

STATE OF CALIFORNIA  
ENERGY RESOURCES CONSERVATION  
AND DEVELOPMENT COMMISSION

In the Matter of:	)	Docket No. 01-AFC-12
	)	
Application for Certification of the	)	<b>STAFF'S SUPPLEMENTAL</b>
Los Esteros Critical Energy Facility	)	<b>TESTIMONY</b>
_____	)	

On April 25, 2002, the Committee for the Los Esteros Critical Energy Facility issued an **Order Reopening the Record** and scheduled a hearing on May 20, 2002. According to the "Filing and Project Schedule" in the Order, staff is directed to file an analysis discussing the impacts arising from 24-hour construction.

Concurrently, the Committee issued an **Order to Remove AFC from Four-Month Process and Adopt a Twelve-Month Schedule**. In this Order, the Committee expresses concern over the status of the stormwater outfall to Coyote Creek and directs the parties to "provide testimony on mitigation measures for Biological Resources that should be included in the conditions of certification."

In accordance with the Committee's Orders, Staff hereby submits its **analysis of 24-hour construction impacts** (Attachment 1) and additional testimony regarding the **stormwater outfall** to Coyote Creek (Attachment 2). Staff's submittal is based upon information contained in the Staff Assessment and Supplement, which were entered into the record on March 11, 2002, additional information presented at the March 11, 2002 hearing, and more recent information received from the applicant and interested agencies regarding construction impacts and the outfall.

In addition, staff submits an **assessment of the potential impacts** that may reasonably be expected to result from the construction and operation of the proposed simple-cycle project as a **combined-cycle power plant** (Attachment 3). The removal of the application for certification from a four-month to a twelve-month process raises the issue of whether the case must now consider the combined-cycle phase of the project, given its reasonable foreseeability, for cumulative impacts rather than defer its analysis as allowed by Public Resources Code section 25552. (See Staff's Motion To Reconsider, filed May 1, 2002, which discusses this issue.) Although staff and applicant both have moved for reconsideration of the Order to Remove, staff submits this analysis in the event the Committee rules against the motions.

Date: May 10, 2002

Respectfully submitted,

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## ATTACHMENT 1

### 24-HOUR CONSTRUCTION SCHEDULE IMPACTS

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Staff Response May 10, 2002

In the Order Reopening the Record the Committee stated that...

“...the evidentiary record, as submitted by parties, is insufficient to conclude that the proposed project (under either review process) conforms with all applicable Laws, Ordinances, Regulations and Standards (LORS). We therefore, reopen the record to take additional evidence regarding (1) the expedited construction schedule and its impacts on Air Quality; Public Health; Noise; and Traffic and Transportation; (2) Transmission System Engineering; and (3) necessary mitigation plans in the areas of Biological Resources and Visual Resources.” (p. 1, Order Reopening The Record, April 25, 2002)

In Section III, Hearing Order and Schedule, staff are directed to file analysis discussing impacts arising from 24-hour construction (page 3, **Order Reopening The Record**, April 25, 2002).

#### **AIR QUALITY Prepared by Gabriel Behymer**

This document is staff's supplemental testimony concerning the air quality impacts of an expedited construction schedule for the LECEF.

#### **EXPEDITED CONSTRUCTION SCHEDULE AIR QUALITY IMPACTS**

Since the Committee's order, the applicant has prepared and submitted an air quality modeling analysis of the proposed expedited construction activities. Staff has reviewed the input and output data for the modeling as well as the applicant's prepared modeling analysis and presents all findings here.

#### **Sulfur Dioxide (SO<sub>2</sub>) and Carbon Monoxide (CO) Impacts**

The modeled SO<sub>2</sub> and CO impacts will either remain unchanged or increase insignificantly. The original (one 8-hour construction shift) and expedited (two 10-hour construction shifts) worst case impacts for these pollutants are presented in **SUPPLEMENTAL AIR QUALITY Table 1** below in comparison to the state and federal Ambient Air Quality Standards (AAQS).

**SUPPLEMENTAL AIR QUALITY Table 1**  
**Los Esteros SO<sub>2</sub> & CO Expedited Construction Impacts (µg/m<sup>3</sup>)**

Pollutant	Averaging Time	Construction Impacts		Background	Total Impacts		State AAQS	Federal AAQS
		Original	Expedited		Original	Expedited		
SO <sub>2</sub>	1-hour	7.1	7.1	94	101	101	650	--
	24-hour	0.8	1.8	18.4	19	20	109	365
	Annual	0.04	0.11	5.3	5	5	--	80
CO	1-hour	61.1	61.2	12,375	12,436	12,436	23,000	40,000
	8-hour	17.7	42.1	6,978	6,996	7,068	10,000	10,000

Staff believes that with full implementation of all proposed construction conditions of certification presented in the Staff Analysis, the emissions of SO<sub>2</sub> and CO during construction will not cause a significant impact.

**Nitrogen Dioxide (NO<sub>2</sub>) and Respirable Particulate Matter (PM<sub>10</sub>) Impacts**

The modeling analysis shows that the 1-hour average NO<sub>2</sub> impact will only increase slightly, however the impact is so close to the state AAQS that it is of concern. The analysis also shows that both the 24-hour PM<sub>10</sub> and annual PM<sub>10</sub> expedited construction impacts will increase significantly when compared to the impacts from the original construction schedule. These estimated impacts are presented in **SUPPLEMENTAL AIR QUALITY Table 2** below.

**SUPPLEMENTAL AIR QUALITY Table 2**  
**Los Esteros NO<sub>2</sub> & PM<sub>10</sub> Expedited Construction Impacts (µg/m<sup>3</sup>)**

Pollutant	Averaging Time	Construction Impacts		Background	Total Impacts		State AAQS	Federal AAQS
		Original	Expedited		Original	Expedited		
NO <sub>2</sub>	1-hour	228.4	229.1	241	469*	470	470	--
	Annual	1.1	2.8	49	50	52	--	100
PM <sub>10</sub>	24-hour	13.2	37.0	114	127	151	50	150
	Annual Geometric	1.9	7.2	25.4	27	33	30	--
	Annual Arithmetic	1.9	7.2	28.7	31	36	--	50

\* The 1-hour average NO<sub>2</sub> total impact was erroneously shown as 467 µg/m<sup>3</sup> in the AFC.

This analysis indicates that when using the highest measured background levels during the last seven years, the impacts from the expedited construction of the LECEF may contribute to an existing violation of the state 24-hour average PM<sub>10</sub> AAQS and cause a new violation of both the state annual and the federal 24-hour average PM<sub>10</sub> AAQS.

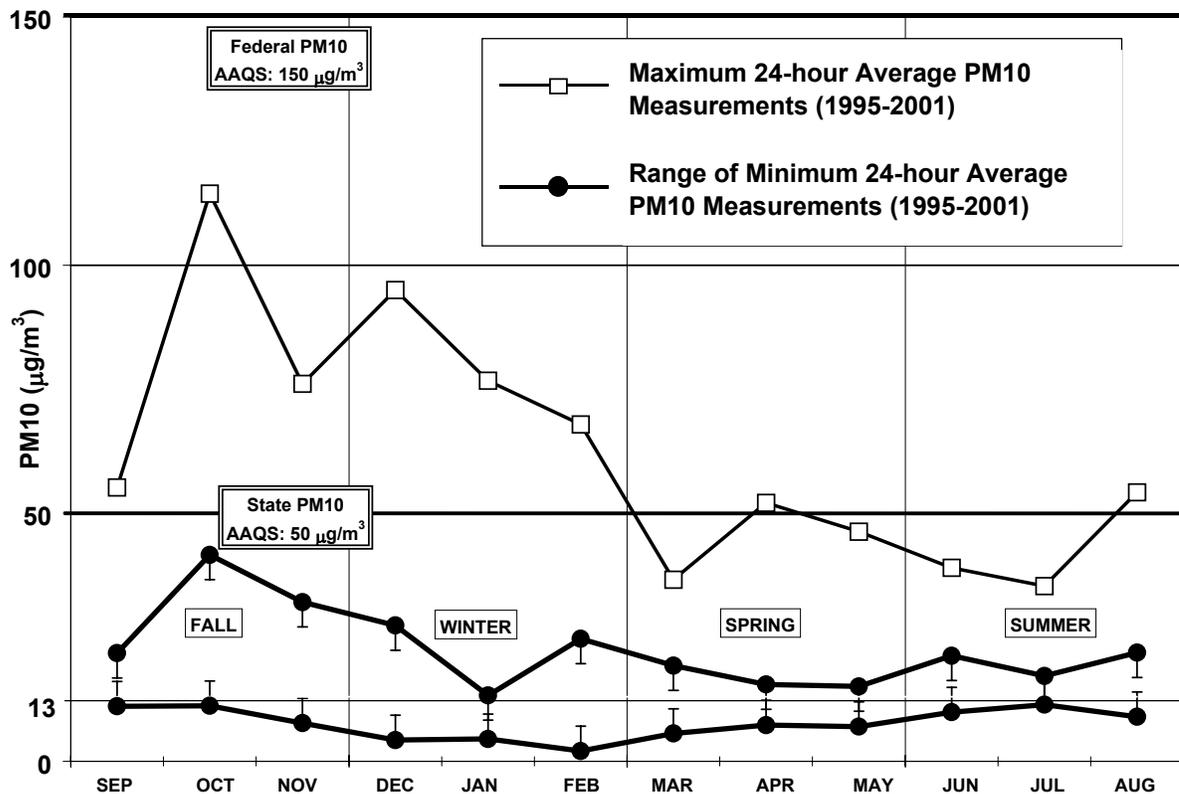
**Seasonal Variation of Background PM<sub>10</sub>**

As discussed in the Staff Analysis, elevated ambient PM<sub>10</sub> tends to be a seasonal problem. In general, the ambient PM<sub>10</sub> levels tend to be much lower in the summer than in the winter. For this reason, and because of the short duration (approximately four months) of the proposed expedited construction schedule, if the entire construction

project were to be completed during the summer months then the background 24-hour average PM10 level assumed ( $114 \mu\text{g}/\text{m}^3$ ) could be excessively conservative.

**SUPPLEMENTAL AIR QUALITY Figure 1** below presents the combined monthly maximum & range of minimum ambient PM10 levels for January 1995 through June 2001 from the 4<sup>th</sup> Street monitoring station in San Jose (about 7 miles south south-east of the project site) and the Tully Road monitoring station (about 13 miles south south-east of the project site).

**SUPPLEMENTAL AIR QUALITY Figure 1**  
**Monthly Maximum & Minimum Ambient 24-hour Average PM10 Levels**  
**4th Street & Tully Road (San Jose)**  
**January 1995 – June 2001**



Given the predicted worst case 24-hour average PM10 construction impact of  $37 \mu\text{g}/\text{m}^3$  presented in the applicant's modeling analysis, any time the ambient PM10 concentration is at or above  $13 \mu\text{g}/\text{m}^3$  the construction could cause or contribute to a violation of the state 24-hour average AAQS. As can be seen from **SUPPLEMENTAL AIR QUALITY Figure 1**, the local ambient 24-hour average PM10 level is frequently above  $13 \mu\text{g}/\text{m}^3$ . This would be especially true if construction occurs during the fall and/or winter quarters when ambient PM10 levels are routinely at their highest.

## **EFFECTIVENESS OF PROPOSED CONSTRUCTION MITIGATION**

Staff received a number of questions regarding the overall effectiveness of the proposed construction mitigation measures. This section presents a short overview of construction mitigation effectiveness.

The effectiveness of the proposed construction mitigation is measured as a percentage of the uncontrolled emissions that are avoided. This effectiveness can vary widely due to the number of influencing factors. Some of these factors include ambient conditions (temperature, wind & humidity), size & weight of vehicles, vehicle speed, number of vehicles and soil parameters (chemical composition, particle size distribution, organic components, etc.) The frequency of construction activities (disturbance of stabilized surfaces) and day to day aggressiveness of mitigation efforts (application of water or dust suppressants, street sweeping to remove carryout from paved roads, etc.) are further sources of uncertainty. Nevertheless, average control efficiency estimates have been developed. **SUPPLEMENTAL AIR QUALITY Table 3** lists the estimated control efficiency for various construction mitigation measures based on an analysis of Best Available Control Measures (BACM) prepared by San Joaquin Valley Air Pollution Control District staff in October 2001.

**SUPPLEMENTAL AIR QUALITY Table 3  
Construction Mitigation Estimated Control Efficiency <sup>1</sup>**

<b>Source</b>	<b>Control Method</b>	<b>Percent Efficiency</b>
<b>Construction, Demolition and Earthmoving</b>	Truck Load Covers	95
	Pave Roads	90
	Chemical Dust Suppressant	60
	Periodic Watering	50
<b>Windblown Dust</b>	Plant vegetation completely covering disturbed surface	99
	Chemical Dust Suppressant	75-80
<b>Bulk Materials</b>	Wind Fences	60-80
	Wet Suppression	56-81
<b>Unpaved Roads &amp; Parking Lost</b>	Paving	99
	Chemical Dust Suppressant	75
	Gravel	60
	Reduce Traffic by 50%	50
	Set Speed Limits	37
<b>Carryout to Paved Roads</b>	Truck Load Covers	95
	Wheel Washers	75
	Paved Access Aprons	60
	Street Sweeping & Other Road Cleanup	45
<b>Disturbed Open Areas &amp; Vacant Lands</b>	Re-vegetation, Chemical Dust Suppressants & Wind Fences	70
	Plant Trees as Windbreak	8

These estimated efficiencies assume that all construction personnel fully participate in the necessary mitigation activities.

It is unclear which of the above mitigation measures were included in the applicant's expedited construction modeling analysis. Any future construction modeling analysis should include detailed information regarding all mitigation measures included and what assumptions were made regarding each mitigation measure.

## **CONCLUSIONS**

Staff concludes that the proposed expedited construction schedule will likely cause or contribute to violations of the state and federal 24-hour average PM10 AAQS. In

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<sup>1</sup> H.R. Guerra, J.R. Nazareno, T. Le & J. Barba; San Joaquin Valley Unified Air Pollution Control District; *Final Draft Staff Report: BACM Amendments to Regulation VIII (Fugitive PM10 Prohibitions)*, Table 1; October 31, 2001

addition, the projected NO<sub>2</sub> impact equal to the state 1-hour AAQS requires a more refined analysis. Staff believes that the applicant has the ability to modify the expedited construction schedule and refine the modeling analysis to both reduce PM<sub>10</sub> emissions and show compliance with NO<sub>2</sub> standards. The construction schedule presented above could be modified to minimize the impacts of the most significant sources and additional, more aggressive, onsite mitigation measures such as limiting the concurrent operation of heavy equipment, or aggressive dust mitigation could be proposed. A refined air quality modeling analysis incorporating such measures would then need to be prepared. Finally, additional Conditions of Certification would then be necessary to enforce the proposed construction limitations.

In the event that an expedited construction schedule is ultimately allowed, staff believes on site ambient monitoring, more aggressive construction mitigation and/or off site contemporaneous emissions reductions will be necessary.

### **PUBLIC HEALTH Prepared by Alvin Greenberg, Ph. D.**

As discussed in the Air Quality discussion above, mitigation measures must be implemented to control the generation of PM<sub>10/2.5</sub> to the greatest extent feasible. The applicant's supplemental testimony states that PM<sub>10/2.5</sub> emissions from diesel exhaust would amount to a 24-hour maximum concentration of 0.189 µg/m<sup>3</sup>, an increase from 0.073 µg/m<sup>3</sup> for a single construction shift. This increase in diesel particulate levels would result in an increase in the maximum theoretical cancer risk from 0.3 in one million to 0.8 in one million. Both of these risks are significantly less than the 10 in one million level considered to be significant. Also, the difference in airborne concentrations is so small as to be difficult to measure and represent no more than 0.17 % of the maximum 24-hour background airborne PM<sub>10/2.5</sub> concentration. No additional mitigation is required to specifically address the increase in diesel particulate levels.

In its **Air Quality** Conditions of Certification, staff has already proposed that diesel exhaust from construction equipment be mitigated by the use of low sulfur fuel and high efficiency particulate traps with an oxidative catalyst (see **Air Quality** and **Public Health** sections of the Staff Assessment). These particulate traps can reduce PM<sub>10/2.5</sub> emissions from diesel equipment by a factor of 90%. Thus, even though the additional incremental increase above the background due to diesel particulates is very low and results in an insignificant risk of cancer, the further reduction these mitigation measures provide would lower the contribution from diesel exhaust even lower.

Dust suppression to control wind, vehicular, and mechanical suspension can be effectively implemented by following standard US EPA guidance as found in "Dust Control at Hazardous Waste Sites Handbook" (EPA November 1985), "Air/Superfund National Technical Guidance Study Series Volume III – Estimation of Air Emissions from Cleanup Activities at Superfund Sites" (EPA January 1989), "Control of Air Emissions from Superfund Sites" (EPA November 1992), and "Emission Measurements of Particle Mass and Size Emission Profiles from Construction Activities" (EPA October 1999). The November 1992 document lists several methods of source control for particulate matter including water sprays, wind screens, foams, and covers over dirt piles. The effectiveness of each method has been evaluated and water sprays can

control up to 98% of the particulate matter. Wind screens have been found to control off-site PM migration up to be prepared in order 97%. Staff's Air Quality testimony lists the estimated control efficiencies for various construction mitigation measures based on an analysis of Best Available Control Measures (BACM) prepared by San Joaquin Valley Air Pollution Control District staff in October 2001. These control efficiencies are consistent with those described in the EPA documents. Therefore, if the project owner implements dust suppression techniques as approved by staff on a frequent and consistent basis, PM10/2.5 generation from vehicular travel and site excavation activities can be reduced to below significance.

In conclusion, an expedited construction schedule would not result in a significant risk due to diesel emissions. In regards to PM10/2.5 impacts, the proposed expedited construction schedule will likely cause or contribute to public health impacts. However, as Air Quality staff states, the applicant has the ability to modify the expedited construction schedule to further minimize PM10/2.5 emissions. Additional, more aggressive, onsite mitigation measures should also be implemented. And, a refined air quality modeling analysis incorporating such measures should to determine the extent of mitigation needed. In addition, staff proposes that the applicant be required to conduct upwind/downwind monitoring to further ensure the effectiveness of the required mitigation measures in reducing PM10/2.5 impacts on public health to an insignificant level.

## **NOISE PREPARED by Brewster Birdsall**

### **Background and Methodology**

In the previous Supplemental Testimony (p. 4.6-2, February 6, 2002), nighttime construction was addressed to the extent possible in Response to Comment SJ-42 without having a firm indication from the applicant that around the clock construction would be necessary. In local LORS, nighttime construction noise is only limited by City of San Jose Zoning Ordinance if it would occur within 500 feet of a residential unit. Section 20.100.450 of the Zoning Ordinance limits construction within 500 feet of a residential unit to between the hours of 7 a.m. and 7 p.m. Monday through Friday.

The applicant has not yet specified which construction activities would be likely to occur around the clock. In absence of the applicant's construction plan, staff prepared this Supplemental Testimony based on the full range of construction activities illustrated in the AFC Section 8.5.6.1. Staff must now assume that the noisiest activities could not feasibly be limited to only the hours between 6 a.m. and 6 p.m. Monday through Saturday (as was in AFC, p. 2-13 and p 8.5-19). Additionally, staff must now assume that the applicant could not feasibly satisfy the Energy Commission CEQA criteria to avoid impacts through "use of heavy equipment and noisy activities ... limited to daytime hours" (Staff Assessment, p. 4.6-4).

To assess the impacts, the predicted construction noise levels at the nearest residences were reviewed by staff, and construction activities were re-evaluated for their potential to result in substantial increases in nighttime noise levels.

## Impacts

During the discovery process, the applicant provided construction noise level estimates that were inconsistent with the estimates provided in the AFC. To resolve the inconsistencies, staff reviewed the source information and developed the independent noise level estimates that are presented below.

Additionally, the AFC identified the location of the mobile home park inconsistently. AFC Tables 8.5-16 and 8.5-17 note a distance of 2,500 feet to the monitoring location of the mobile homes (Location 5), whereas AFC Figures 8.5-1 and 8.5-7 show the residences to be a distance of greater than 3,000 feet. Because the distance of the mobile homes to the project site is given in the Land Use section of the AFC as approximately 0.6 miles, staff believes the noise levels presented in the AFC for a distance of 2,500 feet would overpredict impacts to the mobile homes. Staff calculated noise levels at 3,200 feet from the project site to provide an appropriate estimate of impacts to the mobile homes. The Cilker residence is 800 feet from the site.

The reference composite noise levels for construction activities and the results of the independent staff assessment of noise levels at the nearest residences are summarized in **NOISE SUPPLEMENT: Table 1**.

The predicted noise levels are conservatively high because they do not take into account attenuation of noise by obstructions or absorption of sound by soft ground surfaces. These estimates are based on hard ground surfaces and unobstructed lines of sight between the residences and the construction site. The only attenuating mechanism considered was divergence of the sound waves over the distances traveled.

**NOISE SUPPLEMENT: Table 1  
Construction Noise Levels at Nearest Residences**

Construction Activity	Reference Composite Noise Level (at 50 feet)	Applicant's-Predicted L <sub>eq</sub> (at 2390 feet)	Applicant's-Predicted L <sub>eq</sub> (at 3420 feet)	Staff-Predicted L <sub>eq</sub> Location 5 (at 3200 feet)	Staff-Predicted L <sub>eq</sub> Location 7 (at 800 feet)
Site Clearing/Excavation	89	55	50	53	65
Concrete Pouring	78	51	46	42	54
Steel Erection	87	55	50	51	63
Mechanical	87	50	45	51	63
Clean-Up	89	45	40	53	65
Pile Driving	104			68	80
Ambient Average Noise Level (L <sub>eq</sub> )				56	Estd. 53
Ambient Nighttime Noise Level (L <sub>90</sub> )				49	Estd. 45
Maximum Project+Ambient Nighttime Noise Level w/o Pile Driving				54	65
Maximum Project+Ambient Nighttime Noise Level w/ Pile Driving				68	80

Sources:

- Reference Composite Noise Level at 50 feet: AFC Table 8.5-15 and Table 8.5-17.
- Applicant's Predicted L<sub>eq</sub>: Data Request Response Set 1, Table NO-39, 11/5/01.
- Staff-Predicted L<sub>eq</sub>: Independent assessment accounting only for attenuation of sound levels through divergence over distance.
- Ambient Noise Levels for Location 5 from Data Request Response Set 1, DR #37, 11/5/01.
- Ambient Noise Levels for Location 7 from independent staff assessment described in Staff Assessment.

Notes: Locations 5 and 7 defined in Staff Assessment: 3200 feet is distance of mobile home park; 800 feet is distance of main Cilker home.

Heavy equipment operation during any phase of construction would increase nighttime noise levels at the residential locations. **NOISE SUPPLEMENT: Table 1** shows that during the most quiet nighttime conditions, project-plus-ambient nighttime noise levels at the mobile home park, without pile driving, would be approximately 5 dBA higher than the ambient conditions without nighttime construction. Because this impact would be short-term during only the construction phase of the project (anticipated 4 to 6 months under the expedited schedule) and would not substantially exceed the Energy Commission 5 dBA criteria that is usually used for routine operation of the plant (see Staff Assessment p. 4.6-4), the impact to the mobile home park would not be considered significant.

At the main Cilker home, heavy equipment operation, excluding pile driving, would dominate nighttime noise levels, especially at the portions of the Cilker property facing the construction activity. Without restricting nighttime construction activity, this impact would be considered significant and additional measures would be necessary to reduce the impact. As a means of minimizing nighttime noise impacts to the residents of the Cilker property, staff proposes that the applicant provide temporary relocation and housing for the occupants of the Cilker home during the construction phases (see revised proposed Condition of Certification **NOISE-6**).

Pile driving during nighttime hours would substantially increase noise levels over the most quiet ambient nighttime conditions. At the nearby residential locations, pile driving noise at night would dominate nighttime conditions. At the mobile home park, the nighttime noise levels with pile driving would be within the range of ambient levels that routinely occur in the daytime but these levels would be more than 15 dBA over the most quiet nighttime conditions. As in the Staff Assessment (see p. 4.6-11) and the Supplemental Testimony (p. 4.6-4), staff continues to propose that pile driving be performed only during daytime hours in order to minimize annoyance to the mobile home park residents.

Staff recommends further clarification to the proposed Condition of Certification **NOISE-6** to provide for relocation of the Cilker home occupants and manage pile driving noise. No other changes to the proposed Conditions of Certification are recommended. As in the Staff Assessment, implementation of proposed Conditions of Certification **NOISE-1** and **NOISE-2** would also help to minimize impacts by providing nearby residents with a means of registering and resolving complaints.

### **CONSTRUCTION TIME RESTRICTIONS**

~~**NOISE-6:** Heavy equipment operation and noisy construction work shall be restricted to the times of day delineated below:~~

~~Any Day — 6 a.m. to 8 p.m.~~

Noise due to pile driving shall be restricted to the times of day delineated below:

Any Day 8 a.m. to 5 p.m.

Haul trucks and other engine-powered equipment shall be equipped with adequate mufflers. Haul trucks shall be operated in accordance with posted speed limits. Truck engine exhaust brake use shall be limited to emergencies. ~~Horizontal drill rigs may be operated on a continuous basis, provided that the rigs are fitted with adequate mufflers and engine enclosures, and that the rigs are shielded from view of residences by berms, straw bales, or other suitable barriers.~~

~~Relocation assistance and temporary housing in a nearby extended-stay hotel, or other similarly-furnished dwelling, shall be made available to any occupant of the main Cilker home during construction activities, if requested by the occupants. If the Cilker property is under the control of the project owner or U.S. Dataport, relocation assistance and temporary housing need not be provided.~~

The project owner shall transmit to the CPM in the first Monthly Compliance Report a statement acknowledging that the above restrictions will be observed throughout the construction of the project. ~~Any request from the project owner to deviate from these restrictions shall be transmitted to the CPM and the City of San Jose and shall be subject to CPM approval.~~

## **TRAFFIC AND TRANSPORTATION Prepared by Mathew Darrow and Eileen Allen**

Staff has reviewed the applicant's proposal for two, ten-hour construction shifts. Caltrans' District 4 (i.e. covering the Bay Area including north San Jose) has expressed concern that the afternoon peak traffic period occurs from 4 to 7 p.m., which could affect construction workers' arrival/ departure times. Caltrans has had several recent discussions with the applicant regarding their questions on the number of commute vehicles involved and their travel times. Since Caltrans's staff has not provided the Commission staff with any conclusions, staff is requiring Condition of Certification TRANS-1, which is contained in the Staff Assessment. It requires that the applicant coordinate a traffic control plan with Caltrans, the local jurisdictions, and the CPM. This plan will include measures that limit construction period travel to off-peak times. If travel during peak times is unavoidable, the plan requires use of routes that are not congested

## **BIOLOGICAL RESOURCES Prepared by Natasha Nelson and Julie Colyer**

Staff analysis of the LECEF assumed construction took place during the daytime hours. The request to increase the hours of construction was reviewed by the biological resources staff for potential impacts and the mitigation required to reduce identified impacts to less than significant levels. Staff proposes the following impacts could occur as a result of a 24-hour construction schedule:

- The increase of lighting and noise at night would be adverse to diurnal wildlife (species active during the day) which require resting in the cover of trees (especially riparian areas) during the night-time hours.
- The increase of lighting at night would be adverse to nocturnal species which forage in unlit areas, but would increase forage opportunities for nocturnal predators seeking insects attracted to lights. The beneficial impact of construction on nocturnal predators is dependent on the level of noise being generated. The noise generated must be lower than the species level of tolerance.
- The continuous light and noise from construction would prevent the temporary use of the open space areas for foraging by species more tolerant of uninhabited-but-urban landscapes (such as dove and mice).
- The increased human presence would increase the likelihood that human-intolerant species would avoid the riparian and willow cottonwood habitat (north of the agricultural lands and along the evaporation ponds) entirely for the length of the construction window.

- The increase of light and noise could interrupt the migration of corpuscular wildlife (species active during dawn and dusk) along the riparian corridor, or force these species into unsafe areas (such as onto State Route 237) when they attempt to avoid the disturbance.

The San Francisco Bird Observatory has been accessing a bird banding station in Coyote Creek on Wednesdays, Saturdays, and Sundays since 1983. The Observatory volunteers access the bird banding station by opening the gate at the Cilker property (at Alviso-Milpitas Road) and travelling north one-mile along the "upper" levee wall road. The critical times for data collection are when bird migration is highest, such as September and October. Construction activities which remove/disrupt access along the Coyote Creek levee road (between Alviso/Milpitas Road and the Water Treatment Plant's sludge ponds, 1 mile north) could interrupt this important research.

### **Conditions of Certification**

Staff recommends the following changes to the proposed Conditions of Certification.

Items 9 and 10 of Condition of Certification **BIO-10** shall be edited to read:

9. Inspect trenches ~~each morning~~ every six (6) hours for entrapped animals and prior to the beginning of construction in an area that has been unattended for over three (3) hours during the night. Inspections will be made by someone specially trained by the Designated Biologist in the proper handling of wildlife. Construction will be allowed to begin only after trapped animals are able to escape voluntarily or in a safe and humane manner;
10. Inspect all construction pipes, culverts, or similar structures with diameter of 4-inches or greater for sensitive species (such as foxes) prior to pipe burial. Pipes to be left in trenches ~~overnight~~ for more than eight (8) hours will be capped;

To reduce 24-hour construction impacts to less than significant levels, staff proposes the following mitigation be added to Condition of Certification **BIO-10**:

16. Any fixed lighting used during construction activities must be designed to be directed downward and away from riparian areas;
17. No construction activity shall be allowed within 500 feet of the levee wall from one (1) hour before sunset until one (1) hour after sunrise (as defined by a California solar timetable); and
18. Contact the San Francisco Bird Observatory (Sherry Hudson at 408-946-6548 or [shudson@sfbbo.org](mailto:shudson@sfbbo.org) ) two weeks prior to beginning construction of the stormwater outfall at the levee wall to arrange alternative access to the Observatory's long-term bird banding site.

The verification of this measure remains unchanged.

### **Agency Review**

No species listed by the U.S. Fish and Wildlife Service are expected to occur on-site or in the adjacent parcels. However, species of concern to the California Department of Fish and Game are present on-site and in the riparian corridor surrounding Coyote Creek. On May 7, 2002, Natasha Nelson contacted Eric Tattersall of California Department of Fish and Game to review any suggestions he would have regarding 24-hour construction. He said that beyond the issues with diurnal and nocturnal species, he was concerned about the migration of corpuscular species potentially being interrupted or changed because of noise and light. He stated that focusing lights downward and establishing a setback from the riparian corridor would lessen this potential impact. He agreed with Staff that trenches should have frequent inspections for trapped animals, and suggested that the construction monitors be trained in the proper handling of wildlife. Staff recommends the Designated Biologist provide training to the monitors that will be needed to cover 24-hour construction.

The Don Edward National Wildlife Refuge is located 1 to 1.5 miles north of the project site. Species from the refuge may use the LECEF site or adjacent properties as part of their foraging grounds. On May 3, 2002, Natasha Nelson contacted Clyde Morris, Refuge Manager, and he stated the important nesting area on the refuge (near the environmental Education Center) would be shielded by the landfill from lights and based on distances, the nesting birds in the salt ponds would not be impacted. He supported staff's proposed measure for shielding lights downward during construction. He thought the noise levels (<60 decibels at the sludge ponds) were too low to cause an impact to the refuge.

### **VISUAL RESOURCES Prepared by Michael Clayton and Eric Knight**

Visual Resources Condition of Certification **VIS-4** was modified in the Supplement to the Staff Assessment to address night lighting controls during project construction as well as project operation. The condition requires the submittal (for CPM review and approval) of lighting plans for both construction and operation. Pages 4.12-14 and 4.12-15 of the Staff Assessment (Without U.S. Dataport discussion) provides the justification for **VIS-4**. The discussion also references measures proposed by the Applicant to control construction lighting (to the extent practicable). Condition **VIS-4** expands upon the Applicant's proposals. Furthermore, the Applicant's written testimony does not disagree with the substance of **VIS-4**, only the timing of the verification.

## ATTACHMENT 2

### STORM WATER OUTFALL LINE TO COYOTE CREEK

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Staff Response May 10, 2002  
Prepared by Natasha Nelson and Julie Colyer

In the Order To Remove the Committee expressed concern about

“the lack of evidence in the record to demonstrate that final design plans or permitting has begun for the construction of a stormwater drain to the low-flow channel of Coyote Creek. This construction could require permits from the California Fish and Game (CDFG) and possibly the U.S. Army Corps of Engineers. Staff notes that additional mitigation measures may be required to protect biological resources. (Ex. 1A p. 4.2-26.) However, none of the parties presented such mitigation proposals. We direct the parties to provide testimony on mitigation measures for Biological Resources that should be included in the conditions of certification” (page 3, Order To Remove AFC From Four-Month Process To Twelve-Month Schedule, April 24, 2002).

The Committee’s reference to staff’s testimony appears to refer to this sentence in the Staff Assessment Supplement:

Adverse impacts would occur to the waters surrounding Coyote Creek as a result of this work. While erosion- and pollution-control measures would be required as part of the permit process, additional mitigation may be required to protect biological resources (Biological Resources condition of certification **BIO-15**).

Staff’s intention with this statement was that the additional mitigation measures required to protect biological resources are those listed in Condition of Certification **Bio-15**. Staff incorrectly stated these measures ‘may be’ required, when the intention was to recommend that the Committee impose these measures through **Bio-15**.

Staff proposed several measures in Biological Resources condition of certification **BIO-15** that if adhered to during construction, would avoid all potential impacts to the identified biological resources. No additional measures have been identified by Energy Commission staff or by other agency staff. Staff is prepared to update the Committee on the current status of discussions with other agencies at the Evidentiary Hearing on May 20, 2002.

## ATTACHMENT 3

### POTENTIAL IMPACTS AT CONVERSION TO COMBINED CYCLE

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Staff Response May 10, 2002

The applicant has stated its intention to file an application for conversion of the LECEF to a combined cycle power plant soon after receiving Energy Commission approval for the simple cycle facility currently proposed. Because the conversion to combined cycle would result in the net addition of 80 megawatts (MW) of generating capacity, a new Application for Certification (AFC) will have to be filed with the Energy Commission for the conversion. Detailed information will be included in the AFC, which will be subject to full review by the Energy Commission and other agencies and parties. The discussion of potential impacts from the planned combined cycle facility presented below is not intended as a substitute for the full review of the eventual AFC, but is provided to address the environmental impacts based on currently available information on the combined cycle project. This discussion is based on the following assumptions, which have been developed from information provided by the applicant: Recycled water would continue to be used for cooling, and the amount would approximately double at combined cycle.

- A second reserve storage tank for process water is likely to be needed.
- Two steam turbine generators would be installed, adding a nominal generating capacity of 80 MW.
- Three two-cell cooling towers would be added in the prepared area directly south of the current proposed two-cell tower.
- No structure or piece of equipment would be taller than the currently proposed heat recovery steam generator (HRSG) structures with the attached 90 foot tall exhaust stacks.
- All construction and installed equipment would be within the existing foot print of the proposed LECEF.

#### **AIR QUALITY PREPARED by Gabriel Behymer**

Staff has been asked to provide information regarding how the conversion of the Los Esteros Critical Energy Facility (LECEF) to combined cycle will change the predicted impacts. Staff cannot make specific estimates without full vendor data and a modeling analysis, however the known data is outlined here. The emissions control level required by the air district as Best Available Control Technology (BACT) for a combined cycle tends to be more restrictive (i.e. requires lower emissions limits) than for a simple cycle power plant. The NO<sub>x</sub> limit for LECEF is currently proposed as a 5.0 ppm 3-hour rolling average and a 2.5 annual average, but on a combined cycle power plant the BACT control level will likely be 2.0 ppm hourly average. Similarly, the currently proposed POC limit for LECEF is a 2.0 3-hour rolling average, while BACT for a combined cycle power

plant is 1.0 ppm 1-hour average. Combined cycle facilities tend to operate more continuously and include duct burners, which would increase the annual fuel consumption. In addition, the emissions temperature from a combined cycle facility would be lower than the emissions temperature from a simple cycle. This results in less plume rise and possibly higher impacts. Lastly, a combined cycle facility will require a greater cooling load. If the facility uses either wet or hybrid cooling towers there will be additional PM10 emissions, which will need to be included in the modeling and fully mitigated.

In order to analyze the impacts of conversion to combined cycle, staff will need all proposed operational data from the manufacturers of all new equipment, a proposed operational schedule (including number of startups and shutdowns) and a refined modeling analysis of the new facility. If overall emissions increase, then additional mitigation will likely be necessary.

### **PUBLIC HEALTH PREPARED by Alvin Greenberg, Ph. D.**

Staff has been asked to provide an opinion regarding the impact on the public health if this facility were built as a combined-cycle power plant. The temperature of the emissions plume will be lower in a combined-cycle plant and thus the plume rise would be somewhat less. The dispersion of toxic air contaminants emitted in the stack exhaust would be different, therefore, from that of the single-cycle power plant. Staff is unable to state whether this difference would result in a significant difference in dispersion and ground level concentrations (and hence health impacts) without conducting the appropriate air dispersion modeling using the appropriate input parameters for start-up times, run durations, etc.

### **BIOLOGICAL RESOURCES Prepared by Natasha Nelson and Julie Colyer**

#### **Status of Information**

The primary direct impact from the LECEF simple-cycle power plant would be the loss of foraging habitat. Because the combined-cycle elements would be located on lands already removed from use by species, staff would only require a summary of previous conditions. No new mitigation would be needed for foraging losses unless burrowing owls were found within 250 feet of the site during pre-construction surveys.

The analysis of a combined-cycle power plant differs from a simple-cycle power plant in three major areas: 1) air quality; 2) water use; and 3) construction of a permanent stormwater outfall in Coyote Creek. These elements require more information as discussed in more detail below.

The combined-cycle power plant would have potentially higher levels of air pollutants. Until the combined-cycle design is complete, staff would be unable to evaluate the level of impact from air pollution. In addition, if the air pollution were to exceed the U.S. Environmental Protection Agency's levels for Prevention of Significant Deterioration

Program (PSD), then a U.S. Fish and Wildlife Service consultation must be completed prior to the issuance of the PSD permit. In this scenario, the applicant would need to create a Biological Assessment for use in the consultation process and must propose additional mitigation. The U.S. Fish and Wildlife Service process takes 135 days.

The wastewater stream from a simple-cycle power plant is typically less than a combined-cycle power plant. In the case of the simple-cycle power plant, the amount of return water going to the water treatment plant was inconsequential and was not seen as causing a change in the release of water into Artesian Slough and Don Edwards National Wildlife Refuge. To evaluate the combined-cycle power plant, staff would require information on the anticipated amounts of wastewater being sent to the treatment plant (worst case and average use) and the quality of the water.

The Santa Clara Valley Water District only permitted a temporary stormwater outfall for the simple-cycle power plant and requested a permanent outfall be built for the combined-cycle power plant. Staff would need a permanent outfall design and an estimate of streambed impacts that result from construction in Coyote Creek in order to evaluate the combined cycle plant. Depending on the design of the outfall, the U.S. Army Corps of Engineers (USACE) may be involved in permitting. Prior to the issuance of a USACE permit, the U.S. Fish and Wildlife Service and National Marine Fisheries Service would need to be sent a Biological Assessment and a request for consultation.

### **Potential Impacts and Need for Conditions of Certification**

The combined-cycle power plant could have higher levels of nitrogen oxide pollution which was identified as causing a significant impact to serpentine-endemic plants in the San Jose area. If air pollutants are increased from a combined-cycle power plant, then larger impacts are expected. Previous siting cases have identified mitigation was available to avoid or mitigate all air pollutant impacts to biological resources. When the AFC for the combined-cycle project is considered, staff will evaluate the potential for additional impacts and will coordinate with other resource agencies to determine whether mitigation will be required.

Assuming that water output is only doubled and quality remains nearly the same, significant impacts from the wastewater are unlikely. Because of the importance of the Don Edwards National Wildlife Refuge, the potential for impacts will be thoroughly evaluated, but no new conditions of certification would be expected.

Many of the impacts from a permanent stormwater outfall were discussed during the proceedings for the simple-cycle power plant. In all cases, reasonable mitigation was available to avoid or mitigate impacts to biological resources within Coyote Creek. However, staff did not evaluate construction in or directly adjacent to the low-flow channel which may be necessary to build a permanent outfall and may cause harm to state- and federally-listed fish. If the permanent design is in or directly adjacent to the low-flow channel, staff would propose changes to Biological Resources condition of certification BIO-15 after the U.S. Fish and Wildlife Service's/National Marine Fisheries Service's Biological Opinion(s) are/is nearly complete or issued.

## **CULTURAL RESOURCES Prepared by Gary Reinoehl**

The analysis previously conducted for the simple-cycle LECEF project included the project site footprint, gas line, water line, storm-water outfall into Coyote Creek, the temporary 2000-foot transmission interconnect to Zanker Road, and the permanent 50-foot transmission interconnect to the proposed Los Esteros Substation. Based on that analysis, anticipated project-related impacts were found to be less than significant with mitigation incorporation. Conditions of Certification Cul-1 through Cul-11 were proposed by staff to ensure that the impacts are reduced to less than significant.

Based on the information that the proposed combined-cycle conversion of the LECEF will use the same facilities and footprint as described above, it is not anticipated that any additional project-related cultural resource impacts would result. Therefore, combined-cycle project-related impacts are anticipated to be less than significant with mitigation incorporation.

As long as all construction, parking and laydown areas remain confined to the current LECEF site footprint, construction impacts should remain less than significant with mitigation incorporation through the implementation of Cultural conditions Cul-1 through Cul-10. If additional areas are needed to support construction activities, or facilities added to support the conversion (e.g. transmission lines, or reconductoring), condition Cul-11 would ensure that the project impacts to cultural resources would be reduced to less than significant. Based on current information, staff expects the Conditions of Certification Cul-1 through Cul-11 would ensure that the impacts from the conversion to combined cycle would be less than significant.

## **SOILS AND WATER RESOURCES Prepared by Joe Crea and John Kessler**

### **Water Supply**

The Applicant has indicated that recycled water supply for the LECEF Combined Cycle Project is expected to approximately double from that needed for a Simple Cycle Project. This would equate to an increase in the average daily flow rate from 0.5 mgd (315 gpm) to approximately 1.0 mgd (630) gpm, and an increase in the peak flow rate from 0.82 mgd (536 gpm) to approximately 1.64 mgd (1,072 gpm). On an annual basis, the average water demands would increase from about 560 afy to 1,120 afy, and on a peak basis, would increase from about 913 afy to 1,826 afy. Recycled water would be supplied from the San Jose/Santa Clara Water Pollution Control Plant (WPCP) through its South Bay Water Recycling Program. The WPCP is operated by City of San Jose, and has a rated treatment capacity of 167 mgd, and is limited to maintain discharges into San Francisco Bay under 120 mgd. Recycled water use from the WPCP is consistent with the goals for the South Bay Water Recycling Program, as it reduces the quantity of wastewater discharge. Although recycled water from the WPCP already meets Title 22 standards for unrestricted use and will be used for additional cooling tower makeup, some capacity increase in the LECEF treatment facilities may also be

necessary for refining the water for use in the boilers (HRSG makeup) and associated process streams.

### **Wastewater Discharge**

Wastewater returned as influent to the WPCP will include microfiltration backwash, cooling tower blowdown, process drains, reverse osmosis concentrate, and sanitary wastewater. HRSG blowdown will likely be recycled to the cooling towers. During power peaking conditions, the primary process contributing to additional wastewater will be cooling tower blowdown. The net effect from the LECEF Combined Cycle Project in using additional recycled water and returning a portion as plant wastewater would be an overall reduction in the quantity of wastewater discharged to the WPCP. The net reduction would likely be on the order of 0.6 - 1.0 mgd. The quality of the wastewater discharged from the WPCP would not change significantly, but may result in a net increase in salinity of about 1 percent. The wastewater discharge from the LECEF is expected to have salinity concentrations on the order 2,232 mg/l, and thus on a proportional basis, a slight increase in the overall salinity of the recycled water product from the WPCP from about 744 mg/l to 752 mg/l. Although the 1 percent increase does not appear significant, the Santa Clara Valley Water District and the City of San Jose, who are partnering in a Salinity Control Program for recycled water, have expressed concern that trends in salinity concentration continue to increase and should be mitigated. In discussions between staff and these local public agencies regarding the effects of the Simple Cycle Project, it was agreed that the LECEF could contribute towards mitigating the increase in salinity concentration by contributing to the Salinity Control Program through rates paid to purchase recycled water. For the Combined Cycle Project, this concept for mitigation should be confirmed with the City of San Jose and the Santa Clara Valley Water District.

### **Storm Water Outfall Structure**

As per the recent request from the Santa Clara Valley Water District, the simple cycle stormwater outfall structure, under the jurisdiction of the Construction/Encroachment Permit, needs to be located in the "high flow" area of the Coyote Creek Channel for a limited term of up to three (3) years. Once the plant converts to the combined-cycle phase, the stormwater outfall structure could be relocated to the west bank of the Coyote Creek. The applicant has submitted preliminary drawings depicting the location and design of the structure. The stormwater outfall location on the west bank would be subjected to LORS affiliated with the Army Corps of Engineers, the San Francisco Regional Water Quality Control Board, and the Santa Clara Valley Water District. It appears that the current Staff Assessment covers the LORS affiliated with the aforementioned agencies via Conditions of Certification Soil and Water-1, -2, -3, -4, and -10. Staff does not believe that additional conditions would be needed to address the impacts of the combined-cycle project.

### **VISUAL RESOURCES Prepared by Michael Clayton and Eric Knight**

Development of the combined cycle phase would introduce additional structures to the project site including two steam turbine generators, three double-cell cooling towers, and an additional water storage tank. Depending on the size and specific location of

these structures, additional visual contrast and view blockage may result. The project's overall structural dominance may also increase. The resulting visual impacts may be significant depending on the extent to which the views from SR-237 and the Bay Trail are affected. The potential effectiveness of any screening vegetation intended to mitigate additional visual impacts cannot be determined at this time.

It is likely that the combined cycle phase would change the character of the vapor plume(s) emanating from the site. If vapor plumes occur more frequently and are of a more opaque and persistent nature, more substantial visual impacts could occur. The extent of the plume impact would to a large degree depend on the frequency and size of the resulting plume(s) and the extent to which view blockage of higher quality landscape features or panoramic sightlines occurs. Until the nature of any plume impact is characterized and quantified, effective visual mitigation (whether it be operational parameters or different cooling options) cannot be defined.

## **TRAFFIC AND TRANSPORTATION Prepared by Mathew Darrow**

Staff feels that as long as the applicant maintains the intended construction workforce (200 workers on average and 311 workers during the peak) and adheres to the previously recommended Conditions of Certification, no additional traffic impacts will be experienced as a result of the supplemental structures. This analysis assumes that the number of employees that will work at the plant once it becomes operational will remain minimal.

## **NOISE Prepared by Brewster Birdsall**

### **Background and Methodology**

No information has been provided by the applicant regarding the conversion of the plant to a combined cycle system. Additional project equipment associated with the combined cycle system would be steam turbine generators and additional cooling tower cells. Staff assumes that the combined cycle equipment would be located within the same footprint as the current proposal and that no additional linears would be necessary. No additional LORS would apply beyond those identified in the Staff Assessment and Supplemental Testimony, and the method of analysis for these project components follows that of the original Staff Assessment.

### **Impacts**

Because construction activities for conversion to a combined cycle system would occur on the same footprint and the activities themselves would be similar in nature to the construction of the simple-cycle project, the noise levels experienced by the nearby residences would be similar to those previously characterized. The construction phase impacts for a combined-cycle system would be similar to those that would occur during construction of the remainder of the plant. Construction noise impacts would be reduced through the implementation of proposed Conditions of Certification **NOISE-1**, **NOISE-2**, and **NOISE-6**.

Startup and testing of a combined-cycle system would require steam blows to purge the steam system prior to routine operation. High-pressure, un-silenced steam blows can cause noise up to 136 dBA at a distance of 50 feet. Without any additional noise reducing strategies, this would cause a significant impact to nearby residences and recreation areas. Staff would propose to reduce the impacts of steam blows through implementing a notification process and use of technology that would quiet the activity.

Operation of a combined-cycle would involve operation of additional steam system components scattered around the project site. Additional cooling tower cells would likely be located along the western edge of the site, and a pair of steam turbine generators would be expected near the center of site. Each of these components would be new sources of noise not included in previous assessments of operational noise levels. Adding these sources of noise to the previously-analyzed project would likely cause increased noise impacts to the north and west of the project site where the additional cooling towers would be located. This could cause the San Jose General Plan Goal noise level of 60 Ldn to be exceeded at the location of the proposed San Francisco Bay Trail (Location 3).

Proposed Conditions of Certification **NOISE-2** and **NOISE-4** would continue to ensure that the operational noise effects are reduced to a less than significant level at the main Cilker home and the Coyote Creek riparian corridor, however revisions would be necessary for **NOISE-4** in order ensure compliance with the City of San Jose public park policies at the proposed location of the Bay Trail. Project noise impacts to other sensitive locations would not be substantially different with operation of the combined-cycle system.

### **HAZARDOUS MATERIAL HANDLING Prepared by Alvin Greenberg, Ph. D.**

Staff has been asked to provide an opinion regarding the impact on hazardous materials management if this facility were converted to a combined-cycle power plant. Staff has been informed that no new linears (which includes natural gas pipelines) are involved. It is my opinion that the type, amount, and frequency of use of hazardous materials does not differ significantly between a single-cycle power plant and a combined-cycle power plant. All mitigation measures proposed by the applicant and staff would be adequate to reduce impacts to a level of significance regardless of which type of power plant were constructed. All LORS listed in the AFC and in the Staff Assessment would also apply to both types of power plants. Therefore, there would be no significant risk posed by Hazardous Materials Management if the facility were changed to a combined-cycle power plant.

### **TRANSMISSION SYSTEM ENGINEERING Prepared by Mark Hesters**

It appears that the 80 MW produced by the combined cycle addition at the Los Esteros Critical Energy Facility would not have any significant impacts on the transmission system. The Facilities Cost Report for the LECEF included a study of the 195 MW simple cycle project and a 580 MW Florida Power and Light project. The Florida Power and Light Project has dropped out of PG&E's interconnection queue. The combined

analysis of the 195 MW project and the 580 MW project showed several normal overloads (less than 10-percent) and several contingency overloads. However, none of these overloads was large enough that they should occur with an 80 MW addition in place of the 580 MW project. Thus, staff does not expect the 80 MW combined cycle expansion of the LECEF to have TSE impacts. Any amendment to the project that adds 80 MW of output will require a new facilities study showing the full impacts of the addition.

## **FACILITY DESIGN AND RELIABILITY Prepared by Shahab Khoshmashrab**

### **Facility Design**

The modification from a simple cycle to a combined cycle would not change the applicable LORS and the project would remain in compliance with all the applicable LORS.

Table 1 of Condition of Certification **GEN-2** would be modified to include the additional major equipment and structures resulting from the conversion.

This conversion would not necessitate significant additional analysis or re-analysis of the project from a facility design perspective.

### **Reliability**

No LORS apply to power plant reliability.

The conversion of this simple cycle project to a combined cycle project would consist of converting the proposed project from operating with four gas turbines alone to four gas turbines and two steam turbines operating in a four-on-two configuration. This configuration is consistent with industry norms and offers a high degree of reliability.

From a reliability standpoint, the conversion would not require any additional analysis.