

Memorandum

Date: July 18, 2007
Telephone: (916) 653-0062

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To: John L. Geesman, Presiding Member
Jeffrey D. Byron, Associate Member

From: California Energy Commission
1516 Ninth Street
Sacramento, CA 95814-5512

Lance Shaw 18 July 07
Lance Shaw, Compliance Project Manager

Subject: **RUSSELL CITY ENERGY CENTER (RCEC) AMENDMENT NO. 1 ENERGY COMMISSION STAFF ERRATA TO STAFF ASSESSMENT PART 1 AND 2 (01-AFC-7C)**

Russell City Energy Company, LLC (Project Owner) proposed changes to the Staff Assessment (SA) Part 1 and 2 for the Russell City Energy Center project. Changes were suggested in the areas of: Executive Summary, Air Quality, Biological Resources, Land Use, Public Health, Soil and Water Resources, Traffic and Transportation, Transmission Line (T-Line) Safety and Nuisance, and Visual Resources.

Errata also includes omitted resumes and declarations from the SA.

Staff respectfully submits the following errata to the RCEC SA.

Attachments
cc: Proof of Service List

**RUSSELL CITY ENERGY CENTER (01-AFC-7C)
AMENDMENT NO. 1
ERRATA TO
STAFF ASSESSMENT PART 1 AND 2**

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SUMMARY OF AMENDED SECTIONS

This table indicates the page and technical section in the Staff Assessment Part 1 and 2 where language corrections and suggested changes to the document occur:

Section/Technical Area	Staff Assessment Part 1 And 2 Page Number
Executive Summary	1-2, 1-3
Air Quality	4.1-21 – 4.1-26, 4.1-28, 4.1-30, 4.1-32, 4.1-34
Biological Resources	4.2-6, 4.2-9,
Land Use	4.5 Entire document
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Note: The selected text in this document is intended to replace the corresponding information in the SA or advise the Committee on suggested language that could be adopted for certain subject areas in the Presiding Members Proposed Decision. The new text is underlined with old text in ~~strikethrough~~.

Section/Technical Area: Executive Summary

Author: Lance Shaw

Date: July 18, 2007

Staff Assessment Page Number(s): 1-2, paragraph 2

Section Heading: Project Location And Description

Background: In the Project Owner's Petition to amend the project, both 18.8 and 16.5 acres are given.

Staff agrees with the project owner on the size of the project. Underlined text below added for clarity.

"The new location will total approximately 18.8 acres. The new power plant's fenced area will total 16.5 acres

Staff Assessment Page Number(s): 1-3, paragraph 3, line 4

Section Heading: Recommendations And Conclusions

Staff agrees with the project owner , "Hayward Airport ~~approach~~ turning zone."

Section/Technical Area: Air Quality

Author: Tuan Ngo and Matt Layton

Date: July 13, 2007

Staff Assessment Page Number(s): 4.1-21 – 4.1-26, 4.1-28, 4.1-30, 4.1-32, 4.1-34

Section Heading: Amended And Proposed Conditions Of Certification

Background:

1. Per the California Diesel Fuel Regulations, Title 13, California Code of Regulations, Sections 2281-2285 and Title 17, California Code of Regulations, Section 9311, ultra low sulfur diesel (ULSD) is now the required vehicular and nonvehicular diesel fuel (except for locomotive and marine applications) for use in California. Therefore, staff is confident that only ULSD will be used onsite, allowing the use of catalyzed diesel particulate filters and soot filters, where appropriate. Staff does not require reporting of diesel use onsite, and agrees to the deletion of item (2) in Condition **AQ-SC5 Verification** - the diesel fuel purchase records. The **AQ-SC5 Verification** can be changed to read:

Verification: The project owner shall include in the MCR:

- (1) a summary of all actions taken to maintain compliance with this condition;
 - ~~(2) copies of all diesel fuel purchase records;~~
 - ~~(3)~~ (2) a list of all heavy equipment used on site during that month, including the owner of that equipment and a letter from each owner indicating that equipment has been properly maintained, and
 - (43) any other documentation deemed necessary by the CPM and AQ-CMM to verify compliance with this condition. Such information may be provided via electronic format or disk at the project owner's discretion.
2. Based on discussion with project owner, the precursor organic compound (POC) limit in **AQ-SC7** is difficult to enforce. Staff agrees and believes the oxides of nitrogen (NOx) specified in the condition will provide effective limits on start-up events and duration, and therefore, limits on start-up emission of POCs. Staff recommend the deletion of precursor volatile organic compound emission limit in Condition **AQ-SC7**, which can be revised as follows:

AQ-SC7 The facility's emissions shall not exceed 1,225 lbs of NOx per day and 157 lbs. of POC during the June 1 to September 30 periods. In addition, NOx emissions in excess of 848 lbs per calendar day shall be mitigated through the surrender of emission reduction credits (ERCs). The amount of credits to be surrendered shall be the difference between 848 lbs per day and the actual daily emissions.
 3. The project owner has requested the deletion of the requirement in the verifications of conditions of certification **AQ-SC7**, **AQ-SC8** and **AQ-SC9** that the project owner shall apply for an immediate amendment of the project if violations of these conditions occur. Staff agrees and proposes that the verification of **AQ-SC7**, **AQ-S8** and **AQ-SC9** be revised as follows:

Verification: As part of the quarterly and annual compliance reports as required by AQ-SC19, the project owner shall include information on the date, time, and duration of any violation of this permit condition. ~~Violations of this condition shall require the project owner to apply to the CPM for an immediate amendment to the project.~~

4. Revision of Condition of Certification **AQ-SC12** (woodstove/fireplace replacement program) to allow residents of the entire county of Alameda to participate in the program after twelve months from the program initial start date. This condition can be revised to:

AQ-SC12 A fireplace retrofit/woodstove replacement program shall be made available to all Hayward residents on a first-come, first-serve basis to finance a voluntary woodstove replacement/fireplace retrofit. The program can also made available to all residents of Alameda County after twelve (12) months from the initial start date of the fireplace retrofit/woodstove replacement program. The program shall provide a minimum of 43.4 tons of winter-time (Oct 1 to Mar 31) PM10 ERCs per year. Each resident participating in the retrofit/replacement program would agree to replace their existing woodstove or fireplace with a natural gas-fired unit, or to permanently close the fireplace or woodstove chimney and apply the rebate toward the improvement or replacement of their homes' existing central heating and air conditioning unit. Quarterly status reports on the program meeting the following milestones shall be submitted to the CPM,

- a. achieving 6.5 tons per year of winter-time PM10 six (6) months after start of construction,
- b. achieving 13.0 tons per year of winter-time PM10 nine (9) months after start of construction.
- c. achieving 21.7 tons per year of winter-time PM10 twelve (12) months after start of construction.
- d. achieving 34.7 tons per year of winter-time PM10 eighteen (18) months after start of construction.
- e. achieving 43.4 tons per year of winter-time PM10 twenty four (24) months after start of construction.

Verification: At least ninety (90) days before ~~from~~ start of construction, the project owner shall submit to the CPM a plan detailing the fireplace/woodstove replacement program for approval. The plan shall include, at the minimum, the description of the program, the amount of rebate, the person (or agency) who oversees the program implementation, the responsible person who reports to the CPM on the progress of the program implementation, the target milestones, and procedures to be followed if the target milestones have not been met. The project owner shall submit documentation to show compliance with this condition in the quarterly and annual reports as required in **AQ-20**.

5. Revise Condition of Certification **AQ-SC13** to allow the use of emission reduction credits from other areas in the Bay Area Air Quality Management District to mitigate the project emission impacts. The condition can be revised to:

AQ-SC13 ~~In lieu of compliance with **AQ-SC12**, or if complete compliance with **AQ-SC12** cannot be achieved by the condition milestones, the project owner shall make up the wintertime PM10 milestone shortfall by providing e each ton of unmet portion with two (2) tons of either annual as PM10 or PM10 equivalent (SOx for PM10) ERCs at a ratio of 2 tons of annual PM10 or PM10 equivalent ERCs to 1 ton of wintertime PM10. ~~acquired in the areas surrounding Oakland, Hayward, Fremont, San Jose and San Francisco areas~~ PM10 equivalent ERCs can be provided by at the SOx for PM10 interpollutant trading at a ratio of 5.3 to 1.~~

6. Revise typographical error in paragraph 5 of Condition of Certification **AQ-SC14** as follows:

The project owner shall convert the N₂O and CH₄ emissions into CO₂ equivalent emissions using the current IPCC Global Warming Potentials (GWP). The project owner shall maintain a record of all SF₆ that is used for replenishing on-site high voltage electrical equipment transformers. At the end of each reporting period, the project owner shall total the mass of SF₆ used and convert that to a CO₂ equivalent emission using the IPCC GWP for SF₆. The project owner shall maintain a record of all PFCs and HFCs that are used for replenishing on-site refrigeration and chillers directly related to electricity production. At the end of each reporting period, the project owner shall total the mass of PFCs and HFCs used and not recycled and convert that to a CO₂ equivalent emission using the IPCC GWP.

7. Revision of definitions of cold and warm start up (pages 4.1-25 & 4.1-26) as follows:

Gas Turbine Cold Start-up: A gas turbine start-up that occurs more than 7248 hours after a gas turbine shutdown

Gas Turbine Warm Start-up: A gas turbine start-up that occurs between 8 hours and 7248 hours of a gas turbine shutdown

8. Revision to District Conditions of Certification to reflect changes between the PDOC and FDOC

AQ-5 During the commissioning period, the owner/operator of the RCEC shall demonstrate compliance with conditions **AQ-7**, **AQ-8**, **AQ-9**, and AQ-10, ~~and AQ-11~~ through the use of properly operated and maintained continuous emission monitors and data recorders for the following parameters:

- firing hours
- fuel flow rates
- stack gas nitrogen oxide emission concentrations,
- stack gas carbon monoxide emission concentrations
- stack gas oxygen concentrations.

The monitored parameters shall be recorded at least once every 15 minutes (excluding normal calibration periods or when the monitored source is not in operation) for the Gas Turbines (S-1 & S-3), HRSGs (S-2 & S-4). The owner/operator shall use District-approved methods to calculate heat input rates, nitrogen dioxide mass emission rates, carbon monoxide mass emission rates, and NO_x and CO emission concentrations, summarized for each clock hour and each

calendar day. The owner/operator shall retain records on site for at least 5 years from the date of entry and make such records available to District personnel upon request.

AQ-11 No less than ~~45~~90 days ~~after prior to start-up the end of the Commissioning Period~~, the Owner/Operator shall conduct District and CEC approved source tests using certified continuous emission monitors to determine compliance with the emission limitations specified in condition **AQ-19**. The source tests shall determine NO_x, CO, and POC emissions during start-up and shutdown of the gas turbines. The POC emissions shall be analyzed for methane and ethane to account for the presence of unburned natural gas. The source test shall include a minimum of three start-up and three shutdown periods and shall include at least one cold start, one warm start, and one hot start. Twenty working days before the execution of the source tests, the Owner/Operator shall submit to the District and the CEC Compliance Program Manager (CPM) a detailed source test plan designed to satisfy the requirements of this condition. The District and the CEC CPM will notify the Owner/Operator of any necessary modifications to the plan within 20 working days of receipt of the plan; otherwise, the plan shall be deemed approved. The Owner/Operator shall incorporate the District and CEC CPM comments into the test plan. The Owner/Operator shall notify the District and the CEC CPM within seven (7) working days prior to the planned source testing date. The owner/operator shall submit the source test results to the District and the CEC CPM within 60 days of the source testing date.

9. Revise Condition of Certification **AQ-19(g)** to read:

(g) Sulfur dioxide (SO₂) mass emissions at P-1 & P-2 each shall not exceed ~~4.556~~6.21 pounds per hour or ~~0.0007-0028~~ lb/MM BTU of natural gas fired. (BACT)

10. Revise Condition of Certification **AQ-22(f)** to read:

(f) ~~74~~292 pounds of SO₂ per day (BACT)

11. Revise a typographical error in Condition of Certification **AQ-29** to read:

AQ-29 Within 90 days of start-up of the RCEC, the owner/operator shall conduct a District-approved source test on exhaust point P-1 or P-2 to determine the corrected ammonia (NH₃) emission concentration to determine compliance with **AQ-19(e)**. The source test shall determine the correlation between the heat input rates of the gas turbine and associated HRSG, A-2 or A-4 SCR System ammonia injection rate, and the corresponding NH₃ emission concentration at emission point P-1 or P-2. The source test shall be conducted over the expected operating range of the turbine and HRSG (including, but not limited to, minimum and full load modes) to establish the range of ammonia injection rates necessary to achieve NO_x emission reductions while maintaining ammonia slip levels. The owner/operator shall repeat the source testing on an annual basis thereafter. Ongoing compliance with ~~**AQ-19(e)**~~ **AQ-20(e)** shall be demonstrated through calculations of ...

**DECLARATION OF
MATTHEW S. LAYTON**

I, **MATTHEW S. LAYTON** declare as follows:

1. I am presently employed by the California Energy Commission in the **ENVIROMENTAL OFFICE** of the Energy Facilities Siting Division as a **SENIOR MECHANICAL ENGINEER**.
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. I helped prepare the staff testimony on **AIR QUALITY** for the **RUSSELL CITY ENERGY CENTER AMENDMENT NO. 1** based on my independent analysis of the Application for Certification and supplements hereto, data from reliable documents and sources, and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue addressed therein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: _____

18 June 07

Signed: _____

Matthew Layton

At: _____

Sacramento, California

MATTHEW S. LAYTON

Error! Bookmark not defined.

Experience Summary

Twenty five years of experience in the electric power generation field, including regulatory compliance and modification; research and development; licensing of nuclear, coal-fired, peaking and combined cycle power plants; and engineering and policy analysis of regulatory issues.

Education

B.S., Applied Mechanics, University of California, San Diego.

Registered Professional Engineer - Mechanical, California.

Experience

1987-present – Senior Mechanical Engineer, Systems Assessment and Facilities Siting Division, California Energy Commission. Review and evaluate power plant proposals, identify issues and resolutions; coordinate with other agencies; and prepare testimony, in the areas of:

- Air quality resources and potential impacts, and mitigation measures;
- Public Health; and
- Transmission Line Safety and Nuisance.

Prepared Commission demonstration project process; contributed to the Energy Technology Status, Energy Development, and Electricity Reports; Project Manager for demonstration projects; evaluated demonstration test plans, procedures, data and reports; disseminated test results; and managed research and development contracts.

1983-1986 – Control Systems Engineer, Bechtel Power Corporation. Managed a multi-disciplined effort to environmentally qualify client's safety related nuclear plant equipment. Performed analyses, calculations and reviews against vendor test reports, NRC guidelines and plant normal and postulated accident conditions. Initiated purchase orders for testing and formulated test objectives and test plans. Developed and implemented plant equipment maintenance and surveillance program based on test results, vendor recommendations and industry operating experiences. Trained client in environmental qualification engineering analysis and equipment maintenance program. Prepared client for NRC audits and presentation.

1981-1983 -- Engineer, GA Technologies, Inc. Supervised design and procurement of full-scale test assembly used to evaluate design changes to operating reactor graphite core assembly. Conducted experiment to determine the relationship of graphite oxidation rate to water concentration, temperature, and helium pressure. Environmentally qualified essential and safety related nuclear power plant equipment to comply with NRC guidelines.

Section/Technical Area: Biological Resources

Author: Marc Sazaki

Date: July 16, 2007

Staff Assessment Page Number(s): 4.2-6

Section Heading: Amended And Proposed Conditions Of Certification

Background: Condition of Certification **BIO-2 No. 4.**

The applicant has suggested changes in a specific part of Condition of Certification BIO-2 for clarification purposes. Staff agrees with the changes, albeit with a modest change in wording.

4. Inspect active construction areas where animals may have become trapped prior to construction commencing each day. ~~At the end of the day, i~~inspect 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 person with qualifications in biological resources who is identified and selected by the Designated Biologist;

Staff Assessment Page Number(s): 4.2-9

Section Heading: Amended And Proposed Conditions Of Certification

Background: Condition: BIO-5

The applicant has suggested changes in Condition BIO-5 that would allow the use of video recordings as a training tool. Staff agrees with this change.

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.

Subject/Technical Area: Land Use

Author: Shaelyn Strattan

Date: July 17, 2007

Staff Assessment Page Number(s): Entire document

Section Heading: Numerous headings

Background:

Reference to the proposed Alameda County Airport Land Use Compatibility Plan and its acronym (ALUCP) were inadvertently used to identify the Alameda County Airport Land Use Policy Plan (ALUPP). References to the ALUCP have been corrected to read ALUPP, as applicable, throughout the document.

Staff Assessment Page Number(s): Entire document

Section Heading: Numerous headings

Background:

The term “operational” as used in the phrase “operational airspace” has been deleted throughout the document to allow the description of the Hayward Executive Airport airspace to more accurately correspond with the language expressed in the City of Hayward Municipal Code §10-6 and discussed during the Staff Assessment Workshop of 7/11/07.

Staff Assessment Page Number(s): Entire document

Section Heading: Numerous headings

Background:

The terms “transitional airspace” and “airport transition zone” were used incorrectly and have been deleted at all locations throughout the document, except where included in a direct quote.

Staff Assessment Page Number(s): 4.5-1, 4.5-22

Section Heading: SUMMARY OF CONCLUSIONS; CONCLUSIONS AND RECOMMENDATIONS

Background:

The description of the referenced airspace has been edited in Bullet 3 (p.4.5-1) and Bullet 3, first paragraph (p.4.5-22) to more accurately correspond with the language expressed in the City of Hayward Municipal Code §10-6 and discussed during the Staff Assessment Workshop of 7/11/07. On page 4.5-1 and at other locations throughout the document, the acronyms ALUPP and ALUCP are spelled out for identification and clarity. The intent and substance of the text has not changed.

Bullet 3 (p.4.5-1) should read as follows:

The thermal plumes generated by the RCEC project have the potential to endanger the maneuverability of aircraft within the Hazard Protection Zone (HPZ); proposed Airport Influence Area (AIA); and within approximately two miles of the landing area for the Hayward Executive Airport. Therefore, siting of this project at the proposed location would be inconsistent with HMC §10-6.35, the current Alameda County Airport Land Use Policy Plan (ALUPP), and proposed draft Alameda County Airport Land Use Compatibility Plan (ALUCP).

Bullet 3, first paragraph (p.4.5-22) should read as follows:

The thermal plumes generated by the Russell City project have the potential to endanger the maneuverability of aircraft within two miles of the landing area, as defined in HMC §10-6.35; HPZ; and proposed AIA, for the Hayward Executive Airport. No variances for uses that would pose a hazard to aircraft safety or restrict operational airspace have been applied for or granted in recent years. Siting of such a use at a location that could adversely affect the Hayward Executive Airport airspace is, therefore, inconsistent with the policies expressed in ALUPP Chapter IIIC (p. 56) and codified in the Hayward Municipal Code §10-6.35.

Staff Assessment Page Number(s): 4.5-2, 4.5-23

Section Heading: Summary of Conclusions; Conclusions and Recommendations

Background:

The conclusion expressed in Bullet 1 (p.4.5-2) and Bullet 1 (p.4.5-23) was inadvertently omitted from the Staff Assessment.

Bullet 1 (p.4.5-2) and Bullet 1 (p.4.5-23) have been added and should read as follows:

The project would, in conjunction with the proposed EEC project and ALUPP revisions, place an undue burden on outside parties and have a potentially significant adverse effect on land use and aircraft operations in those areas with the potential to affect Hayward Executive Airport airspace.

Staff Assessment Page Number(s): 4.5-2, 4.5-23

Section Heading: Summary of Conclusions; Conclusions and Recommendations

Background:

The last sentence of the summary statement to the Commission was inadvertently truncated.

The last sentence of the last paragraph of the Summary of Conclusions (p.4.5-2) and Conclusions and Recommendations (p.4.5-23) should read as follows:

However, in Energy Commission staff's opinion, based on information available at this time, implementation of these Conditions of Certification would not resolve the project's inconsistency with City of Hayward LORS or mitigate the potentially significant impacts

to future land use at the Hayward airport or in areas that underlie the Hayward Executive Airport airspace.

Staff Assessment Page Number(s): 4.5-2

Section Heading: Summary of Conclusions

Background:

References to the on-going aviation safety analyses in Footnote 1 have been deleted as those additional studies will not occur.

Footnote 1 (p.4.5-2) should read as follows:

NOTE: The potential for thermal plumes to disturb atmospheric stability to more than 1,000 feet AGL, resulting in turbulence with the potential to adversely affect aircraft maneuverability, is well established. This Staff Assessment will be circulated to interested agencies, including the Federal Aviation Administration (FAA), California Division of Aeronautics (Caltrans), Alameda County Airport Land Use Commission, City of Hayward Public Works, and Hayward Executive Airport management, for additional comments. Information received during the public review period for this document may result in amendments to this assessment, additional conditions of certification, or a revised conclusion.

Staff Assessment Page Number(s): 4.5-17

Section Heading: Compliance with LORS, Section 10-6

Background:

A reference was inadvertently omitted and should be added.

Paragraph one, end of the second sentence should include the follows:
(HWD 2002, p.1-18, Exhibit 1E, and Airport Layout Plans, 3 of 9)

Staff Assessment Page Number(s): 4.5-19

Section Heading: Compliance with LORS, Section 10-6

Background:

Wording added to clarify that the City has neither received nor granted any applications for variance to Municipal Code §10-6, at the request of Jesus Armas, former City Manager, during the Staff Assessment Workshop of 7/11/07.

Paragraph 2, third sentence (p.4.5-20) should read as follows:

However, according to David Rizk, Hayward Planning Manager (Hayward 2007d), the City has not, in recent years, received any application or granted a variance for a new land use that could pose a hazard to airport operations.

Staff Assessment Page Number(s): 4.5-20, 4.5-21
Section Heading: Cumulative Impacts and Mitigation

Background:

This section was inadvertently omitted from the Staff Assessment.

The Cumulative Impacts and Mitigation section should read as follows:

CUMULATIVE IMPACTS AND MITIGATION

A project may result in a significant adverse cumulative impact where its effects are cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects [CCR 2006, §15065(A)(3)]. The following specific projects and potential cumulative impacts that could occur in conjunction with implementation of the RCEC project were not discussed in the original AFC, FSA, or Commission decision.

The plant would be constructed on an existing parcel and would replace an existing industrial use (e.g., vehicle salvage yards). The proposed project would not require a General Plan amendment, Zoning amendment, or other changes or concessions that would alter the development standards, availability of permits, or use of the project site or surrounding properties. However, thermal plumes from the proposed project's nine cooling towers and two HRSG stacks (see Section 10-6 Airport Approach Zoning Regulations above) could pose a safety hazard to aircraft operating within the Hayward Executive Airport airspace and a public safety hazard to those on the ground in the event of an aircraft accident.

If approved, the RCEC plant would be sited in direct alignment with the preferred helicopter departure/arrival cone [Hayward 2005(b)], less than 1.5 miles from the helipad, and in an area subject to overflight during missed approach procedures, downwind southwestern departures from Runway 28L, and aircraft arrivals/departures transitioning into and out of Hayward Executive Airport airspace. A requirement for air traffic to avoid overflight of this facility and resulting reduction of unrestricted airspace may affect future development plans at the Hayward airport, including construction of another helipad and expansion of the Air National Guard facilities at the southern edge of the airport.

The Eastshore Energy Center (EEC), a nominal 115.5-megawatt (MW) net intermediate/peaking load facility, proposed for a site approximately 3,000 feet east of the RCEC location, would also generate thermal plumes from its 14 stacks. Approval and construction of both plants within this portion of the Industrial Corridor and the associated restrictions on overflight of the facilities would further limit the availability of unrestricted maneuverable airspace within the airport's southwest quadrant. This could increase the potential for accidental or inadvertent overflight of the facilities or other aircraft incidents. This is the only portion of the airport's airspace currently unrestricted by noise abatement procedures. (See **TRAFFIC AND TRANSPORTATION** section of this SA for additional information regarding potential aviation safety concerns and proposed

conditions of certification.) The Alameda County ALUC is in the process of revising the ALUPP for Hayward Executive Airport. The introduction of one or more additional aviation safety hazards (thermal plumes from the Russell City and Eastshore projects) in close proximity to one another, and within two miles of the Hayward airport, could result in the need for stricter land use restrictions in areas where the Airport Influence Area (AIA), established by the ALUPP/proposed ALUCP, and the City of Hayward zoning districts overlap, to prevent further erosion of the airspace. It could also result in an expansion of the AIA, which could place increased use restrictions on areas further from the airport. In addition, any mitigation measures imposed to restrict overflight of the facilities would place the burden of implementation and compliance on local pilots and fixed base operators, air traffic controllers, airport management, and other agencies, not on the owner/operator of the facilities.

Therefore, staff finds that the project, in conjunction with the proposed EEC project and proposed ALUPP revisions, would place an undue burden on outside parties and have a potentially significant adverse effect on land use and aircraft operations in those areas with the potential to affect Hayward Executive Airport airspace.

Staff Assessment Page Number(s): 4.5-26

Section Heading: References

Background:

A reference cited in the Cumulative Impacts and Mitigation section was inadvertently omitted and the notation for another reference has been revised to accommodate the new reference.

The following changes and additions have been made to the References section:

Citing notation changed from Hayward 2005 to Hayward 2005(a). Citing notations have also been changed, as applicable, throughout the document.

Added:

Hayward 2005(b). Council Airport Commission Special Meeting, Staff Report and Exhibits re Status Report on Helicopter Arrival and Departure Study; October 27, 2005.

Section/Technical Area: Public Health

Author: Alvin Greenberg

Date: July 18, 2007

Staff Assessment Page Number(s): 4.7-7

Section Heading: Amended And Proposed Conditions Of Certification

Background:

The project owner request the following revision and staff agrees. The changes to **PUBLIC HEALTH-1** are shown below.

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~~. The Plan shall be consistent with either staff's "Cooling Water Management Program Guidelines" or with the Cooling Technology Institute's "Best Practices for Control of Legionella" guidelines but in either case, the Plan must include sampling and testing for the presence of Legionella bacteria at least every six months. After two years of power plant operations, the project owner may ask the Compliance Project Manager (CPM) to re-evaluate and revise the Legionella bacteria testing requirement.

Section/Technical Area: Soil and Water Resources

Author: Richard Latteri (provided written testimony in Staff Assessment Part 1 and 2)

Author: Paul Richins (providing written testimony in this errata)

Date: July 18, 2007

NOTE: Testimony for Soil and Water Resources in the Staff Assessment Part 1 and 2, was written by Richard Latteri. Testimony for Soil and Water Resources in this Errata is written by Paul Richins.

Staff Assessment Page Number(s): 4.9-7, 4.9-16, 4.9-18, 4.9-19

Section Heading: Soil And Groundwater Contamination

Background:

At the July 11, 2007 Staff Assessment Workshop, the project owner informed Energy Commission staff that Condition of Certification **SOIL & WATER 5** is no longer applicable and does not reflect the City of Hayward Fire Department's role as the administrating agency for site remediation. The project owner has requested that Condition of Certification **SOIL & WATER 5** be deleted. Staff agree that Condition of Certification **SOIL & WATER 5** is no longer applicable and all text referring to **SOIL & WATER 5** should be deleted along with the condition.

Page 4.9-7 Changes

~~To ensure the site is adequately characterized and remediated for known soil contaminants, condition of certification **SOIL & WATER 5** has been approved in the initial Decision that requires the project owner to prepare a site assessment map to further delineate contaminated areas. The **Waste Management** Section of this analysis provides additional conditions of certification that will identify the appropriate administrating agency to review and approve a Cleanup Plan or Soil Management Plan in conjunction with City of Hayward Fire Department. Through implementation of an appropriate site cleanup plan Conditions of Certification **Waste-4, -8, -9, and -10** combined with erosion control measures, the possibility of contaminates leaving the site would be minimized.~~

Page 4.9-19, Deletion of Condition of Certification SOIL & WATER 5

~~**SOIL & WATER 5:** Due to the potential for encountering soil contamination during construction at the site of the RCEC, it is necessary to perform additional Phase II investigations prior to any site mobilization activities, and prepare a site assessment map to further delineate contaminated areas. Contaminated areas shall be identified on construction excavation plans, and any soil and/or groundwater encountered in these areas will be segregated and hold on-site for sampling and analysis, until proper handling, treatment or disposal can be determined. Stockpiled soil will be covered to prevent run-on or runoff, and groundwater will be stored in appropriate tanks or containers. Soil sampling requirements shall consist of a 4 point composite sample for every 500 to 1,000 cubic yards of soil. Analytes are to be selected based on Phase II Site Assessment results. Details of the Site Assessment and Remediation Program~~

~~are to be provided to the City of Hayward Fire Department and SFRWQCB for review and comment.~~

~~Sixty days prior to site mobilization, the project owner will provide evidence of compliance with the Site Assessment and Remediation Workplan as approved by the City of Hayward Fire Department and the San Francisco Bay RWQCB, and evidence of site closure. If the agencies direct remediation in conjunction with construction rather than prior to construction, then evidence of site closure must be provided 30 days prior to project operation. A quarterly status report will be provided to the CPM addressing site assessment and remediation activities, with the first status report due in January 2002, or within 30 days of AFC certification, whichever occurs first.~~

Page 4.9-16, Proposed Change to SOIL & WATER 1 Verification:

Background:

The project owner 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 DESC to the City of Hayward for comment 90 days before site mobilization, obtain the City's comments, and then submit the DESC 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 DESC 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.

Verification: No later than 90 days prior to start of site mobilization, the project owner shall submit a copy of the DESC to the City of Hayward (City) for review and comment. No later than ~~60~~ 45 days prior to start of site mobilization, the project owner shall submit the DESC and the City's comments to the CPM for review and approval. The CPM shall consider comments received from the City on the DESC before issuing approval. The DESC shall be consistent with the grading and drainage plan as required by condition of certification **CIVIL-1** and relevant portions of the DESC shall clearly show approval by the Chief Building Official. The DESC shall be consistent with Stormwater Pollution Prevention Plan (SWPPP) developed in conjunction with the City's municipal NPDES Permit No. CAS0029831 for Construction Activity. The project owner shall provide in the monthly compliance report a narrative on the effectiveness of the drainage, erosion and sediment control measures; the results of monitoring and maintenance activities; and the dates of any dewatering activities.

Page 4.9-18 Proposed Condition of Certification:

Background:

The project owner requests no change to Condition of Certification **SOIL & WATER 4** 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.

SOIL & WATER 4: The project owner shall use tertiary-treated water supplied from the on-site Title 22 Recycled Water Facility (RWF) as its primary source for cooling and process water supply. Potable water may be used for cooling and process purposes only in the event of an unavoidable interruption of the on-site Title 22 RWF supply or secondary effluent from the City of Hayward, but not to exceed 45 days (1,080 hours) 20 days (480 hours) in any one operational year. Potable water used for domestic purposes shall be metered separately from potable water used for cooling and process water supply. The project owner will notify the CPM in writing if potable water is used for cooling or process purposes and provide an explanation of why the back-up supplies are being used. However, potable water may be used for cooling and process purpose in excess of 20 days per calendar year if an unavoidable interruption of the Title 22 RWF supply is due to an Act of God, a natural disaster, an unforeseen emergency or other unforeseen circumstance outside the control of the project owner. If one of the aforementioned unavoidable interruptions should occur, the CPM and project owner shall confer and determine how best to restore the Title 22 RWF supply as soon as practicable.

The RCEC will use tertiary recycled water for all non-potable uses including landscape irrigation. The RCEC will comply with requirements of Title 22 and Title 17 California Code of Regulations. Prior to the use of recycled water for any purpose, the owner shall submit a Title 22 Engineering Report that has been approved by the Department of Health Services (DHS) and the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB).

The project owner shall prepare and submit to the CPM an annual summary that will include the monthly range and monthly average of daily water usage in gallons per day, and total water (range and average) used by the project on a monthly and annual basis in acre-feet. The annual summary shall distinguish sources (recycled or potable) and the uses (cooling, process, domestic, etc.) of the specified source. The project owner will obtain copies of project water use records derived from the City of Hayward's recycled and potable revenue meters. ~~The project owner will not use more than 4 AFY of potable water in any consecutive 12 months of operation for sanitary and domestic purposes.~~

Verification: Prior to the use of recycled water for any purpose the project owner shall submit to the CPM the water supply and distribution system design and the Engineering Report for the Production, Distribution and Use of Recycled Water approved by DHS and the SFRWQCB demonstrating compliance with this condition. The recycled water

supply and distribution system design shall be included in the final design drawings submitted to the CBO as required in Condition of Certification **Civil 1**.

The Engineering Report for the Production, Distribution and Use of Recycled Water shall be prepared in accordance with Title 22 and Title 17 of the California Code of Regulations, the Health and Safety Code, and the Water Code. The project owner shall comply with any reporting and inspection requirements set forth by DHS and the SFRWQCB to fulfill statutory requirements. The project owner shall submit copies to the CPM of all correspondence between themselves and DHS or the SFRWQCB within 10 days of receipt or submittal.

Section/Technical Area: Traffic and Transportation

Author: James Adams

Date: July 17, 2007

Staff Assessment Page Number(s): 4.10-11

Section Heading: Aviation Safety

Background:

TRAFFIC AND TRANSPORTATION Table 4 - An asterisk was added after the number 500 in the Height (ft) column.

Staff Assessment Page Number(s): 4.10-20

Section Heading: Proposed Modifications To Conditions Of Certification - **TRANS-1**

In the first bullet from the top, line 4, the numbers 217 were removed between the words to and routes.

Staff Assessment Page Number(s): 4.10-25

Section Heading: References

New references were added for Luis Magana and Eric Nordberg.

Technical Section: Traffic and Transportation Appendix-1 Plume Velocity Analysis

Author: William Walters

Staff Assessment Page number(s): 4.10-29 & 30.

Section Heading: Vertical Plume Velocity Analysis

Comment on the differences between the staff values for height at 4.3 m/s plume velocity was made.

On page 4.10-29 line 8 the value of the cooling tower height for 4.3 m/s was corrected from 1,033 to 1,090 feet. In **PLUME VELOCITY Table 3** the staff cooling tower merged plume value was corrected from 1,042 to 1,090 feet.

For the Gas Turbine/HRSG staff's values shown in **PLUME VELOCITY Table 3** do not exactly match those presented in **PLUME VELOCITY Table 2** due to staff recalculating to match the exact exhaust parameters provided in the Katestone report (Table 1). The difference was that staff used the full load non-duct firing operation exhaust parameters and Katestone used the full load duct firing exhaust parameters. To provide a reasonable comparison in **PLUME VELOCITY Table 3** staff recalculated using the full load exhaust parameters operation. Katestone's final report addendum did include the non-duct firing case, and the comparison of staff's and Katestone's worst-case 4.3 m/s heights for non-duct firing operation would be 995 feet and 1,014 feet, respectively.

Section/Technical Area: Transmission Line Safety and Nuisance (TLS&N)

Author: Obed Odoemelam, Ph.D.

Date: July 13, 2007

Staff Assessment Page Number(s) 4.11-11 through 4.11-13

Background:

The applicant requested deletion of all Transmission Line and Safety and Nuisance Conditions for Certification and TLSN-4 and TLSN-5 in particular. They noted in this regard that they cannot compel PG&E to enter into an agreement with them to ensure compliance with the applicable laws or industry standards.

While staff agrees that the applicant would be unable to compel PG&E compliance with these laws and standards, we note that it was the applicant that made the case in the Application for Certification that the proposed line would be designed, built, and operated by PG&E according to standards and practices that ensure compliance with these laws and standards. Staff has revised the proposed TLSN Conditions of Certification as follows to ensure implementation of the requisite design and operational measures.

AMENDED AND PROPOSED CONDITIONS OF CERTIFICATION

The conditions of certification below are new conditions that staff proposes to replace the conditions in the original RCEC Decision (CEC 2002b). These conditions were formulated to reflect the changes proposed by the project owner as part of the Petition to Amend submitted to the Energy Commission on November 17, 2006. The new parts of the conditions are underlined for easy identification.

TLSN-1 The project owner shall construct the proposed transmission lines shall be constructed according to the requirements of California Public Utility Commission's GO-95, GO-52, GO-131-D, Title 8, and Group 2. High Voltage Electrical Safety Orders, Sections 2700 through 2974 of the California Code of Regulations, and Southern California Edison's EMF-reduction guidelines.

At least thirty days before starting construction of the transmission line or related structures and facilities, the project owner shall submit to the Compliance Project Manager (CPM) a letter signed by a California registered electrical engineer affirming that the lines will be constructed according to the requirements stated in the condition.

TLSN-2 ~~The project owner shall ensure that~~ Every reasonable effort shall will be made to identify and correct, on a case-specific basis, any complaints of interference with radio or television signals from operation of the project-related lines and associated switchyards. ~~The project owner shall maintain~~ Written records shall be maintained for a period of five years, of all complaints of radio or television interference attributable to plant operation together with the corrective action taken in response to each complaint. All complaints shall be recorded to include notations on the corrective action taken. Complaints not leading to a specific action or for which there was no resolution should be noted and explained. The record shall be signed by the project owner and also the

complainant, if possible, to indicate concurrence with the corrective action or agreement with the justification for a lack of action.

All reports of line-related complaints shall be summarized for the project-related lines and included during the first five years of plant operation in the Annual Compliance Report.

TLSN-3 ~~The project owner shall hire~~ A qualified consultant shall be hired to measure the strengths of the electric and magnetic fields from the proposed line segment before and after it is energized. The measurements shall be made according to the American National Standard Institute/Institute of Electrical and Electronic Engineers (ANSI/IEEE) standard procedures at the locations of maximum field strengths along the chosen route. These measurements shall be completed not later than six months after the start of operations.

The project owner shall file copies of the pre-and post-energization measurements and measurements with the CPM within 60 days after completion of the measurements.

TLSN-4 ~~The project owner shall ensure that~~ The rights-of-way of the proposed transmission line shall be ~~are~~ kept free of combustible materials, as required under the provisions of Section 4292 of the Public Resources Code and Section 1250 of Title 14 of the California Code of Regulations.

During the first five years of plant operation, the project owner shall provide a summary of inspection results and any fire prevention activities carried out along the right-of-way and provide such summaries in the Annual Compliance Report.

TLSN-5 ~~The project owner shall ensure that~~ All permanent metallic objects within the right-of-way of the project-related lines shall be ~~are~~ grounded according to industry standards regardless of ownership. In the event of a refusal by any property owner to permit such grounding, the project owner shall so notify the CPM. Such notification shall include, when possible, the owner's written objection. Upon receipt of such notice, the CPM may waive the requirement for grounding the object involved.

At least 30 days before the lines are energized, the project owner shall transmit to the CPM a letter confirming compliance with this Condition.

Section/Technical Area: Visual Resources

Author: Mark R. Hamblin and Eric Knight

Date: July 17, 2007

Staff Assessment Page Number(s): 4.12-9

Added to the end of the reference citation is “see **APPENDIX VR-4.**”

Staff Assessment Page Number(s): 4.12-22

Insert “onsite” into the first sentence of condition of certification **VIS-2** so that it reads the following:

“**VIS-2** Prior to the first turbine roll, the project owner shall prepare and implement an approved onsite landscape plan to screen the power plant from view to the greatest extent possible.”

Staff Assessment Page Number(s): 4.12-28

Condition of Certification **VIS-10** on page 4.12-28, the first complete sentence at the top of the page, delete “and the project site” so the sentence reads the following:

“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 that line the eastern edge of the shoreline wetlands.”

Staff Assessment Page Number(s): 4.12-39

APPENDIX VR-4 has been added. Copies of the original RCEC project letters from landowners agreeing to offsite landscaping from VISUAL RESOURCES APPENDIX VR-5 in the Russell City Energy Center Final Staff Assessment have been attached.

Staff Assessment Page Number(s): VISUAL RESOURCES – Figure 2

Delete duplicated **VISUAL RESOURCES-Figure 2** with heading “Russell City Energy Center Project - Location of Key Observation Points.”

APPENDIX VR-4

Copies of the Original RCEC Project Letters From Landowners Agreeing To Offsite Landscaping From **VISUAL RESOURCES APPENDIX VR-5** in the Russell City Energy Center Final Staff Assessment have been attached.

SEE ATTACHED LETTERS

Cranbrook

GROUP, INC.

VIA US MAIL

April 15, 2002

RECEIVED
APR 17 2002
Dept. of Public Works

Mr. Alex Ameri, P.E.
Deputy Director/Utilities
Department of Public Works
City of Hayward
777 B Street
Hayward, CA 94541-5007

RE: LANDSCAPE ENHANCEMENTS, WHITESELL BUSINESS PARK

Dear Mr. Ameri:

We understand that Calpine Corporation has applied for City of Hayward permits and a California Energy Commission (CEC) certificate to build a merchant power plant north of the Whitesell Business Park on Whitesell Street in Hayward, owned by Cranbrook Realty Investment Fund, LP dba Whitesell Business Center. We further understand that the CEC Staff have suggested that Calpine look into the feasibility of providing landscape trees to screen views of the plant from the Hayward Shoreline Interpretive Center and parking lot of Whitesell Business Center. Calpine has offered to plant trees at their sole cost and expense, including irrigation costs and other costs associated with such planting of trees, within the 15-foot wide sloping area to the west of the parking lot (on 40-foot centers).

As owners of Whitesell Business Center, we accept Calpine's offer to plant the trees to the west of the parking lot, however all specifications require the prior written consent of owner. Please put us in contact with Calpine to discuss the scheduling of the effort and other specifics.

If you have any questions about this matter, please contact me at (510) 568-1140 ext. 10.

Sincerely,



Meredith Mead
Assistant Property Manager
Whitesell Business Center

7677 Oakport Street, Suite 180, Oakland, CA 94621-1920 • Phone: (510) 568-1140 • Fax: (510) 568-4591

Equity Office Properties Trust

Watergate Office Towers
2200 Power Street, Suite 200
Emeryville, California 94608
phone 510.594.5500 fax 510.594.5508
www.equityoffice.com

 Equity Office

RECEIVED

APR 12 2002

Dept. of Public Works

Mr. Alex Amari, P.E.
Deputy Director/Utilities
Department of Public Works
City of Hayward
777 B Street
Hayward, CA 94541-5007

RE: Landscaping Enhancements, Bay Center Distribution Center

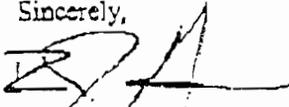
Dear Mr. Amari:

We understand that Calpine Corporation has applied for City of Hayward permits and a California Energy Commission (CEC) certificate to build a merchant power plant north of our Bay Center Distribution Center on Whitesell Street in Hayward. We further understand that the CEC Staff have suggested that Calpine look into the feasibility of providing landscape trees to screen views of the plant from the Hayward Shoreline Interpretive Center and parking lot of the Bay Center Distribution Center. Calpine has offered to plant trees on the west side of our building and parking lot.

As owners of the Bay Center Distribution Center, we accept Calpine's offer to plant trees on the west side of our building and parking lot. Please put us in contact with Calpine to discuss the scheduling of the effort and other specifics.

If you have any questions regarding this matter, please contact me at 510-594-5600.

Sincerely,



Joss Hanna
Project Manager

RJH/mxb

ARCHON®
G R O U P

May 9, 2002

Mr. Alex Ameri, P.E.
Deputy Director/Utilities
Department of Public Works
City of Hayward
777 B Street
Hayward, CA 94541-5007

SUBJECT: LANDSCAPE ENHANCEMENTS, WHITESELL BUSINESS PARK

Dear Mr. Ameri:

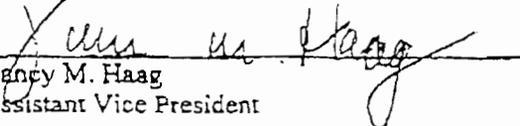
We understand that Calpine Corporation has applied for City of Hayward permits and a California Energy Commission (CEC) certificate to build a merchant power plant north of the Whitesell Business Park on Whitesell Street in Hayward. We further understand that the CEC Staff have suggested that Calpine look into the feasibility of providing landscape trees to screen views of the plant from the Hayward Shoreline Interpretive Center and parking lot of the Whitesell Business Park. Calpine has offered to plant trees mutually acceptable to Calpine, the City of Hayward and us, at Calpine's expense: 1) in the landscaping islands of the parking lot to the west of the buildings; 2) within the 15-foot-wide sloping area to the west of the parking lot (on 40-foot centers); and 3) in the landscaped zone along the eastern edge of the parking lot (between the parking lot and buildings).

As part-owners of the Whitesell Business Park, we hereby grant Calpine a revocable license for access to Whitesell Business Park to plant such trees in the parking lot's landscaping islands and to the west of the parking lot as will cause us to be in full compliance with our landscape plan provided that Calpine agrees to indemnify, defend and hold us harmless from and against any and all claims, liabilities, damages and expenses (including attorneys' fees and costs) arising from Calpine's presence at Whitesell Business Park or from any activity or thing done, permitted or suffered by Calpine and its agents, contractors and employees. As a further condition to such license, Calpine must agree to assume all risk of any damaged property or injury to persons while at Whitesell Business Park. We also agree to consider placement of trees in the landscaped area around the buildings and patios at the parking lot's eastern border on a case-by-case basis. Please put us in contact with Calpine to discuss the scheduling of the effort and other specifics.

If you have any questions about this matter, please contact me at (213)633-5800.

Sincerely,

WXI/AJP Real Estate Limited Partnership, a Delaware limited partnership
By: WXI/AJP Gen-Par, Inc., a Delaware corporation, General Partner

By: 
Nancy M. Haag
Assistant Vice President



HAYWARD AREA RECREATION AND PARK DISTRICT

1099 'E' Street, Hayward, California 94541-5299 • Telephone (510) 881-6700 FAX (510) 888-5758

April 11, 2002

Mr. James Leahy
Calpine Corporation
4160 Dublin Blvd.
Dublin, CA 94568

RE: RUSSELL CITY ENERGY CENTER OFFSITE VISUAL
ENHANCEMENTS

Dear Mr. Leahy:

The Hayward Area Recreation and Park District has reviewed the proposed offsite visual enhancements specifically relating to blockage of view toward Mount Diablo from the Hayward Shoreline Interpretive Center deck. We are in substantial agreement over the mitigation plan and agree with Calpine that the proposed amenities will sufficiently mitigate the loss of view from the Hayward Shoreline Interpretive Center. Please note we have discussed with Calpine that our wording and specific locations including coordinating the architectural features will be done by the Hayward Area Recreation and Park District at Calpine's expense.

We look forward to working with Calpine and coordinating these items to match other enhancements that are underway at the Hayward Shoreline Interpretive Center. These items will match the architectural features, text style, and other features that will go a long way in enhancing the Shoreline area for public use. If this requires further clarification, please don't hesitate to call me at 510-881-6716.

Sincerely,

Eric Willyerd
Superintendent of Parks

EW:jn

040211 Leahy

BOARD OF
DIRECTORS

Louis M. Andrade
Minane Jameson
Douglas F. Morrison
Carol A. Pereira
Richard H. Sheridan

GENERAL MANAGER
Wes Amussen

Section/Technical Area: Preparation Team

Author: Lance Shaw

Date: July 17, 2007

Staff Assessment Section: 7-1

Staff Witness Resumes inadvertently omitted: Tuan Ngo, Marc Sazaki, Steve Baker and Amanda Stenrick have been attached to this document.

Staff Witness Declaration inadvertently omitted: William Walters, P.E., has been attached to this document.

TUAN A. NGO, P.E.
1516 Ninth Street
Sacramento CA 95814
(916) 654-3852

EDUCATION

Graduate from the University of California, Davis, in 1981 with a B.S. degree in Chemical Engineering.

Registered Chemical Engineer with the State of California, #CH-4433.

Course works in Air Pollution Control:

- Effective stack height and plume rise,
- Dispersion modeling,
- Fabric collector plan review,
- Wet scrubber plan review,
- Degreasing operations,
- Control of VOC emissions from leaking process equipment,
- PSD regulation,
- Hazardous waste incineration,
- ESP plan review,
- Boiler operations.

Teaching in Air Pollution Control:

- Degreasing operations,
- Dry cleaning,
- VOC emissions from leaking process,
- Control of VOC emissions.

EXPERIENCES

California Energy Commission – Mechanical Engineer - Siting Division/Air Quality Section – 1992 to present.

Evaluate applications for certification for power plants to identify any possible air quality impacts and assess appropriate mitigation measures. Manage contracts of, and conduct research studies on power plant emissions, and track the developments in new and innovative air pollution control technologies that are related to power plants. Maintain contact with local, state and federal air quality management agencies for update on the air quality issues.

California Air Resources Board – Associate Air Resources Engineer – Industrial Projects Section (1984 to 1992)

Oversight reviewing of District and EPA approved industrial projects to ensure that the issued permits conform with all applicable rules and regulations, offsets have been properly provided, and that appropriate control equipment have been addressed.

Plan and organize studies to evaluate the effectiveness of local District's New Source Review Programs.

Plan, design, organize and conduct highly technical research studies on feasibility of new control technology.

Coordinate the engineering review of large power plants from the District, ARB, EPA and California Energy Commission staff.

Lead the development of control strategies, suggested control measures, and state regulations to reduce the emissions from industrial processes and consumer products.

Conduct workshops and consultation meetings to solicit information needed for the development of suggested control measures and regulations.

Conduct seminars and teach EPA training courses on air pollution control technologies.

Kern County Air Pollution Control District – Air Sanitation Engineer II – Permit Section (1982 to 1984).

Evaluate application for completeness determination, process application for Authority to Construct and Permit to Operate for industrial processes. Make recommendations for approval or denial of application for permits. Meet with industry representatives to discuss application completeness, suggest alternatives or modifications for them to apply to gain project's approval.

Conduct control technology feasibility studies. Conduct site visits, and compliance inspections. Handle public nuisance complaints, and witness source testing as necessary.

RESUME

Marc Sazaki
Aquatic Biologist

California Energy Commission
1516 9th Street
Sacramento, CA 95814
(916) 654-5061

EDUCATION B.S. Biological Science with Chemistry Minor, California State University, Sacramento

EXPERIENCE

November 1987 - Present California Energy Commission
Energy Facility Siting and Environmental Protection Division - Planner II - Energy Facility Siting

Review and analyze the fisheries, and other aquatic and general biological concerns and impacts of proposed energy facilities and statewide energy plans. Coordinate post-certification compliance as it pertains to biological resources. Provide special expertise on the effects of energy facilities and aquatic biological resources, entrainment and impingement of fish and aquatic organisms from power plant cooling systems, aquatic biological monitoring programs, fisheries management and mitigation as related to energy facilities. Manage energy development grants that pertain to biological resources. Continue lead as lead biologist dealing with desert tortoise and manage CEC contracts supporting desert tortoise research and monitoring related to energy development in California.

December 1978 - November 1987 California Energy Commission
Siting and Environmental Division - Planner I - Energy Facility Siting

Review and analyze the fisheries, and other aquatic and general biological concerns and impacts of proposed energy facilities and statewide energy plans. Provide special expertise on the effects of energy facilities and aquatic biological resources, entrainment and impingement of fish and aquatic organisms from power plant cooling systems, aquatic biological monitoring programs, fisheries management and mitigation as related to energy facilities. Assume lead biologist responsibilities for developing expertise on the desert tortoise in relation to power plant siting and other energy related development.

November 1973 - California Department of Fish and Game - Region II
December 1978 Fisheries Management District - Assistant Fishery Biologist

As a district biologist, was responsible for carrying out fisheries management objectives, providing assistance to other Department branches and the public in general. Departmental branch assistance included stream surveys related to a proposed power plant project and their relicensing of an existing project. Work included an analysis of the impacts of these electrical generation projects upon downstream fisheries; and subsequent recommendations for maintenance of stream flow releases.

July 1972 - California Department of Fish and Game - Bay-Delta Project
November 1973 Fish Screen Design Unit, Assistant Fishery Biologist

Researched the biological aspects of fish salvage and screening technology used on various intake structures including those used on power plants. This work in the field and laboratory included studies of the swimming ability of various species of fish entrained in screened velocity chambers. The effects of the impingement of the fish entrained in screened velocity chambers. The effects of impingement of the fish on various size screens was also examined as well as their response to traveling screens of different design configuration.

July 1970 - California Department of Fish and Game - Bay Delta Project
June 1972 Louver Evaluation Team, Junior Aquatic Biologist

Responsible for the evaluation of the Delta Fish Protective Facility. Objective of the project was to experimentally determine the effectiveness of the selected fish screening technology. The technology is identical to that employed on several power plant intake structures. Work involved supervision of a field sampling crew, analysis of test results, and preparation of a written report including recommendations for future operation of fish screening operations at the intake structure.

May 1969 - California Department of Fish and Game - San Joaquin State Fish Hatchery,
June 1970 Fish and Wildlife Assistant

Implemented all aspects of spawning, rearing and stocking various strains of trout.

PROFESSIONAL
AFFILIATIONS/
CERTIFICATES

American Fisheries Society ('68-'78)

"Desert Tortoise Survey Workshop" Certificate - June 2, 1990

"Wetlands Identification and Delineation" Certificate - May 23, 1991

"Desert Tortoise Survey Workshop" Certificate - October 23, 1993

"Certification of Attendance of U.S. Fish and Wildlife Service Authorized Demonstration of Appropriate Tortoise Egg Handling" - October 24, 1993

"Certification of Attendance of U.S. Fish and Wildlife Service Authorized Demonstration of Appropriate Tortoise Artificial Burrow Construction" - October 24, 1993

"Desert Tortoise Survey Workshop" Certificate - October 23, 1994

"Desert Tortoise Survey Workshop" Instructor Certificate - October 28, 1995

"Desert Tortoise Survey Workshop" Instructor Certificate - October 26, 1996

FEDERAL FISH AND WILDLIFE PERMIT AUTHORIZATION –
PRT-747907 (August 14, 1991)

WRITTEN REPORTS
AND/OR TESTIMONY

Some Preliminary Results on the Swimming Ability and Impingement Tolerance of Young-of-the-Year Steelhead Trout, King Salmon and Stripped Bass. Final Report for Anadromous Fisheries Act Project AFS-13. July 1, 1971 to June 30, 1972. Co-authors: M. Sazaki, J.E. Skinner, and W. Heubach.

Evaluation Testing Program Report for Delta Fish Protective Facility - state Water Facilities - California Aqueduct - North San Joaquin Division. Memorandum Report. 1973. Co-authors: W. Heubach, H. Hyde, M. Sazaki, and J.E. Skinner.

Southern California Edison - The California Coal Project. 79-NOI-3. Issues and Alternatives Report. May 1980. Biology Co-authors: M. Sazaki and R. Anderson.

Pacific Gas & Electric Company - Geysers Unit 18 Geothermal Power Plant -Sonoma County, Ca. Final Environmental Impact Report. April 1980. Biology Section Author: M. Sazaki.

Sacramento Municipal Utility District - 100 MW Photovoltaic Power Plant. Final Environmental Impact Report. April 1982. Biological Resources (Wildlife) Section Author: M. Sazaki.

NCPA Geothermal Project No. 3 - The Geysers KGRA - Lake and Sonoma Counties, California. Final Staff Assessment. July 1982. Biological Resources Section Author: M. Sazaki.

Central California Power Agency No. 1 - Coldwater Creek Geothermal Power Plant - Sonoma County. March 1985. Biological Resources Section Author: M. Sazaki.

Gilroy Energy Company, Inc. - Gilroy Foods Cogeneration Project - Santa Clara County. 84-AFC-3. Final Staff Assessment. May 1985. Biological Resources Section Author: M. Sazaki.

Luz Development & Finance Corporation's Solar Electric Generating Systems (SEGS) VIII, Harper Lake - San Bernardino County, California. Final Staff Assessment. December 1988. Biological Resources Section Author: M. Sazaki.

Luz Development & Finance Corporation's Solar Electric Generating Systems (SEGS) IX & X, Harper Lake - San Bernardino County, California. Final Staff Assessment. November 1989. Biological Resources Section Author: M. Sazaki.

The Impacts of Global Warming on California - Interim Report. California Energy Commission. June 1989. Principal Authors: J. Anderson, L. Baxter, B. Dahlquist, A. Edwards, J. Nelson, M. Sazaki, K. Smith, T. Tanton, G. Walker, B. Croes, T. VanCuren.

Crockett Cogeneration Project B Contra Costa County, California. Docket No. 92-AFC-1. Final Staff Assessment. November 1992. Biological Resources Section Author: M. Sazaki.

California Energy Commission Decision (P800-93-007) - Application for a Small Power Plant Exemption Including: Revised Initial Study - Mitigated Negative Declaration. Carson Energy Group and Central Valley Financing Authority's Application for a Combined Cycle Cogeneration Facility and Ice Manufacturing Plant. Docket No. 92-SPPE-1. June 1993. Preparation Team: Marc Sazaki - Biological Resources.

California Energy Commission Initial Study - Application for a Small Power Plant. Shell Oil Company, Martinez, California. Shell Cogeneration Project. Docket No. 93-SPPE-1. December 1993. Preparation Team: Marc Sazaki - Biological Resources.

PITTSBURG DISTRICT ENERGY FACILITY. Docket No. 98-AFC-1. Final Staff Assessment. ARPIL 1999. Biological Resources Section Author: M. Sazaki.

AMANDA STENNICK

EDUCATION

B.A. 1986 University of California, Davis, Urban and Economic Geography

WORK EXPERIENCE

April 1998
present **Planner II.** California Energy Commission, Energy Facilities Siting and Protection Division.

Provide technical analysis of proposed energy planning, conservation, and development programs on land use and socioeconomic resources. Specific tasks include the analysis of potential land use and socioeconomic impacts, identification of mitigation measures, presentation of oral and written testimony for hearings on siting cases, and project monitoring to ensure compliance with local, state and federal environmental laws and regulations. Recent work includes preparation of agenda and other materials for staff's environmental justice training seminar; research in the areas of demographics and poverty for environmental justice in siting cases; review of environmental justice legislation; research on energy and environmental justice issues specific to US/Mexico Border; as part of a team, authored the 2000 Quality Control Responsibilities for Division Products; authored the Environmental Justice sections for the 2001, 2003, and 2005 Environmental Performance Report; technical lead for land use section for 2005 Environmental Performance Report; CEQA review and comment on Cabrillo LNG Deepwater Port Facility NOI/NOP, City of Pittsburg Trans Bay Cable Project, and EIS/EIR for LNG facility in the Port of Long Beach.

Oct. 1993
to April 1998 **Planner I.** California Energy Commission, Energy Facilities Siting and Protection Division.

Provide technical analysis of proposed energy planning, conservation, and development programs on land use and socioeconomic resources. Specific tasks include the analysis of potential impacts, identification of mitigation measures, presentation of oral and written testimony for public hearings on siting cases, and project monitoring to ensure compliance with local, state and federal environmental laws and regulations. Other work includes participation in the environmental justice task force; preparation of environmental justice white paper presented to Commissioners; research and preparation of discussion on discount rates and net present value for the SFEC siting project; preparation of socioeconomic section on 1996 Quincy Library Group Report; preparation of forestry section on 1997 CEC Global Climate Change Report; demographic research for environmental justice issues in siting cases.

1992
to
1993 **Project Manager/Environmental Analyst/Planner.** Beak Consultants.

Environmental Planner for EIR/EA for the Mammoth County Water District. Analyzed potential impacts resulting from lake water transfers and maintenance of in-stream flows in the Mammoth

Lakes Basin; prepared land use, socioeconomics, recreation, and public services and utilities sections of EIR/EA; provided team project management.

Environmental Planner for an Effluent Treatment Plant EIR for Simpson Paper Company in Humboldt County. Authored land use, socioeconomics, recreation, public services and utilities, cumulative impacts sections, and mitigation monitoring; provided team project management.

Environmental Planner for Folsom/SAFCA Reoperation. Work involved determining parameters of project description with respect to water modeling, project geographic boundaries, and agency jurisdictional boundaries; ensured compliance with federal, state, and local plans and policies; provided team project management.

1990
to
1992

Environmental Analyst/Project Manager. ECOS. Inc.

Project Manager/Planner. EIR for a Planned Development, General Plan Amendment, and rezone request for a 504-acre Business and Industrial Park expansion for the Port of Sacramento. Prepared work scope and budget for Public Improvements Plan and Specific Plan for an 80-acre Mixed Use/Water Related development, including a Mitigation Monitoring Plan and Statement of Overriding Considerations for the City of West Sacramento. Specific tasks included coordination with subcontractors on technical sections of EIR, meetings with Assistant Port Director and City staff to present Public Improvements Plan, Specific Plan, tentative parcel map, and critical project phasing; and discussion with CDFG and Port staff on regional approach to mitigation for project-impacted endangered species.

Project Manager/ Planner. EIR for the Wildhorse Residential/Recreational Planned Development for the City of Davis. Specific tasks included CEQA compliance, writing technical sections on land use, project alternatives, and cumulative impacts, and determining appropriate project alternatives based on traffic models and allowable housing densities.

Project Manager. Yolo County Powerline Ordinance. Project tasks included developing siting policies and mitigation measures for placement of powerlines and substations in Yolo County.

1989
to
1990

Assistant Planner. Sacramento County Planning Department.

Principal Author. Energy Component of the Public Services and Facilities Element of the Sacramento County General Plan. Coordinated work efforts with the CEC, SMUD, and PG&E to develop environmental and siting policies for energy facilities and transmission lines; identified environmental impacts and appropriate mitigation measures.

1987
to
1989

Planner/Assistant Planner. Yolo County Community Development

Planning liaison for Homestake Mining Company's McLaughlin Mine. Conducted meetings on the Technical Review Panel's environmental monitoring of HMC's McLaughlin Mine; prepared

staff reports on the implementation of use permit phasing on water quality and impacts of the tailings pond on biologic resources; organized site visits to monitor the revegetation plan and other mitigation measures as specified in the use permit; presented oral and written staff reports to the Planning Commission.

1988

Consultant. Pan Pacific Energy Development Corporation.

Consulting job to develop a regional energy plan for rural areas of developing countries including decentralized non-fossil fuel power plants in agricultural regions. Attended IREC and AWEA International Conference in Honolulu.

PROFESSIONAL AND CONTINUING EDUCATION

1988	California Environmental Quality Act (UC Davis)
1989	Subdivision Map Act (UC Davis)
1991	Fiscal Impact Analysis (UC Davis)
1994	APA Conference (San Francisco)
1994	Environmental Justice Conference (UC Berkeley)
1998	California Environmental Quality Act (California Energy Commission)
1999	Roundtable on Environmental Justice US/Mexico Border
2000	Local Agency Formation Commission - LAFCO (UC Davis)
2005	Geographic Information System – GIS (UC Davis)
2006	Mapping Your Community GIS and Community Analysis (Sacramento, CA)

PROFESSIONAL AFFILIATIONS

Association of Environmental Professionals
American Planning Association

DECLARATION OF
Testimony of William Walters, P.E.

I, **William Walters**, declare as follows:

1. I am presently employed by Aspen Environmental Group, a contractor to the California Energy Commission, Systems Assessment and Facilities Siting Division, as a Senior Associate
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. I helped prepare the staff testimony on **Visual Resources (Appendix VR-2 Visible Plume Modeling Analysis)** and **Traffic and Transportation (Appendix 1 Plume Velocity Analysis)**, for the **Russell City Energy Center project Amendment** based on my independent analysis of the Application for Certification and supplements hereto, data from reliable documents and sources, and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue addressed therein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: July 10, 2007

Signed: 

At: Agoura Hills, California