and which ones were eliminated from further consideration and why.

DATA REQUEST

21. Similar to what was done in the special-status plant discussion, please provide a complete list of species initially considered, a refined list of species that received further consideration in the AFC, and explain why those that were eliminated would not be expected to occur in the project area.

BACKGROUND

The second bullet of the Executive Summary in Section 1.1.2 Key Project Benefits (page 1-2) explains that the project is a zero liquid discharge facility and that process wastewater and stormwater runoff from plant equipment process areas will be treated on site and then recycled. Section 5.2.1.6.4 Stormwater Detention Basin (page 5.2-31) then discusses a multi-stage discharge structure to be installed inside the new stormwater detention basin for particulates to settle out before stormwater discharges off the site into one of two grass-lined swales located along the perimeter of the MEP site.

The Water Quality section of the AFC (page 5.15-16, Section 5.15.2.2) differentiates primary wastewater, which includes stormwater runoff from all of the plant equipment process areas that would be entirely recycled, from secondary wastewater, which includes sanitary wastewater that would discharge through an onsite leach field or be removed for offsite treatment. Neither would apparently discharge off the site. The next section (page 5.15-16, Section 5.15.2.3) discusses stormwater runoff and drainage, which would discharge to one of two swales routing “upgradient” stormwater around the site. This section implies that this could include oily water contaminated by roads, plant equipment, and other impervious surfaces.

The difference between stormwater from plant equipment process areas that will be recycled and stormwater that will be routed to grass-lined swales but that could mix with oily water from the plant site is not clear. This concern has implications for special-status species that could be attracted to the grass-lined swales. Table 5.15-5 Pre- and Post-development Runoff for the MEP Site does not make the distinction clear, nor does it differentiate quantities of the two types of stormwater.

DATA REQUEST

22. Please provide a clear explanation for the difference between stormwater that would be recycled and stormwater that would discharge to grass-lined swales, where each would originate, how they are separate or separated, how they could mix, and how much is expected from each source.

BACKGROUND

Table 5.2-7 Agency Contacts for Biological Resources provides contact information and a brief summary of discussions with personnel from four state and federal agencies. For permits normally issued by the state, the Energy Commission will issue a permit on an in-lieu basis, but the applicant would nevertheless submit permit applications to state agencies for their review and comment.

DATA REQUEST

23. Please provide an update on coordination efforts with USACE for a Clean Water Act Section 404 permit, USFWS for a federal Endangered Species Act Section 7 biological opinion, and CDFG for a Fish and Game Code Section 2081 incidental take authorization (or consistency determination) and streambed alteration agreement. Provide any supporting documents (letters, emails, or records of conversation) that result from communication with these agencies, including impact mitigation recommendations, and the steps the applicant has taken or plans to take to apply for these permits, and provide copies of applications for a state incidental take authorization permit and a streambed alteration agreement.

Technical Area: Cultural Resources
Author: Beverly E. Bastian

BACKGROUND

The Application for Certification (AFC) states that agricultural and ranching activities have disturbed the surface soils of the proposed project site, and that the site was previously developed as a wind farm (p. 1-1). The pedestrian archaeological survey noted that concrete turbine pads are still present, and suggested that it is likely that buried electrical lines connecting the turbines are present as well (p. 5.3-12). Staff needs to know how deep this previous disturbance extends in order to assess the project's potential impacts on possible buried archaeological resources.

DATA REQUESTS

24. Please research the previous wind farm and provide information on the extent and depth of ground disturbance resulting from the construction of the wind farm.

25. Please provide a map showing the previous wind turbine locations and the routes of the underground electrical lines within the footprint of the MEP.

BACKGROUND

To assess the proposed project's potential impact on buried archaeological resources, staff needs information on the extent of ground disturbance associated with the installation of various project components.

DATA REQUESTS

26. In a table, please list all buildings and equipment whose foundations require excavation, and provide the dimensions and depths of holes that would be dug to construct these foundations.

27. In a table, please list all linear facilities that entail trenching or the excavation of holes for footings, and provide, for both the on- and off-site segments of each, the total length of each facility, the trench dimensions (width and depth of excavation) required to install the pipelines, the diameter and depth of the holes for the transmission line footings/foundations, and the width of the off-site corridor of expected ground disturbance adjacent to the trenches or footings.

BACKGROUND

The AFC indicates that the natural gas pipeline would deliver gas to an on-site gas metering station that would include underground piping and possibly underground facilities for pigging (p. 4-1). From the metering station, gas would go to all of the combustion turbine generators (CTGs), so pipelines, presumably underground, would be necessary, running from the metering station to the four CTG units. But no figure was provided showing these pipelines, and their dimensions are not discussed in Sections 3.0 or 4.0. Staff needs to have route locations for these pipelines and

dimension data for the metering station and pigging facilities to assess potential impacts to buried archaeological resources, unknown at this time but possibly present.

DATA REQUESTS

28. Please provide a map showing the on-site natural gas pipelines, the metering station, and the pigging facilities.

29. Please provide the horizontal and vertical dimensions of the natural gas metering station and of the pigging facilities.

BACKGROUND

The AFC states that the proposed project plans to get fresh water from Byron Bethany Irrigation District (BBID) Canal 45 via a 1.8-mile-long pipeline to be installed in an easement alongside Bruns Road (p. 5.3-12) or alongside the project's proposed new access road (p. 2-1). A new pump station, a laydown area for storing pipe, and 1,000 feet of the installed pipeline would be on the property of the new BBID facility on Bruns Road (pp. 2-1, 5.3-12–5.3-13). The pump station would be a "manhole wet well" (p. 2-2). The laydown area would be located in a graded area in the southeast corner of the Pump Control Center and Maintenance Yard of the new BBID facility (p. 5.3-13). The 1,000 feet of proposed MEP pipeline would run through this property in a "recently disturbed corridor" where a pipeline to serve the BBID facility was already installed (p. 5.13-13). To assess the project's potential impact on possible buried archaeological resources, staff needs more detailed information on the proposed fresh water system.

DATA REQUESTS

30. Please provide a large-scale map showing the location of the water pipe laydown area, the location and dimensions (including depth) of the new water pump station, and the location and dimensions (including depth) of the trench for the part of the water pipeline that is on the BBID property.

31. If any boring or directional drilling would be required, please provide the number, the dimensions, and the depth of the boring pits.

32. Please provide a map showing all locations where the proposed project could use boring or directional drilling, with the bore pits shown to scale.

BACKGROUND

The AFC states that the new supports for the proposed overhead interconnection transmission line (gen-tie) would be eight steel monopoles, 84 to 95 feet tall (p. 3-1), presumably all located off-site. To assess the project's potential impact on possible buried archaeological resources, staff needs to know if the project would include additional gen-tie supports on-site. Staff also needs more detailed information on the ground disturbance associated with the installation of these monopoles and the installation of conductors on the poles.

DATA REQUESTS

33. If, in addition to the eight gen-tie supports discussed in the AFC, other transmission line supports would be installed on-site, how many would be needed, of what type, and of what height and diameter?

34. If the on-site transmission line supports differ from that illustrated in Figure 3.2-2, please provide an illustration showing the type that would be used.

35. Please provide a figure showing the on-site route of the gen-tie transmission line, with support locations indicated.

36. If installation of the off-site gen-tie supports and stringing of conductors would entail creating an access road, spur roads, and pull-sites, please provide a map showing the location of the access road, all spur roads, and all pull-sites.

37. Please provide the horizontal extent and depth of ground disturbance associated with the gen-tie access road, spur roads, and pull-sites.

BACKGROUND

The AFC states that the project would have a fire hydrant system (p. 2-35). The tank for the storage of water for fire suppression is discussed (p. 2-37), but no information on the fire hydrant system piping, presumably underground, is provided. To assess the project's potential impact on possible buried archaeological resources, staff needs more detailed information on possible ground disturbance associated with the fire hydrant system piping.

DATA REQUESTS

38. Please provide a map showing the layout of the fire hydrant system piping.

39. Please provide the total length of the fire hydrant system piping, the diameter of the pipes, and the width and depth of the installation trench for the fire hydrant system piping.

BACKGROUND

The AFC identifies a septic tank and a leach field as the project's means of disposal of sanitary wastewater (pp. 2-24–2-25). To assess the project's potential impact on possible buried archaeological resources, staff needs more detailed information on possible ground disturbance associated with the septic tank and leach field.

DATA REQUESTS

40. Please provide a map showing the layout of the septic tank and leach field.

41. Please provide the total length of the dimensions of the area that would be disturbed by the installation of the septic tank and leach field.

BACKGROUND

The AFC states that process wastewater and stormwater runoff would be routed to sumps (p. 2-24), but no additional information on the subsequent disposition of this water is provided. AFC Figure 2.3-1 shows a "retention pond," and the Water Resources section mentions a "detention pond" (p. 5.15-17), which, presumably, would be the destination of the project's process wastewater and stormwater. The AFC does not mention pipelines or on-site swales, ditches, or culverts for conveying stormwater to the retention pond. To assess the project's potential impact on possible buried archaeological resources, staff needs more detailed information on possible ground disturbance associated with the retention pond.

DATA REQUESTS

42. Please provide the total length, the width, and the depth of the installation trench for the sumps and for any piping associated with site drainage.

43. Please provide the length, width, and depth of the retention pond, and discuss its method of construction, use, and maintenance.

BACKGROUND

The preliminary Geotechnical Report recommends that the project site be "grubbed and cleared" of vegetation, topsoil, and construction debris, and the removed material disposed of off-site (AFC, Vol. 2, App. 2C, p. 11). The report also indicates that the project expects to make cuts of up to 32 feet along the eastern portion of the site and fills of up to 15 feet along the central and western portions of the site. The report additionally notes that the project expects to use 66,000 cubic yards of fill (AFC, Vol. 2, App. 2C, pp. 11, 12). Staff needs to know whether or not any non-licensed, non-commercial disposal or borrow sites that may be used by the proposed project have been surveyed for the presence of cultural resources.

DATA REQUESTS

44. If the proposed project would use any non-licensed, non-commercial soil borrow or disposal sites, please have a qualified archaeologist survey these sites and record on Department of Parks and Recreation (DPR) 523 forms any cultural resources that are identified.

45. Please submit to staff a report on the methods and results of these surveys, with recommendations for the treatment of any cultural resources identified in the surveys.

BACKGROUND

The construction of the MEP would entail ground disturbance at the 103-acre project site and project linear facilities. The AFC Geology section identifies Quaternary alluvial fan deposits on the project site (p. 5.4-2). Figure 5.4-1 shows the proposed natural gas pipeline traversing siltstone exposed on the surface. The undifferentiated Quaternary

alluvial deposits at the project site and at the location of the new fresh water pumphouse could obscure archaeological sites. Staff assumes that agriculture may have disturbed the project site to a depth of 3 feet, and the wind farm construction may have resulted in deeper disturbance, but it is likely that the construction of a number of project components would entail deeper project ground disturbance than either of these previous uses. In these Data Requests, staff is asking for the maximum depths for project components, but the AFC states that the natural gas pipeline would be installed in a trench at least 4.5 feet below grade (p. 4-1). Staff estimates that the ground disturbance resulting from the construction of major equipment installations at the plant site would be likely to extend as deep as 12 feet below the surface.

The Cultural Resources section of the AFC acknowledges that buried archaeological deposits could be encountered during construction activities (p. 5.3-12). Such deposits may be too deep to present surface manifestations, but may be within reach of construction impacts. Staff needs information of a finer resolution on the age, the structure, and the character of the geologic units beneath the surface of the project area to evaluate the project's potential to substantially and adversely change the California Register of Historic Resource eligibility of archaeological deposits that may lie buried in the areas where MEP construction could impact them.

DATA REQUESTS

46. Please obtain the services of a professional in geoarchaeology: a person who, at a minimum, meets the U.S. Secretary of Interior's Professional Qualifications Standards for prehistoric archaeology, as published in Title 36, Code of Federal Regulations, part 61, and demonstrates the completion of graduate-level coursework in geoarchaeology, physical geography, geomorphology, or Quaternary science, or education and experience acceptable to cultural resources staff. Please submit the resume of the proposed geoarchaeologist for staff review and approval.

47. Please have the approved geoarchaeologist provide a discussion, based on the available Quaternary science and geoarchaeological literature, of the historical geomorphology of the project areas. The discussion should describe the development of the landforms on which the project areas are proposed, with a focus on the character of the depositional regime of each landform since the Late Pleistocene epoch. The discussion should include data on the geomorphology, sedimentology, pedology, hydrology, and stratigraphy of the project areas, and the near vicinity. The discussion should relate landform development to the potential in the project areas for buried archaeological deposits. The discussion should include maps overlaying the above data on the project areas.

48. In the absence of sufficient extant Quaternary science and/or geoarchaeological literature pertinent to the reconstruction of the historical geomorphology of the project area, please have the approved geoarchaeologist design a primary geoarchaeological field study of the project areas, submit a research plan for staff approval, and conduct the approved research. The purpose of the study is to facilitate staff's assessment of the likelihood of the presence of archaeological

deposits buried deeper than 3 feet in the project areas. The primary study should, at a minimum, include the following elements:

A. A map of the present landforms in the project area at a scale of not less than 1:24,000; the data sources for the map may be any combination of published maps, satellite or aerial imagery that has been subject to field verification, and the result of field mapping efforts;

B. A sampling strategy to document the stratigraphy of the portions of the landforms in the project areas where the construction of the proposed project will involve disturbance at depths greater than 3 feet;

C. Data collection necessary for determinations of the physical character, the ages, and the depositional rates of the various sedimentary deposits and paleosols that may be beneath the surface of the project areas to the proposed maximum depth of ground disturbance. Data collection at each sampling locale should include a measured profile drawing and a profile photograph with a metric scale, and the screening of a small sample (3 5-gallon buckets) of sediment from the major sedimentary deposits in each profile through ¼- inch hardware cloth. Data collection should also include the collection and assaying of enough soil humate samples to reliably radiocarbon date a master stratigraphic column for each sampled landform; and

D. An analysis of the collected field data and an assessment, based on those data, of the likelihood of the presence of buried archaeological deposits in the project areas, and, to the extent possible, the likely age and character of such deposits.

49. Please have the approved geoarchaeologist prepare a report of the primary field study and submit it to staff under confidential cover.

Technical Area: Geological Hazards and Resources
Author: Patrick Pilling, Ph.D., P.E., G.E., D.GE.

BACKGROUND

Potential geological hazards include ground shaking and rupture due to seismic activity along faults, which can have a significant effect on the operation of the proposed facility. The development of this project must include an analysis of seismic shaking and potential fault rupture. In order to properly assess the potential impact of such hazards on a project, the location of known faults, their potential to rupture, and the associated ground motions related to such activity must be examined. The AFC for the project states that the Great Valley fault is located approximately at the site, but also that no known faults cross the site and the likelihood of ground rupture is considered low.

DATA REQUEST

50. Please verify the location of the Great Valley fault with respect to the project site, and provide a thorough and accurate discussion of its potential to impact the site with respect to ground motion and rupture.

Technical Area: Traffic and Transportation
Author: James Adams and Will Walters

BACKGROUND

In the traffic and transportation section of the AFC (pg. 5.12-20), there is a statement that an FAA Form 7460-1, Notice of Proposed Construction or Alteration was filed with the FAA for the exhaust stacks and highest transmission tower (Appendix 5.12B). The applicant believed this filing was necessary because the project is located 2.7 miles southeast of the Byron Airport. The forms were accepted by the FAA on May 29, 2009. Since almost four months have passed, it is possible that the FAA has released a Determination of No Hazard to Navigable Airspace. Staff would like to review this Determination.

DATA REQUEST

51. Please provide a copy of any Determination by the FAA. If none has been received please provide an estimate as to when the document will be released.

BACKGROUND

On pg 5.12-13, it is noted that the Byron Airport is located 2.7 miles northwest of the Mariposa (MEP) site and during a 12-month period ending on January 29, 2004, the Airport had an average of 164 aircraft operations per day. It is also noted that the MEP site is located within the airport's influence area. There is additional discussion on pg. 5.12-19 about the MEP site location with respect to instrument and visual flight paths as displayed on Figure 5.12-5. Staff is interested in potential aviation safety impacts from MEP exhaust plumes during operations on aircraft using the Byron Airport.

DATA REQUEST

52. Please provide a copy of any aviation safety analysis that was performed to determine if there would be any adverse impacts from MEP plumes on aircraft flying overhead. If no analysis is available, please prepare one and submit it for staff's review.

BACKGROUND

Staff will complete a plume velocity analysis and needs additional data for the chiller radiator system to complete this analysis.

DATA REQUEST

53. Please provide the maximum total heat rejection for the chiller radiator system.

54. Please provide the heat rejection as a function of temperature, either as an equation or provide heat rejection at the following two ambient temperatures: 59°F and 93°F.

55. Please provide the air flow rate through the chiller radiator system when operating at maximum heat rejection.

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

Introduction

Staff needs to determine the system reliability impacts of the project interconnection and to identify the interconnection facilities including downstream facilities needed to support the reliable interconnection of the proposed Mariposa Energy Project (MEP). The interconnection must comply with the Utility Reliability and Planning Criteria, North American Electric Reliability Council (NERC) Planning Standards, NERC/Western Electricity Coordinating Council (WECC) Planning Standards, and California Independent System Operator (California ISO) Planning Standards. In addition the California Environmental Quality Act (CEQA) requires the identification and description of the "Direct and indirect significant effects of the project on the environment." For the compliance with planning and reliability standards and the identification of indirect or downstream transmission impacts, according to the previous guidelines staff so far relied on the System Impact Study (SIS) and Facilities Study (FS) as well as review of these studies by the agencies responsible for insuring the adjacent interconnecting grid meets reliability standards, in this case, the Pacific Gas & Electric (PG&E) and/or California ISO. However, the California ISO's generator Interconnection study process under the new Large Generator Interconnection Procedures (LGIP) Tariff is in transition from a queue or serial SIS to a cluster window process for the Phase 1 and Phase 2 Interconnection studies. The Phase 1 Interconnection study is almost same as the SIS except it is now performed with several queue projects in a group in the same area of an utility. The Phase 2 Interconnection study (same as the FS and Operational study, but with all the queue projects in a group as included in the Phase 1 Interconnection study) would be performed at a later date. The Interconnection studies would analyze the effect of the proposed project on the ability of the transmission network to meet reliability standards. When the studies determine that the project will cause the transmission to violate reliability requirements the potential mitigation or upgrades required to bring the system into compliance are identified. The mitigation measures often include modification (such as reconductoring of an existing transmission line or extension or remodeling of an existing substation) and construction of downstream transmission facilities. The CEQA requires environmental analysis of any downstream facilities for potential indirect impacts of the proposed project.

Background

Staff has received a copy of the Transition Cluster Group1 Phase 1 Interconnection study report dated July 28, 2009 for interconnection of the proposed MEP (DGC Kelso CT project) and the study was performed by the California ISO and PG&E. However, the Appendices A to J of the study report have not been received for staff's analysis. The study is considered incomplete without the Appendices.

The report shows that the power flow study was conducted under 2013 summer peak and 2013 summer off-peak system conditions with and without the Group 1 twelve generation interconnection queue projects with about a total of 4,700 MW new generating power output in the greater bay area of PG&E, which also includes the proposed MEP with 193.6 MW net generation output. The cluster study identified a large

number of reliability criteria violations for new overloads on the downstream transmission facilities under normal (N-0) system conditions and California ISO category B contingency conditions (N-1, L-1 & G-1). In order to eliminate the identified overloads, preferred mitigation options include reconductoring of the overloaded lines with higher size conductors and constructing a new 230 kV switching station with three switch bays. The applicant, therefore, needs to comply with the CEQA requirements for environmental analysis for modification of these downstream facilities for potential indirect impacts of the proposed interconnection projects (Transition Cluster Group 1 Phase 1 Interconnection study report, sections 1-3 and 11).

DATA REQUESTS

56. Provide a general environmental analysis sufficient to meet the CEQA requirements for indirect project impacts for the following preferred mitigation measures:
    - Reconductor 22.8 miles of the Castro Valley- Newark 230 kV line with 795 Kcmil steel supported aluminum conductor (ACSS) or equivalent conductor.
    - Reconductor 10 miles of the Contra Costa-Brentwood 230 kV line with 954 Kcmil ACSS or equivalent.
    - Reconductor 17 miles of the Contra Costa-Windmaster section of the Contra Costa-Delta Pumps 230 kV line with 1113 Kcmil ACSS or equivalent.
    - Reconductor 1.4 miles of the Windmaster-Delta Pumps section of the Contra Costa-Delta Pumps 230 kV line with 1113 Kcmil ACSS or equivalent.
    - Reconductor 4.7 miles of the Altamont-Delta Pumps section of the Delta Pumps-Tesla 230 kV line with 1113 Kcmil ACSS or equivalent.
    - Reconductor 3 miles of the Altamont-Tesla section of the Delta Pumps-Tesla 230 kV line with 1113 ACSS or equivalent.
    - Reconductor 3 miles of the Kelso-USWP RLF section of the Kelso-Tesla 230 kV line with 1113 Kcmil ACSS or equivalent.
    - Reconductor 5 miles of the USWP RLF-Tesla section of the Kelso-Tesla 230 kV line with 1113 Kcmil ACSS or equivalent.
    - Reconductor 21 miles of the Las Positas-Newark 230 kV line with 954 Kcmil ACSS or equivalent.
    - Reconductor 12 miles of the Lonetree-USWP JRW section of the Lonetree-Cayetano 230 kV line with 954 Kcmil ACSS or equivalent.
    - Reconductor 12 miles of the Morago-Castro Valley 230 kV line with 795 Kcmil ACSS or equivalent.
    - Reconductor 1.1 miles of the Trimble-San Jose B 115 kV overhead line section with 477 Kcmil ACSS or equivalent.
    - Reconductor 3 miles of the USWP JRW-Cayetano 230 kV line section with 954 Kcmil ACSS or equivalent.

- Reconductor 10 miles of the North-Dublin- Vineyard 230 kV lne with 954 Kcmil ACSS or equivalent.
- Reconductor 14 miles of the Vineyard-Newark 230 kV line with 954 Kcmil ACSS or equivalent.
- Reconductor 5 miles of the Vaca Dixon-T275 No.1 230 kV line with bundled 795 Kcmil ACSS or equivalent.
- Reconductor 5 miles of the Vaca Dixon-T275 No.2 230 kV line with bundled 795 Kcmil ACSS or equivalent.
- Installing a new 230 kV switching station for three switch bays with a breaker and a half configuration and looping the Lonetree-Cayetano, Contra Costa-Las Positas, and North-Dublin-Vineyard 230 kV lines.

In addition provide a physical layout drawing of the proposed 230 kV switching station as stated above with major equipments (buses, breakers and disconnect switches) and transmission outlets.

57. Submit the Appendices A to J of the Transition cluster Phase 1 Interconnection study report. Should you intend to file confidential documents, please provide an “Application for Confidential Designation” addressed to the Executive Director, Energy Commission for consideration.

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA
1516 NINTH STREET, SACRAMENTO, CA 95814
1-800-822-6228 – WWW.ENERGY.CA.GOV

APPLICATION FOR CERTIFICATION FOR THE *MARIPOSA ENERGY PROJECT* (MEP)

Docket No. 09-AFC-3

PROOF OF SERVICE
(Revised 9/15/09)

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DECLARATION OF SERVICE

I, Mineka Foggie declare that on October 23, 2009. I served and filed copies of the attached Mariposa Energy Project (MEP) (09-AFC-3) Data Request Set 1(Nos. 1-57) dated October 23, 2009 The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at:
[http://www.energy.ca.gov/sitingcases/mariposa/index.html].

The document has been sent to both the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit, in the following manner:

(*Check all that Apply*)

For service to all other parties:

__x__ sent electronically to all email addresses on the Proof of Service list;

__x__ by personal delivery or by depositing in the United States mail at Sacramento, California, with first-class postage thereon fully prepaid and addressed as provided on the Proof of Service list above to those addresses **NOT** marked "email preferred."

AND

For filing with the Energy Commission:

__x__ **sending an original paper copy and one electronic copy, mailed and emailed respectively, to the address below (preferred method);**

OR

_____depositing in the mail an original and 12 paper copies, as follows:

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 09-AFC-3
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.state.ca.us

I declare under penalty of perjury that the foregoing is true and correct.

_Originally Signed By_____
Mineka Foggie