CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET
SACRAMENTO, CA 95814-5512

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01-AFC-7C
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December 22, 2006

Michael A. Hatfield
Director, Business Development
Calpine
3875 Hopyard Road, Suite 345
Pleasanton, CA 94588

Dear Mr. Hatfield,

RUSSELL CITY ENERGY CENTER AMENDMENT (01-AFC-7C) DATA REQUESTS

Pursuant to Title 20, California Code of Regulations, section 1769, the California Energy Commission staff requests the information specified in the enclosed data requests. The information requested is necessary to more fully understand the modifications proposed in the amendment petition filed on November 17, 2006 by the Russell City Energy Center, LLC, project owner, for the Russell City Energy Center (RCEC) Project.

Specifically, the requested information will assist Energy Commission staff to determine whether implementation of the proposed modifications will: 1) allow RCEC to operate in a safe, efficient and reliable manner, 2) comply with applicable laws, ordinances, and regulations, or 2) result in significant environmental impacts.

This set of data requests (#1-52) is being made in the areas of air quality, biological resources, cultural resources, geology, land use, soil and water resources, transmission system engineering, and waste management. Written responses to the enclosed data requests are due to the Energy Commission staff on or before January 22, 2007 or at such later date as may be mutually agreed.

If you are unable to provide the information requested, need additional time, or object to providing the requested information, you must send a written notice to both Commissioner John L. Geesman, Presiding Committee Member for the Russell City Energy City Project Amendment Petition , and to me, within 10 days of receipt of this letter.

The notification must contain the reasons for not providing the information, the need for additional time, and the grounds for any objections (see Title 20, California Code of Regulations, section 1716).

If you have any questions, please call me at (916) 654-4228 or E-mail me at jscott@energy.state.ca.us.

Sincerely, for Jeri Scott
12/22/2006

Ms. Jeri Zene Scott
Compliance Project Manager
Energy Facility Siting Division

Enclosures

Russell City Energy Center
DATA REQUEST
(01-AFC-7)

Technical Area: Air Quality
Author: Tuan Ngo

BACKGROUND: FUEL SULFUR CONTENT

The amendment request application states that the facility will use natural gas with an assumed sulfur content of 0.25 grains per hundred standard cubic feet (gr/100scf). Other Calpine facilities (Los Medanos, Delta, and Los Esteros) located in the Bay Area Air Quality Management District have been issued notices of violation for exceeding a fuel sulfur limit similar to that proposed here, which has resulted in amendments. In addition, it appears that Calpine pre-programmed their data acquisition and reporting systems on these facilities such that their facilities' sulfur oxides (SOx) emissions were calculated using the proposed 0.25 gr/100 scf sulfur limit. Thus the reported SOx emissions would never exceed the limits specified in the permit license. In practice this limit can only be verified by testing of sulfur content of supplied natural gas.

Past hourly fuel analyses from PG&E indicate that on an annual basis the sulfur content of natural gas supplied by the utility company is about 0.38 gr./100 scf while the maximum sulfur can go as high as 1 gr/100 scf at any instant.

Due to these reasons, Energy Commission staff does not believe that the proposed sulfur limits for natural gas are achievable in practice, and operational compliance verification would be complicated.

DATA REQUEST

1. Please provide documentation from the proposed natural gas supplier of the guaranteed peak and average fuel sulfur content levels.

2. Please provide the most recent six months of daily peak and average gas sulfur content values from the proposed natural gas supplier, collected at the nearest available location to the proposed facility gas tie-in. If daily values are not available, please provide either weekly or monthly sulfur content values, whichever is available, with an explanation as to why daily measurements are not available.

3. Please provide the steps and method the project owner will use to ensure continuous compliance with the sulfur content limits specified for the supplied natural gas fuel.

BACKGROUND: ESTIMATED FACILITY EMISSIONS

The Amendment Request Section 3.1.1.6 contains estimates of the facility air contaminants emissions. This section references Appendix 3.1A for the specific assumptions used in each calculation step. Appendix 3.1A contains numerous tables showing the results of the calculations of the facility's emissions without detailed explanations or a discussion of the assumptions used. As a result, staff cannot reproduce the facility's emissions that are listed throughout Section 3.1.1.6.

DATA REQUEST

4. Please provide the maximum number of start-up and shut-down events on a daily and annual basis.
5. Please provide actual calculations, assumptions, and methods used to estimate the facility daily and annual emissions provided in Tables 3.1-3 through 3.1-5.
6. Table 3.1-3 lists the proposed maximum permitted VOC emissions for each turbine as 2.82 lbs/hour. Table 3.1A-4 (in the appendix) shows each turbine hourly VOC emissions as high as 5.6 lbs/hour. Please explain the differences between the two emission limits.
7. Please explain how Calpine would ensure compliance with the proposed hourly VOC emission limit.
8. Table 3.1-3 lists the proposed maximum permitted PM10 emissions for each turbine as 9 lbs/hour. Table 3.1A-4 (in the appendix) shows each turbine hourly PM10 emissions as high as 29.2 lbs/hour. Please explain the differences of the two emission limits.
9. Please explain how Calpine would ensure compliance with the proposed hourly PM10 emission limit.

BACKGROUND: SOX EMISSIONS

Appendix 3.1A, table 3.1A-15 lists the facility operating hours as 8,364 hours/year. With these operating hours, each turbine's annual SOx emissions would be equal to 26 tons/year. Table 3.1-3 lists the maximum SOx emissions for each turbine as 6.2 lbs/hour and 6.1 tons/year, which would appear to limit each turbine operations to 2,000 hours per year, or about 24 percent of the potential annual hours of operation. If the expected SOx emissions are calculated using natural gas of 1 gr/100 scf sulfur content (see Data Requests on fuel sulfur content), the hours of operation could potentially be limited to only 500 hours per year under the proposed SOx annual emission limits of 6.1 tons.

DATA REQUEST

10. Please explain how Calpine would ensure compliance with the proposed annual SOx emission limits at the proposed hours of operation.

BACKGROUND: OFFSETS

Section 3.1.3 of the application for amendment states that offsets will be provided for NOx and VOC, and that the offsets will be secured from the District emission reduction credit bank. Section 3.1.2.14 states that the emission reduction credits will be provided for PM10, PM2.5 and SOx emissions only during fall and winter months. A proposed revised condition of certification AQ-58 also states that Calpine shall provide 43.4 tons/yr of PM10 emission reduction credits in the form of either the District bank or by SOx emission reduction credits at a ratio of 3:1.

DATA REQUEST

11. Please provide option contracts and/or evidence of acquisition of ERCs for the NOx, VOC, SOx and PM10/PM2.5 liability of the project.

12. If the project owner is unable to adequately respond to the Data Request above, please provide a status report starting February 1, 2007, and continuing monthly until the report identifies option contracts and/or evidence of acquisition of ERCs for the NOx, VOC, SOx, and PM10 liability of the project. The report should be specific to each pollutant and provide new information and update information from previous monthly status reports as appropriate. The reports should include for the ERCs:

    a. contact names and telephone numbers;

    b. company or source names;

    c. pollutant credit types and amounts in lbs/day;

    d. ERC certificate numbers;

    e. the methods of emission reductions (e.g., shutdown, reduction of hours of operation, emission controls, etc.);

    f. the status of ERC or option negotiations; and

    g. the location of the emission reduction credits.

13. Table 3.1-5 identifies that the project PM10/PM2.5 emissions would be limited to 86.8 tons/yr, and Calpine has proposed to only mitigate the project PM10, PM2.5 and SOx emissions during the fall and winter months. Thus the proposed revised condition AQ-58 only identifies 43.4 tons of PM10/PM2.5 liabilities (fall and winter, or half a year) to be mitigated. This proposed mitigation can only work if the operational profile of the source providing the emission reduction credits is known to emit emissions only during fall and winter. Therefore, early identification of the source providing offsets is needed to verify the source emission or operational profile. Please provide for the PM10 and PM2.5 ERCs:

    a. company or source names;
    b. pollutant credit types and amounts in lbs/day;
    c. ERC certificate numbers;

d. the methods of emission reductions (e.g., shutdown, reduction of hours of operation, emission controls, etc.);
e. the status of ERC or option negotiations; and
f. the location of the emission reduction credits.
g. Any pertinent information to show that the facility emits PM10/PM2.5 emissions only during fall and winter.

14. Similar to the Data Request above, if Russell City Energy Center SOx emissions are proposed to be mitigated during the fall and winter only, please provide for the SOx ERCs:

    a. company or source names;
    b. pollutant credit types and amounts in lbs/day;
    c. ERC certificate numbers;
    d. the methods of emission reductions (e.g., shutdown, reduction of hours of operation, emission controls, etc.);
    e. the status of ERC or option negotiations; and
    f. the location of the emission reduction credits.
    g. Any pertinent information to show that the facility emits SOx emissions only during fall and winter.

15. Please provide an analysis demonstrating that the use of the proposed 3 to 1 SOx for PM10 trading ratio would mitigate the project's new PM10/PM2.5 emissions impacts.

BACKGROUND: CUMULATIVE IMPACTS ANALYSIS

Section 3.1.2.25.2 states that an approved protocol for conducting a cumulative impacts analysis is included in Appendix 8.1H of the application for amendment.

DATA REQUEST

16. Please provide the cumulative impacts analysis or identify the timeline for completion and submittal of the cumulative impacts analysis.

Russell City Energy Center
DATA REQUEST
(01-AFC-7)

Technical Area: Biological Resources
Authors: Marc Sazaki and Rick York

BACKGROUND

Sections 2.3.1 and 2.3.2 describe Electric Transmission Line Alternative 1 and 2 respectively. The biological resources along these alternative routes and at the Eastshore Substation are not described in Section 3.2 Biological Resources. The current habitat conditions in these areas may have changed since the RCEC project was certified in July 2002.

DATA REQUESTS

17. Please provide the results of biological resource surveys conducted along the two alternative transmission line routes that are comparable in scope to the surveys done for the project site. If the surveys have not been completed, please provide a schedule of when they will be completed and submit the survey results to the CEC.

18. Please provide the results of biological resource surveys conducted at the Eastshore Substation that are comparable in scope to the surveys done for the project site. If the surveys have not been completed, please provide a schedule of when they will be completed and submit the survey results to the CEC.

BACKGROUND

The physical size and layout of the Eastshore Substation, as it will be when the RCEC selected transmission line alternative connects to the substation, is not presented in the amendment. Figures 6.2-2 and 6.2-3 in the original AFC are diagrammatic and difficult to interpret in relation to the surrounding area. An aerial photograph or illustration at a suitable scale is preferred.

DATA REQUEST

19. Please provide an aerial photograph or illustration of the Eastshore Substation at a scale of 1" equals 75' or larger that shows all existing transmission lines

entering the substation as well as the lines proposed for the RCEC. On the photograph or illustration, please identify the current land uses and any wildlife habitat, including ruderal areas, immediately adjacent to the Eastshore Substation.

BACKGROUND

The Eastshore to San Mateo and Eastshore to Dumbarton reconductoring addressed in Sections 2.3.3.1 and 2.3.3.2 are transmission system improvements that have become more finalized in design since the original Russell City AFC was completed. It appears that new environmental assessments have been prepared for these transmission upgrade projects that describe potential biological resource impacts and proposed mitigation. Energy Commission staff needs to review these assessments to verify that the indirect project effects of the RCEC will be adequately mitigated.

DATA REQUEST

20. Please provide the Biological Resource assessments prepared for the two reconductoring projects (Eastshore to San Mateo and Eastshore to Dumbarton) related to transmission system improvements.

Russell City Energy Center
DATA REQUEST
(01-AFC-7)

Technical Area: Cultural Resources
Author: Dorothy Torres

Please provide any documents under confidential cover that may reveal the location of an archaeological site.

BACKGROUND

On page 3-78 of Amendment # 1, there is an explanation that only portions of the City of Hayward parcel were inventoried for the Application For Certification (AFC), but the remainder would be inventoried and survey results will be forthcoming. Figure 3.3-1 indicates that an area east of the proposed transmission line route and west of one of the parking/laydown areas and the parking/laydown area have not been surveyed. It is not clear whether the area that would be surveyed includes the east side of the proposed transmission line route as it crosses the City of Hayward parcel.

DATA REQUESTS

21. a. Please provide survey results for the portions (transmission line and parking/laydown area) of the City of Hayward parcel that have not been surveyed.

    b. Please provide a revised Figure 3.3-1 that identifies areas surveyed after the Amendment was submitted. Also, indicate the location of any laydown or staging areas that would be located along the previously surveyed gas line route.

BACKGROUND

No information is provided in the Cultural Resources Section of Amendment # 1 regarding notification of Native Americans. Native Americans were contacted for the original Russell City project; however, since the project location has moved and the linear routes have changed, it is appropriate to inform Native Americans that the project has changed. Information provided by Native Americans is essential to identify all the cultural resources.

DATA REQUESTS

22. Please contact the Native American Heritage Commission (NAHC) to obtain a current list of Native American groups or individuals who may have heritage concerns in the project area. Provide a copy of the letter and map sent to notify Native Americans regarding the project change and provide copies of written comments or summaries of telephone conversations with Native Americans.

23. Please make a telephone call to Native American individuals or groups listed by the NAHC who have not responded to ensure that they have received the correspondence and to verify that they do not have any information regarding cultural resources in the project area. Please provide a summary of each conversation, and note any comments regarding the project area provided by the Native Americans. During the course of the Amendment proceedings, please provide copies or summaries of any additional information from Native Americans. If the location of archaeological sites may be revealed in the information, please provide the responses under confidential cover.

BACKGROUND

Phase I and II Environmental Site Assessments by LFR Inc. identify locations of apparent contaminated soil. They recommend additional geotechnical work, but also suggest that soil be removed and replaced. To identify all impacts of the proposed project, staff needs to know if soil removal is planned and if the chosen soil disposal and borrow sites have been surveyed for cultural resources.

DATA REQUEST

24. If removed soils will be disposed of off-site and/or new soils brought in and if disposal and borrow sites are not commercial operations and consequently have not been surveyed for cultural resources, please conduct surveys of the borrow and/or disposal site(s) and provide the survey personnel qualifications, methods, and findings to staff.

BACKGROUND

Page 8.3-14 of the original AFC describes the project area as an alluvial area of high depositions and high prehistoric archaeological sensitivity.

DATA REQUEST

25. If any additional geotechnical borings are completed for this project within the coming months, please have the borings examined by an archaeologist on site and provide a discussion of the findings to the Energy Commission staff.

BACKGROUND

Page 3-81 of the Amendment states that buildings and structures older than 45 years could be located on and adjacent to the Eash and Aladdin parcels and that buildings described as a garage or shop, a shed, and a barn that appear to be older than 45 years are located on the Eash property. Because they will be demolished if the project is constructed, complete recordation of the Eash buildings is necessary to save such data as may be present in them. Background research is necessary to identify any association between any of these resources and any persons or events recognized as important in history (California Register of Historical Resources [CRHR] Criteria 1 and 2). A comparison with historic barns and agricultural utility buildings will suggest whether these buildings might exemplify a type of construction (CRHR Criterion 3) or might provide data important in the development of the technology of wood-frame construction (CRHR Criterion 4). In addition, it is not clear from the Amendment whether the gas line route was surveyed for historic architecture. Vibrations and other disturbance associated with installing a gas line could affect fragile structures.

DATA REQUESTS

26. a.) Please have an architectural historian who meets the Secretary of the Interior's Standards in architectural history or history (specialty in industrial history) identify all buildings, structures, and features that appear to be older than 45 years on the parcel proposed for the project, in the area one parcel deep around the project parcel and along the gas line route. Include any obvious potential historic resource, not located within the specified one-parcel limit but that might be impacted by the project.

    b.) Please also have the specialist record any identified buildings, structures, and features (historic trees, cemetery, or fountain, for example) older than 45 years on an unmodified Department of Parks and Recreation (DPR) "Primary" Form 523 and provide copies of the forms to staff. For any properties that appear to be potentially eligible for the CRHR, please complete the "Building, Structure and Object" form and provide copies to staff.

27. Please have an architectural historian or a historian who specializes in industrial history (meets the Secretary of Interior's Standards) conduct sufficient background research on the Eash parcel's history to determine if any persons or activities associated with the buildings there could be historically significant

locally. Moreover, please ensure that the specialist compares the form and construction methods present in the Eash buildings with other known historic agricultural utility and vernacular buildings in the area and region, provides a recommendation of CRHR eligibility justified by the researched historical facts and the comparative architectural analysis, and provides that information on DPR 523 "Building, Structure, and Object" forms to staff.

Russell City Energy Center
DATA REQUEST
(01-AFC-7)

Technical Area: Geology
Author: Patrick Pilling, Ph.D., P.E., G.E.

BACKGROUND

Existing subsurface information is essential to completely evaluate a site with respect to potential geologic hazards and how the existing materials may impact design, construction, and operation of the facility. No site-specific subsurface information has been included with the amendment application.

DATA REQUEST

28. Please provide a copy of any available site-specific geotechnical data for the project site.

Russell City Energy Center
DATA REQUEST
(01-AFC-7)

Technical Area: Land Use
Author: Shaelyn Strattan

BACKGROUND

In Land Use Section 3.6.1 of the AFC Amendment 1, the project site is identified as "...four parcels, three of which form an "island" of unincorporated County land in the middle of the City of Hayward." However, in Waste Management Section 3.13.1.1.4 of that same document, the "single" parcel within the City of Hayward jurisdiction is described as follows: "The City of Hayward parcel consists of two parcels located at 3700 Enterprise Avenue. One of the parcels is the western portion of the 39.86-acre property addressed as 3700 Enterprise Avenue, and the other is a 1.76 acre unaddressed parcel that adjoins the western portion to the south." Based on the latter description, it would appear that, as it currently exists, the project site would actually consist of four separate parcels and a portion of a fifth parcel.

The status and number of legal parcels of record for this project is unknown, based on the current information provided in the AFC Amendment 1.

DATA REQUEST

29. Please provide a complete legal description of all properties contained within the proposed project site boundaries, as they currently exist. Include a site map, drawn to scale, indicating existing parcel boundaries, assessors parcel numbers (APNs), and approximate acreage for each parcel (or portion of a parcel). Indicate any proposed boundary changes or land divisions. Note current city or county jurisdiction.

30. Please provide a copy of the recorded Final Map(s), lot line adjustment, or Certificate of Compliance creating the parcels that make up the project site. Copy must be legible and at least 11" X 17" hard copy or in electronic PDF format.

31. Please provide the tentative parcel map and legal description of any proposed new legal parcel(s).

BACKGROUND

Based on the site maps submitted, it appears a portion of the western project boundary may abut or be closely adjacent to environmentally sensitive areas, such as those designated as Open Space (OS) – Baylands in the City of Hayward General Plan or zoned OS – Flood Plain (FP) per the City of Hayward zoning ordinance. Land uses of the surrounding properties also differ from those discussed in the original AFC as a result of the change in site location. (Please note that the City of Hayward General Plan was amended as of July 16, 2002, and references cited in the original AFC may no longer be applicable.)

DATA REQUEST

32. Please identify the APN, location in reference to the project site, zoning and land use designation, and existing use for each parcel that abuts the project site, including those properties separated by a road or easement. This information may be included on the site map requested in Land Use Item 1 above. Reference location of Open Space areas to project site boundaries.

33. Please discuss the consistency of the new project site with the policies and provisions of the San Francisco Bay Plan and Hayward Area Shoreline Plan, with particular emphasis on raising the site elevation above the surrounding FEMA flood plain and the placement of fill immediately adjacent to the Baylands area.

BACKGROUND

The AFC Amendment 1 (Section 2.1.4 and Sections 2.3.1-2) indicates that the routing for both the natural gas supply line and electrical transmission line(s) for the facility would cross private and/or public property prior to connecting with the existing PG&E gas line or the Grant-Eastshore transmission corridor.

DATA REQUEST

34. Please describe any easements necessary for the construction and operation of the natural gas supply line for the RCEC facilities. Discuss the actual location within the Depot Road right-of-way, whether the supply line would be located within an existing easement or if a new or expanded easement will be required, any co-located or adjacent facilities within the easement, ownership of the easement (if it currently exists), and process for acquiring access or ownership.

35. Please describe any existing or new easement(s) that will be used or created for the transmission line routing from the RCEC property to the Grant-Eastshore

connection Include information concerning current ownership of existing easement(s), actions proposed within the easement(s), and process for acquiring access approval or ownership.

BACKGROUND
In Section 2.4.4 and various related portions of AFC Amendment 1, the project owner discusses, in detail, the laydown areas and parking arrangements for construction workers. However, although the number of operational employees and projected trips are discussed in Section 8.12.2.2, onsite parking facilities for employees and visitors, circulation patterns, and truck loading/unloading areas are not discussed in either the original AFC or Amendment 1. Figure 2.1-2, General Arrangement, appears to indicate a total of 10 permanent parking spaces, including one handicapped space, near the control building, but site plans submitted with the AFC, although originally drawn to scale, have been reduced and are insufficient to determine compliance with code requirements.

DATA REQUEST

36. Please provide a scaled site map indicating the location and number of parking spaces for employees and visitors (including handicapped), off-street loading space(s), internal roads/driveways servicing these areas, emergency vehicle turnaround areas, and security gate parking stall and turn around(s), in compliance with the City of Hayward zoning requirements [Chapter 10, Article 1, Section 1.1645(o, u), Article 2, and Article 14]. Identify type of surfacing. Discuss method of determining the number of parking spaces proposed and justify any variation from minimum requirements. Design may be included as part of the requested landscaping plan (see **Visual**) or site map referenced in Land Use Item 1 above.

BACKGROUND
The City of Hayward Municipal Code (Chapter 10, Article 7) regulates the size, location, and type of signs permitted on the project site. The AFC Amendment 1 does not discuss any signage proposed for the project.

DATA REQUEST

37. Please identify the type, location (including height from ground), size, and design of any non-regulatory signage proposed for the facility. Indicate if the signs will be illuminated.

Russell City Energy Center
DATA REQUEST
(01-AFC-7)

Technical Area: Soil and Water Resources
Author: Richard Latteri

BACKGROUND

Amendment No. 1 to the Russell City Energy Center (RCEC) certification proposes a change in ownership and operation of the tertiary treated recycled water system. Amendment No.1 proposes to eliminate the Advance Water Treatment (AWT) facility which would be owned and operated by the City of Hayward for a new tertiary treatment system owned and operated by the project owner. The City of Hayward's Water Pollution Control Facility (WPCF) will still be the source of secondary effluent for the proposed on-site Title 22 Recycled Water Facility (RWF).

State of California Water Recycling Criteria (adopted in December 2000) requires the submission of an engineering report to the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) and the Department of Health Services before recycled water projects are implemented. In addition, a new producer of recycled water must obtain a permit from the SFBRWQCB, which may take as long as 12 months to procure.

DATA REQUEST

38. Please provide a draft engineering report per the provisions of Title 22 Code of Regulations Section 60323 that identifies:
    a. all agencies or entities that will be involved in the design, treatment, distribution, construction, operation and maintenance of the recycle facilities;
    b. a description of any legal arrangements outlining authorities and responsibilities between the agencies with respect to treatments; and
    c. a description of arrangements for coordinating all reuse-related activities between the City of Hayward and the project owner.

39. Provide a full description and schematic of the tertiary treatment train for the Title 22 RWF system; a discussion of its reliability record including the provisions for multiple RWF units to ensure reliable delivery of tertiary treated recycled water; and a discussion of all previous experience in producing tertiary treated recycled water.

BACKGROUND

Amendment No. 1 propose the use of potable water as the backup cooling and process water supply source for the RCEC. Potable water for the RCEC is to be provided by the

City of Hayward. The City of Hayward's sole source of potable water is the San Francisco Regional Water System operated by the San Francisco Public Utilities Commission. The primary source of water for the San Francisco Regional Water System is the Hetch Hetchy Reservoir located in the Sierra Nevada mountains in Tuolumne County.

The State Water Resource Control Board's policy on the Use and Disposal of Inland Waters Used for Power Plant Cooling (Resolution 75-58) states that the use of fresh inland water should only be used for power plant cooling if other sources or other methods of cooling would be environmentally undesirable or economically unsound. The SWRCB policy requires that power plant cooling water should come from, in order of priority: wastewater being discharged to the ocean; ocean water; brackish water from natural sources or irrigation return flow; inland waste waters of low total dissolved solids; and other inland waters. The use of potable water as a backup source is in conflict with State Water Policy and the project owner will have to demonstrate that an alternative nonpotable or fresh water source would be environmentally undesirable or economically unsound.

40. Please provide the rationale and economic and/or environmental justification for not using an alternative nonpotable or fresh water source for the RCEC's backup water supply which is consistent with State Water Policy and SWRCB Resolution 75-58.

41. If it is determined that all other nonpotable or fresh water sources are economically infeasible or environmentally undesirable as a backup water supply, please provide an estimate of the annual consumption of potable water that would be needed for backup cooling and process water needs based on:
    a. previous recycled water production experience or
    b. the process redundancy and/or reliability of the proposed Title 22 Recycled Water Facility system.

BACKGROUND

To determine the potential impacts to water and soil resources from the construction of the RCEC, the Energy Commission requires a Drainage Erosion and Sediment Control Plan (DESCP). The DESCP will be updated and revised as the project moves from the preliminary to final design phases and is to be a separate document from the Construction SWPPP. The DESCP submitted prior to site mobilization must be designed and sealed by a professional engineer/erosion control specialist.

The City of Hayward is a co-permittee of the Alameda County Clean Water Program, which is a coordinated effort by local governments in Alameda County to improve water quality in San Francisco Bay. In February of 2003, the SFBRWQCB approved a new Municipal Stormwater Permit (Order No. 2003-0021) for Alameda County, which requires more stringent Best Management Practices (BMPs) prior to stormwater

discharge from new development or redevelopment. While Appendix 2B of Amendment No.1 contains descriptive text; incomplete water pollution control drawings; and several erosion/sediment control BMPs, these will need to be aggregated into a revised draft DESCP.

DATA REQUEST

42. Please provide a draft DESCP containing elements A through I below outlining site management activities and erosion/sediment control BMPs to be implemented during site mobilization, excavation, construction, and post-construction activities. Within the draft DESCP, please provide a discussion of those additional requirements of SFBRWQCB Order No. 2003-0021 as they relate to construction and post-construction BMPs as well as a discussion of brownfield cleanup requirements and which state or local agency has lead agency jurisdiction. The level of detail in the draft DESCP should be commensurate with the current level of planning for site cleanup and corresponding site grading and drainage. Please provide all conceptual erosion control information for those phases of construction and post-construction that have been developed or provide a statement when such information will be available.

    A. **Vicinity Map** – A map(s) at a minimum scale 1"=100' will be provided indicating the location of all project elements with depictions of all significant geographic features including swales, storm drains, and sensitive areas.

    B. **Site Delineation** – All areas subject to soil disturbance for the RCEC (project site, lay down areas, all linear facilities, landscaping areas, and any other project elements) shall be delineated showing boundary lines of all construction areas and the location of all existing and proposed structures, pipelines, roads, and drainage facilities.

    C. **Watercourses and Critical Areas** – The DESCP shall show the location of all nearby watercourses including swales, storm drains, and drainage ditches. Indicate the proximity of those features to the project construction, lay down, and landscape areas and all transmission and pipeline construction corridors.

    D. **Drainage Map** – The DESCP shall provide a topographic site map(s) at a minimum scale 1"=100' showing all existing, interim and proposed drainage systems and drainage area boundaries. On the map, spot elevations are required where relatively flat conditions exist. The spot elevations and contours shall be extended off-site for a minimum distance of 100 feet in flat terrain.

    E. **Drainage of Project Site Narrative** – The DESCP shall include a narrative of the drainage measures to be taken to protect the site and downstream facilities. The narrative should include the summary pages from the hydraulic

analysis prepared by a professional engineer/erosion control specialist. The narrative shall state the watershed size(s) in acres that was used in the calculation of drainage measures. The hydraulic analysis should be used to support the selection of BMPs and structural controls to divert off-site and on-site drainage around or through the project construction and laydown areas.

F. **Clearing and Grading Plans** – The DESCP shall provide a delineation of all areas to be cleared of vegetation and areas to be preserved. The plan shall provide elevations, slopes, locations, and extent of all proposed grading as shown by contours, cross sections or other means. The locations of any disposal areas, fills, or other special features will also be shown. Illustrate existing and proposed topography tying in proposed contours with existing topography.

G. **Clearing and Grading Narrative** – The DESCP shall include a table with the quantities of material excavated or filled for the site and all project elements of the RCEC (project site, lay down areas, transmission corridors, and pipeline corridors). The table shall distinguish whether such excavations or fill are temporary or permanent and the amount of material to be imported or exported.

H. **Best Management Practices Plan** – The DESCP shall identify on the topographic site map(s) the location of the site specific BMPs to be employed during each phase of construction (initial grading, project element excavation and construction, and final grading/stabilization). BMPs shall include measures designed to prevent wind and water erosion in areas with existing soil contamination. Treatment control BMPs used during construction should enable testing of groundwater and/or stormwater runoff prior to discharge to San Francisco Bay.

I. **Best Management Practices Narrative** – The DESCP shall show the location (as identified in H above), timing, and maintenance schedule of all erosion and sediment control BMPs to be used prior to initial grading, during project element excavation and construction, final grading/stabilization, and post-construction. Separate BMP implementation schedules shall be provided for each project element for each phase of construction. The maintenance schedule should include post-construction maintenance of structural control BMPs, or a statement provided when such information will be available.

Russell City Energy Center
DATA REQUEST
(01-AFC-7)

Technical Area: Transmission System Engineering
Author: Ajoy Guha, PE, 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 Russell City Energy Center (RCEC). 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 (CA 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, staff relies on the System Impact Study (SIS) and Facilities Study (FS) as well as review of these studies by the agencies responsible for insuring the interconnecting grid meets reliability standards, in this case, the PG&E and CA ISO. The studies 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 and construction of downstream transmission facilities. The CEQA requires environmental analysis of any downstream facilities for potential indirect impacts of the proposed project.

BACKGROUND

The CA ISO final interconnection approval letter dated November 7, 2006 indicates that the Facilities Study report dated March, 2006 and subsequent Facilities Re-Study report prepared by PG&E for RCEC's commercial operation date of June, 2010 are complete.

DATA REQUEST

43. Provide the PG&E Facilities Study and Re-Study Reports.

BACKGROUND

The Amendment petition No. 1 identifies two alternate routes for the proposed double circuit 230 kV interconnection line of the project between the RCEC switchyard and the Eastshore substation, but does not indicate whether the project owner is seeking certification one or both of the transmission line routes (Sections 2.3.1 & 2.3.2, Page 2-13).

DATA REQUEST

44. Specify the route or routes that are seeking certification for the double circuit 230 kV interconnection line to PG&E's Eastshore substation.

BACKGROUND

The proposed interconnection to and expansion layout of the existing Eastshore substation, under the permitting authority of the Energy Commission, is neither provided in the Amendment petition nor clear from the PG&E System Impact Studies.

DATA REQUEST

45. For identification of the facilities required for interconnection to and expansion of the Eastshore 230/115 kV substation,
    a. Provide electrical one-line diagrams of the Eastshore substation before and after the proposed interconnection of the RCEC showing: (i) arrangements of major equipment, such as buses, circuit breakers and disconnect switches with their respective ratings, and (ii) the transmission lines and 230/115 kV transformers connected to the substation
    b. Provide a post-project physical layout drawing of the Eastshore substation showing major equipment and transmission line outlets. Indicate whether or not the interconnection of the RCEC will require expansion of the Eastshore substation outside the existing substation fence line.

BACKGROUND

The PG&E SIS dated June 30, 2006 analyzing the interconnection of 355 MW RCEC generation under 2007 summer peak and summer off-peak system conditions identified the following PG&E facilities where overload criteria violations would occur:

a. Eastshore-San Mateo 230 kV line (under normal system conditions and for CA ISO Category B & C contingencies).

b. Eastshore-Dumbarton 115 kV line (for CA ISO Category B & C contingencies).

c. Newark-Dumbarton 115 kV line (for CA ISO Category B & C contingencies).

d. Eastshore 230/115 kV transformer bank Nos. 1 & 2 (for CA ISO Category B & C contingencies)

To mitigate overloads on the Eastshore-San Mateo 230 kV line (No. 1), the amendment petition (Section 2.3.3.1, page 2-14) identifies the PG&E project for reconductoring the 12.5-mile line with 954 KCM SSAC conductor, but it does not provide any PG&E planned project number. In this context staff observes that the petition does not address the mitigation by reconductoring both of the Eastshore-San Mateo 230 kV line Nos. 1 & 2[1]. Such mitigation would be required if the system modification or reconfiguration for interconnection of RCEC to the Eastshore substation includes looping the existing Pittsburg-San Mateo 230 kV line no. 2 into the Eastshore 230 kV substation[2]. The current SIS identifies the system reconfiguration and reconductoring both of the Eastshore-San Mateo 230 kV line Nos. 1 & 2 as alternate mitigation measures (SIS, Sections 11.3 & 11.4, Pages 16-18).

To offset overloads on the Eastshore-Dumbarton 115 kV line, the amendment petition (Section 2.3.3.2, page 2-15) identifies mitigation by a PG&E project for reconductoring the 7-mile line with 2-477 KCM SSAC conductor, but it does not provide any PG&E planned project number.

- To eliminate overloads on the Newark-Dumbarton 115 kV line, the SIS (Section 11.4.2, pages 17-18) indicates the PG&E project no. T846A for reconductoring the 7-mile line with 795 SSAC conductor as an alternate mitigation option. No specific selection of the mitigation measure has been made.
-
- To mitigate overloads on the Eastshore 230/115 kV transformer bank Nos. 1 & 2, the SIS (Section 11.4.2, pages 17-18) indicates adding a third 230/115 kV transformer bank at the Eastshore substation or replacing both the existing transformer banks with a 420 MVA transformer as an alternate PG&E proposed mitigation option. It is not clear, however, if any specific selection of the mitigation measure has been made.
-
- In order to identify the whole of the project and any potential downstream facilities staff requires the identification of the specific mitigation measure that will be implemented for each of the above overloads, in concurrence with PG&E.

[1] The 2001 PG&E SIS for 2004 on-line date concluded contingency overloads on both of the Eastshore-San Mateo 230 kV lines.

[2] Looping the Pittsburg-San Mateo 230 kV No. 2 line into the Eastshore substation would create two Eastshore-San Mateo 230 kV lines.

DATA REQUEST

46. For the identified mitigation by reconductoring of the Eastshore-San Mateo 230 kV line (no. 1) to eliminate its overloads, provide the PG&E planned transmission project number, the expected on-line date and indicate whether or not the project has the CA ISO approval.

    Alternatively, to mitigate overloads on the Eastshore-San Mateo 230 kV lines (Nos. 1 & 2) and other overloads due to the RCEC interconnection, indicate whether the mitigation measures would include:

    a. System reconfiguration by looping the existing Pittsburg-San Mateo 230 kV line no. 2 into the Eastshore 230 kV substation.

    b. Reconductoring both the Eastshore-San Mateo 230 kV lines Nos. 1 & 2 with 954 KCM SSAC conductor.

47. For the identified mitigation by reconductoring the Eastshore-Dumbarton 115 kV line to eliminate its overloads, provide PG&E planned transmission project number, the expected on-line date and indicate whether the project has the CA ISO approval.

48. To eliminate overloads on the Newark-Dumbarton 115 kV line and Eastshore 230/115 kV transformer bank Nos. 1 & 2, select and describe the respective mitigation measure. If the mitigation is a PG&E planned transmission project through their annual grid study, provide a brief description of the project, the PG&E transmission project number, the expected on-line date, and indicate whether or not the project has the CA ISO approval.

BACKGROUND

The December 13, 2006, PG&E SIS analyzing the addition of 245 MW RCEC net generation to the previously proposed 355 MW RCEC generation (600 MW total RCEC generation) under 2008 summer peak and summer off-peak system conditions identified the following **additional** PG&E facilities where overload reliability criteria violations would occur:

a. Contra Costa-Delta Pumps 230 kV line (under Normal system Conditions).

b. Tesla-Delta Pumps 230 kV line (under Normal system Conditions).

c. Sobrante-Moraga 115 kV line (for CA ISO Category B & C contingencies).

d. Contra Costa-Brentwood 230 kV line (for CA ISO Category C contingencies).

PG&E project no. P0423 is identified in the SIS as the mitigation to offset overloads on the Contra Costa-Delta Pumps and Tesla-Delta Pumps 230 kV lines as stated above in items a & b (SIS Section 11.3, Page 16), but no description of the project is provided.

Various alternative mitigation measures which would eliminate the overloads of the facilities as stated above in items c & d are presented in the SIS (SIS Section 11.3, pages 17-18), but the specific mitigation measures that would be implemented have not been selected by the petitioner. In order to fully describe the project and identify potential indirect impacts the specific mitigation measure must be selected and described by the petitioner.

DATA REQUEST

49. Please provide a brief description of PG&E project no. P0423, the identified mitigation for overload violations on the Contra Costa-Delta Pumps and Tesla-Delta Pumps 230 kV lines. The description should include a general discussion of the facilities involved in the project, the expected on-line date and should indicate whether or not the project has the CA ISO approval.

50. To eliminate overloads on the Sobrante-Moraga 115 kV line and Contra Costa-Brentwood 230 kV line, identify and describe the selected respective mitigation measure and provide a report or letter from PG&E documenting that the mitigation is acceptable. If the mitigation is a PG&E planned transmission project through their annual grid study, provide a brief description of the project, the PG&E transmission project number, the expected on-line date, and indicate whether or not the project has the CA ISO approval. Where the mitigation is required solely for the reliable interconnection of the RCEC and includes reconductoring or other facility upgrades outside the fence line of an existing facility, provide (if not already provided) a description of the mitigation project with the expected on-line date including the line routes, a general environmental analysis of the physical impacts and any recommended mitigation measures sufficient to meet CEQA requirements for indirect project impacts.

BACKGROUND

To ensure full 620 MW generation output from the RCEC plant under the conditions studied, in 2002 the CA ISO, following their preliminary approval letter dated September 10, 2001, recommended the need for a Special protection System (SPS) for CA ISO Category C (N-2) contingencies regardless of recoductoring the Eastshore-San Mateo 230 kV line Nos. 1 & 2. The current PG&E SISs do not address such need for a SPS[3].

[3] Refer to the written testimony dated 2002 of Lawrence Tobias of the CA ISO to the Energy Commission in response to the earlier PG&E SIS report dated August 14, 2001 for 620 MW RCEC generation output and 2004 on-line date.

DATA REQUEST

51. Provide verification from PG&E and the CA ISO whether or not a SPS as recommended by the CA ISO in 2002, is still required to mitigate CA ISO Category C (N-2) contingency overloads regardless of whether or not the Eastshore-San Mateo 230 kV line Nos. 1 & 2. are reconductored.

Russell City Energy Center
DATA REQUEST
(01-AFC-7)

Technical Area: Waste Management
Author: Ellen Townsend-Hough

BACKGROUND

The Russell City Energy Center facility is composed of four parcels. The Phase I and II Environmental Site Assessments (ESA) indicate varying levels of contamination on each parcel. The contaminants include Total Petroleum Hydrocarbons (diesel and motor oil), volatile organic compounds (VOCs), metals, pesticides, and Polychlorinated Biphenyls (PCBs). The project owner recommends eliminating condition of certification WASTE-5, instead of modifying the condition to remove the Runnels Industry portion of the site, and modifying WASTE-6 to eliminate the need for a Remedial Action Plan.

DATA REQUESTS

52. Please explain why RCEC proposes to eliminate the requirement for a remedial action plan when contamination has been detected on each of the parcels.

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA

Amendment to the APPLICATION FOR CERTIFICATION OF THE RUSSELL ENERGY CENTER POWER PLANT PROJECT	**Docket No. 01-AFC-7C PROOF OF SERVICE**

INSTRUCTIONS: All parties shall 1) send an original signed document plus 12 copies OR 2) mail one original signed copy AND e-mail the document to the web address below, AND 3) all parties shall also send a printed OR electronic copy of the documents that shall include a proof of service declaration to each of the individuals on the proof of service:

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DECLARATION OF SERVICE

I, Dora Gomez, declare that on December 22, 2006, I deposited copies of the attached Data Request in the United States mail at Sacramento, California with first-class postage thereon fully prepaid and addressed to those identified on the Proof of Service list above.

OR

Transmission via electronic mail was consistent with the requirements of California Code of Regulations, title 20, sections 1209, 1209.5, and 1210. All electronic copies were sent to all those identified on the Proof of Service list above.

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

[signature]