Russell City Energy Center Amendment No. 1

Comments on Staff Assessment, Parts 1 and 2

Executive Summary Project Description

Page 1-2, para 2, last sentence, "The new location will total approximately 18.8 acres…"

Comment: As identified in the amendment, parcels used for the new location total 18.8 acres. The new power plant's fenced area will total 16.5 acres.

Staff Recommendations and Conclusions

Page 1-3, para 3, line 4, "…the potential aviation safety hazard that could result from thermal plumes rising from the heat recovery steam generator (HRSG) stacks and from the cooling tower. These emissions come from project structures which are located in the Hayward Airport approach zone."

Comment: Applicant has demonstrated that the RCEC's thermal exhaust plumes would not cause turbulence that could pose a significant hazard to air navigation and that, in any case, very few aircraft will overfly the site and that, furthermore, aircraft are prohibited from doing so by a Federal Aviation Administration Notice to Airmen that prohibits aircraft from flying over power generation facilities. The Staff Assessment makes a very serious error in fact, moreover, in saying that the project structures are located in the Hayward "approach zone." The RCEC is located more than 1.5 miles from the nearest point on the nearest runway of Hayward Executive airport and is more than 0.5 miles beyond the Traffic Pattern Zone, approach zone, or any of the airport runway safety zones, and is not located on any of the airport's designated flight paths or approach paths. This has been pointed out in previous filings (see, for example, Figure DR55-1 in response to Data Request 55).

Executive Summary Project Description

Page 1-2, para 4,line 7, "… will total approximately 18.8 acres…"

Comment: As identified in the amendment, parcels used for the new location total 18.8 acres. The new power plant's fenced area will total 16.5 acres.

Air Quality

Operation Impacts and Mitigation – page 4.1-5

Comment: The Staff's calculated hourly, daily, and annual emissions emission as presented in Table 2 and Appendix 1 are incorrect and do not reflect the data presented in the Application, the emissions guarantees, or the proposed operating profile. Staff has apparently estimated emissions based on an operating profile that the Applicant has not proposed and which could not occur. For example, it is impossible for a combustion turbine to operate 24-hours with the Staff assumption of one (1) cold start for six hours, one (1) hot start for 3-hours, two (2) shutdowns for one hour, and 14 hours of duct burning operation. A cold start, by definition, requires 72 hours of non-operation. In addition, in order to have

a hot start, the plant would need to shut down for a period of time, which is not reflected in the Staff calculations. Thus, the Staff calculated worst-case day could not occur.

In Air Quality Table 3, staff has neglected to summarize the 3-hour and annual SO_2 impacts as presented in the Application.

Ozone Precursors: NOx – page 4.1-6

Comment: The Staff is incorrect in the assumption that annual emissions limits for NOx will be verified only once per year. The project will have CEMS that monitor hourly emissions of NOx and will also have daily emissions limits for NOx. Thus, both the BAAQMD and CEC will be able to track emissions on an hourly and daily basis in order to determine compliance with annual emissions limits. Additionally, the CEC, through AQ-19, will require quarterly compliance reports.

The permitted emission limit for NOx is 134.6 tons per year and the proposed mitigation through the use of ERCs is based on this emission limit. The potential daily emission limit for NOx calculated by Staff of 2,213 lbs/day is incorrect. The worst-case day as calculated by the Applicant is 1,542.2 lbs/day. Staff also has stated that the Applicant maintains that the 2,213 lbs/day emissions would be a rare event. Applicant has not stated that this rate would be rare, but that it could never occur. Since plant startup is not expected to occur every day, the Staff fails to mention that the project would be over-mitigating on most days.

Page 4.1-8 "According to a vendor of this technology, the Siemens-Westinghouse, Benson Once-Through or Fast-Start technology can be designed to fit the proposed 501 FD combustion turbines without additional capital costs above that of the standard, off-the-shelf, HRSG that the project owner has proposed."

Comment: Even if the Staff-recommended HRSG could be purchased for the same price, as is unlikely, the boiler would still add additional costs for engineering and control systems.

Ozone Precursors: POC – page 4.1-10

Comment: Staff incorrectly calculates the project's annual POC emission rate at 42.5 tpy. The correct emission rate is 27.8 tpy. The Staff's calculated daily POC emission rates estimates of 431 lbs/day are also incorrect. The correct daily emission rate of POC is 293.7 lbs/day. Here again, Staff fails to mention that the project will be providing more mitigation than is actually needed on the days when the turbines are not undergoing a start cycle.

SO_2 Mitigation – page 4.1-13 "Staff does not agree with the project owner's analysis, as the ratios were determined with only one complete data set from the Concord monitoring station and the rest of the data used in the analysis were, at best extrapolated data. Staff attempted to duplicate the submitted analysis with complete ambient air quality data collected from the Concord, San Pablo, and San Francisco areas, which staff believes better represent the overall air pollution levels and the chemical equilibriums for the area surrounding the project site. Using these ambient air quality data, staff calculated that the inter-pollutant trading ratio of SOx to PM10 can range from 4.66 to 5.91, or 5.3 to 1 on average."

Comment: Staff is incorrect in their assertion that only one data set was used. Upon determination of the high PM_{10} day in the most recent 3-year period, the analysis

incorporated PM_{10} data from the high value monitoring station as well as four (4) other surrounding stations as is noted in Table 1 of the analysis. Furthermore, our analysis relied upon the PM_{10} speciation data supplied by the air monitoring staff at the Bay Area AQMD (presented in Table 1) for all five (5) stations.

SO_2 data, as presented in Table 2 of the analysis, was derived from the CARB aerometric database for three (3) stations judged to be representative of the project area and the downwind impact area. These stations included Richmond, San Pablo, and Concord. Data from five (5) other stations such as San Francisco, Bethel Island, Martinez, Pittsburg, and Crockett were also acquired but not used since, in our judgment, and based upon the wind rose data from Union City (which was used in the emissions impact modeling analysis), these stations did not lie in the project or primary downwind impact area.

As such, none of the data was extrapolated, and the analysis is based on numerous stations, not a single station as stated or implied by Staff. All of the data is attached to this response and was included in Attachment B of the original analysis.

The analysis was prepared in conformance with the methodology and assumptions presented in the referenced document: *Analysis to Determine the Appropriate Trade-Off Ratios Between NOx, SOx, and PM_{10} Emissions for the Shell Martinez Refinery, Systems Applications Int'l, January 1992, SYSAPP-92/006*. A copy of this document was included in Attachment A to the original analysis.

The analysis presented supports a SOx to PM_{10} offset ratio of 3:1, and is consistent with previous analyses conducted in the Bay Area air district for other similar projects, that indicate that this ratio is more than adequate to mitigate the projects PM_{10} emissions and produce a net positive effect on regional ambient air quality.

Condition AQ-SC6, Fuel purchase verification

Comment: The requirements in the Verification for detailed documentation (fuel purchase receipts, letters from the vehicle owners) in every monthly report by the AQCMM that diesel vehicles meet state standards are burdensome and unnecessary. The purpose of the AQCMM is to monitor compliance with this and other air quality management conditions. We suggest that Staff delete verification clauses (2) and (3) and replace them with language requiring the AQCMM to inspect the fuel receipts monthly and report his inspections in the MCR and that the AQCMM consult with vehicle owners monthly or quarterly to make certain that the vehicles are properly maintained and document this activity in the MCR.

Condition AQ-SC7, POC limit

Comment: The requirement to limit POC emissions to 157 lbs/day is a new condition that was never discussed with the Applicant at any workshop. In addition, the Applicant has limited the plant's POC emissions to 1.0 ppm, which is half of the current BACT limit of 2.0 ppm. The Applicant recommends that the daily limit be set equal to 293.6 lbs/day as presented in the Application. Additionally, the Applicant requests that the verification requirement language be modified to remove the requirement that violations of this condition require an immediate amendment to the project.

Condition AQ-SC8, AQ-SC9, Amendment requirement

Comment: The Applicant requests that the verification requirement language be modified to remove the requirement that violations of these conditions would require an immediate amendment to the project.

Condition AQ-SC12, Retrofit Program

Comment: The requirement that the retrofit program be limited to just Hayward residents will limit the effectiveness of this program. Calpine proposes that the project initially be limited to just the residents of Hayward, but after 12 months, the program should be opened to all within Alameda County since PM_{10} and $PM_{2.5}$ is a regional pollutant and its impacts are not just limited to the City of Hayward. Additionally, the language is vague with regards to the milestones. For instance, if the Applicant's program were short of the milestone by 1 ton during month 12, would the program default to the alternative offset program?

Condition AQ-SC13, PM_{10} ERCs

Comment: The requirement to use PM_{10} ERCs from Oakland, Hayward, Fremont, San Jose, and San Francisco is unrealistic. PM_{10} ERCs are a very limited quantity within the BAAQMD Air Basin. Calpine has no control over who will sell PM_{10} ERCs within the air basin. Limiting the use of ERCs from the areas identified above could cause the project to violate the requirement to offset the entire annual PM_{10} liability. This limit also has no regulatory or scientific basis. To date, the CEC has allowed ERCs to be used regardless of the location within the air basin. In addition, the CEC has even allowed adjacent air basin ERCs to be used. Thus, the language should be modified to reflect the entire BAAQMD Air Basin for purchased PM_{10} ERCs.

Condition AQ-SC14, Page 4.1-8-24 "The project owner shall maintain a record of all SF6 that is used for replenishing on-site transformers."

Comment: This should refer to circuit breakers.

Cultural Resources

No comments.

Biological Resources

Condition BIO-2, Designated Biologist Duties - Item 4

Comment: The Condition appears to require that the Designated Biologist be present every day to conduct the morning and evening inspections for animal activity. Applicant suggests that, given the lack of wildlife habitat on site and in the urban areas that surround the site on three sides, this level of monitoring may not be necessary to protect wildlife. We suggest modifying the condition so that it is up to the Designated Biologist's discretion to perform this monitoring or to assign another party, such as a designated biological resources monitor or other project staff, to do so. The changes to the condition indicated above are as follows:

"BIO-2 The Designated Biologist shall perform the following during any site (or related facilities) mobilization, ground disturbance, grading, construction, operation, and closure activities:

…

4. Inspect active construction areas where animals may have become trapped prior to construction commencing each day. ~~At the end of the day, i~~**I**nspect for the installation of structures that prevent entrapment or allow escape during periods of construction inactivity **at the end of the construction day**. Periodically inspect areas with high vehicle activity (parking lots) for animals in harms way. **This inspection may be carried out by a qualified person selected and identified by the Designated Biologist**;"

…

Condition BIO-4: "The BRMIMP shall identify…#6 A list of all terms and conditions set forth by the USACE Section 404 permits and state SFRWQCB 401 certifications, should these become necessary throughout the life of the project;"

Comment: Applicant suggests deleting this item, because the project, as currently configured, will not require a USACE Section 404 permit or SFRWQCB 401 certification, and it is not possible at this time to predict whether or not a permit and certification would be required and, if it were, what the conditions might be.

Condition BIO-4: "The BRMIMP shall identify…#15. A copy of the any State or USFWS Biological Opinion, and incorporation of all terms and conditions into the final BRMIMP, should a biological opinion become necessary any time throughout the life of the project"

Comment: Applicant suggests deleting this item because the project, as currently configured, will not require a Biological Opinion, and it is not possible at this time to predict whether or not a permit and certification would be required and, if it were, what the conditions might be.

Condition BIO-5: Worker Environmental Awareness Training

Comment: Applicant suggests adding text to permit the training to be given in the form of a recorded video presentation.

BIO-5 The project owner shall develop and implement a CPM approved Worker Environmental Awareness Program in which each of its employees, as well as employees of contractors and subcontractors who work on the project site or related facilities during construction and operation, are informed about sensitive biological resources associated with the project. **The training may be presented on electronic media in the form of a video recording.**

Hazardous Materials Management

No comments.

Land Use

Page 4.5-1. The SA refers to for the project to introduce an aviation safety hazard into the Hayward Executive Airport operational airspace, 4.5-1

Question: What are the boundaries of the operational airspace? Is there a map?

Noise

No comments.

Public Health

Page 4.7-7 Condition Public Health-1

Comment: Applicant recommends the following wording change to **Public Health-1** for clarity. Staff has accepted this change in other cases.

PUBLIC HEALTH-1 The project owner shall develop, implement, and submit to the CPM for review and approval a Cooling Water Management Plan to ensure that the potential for bacterial growth in cooling water is **controlled**~~kept to a minimum~~.

Socioeconomics

No comments.

Soil and Water Resources

Condition SOIL&WATER-1

Comment: Applicant requests that the Verification in the Commission's Decision be retained (except for changing the name of the Grading and Erosion Control Plan to Drainage, Erosion, and Sedimentation Control Plan). Staff's proposed Verification requires the Applicant to submit the DESCP to the City of Hayward for comment 90 days before site mobilization, obtain the City's comments, and then submit the DESCP and comments to the CPM at least 60 days before site mobilization. It may not be feasible for the City, however, to review the document in 30 days, putting the Applicant's construction schedule in potential jeopardy. In addition, the stipulation "the CPM shall consider the comments received from the City on the DESCP before issuing approval" is vague. Furthermore, there is no need in this condition to duplicate stipulations of Condition CIVIL-1 or to demonstrate approval by the CBO of this document. In addition, the requirement for monthly reporting is burdensome and duplicative. Project construction stormwater will be regulated under the General Industrial NPDES permit, subject to inspection by the City (Condition SOIL&WATER-2). A monthly report by the Applicant will serve no useful purpose.

Condition SOIL&WATER-4

Comment: The Applicant requests no change to this condition as stated in the Commission Decision. Staff's request for a reduction in the number of days per year the RCEC could use potable water as a backup supply in the case of unavoidable interruption in the supply of recycled water from the City's WPCF or the RCEC's on-site Title 22 facility is entirely arbitrary and is not based on any project reconfiguration or changes in LORS. Similarly, Staff's request to strike in its entirety the exemption for natural disasters is unreasonable and not in the public interest. In addition, Staff's request to impose a limit of 4 AFY of potable water for sanitary and domestic purposes is arbitrary and is not predicated on any aspect of project reconfiguration or changes in LORS. There is no state standard that regulates the use of potable water at power plants for sanitary purposes.

Traffic and Transportation

Page 4.10-29, plume calculations

Comment: The Staff provide two different sets of numbers for the height at which plume-averaged vertical speeds (V) exceed 4.3 m/s for merged plumes. In Table 3 on page 4.10-29, the Staff lists the heights for V=4.3 m/s as 935′ and 1042′ for the merged turbine plumes and merged cooling tower plumes, respectively (assumed to be the worst-case 38ºF ambient conditions). However, in Table 2 on page 4.10-28, the heights would appear to be more closely equal to 1000′ and 1100′ (where V=4.29 m/s). Which is correct?

Condition TRANS-1, first bullet

Comment: There may be a typographical error in this condition. It is unclear to what the number "217" (underline added) refers in the following:

- Establish construction work hours outside of the peak traffic periods to ensure that construction workforce traffic occurs during off-peak hours, except in situations where schedule or construction activities require travel during peak hours, in which case workers will be directed to <u>217</u> routes that will not deteriorate the peak hour level of service below the City of Hayward's LOS D standard;

Transmission Line Safety and Nuisance

Condition TLSN-4 and TSLN-5

Comment: We recommend revising or deleting these conditions. Applicant cannot compel PG&E to enter into an agreement with Applicant to comply with laws or industry standards that are in force and with which PG&E already complies. PG&E is regulated by the California Public Utilities Commission and will own and operate the transmission line.

Transmission System Engineering

General Comment: The Applicant does not have approval rights for the design and construction of transmission facilities outside of the plant switchyard. These will be designed and built according to PG&E standards with oversight by the CPUC. The CBO does not exert any authority over PG&E.

Visual Resources

Condition VIS-10

Comment: Applicant requests that this condition be deleted because the project would not cause a significant adverse visual impact as seen from the Hayward Regional Shoreline, so that mitigation is not necessary and because the project owner does not control the use of private land on which the Staff proposes that the Applicant install landscaping. We therefore propose changing the Condition to allow that Applicant can install the landscaping only if the landowner or easement holder of the property in question agrees. Because Condition VIS-2 as modified by Staff provides requirements for the project site's landscaping plan, we request deleting the reference to the project site in Condition VIS-10.

Consistent with Measure 3 of the Visual Mitigation Plan, the project owner shall install trees along the west side of the warehouse and industrial park complexes ~~and the project site~~ that line the eastern edge of the shoreline wetlands **if the landowner or easement holder agrees to allow this.**

Waste Management

No comments.

Worker Health & Safety

No comments.

Facility Design

No comments.