

STATE OF CALIFORNIA
ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION

In the Matter of:)	Docket No. 01-AFC-17C
)	
Application For Amendment of the)	COMMISSION STAFF'S
Inland Empire Energy Center, LLC)	ERRATA and AMENDMENTS TO
Commission Decision)	STAFF ANALYSIS and RESPONSES
)	TO PROJECT OWNER'S COMMENTS
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The Energy Commission Staff ("Staff") submits the following errata and modifications to its Staff Analysis of Proposed Modifications to Change to GE 107H Combined-Cycle Systems, Increase Generation and Add Additional Laydown Areas dated June 8, 2005 (Staff Analysis) and responses to Calpine's June 16, 2005 comments on the Staff Analysis.

To avoid confusion, below we show the additional changes proposed to the Conditions of Certification in this document by first accepting any changes proposed in the Staff Analysis; newly deleted text is shown in ~~strikethrough~~, and newly added text in **bold** and double underlined.

Air Quality:¹

Staff agrees with Calpine's proposed amendment to Condition AQ-SC17.

AQ-SC17 ~~The project owner shall report to the CPM the quantity of CO₂ emitted on an annual basis as a direct result of facility electricity production.~~ **If the Project owner does not voluntarily participate in the California Climate Action Registry, then the Project owner shall report to the CPM the quantity of CO₂ emitted on an annual basis as a direct result of facility electricity production.**

¹ While not necessary to the decision of this amendment, Staff notes that it does not agree with Calpine's legal assertion that the Energy Commission is required to decide this amendment before the air district issues its Final Determination of Compliance. That assertion ignores the effect of the 1979 Joint Policy Statement of Compliance with Air Quality Laws by New Power Plants between the Energy Commission and the State Air Resources Board which provides that the Energy Commission's decision (which contains the air district's conditions), not the air district's determination of compliance, is the final determination of whether a facility can be constructed. Staff has provided its comments on the air district's Preliminary Determination of Compliance and it is expected that Calpine will provide comments before the July 1 comment deadline. In its proposed Conditions of Certification, Staff has incorporated corrections of inadvertent mistakes which it identified in its comments on the PDOC. If, following the close of the comment period, the District makes additional changes to the Conditions, it will be necessary for Calpine to request an additional amendment to the Commission Decision.

Verification: Any CO₂ emissions that are reported by the project owner to the California Climate action Registry or pursuant to this condition shall be reported to the CPM once each year as part of the fourth Quarterly Air Quality Reports required by Condition of Certification AQ-SC8, ~~at least once each year in a Quarterly Air Quality Report (AQ-SC8).~~

Staff recommends relocation of the timing requirements in Air Quality Conditions of Certification AQ-15 and 16. If in the future there is a need to adjust the timing of these requirements, without changing their intent or resulting in environmental impacts, authorization would be more efficient and less time consuming if the timing is stated in the verification rather than the main body of the condition. This is consistent with Staff's general practice to place timing requirements which are not linked to environmental impacts or mandated by LORS in the verification.

AQ-15 The operator shall install and maintain a CEMS to measure the following parameters:

CO concentration in ppmv.

Concentrations shall be corrected to 15 percent oxygen on a dry basis.

The CEMS will convert the actual CO concentrations to mass emission rates (lbs/hr) and record the hourly emission rates on a continuous basis.

The CEMS shall be installed and operated, in accordance with an approved AQMD Rule 218 CEMS plan application. The operator shall not install the CEMS prior to receiving initial approval from AQMD.

The CEMS shall be installed and operated to measure CO concentration over a 15 minute averaging time period.

~~The CEMS shall be installed and in operation and Rule 218 testing submitted to the AQMD at the conclusion of the turbine commissioning period prior to base load commercial operation. (SCAQMD D82-1)~~

Verification: The CEMS shall be installed and in operation and Rule 218 testing submitted to the AQMD at the conclusion of the turbine commissioning period prior to base load commercial operation. The project owner shall provide the CPM documentation of the Districts approval of the CEMS, within 15 days of its receipt. The project owner shall make the site available for inspection of the CEMS by representatives of the District, CARB and the Commission.

AQ-16 The operator shall install and maintain a CEMS to measure the following parameters:

NO_x concentration is expressed in ppmv.

Concentrations shall be corrected to 15 percent oxygen on a dry basis.

The CEMS shall be installed and operating no later than 12 months after initial start-up of the turbine and shall comply with the requirements of Rule 2012. During the interim period between the initial start-up and the provisional certification date of the CEMS, the operator shall comply with the monitoring requirements of Rule 2012(h)(2) and 2012(h)(3). Within two weeks of the turbine startup date, the operator shall provide written notification to the District of the exact date of start-up.

~~The CEMS shall be in operation and Rule 2012 provisional RATA testing submitted to the AQMD at the conclusion of the turbine commissioning period prior to base load commercial operation. (SCAQMD D82-2)~~

Verification: The CEMS shall be in operation and Rule 2012 provisional RATA testing submitted to the AQMD at the conclusion of the turbine commissioning period prior to base load commercial operation. The project owner shall provide the CPM documentation of the Districts approval of the CEMS, within 15 days of its receipt. The project owner shall make the site available for inspection of the CEMS by representatives of the District, CARB and the Commission.

Hazardous Materials:

Staff accepts the following changes to Condition HAZ-13 proposed by Calpine:

HAZ-13 The project owner shall include the following safety measures for the natural gas compressor enclosure:

1. inside natural gas sensors
2. inside fire (flame) detectors
3. ~~automatic gas compressor emergency shut-off valves actuated by the inside gas sensors~~ **remotely operated gas compressor shut-off valves actuated by the plant operator from the control room**
4. outside manual shut-off valves located at least 50 feet from the gas compressor building
5. ~~fire suppression equipment located outside and adjacent to the compressor building~~ **CO2 fire suppression system for the compressor enclosures**
6. unobstructed access to the compressor building by off-site fire department equipment and personnel from two directions
7. a maintenance schedule for the gas compressors

Verification: At least thirty (30) days prior to the introduction of natural gas to the pipeline, the project owner shall provide the CPM with a written description of the safety measures applied to the gas compressor enclosure.

Soil and Water Resources:

Staff accepts Calpine's proposed change to Condition Soil and Water-7 as follows:

SOIL & WATER 7: The Ethanac Wash floodplain is located near the southern boundary of the IEEC Site. Construction of the IEEC shall remain outside of the FEMA floodplain shown on the effective Riverside County Flood Insurance Rate Map (FIRM), Panel 2085 of 3600. The project owner shall notify the CPM of any Conditional Letter of Map Revision (CLOMR) requests to modify the Ethanac Wash Floodplain. The project owner shall review the CLOMR request for potential impacts to the IEEC Site. The project owner will provide the CPM evidence that the IEEC property is protected from flooding due to floodplain modifications. The property owner shall submit to the CPM any Letter of Map Revision (LOMR) issued from FEMA resulting in a change to the effective FIRM where FEMA has requested review by the project owner as a potentially affected owner. The project owner shall verify that the IEEC Site is outside of the special flood hazard boundary and elevated above the base flood elevations.

Verification: Prior to initiation of commercial operation of the IEEC, the project owner shall submit to the CPM evidence of its review of documentation requesting changes to the Ethanac Wash Floodplain. The project owner shall copy the CPM on their acknowledgment letter to the CLOMR or LOMR applicant stating that the floodplain modification project will not impact the IEEC site. The project owner shall submit to the CPM evidence of the LOMR from FEMA, and a copy of the revised or annotated FIRM showing the IEEC Site. The Annual Compliance Report shall report any floodplain changes that have a potential to impact the IEEC Site during operations.

Existing Condition of Certification Soil and Water-8 was inadvertently shown in strike through text in the Staff Analysis, suggesting that it should be deleted. As the narrative in the Staff Analysis indicates at page 92, it is Staff's intention and recommendation that the existing condition continue to apply to the amended project. Therefore, existing condition Soil and Water-8 should remain as a Condition of Certification in the form adopted in the original Commission Decision:

SOIL & WATER-8: Prior to site mobilization, the project owner shall pay a Flood Mitigation Fee in the amount assessed in accordance with Riverside County's Homeland/Romoland Area Drainage Plan (ADP) to assist in providing revenue to establish adequate community drainage facilities. The amount of the fee for industrial development shall be calculated on the basis of the prevailing Area Drainage Plan fee rate multiplied by the area of the new development.

Verification: Prior to site mobilization, the project owner shall submit to the CPM, documentation that payment has been made to the County of Riverside for the Flood Mitigation Fee.

Worker Safety:²

As the Staff Analysis' narrative indicates, Conditions Worker Safety-3 and 4 are designed to meet a recently developed concern about the implementation and monitoring of safety measures at power plant construction sites. Staff Analysis, p. 117 - 119.

Condition Worker Safety-3 proposed for the Roseville Energy Center (01-AFC-3) was the initial effort to address Staff's concerns. During the process of planning to implement that Condition, certain ambiguities have been identified. For example, although Staff intended the Safety Monitor to be a position separate from the project owner's safety manager, this was not clearly stated; the condition is silent on the project owner's obligation to staff that position. Conditions Worker Safety-3 and 4 proposed in this case, are refinements of the Roseville condition intended to clarify the requirements for both project owners and Staff. The requirement that the project owner employ a Construction Safety Supervisor primarily responsible for safety compliance is made explicit in the first condition and the role of the separate Safety Monitor, responsible to the Chief Building Official is described in the second condition.

Though Staff does not believe that its refined formulation differs substantively in actual effect from the Roseville condition, it is willing to accept the somewhat modified version of the Roseville condition proposed by the Applicant. We will attempt to address any ambiguities during the implementation process.³

WORKER SAFETY-3 The Project Owner shall ensure that a CPM-approved Safety Monitor(s) conducts an on-site safety inspection of the power plant at least once a week during construction of permanent structures and commissioning unless a lesser number of inspections is approved by the CPM. The CPM may also require a similar inspection and report concerning linear facilities.

The Safety Monitor shall keep the Chief Building Official (CBO) fully informed regarding safety-related matters and coordinate with the CBO concerning on-site safety inspections, and the final safety inspection prior

² Here again, Staff disagrees with Calpine's legal assertion that the Energy Commission's consideration of this application is somehow "limited" such that it cannot analyze all foreseeable effects of the proposal and recommend new amended conditions based upon updated LORS, new information or Staff's experience following certification of a project. No authority for that proposition is cited, nor do we find any in the Commission's statutes or regulations. Nor would it be consistent with the Commission's duty to test for continued compliance with applicable LORS and mitigation of environmental impacts (Cal. Code Regs., tit., 20, § 1769(a)(3)(A),(B)) to "limit" the scope of its exercise of its regulatory powers. The "due process" rights of other regulatory agencies are not implicated by the Commission's exercise of its regulatory powers. Staff is not limited to analyzing only what an applicant identifies. Here Staff's recent experience has identified deficiencies in safety practices at power plant construction projects. The additional Worker Safety conditions were proposed to avoid such deficiencies in this project.

³ Future projects and amendments, however, will likely see refined versions of the originally proposed Conditions.

to issuance of the Certificate of Occupancy by the CBO. The Safety Monitor will be retained until cessation of construction and commissioning activities, and issuance of the Certificate of Occupancy, unless otherwise approved by the CPM.

The Safety Monitor(s) shall also:

- Correct any construction or commissioning problems that could pose a future danger to life or health, consulting with the CBO as necessary.**
- Have the authority to temporarily stop construction or commissioning activities involving possible safety violations or unsafe conditions that may pose an immediate or future danger to life or health, until the problem is resolved to the satisfaction of the Safety Monitor and/or CBO.**
- Consult with the CBO to determine when construction may resume unless the problem is corrected immediately, and to the satisfaction of the Safety Monitor and/or CBO.**
- Inform the CPM within 24 hours of any temporary halt in construction or commissioning activities.**
- Be available to inspect the site whenever necessary in addition to the minimum weekly basis during construction and commissioning as determined in consultation with the CBO and CPM.**
- Develop a safety program for the Project that complies with Cal/OSHA & federal regulations related to power plant projects.**
- Ensure that all federal and Cal/OSHA requirements are practiced during the construction and installation of all permanent structures (including safety aspects of electrical installations).**
- Ensure that all construction and commissioning workers and supervisors receive adequate safety training.**
- Conduct safety training (including fall protection, confined spaces, respiratory protection, hazard communication, etc.), or ensure that the Project owner, union hall, and/or contractors conduct adequate safety training.**
- Maintain all Material Safety Data Sheets, storage of all hazardous materials and all other required documentation for Cal/OSHA.**

• Complete all accident and incident investigations, emergency response reports for injuries and inform the CPM of OSHA Recordable and Lost Time incidents.

• Ensure that all the plans identified in WORKER SAFETY-1 are implemented.

The Safety Monitor shall be qualified regarding the following:

• Safety issues related to equipment, pipelines, etc,

• LORS applicable to workplace safety and worker protection

• Workplace hazards typically associated with power production

• Lock out tag out and confined spaces control systems

• Site security practices and issues

Verification: The Project owner shall submit the Safety Monitor(s) resume(s) to the CPM for approval at least 30 days prior to site mobilization. One or more individuals may hold this position.

The Safety Monitor shall submit in the Monthly Compliance Report a monthly safety inspection report to include:

• Records of all employees trained for that month (all records shall be kept on site for the duration of the Project);

• A summary report of safety management actions that occurred during the month;

• A report of any continuing or unresolved situations and incidents that may pose danger to life or health;

• Reports of OSHA Recordable and Lost Time incidents and injuries that occurred during the month.

~~WORKER SAFETY 3 The project owner shall provide a site Construction Safety Supervisor (CSS) who, by way of training and/or experience, is knowledgeable of power plant construction activities and relevant laws, ordinances, regulations, and standards, is capable of identifying workplace hazards relating to the specific operations, and has authority to take appropriate action. This CSS shall have over all authority for coordination and implementation of all occupational safety and health practices, policies, and programs. The CSS shall:~~

- ~~• Verify that the safety program for the project complies with Cal/OSHA & federal regulations related to power plant projects.~~

- ~~Verify that all construction and commissioning workers and supervisors receive adequate safety training.~~
- ~~Complete accident and safety related incident investigations, emergency response reports for injuries, and inform the CPM of safety-related incidents.~~
- ~~Verify that all the plans identified in Worker Safety 1 are implemented.~~

~~Verification: At least 30 days prior to the start of site mobilization, the project owner shall submit to the CPM the name and qualifications of the CSS for review and approval. The CSS shall not be replaced unless a replacement CSS is approved by the CPM.~~

~~The CSS shall submit in the Monthly Compliance Report a monthly safety inspection report to include:~~

- ~~Record of all employees trained for that month (all records shall be kept on site for the duration of the project);~~
- ~~Summary report of safety management actions that occurred during the month;~~
- ~~Report of any continuing or unresolved situations and incidents that may pose danger to life or health;~~
- ~~Report of accidents and injuries that occurred during the month.~~

~~WORKER SAFETY 4 — The project owner shall employ a CPM approved Safety Monitor, who will report directly to the Chief Building Official (CBO), and who will be responsible for verifying that the Construction Safety Supervisor, as required in Worker Safety 3, implement all appropriate Cal/OSHA and Commission safety requirements specified in the Decision. The Safety Monitor shall not be replaced until the CPM approves the replacement Safety Monitor.~~

~~The CPM approved Safety Monitor shall conduct on-site safety inspection at least once a week during construction of permanent structures, and commissioning, of the power plant unless a lesser number of inspections are approved by the CPM. The CPM may also require similar inspections concerning linear facilities.~~

~~The Safety Monitor shall keep the Chief Building Official (CBO) fully informed regarding safety related matters and coordinate with the CBO concerning on-site safety inspections, and a final safety inspection prior to issuance of the Certificate of Occupancy by the CBO. The Safety Monitor will be retained until cessation of construction and commissioning activities, and issuance of the Certificate of Occupancy, unless otherwise approved by the CPM.~~

~~The Safety Monitor(s) shall also:~~

- ~~Inform the site Construction Safety Supervisor and CBO of any construction or commissioning problems that could pose a future danger to life or health.~~
- ~~After consultation with the CBO, have the authority to temporarily stop construction or commissioning activities involving possible safety violations or unsafe conditions that may pose an immediate or future danger to life or health, until the problem is resolved to the satisfaction of the Safety Monitor and CBO.~~
- ~~Consult with the CBO and Construction Safety Supervisor to determine when construction may resume unless the problem is corrected immediately, and to the satisfaction of the Safety Monitor and/or CBO.~~
- ~~Inform the CPM within 24 hours of any temporary halt in construction or commissioning activities.~~
- ~~Be available to inspect the site whenever necessary in addition to the minimum weekly basis during construction and commissioning as determined in consultation with the CBO and CPM.~~
- ~~Verify that all federal and Cal/OSHA requirements are practiced during the construction and installation of all permanent structures (including safety aspects of electrical installations).~~

~~The Safety Monitor shall be qualified regarding the following:~~

- ~~Safety issues related to pipeline construction, construction equipment, and procedures, etc,~~
- ~~LORS applicable to workplace safety and worker protection~~
- ~~Workplace hazards typically associated with power production~~
- ~~Lock-out / tag-out and confined spaces control systems~~

~~The project owner shall submit the Safety Monitor(s) resume(s) to the CPM for approval at least 30 days prior to site mobilization. One or more individuals may hold this position.~~

Staff's responses to Calpine's comments contained in its Attachment 2 are attached as Attachment 1.

DATED: June 20, 2005

Respectfully submitted,

original signed by

PAUL A. KRAMER JR
Senior Staff Counsel

Attachment 1
Staff's Responses to Calpine's Minor Changes (Calpine's Attachment 2)

(Responses shown in underlined text)

CEC Staff Analysis TOC	Reference	Issue	Fix
Biology	P. 54, para 2, final sentence	Incorrect statement. "The temporary impact is only considered adverse considering the availability..."	<p>"The temporary impact is not considered adverse..."</p> <p><u>Staff response: Disagree. The temporary impact from the removal of additional foraging area during the use of the laydown area is adverse, but not to a degree that it is a significant impact under CEQA. The sentence is correct as written. As the first sentence of the paragraph indicates, a similar finding was made in the original Commission Decision.</u></p>
Efficiency	p. 59, para 4, 1 st sentence	Editorial comment	<p>Should read "test these initial Frame 7H machines" as there are two units.</p> <p><u>Staff response: Disagree. This portion of the narrative refers to the single machine produced for the ultimately cancelled earlier order, not the two machines this applicant proposes to install.</u></p>
	p. 60, para 3, 2 nd sentence	Editorial comment	<p>Change to "Duct firing is not being provided;" as saying that "Duct firing is not an option at this time" implies that it would be considered for addition at IEEC in the future, which is not true.</p> <p><u>Staff response: Agree</u></p>

Attachment 1
Staff's Responses to Calpine's Minor Changes (Calpine's Attachment 2)

(Responses shown in underlined text)

CEC Staff Analysis TOC	Reference	Issue	Fix
	p. 60, para 3, 3 rd sentence	Correct math error.	<p>Efficiency should read "59.6" percent.</p> <p><u>Staff response: Agree. The AFC was inconsistent in the numbers that it gave. Using one set, the above result is reached; using the other set, Staff's original result is reached. The difference between the two is not significant for purposes of this amendment.</u></p>
	p. 60, para 3, 4 th sentence	Correct math error.	<p>Increases in fuel efficiency should read "5.5" and "12.0" percent.</p> <p><u>Staff response: Agree, as in the response immediately above.</u></p>
	p. 60, last para, 1 st sentence	Correct math error.	<p>Natural gas fuel consumption should read "108.6 billion Btu/day LHV".</p> <p><u>Staff response: Disagree. Note, though, that the difference between the number our calculation obtains and the above number is not consequential.</u></p>

Attachment 1
Staff's Responses to Calpine's Minor Changes (Calpine's Attachment 2)

(Responses shown in underlined text)

CEC Staff Analysis TOC	Reference	Issue	Fix
Hazardous Materials Management	p. 66, para 3, 3 rd and 5 th sentences	No regulatory basis for new condition.	<p>The text refers to additional specific measures that are to be implemented if compressor buildings are located within 1500 feet of certain facilities but does not cite the specific LORS that require these measures. Please cite LORS or delete this text.</p> <p><u>Staff response: As the paragraph indicates, the required measures are not LORS-based but rather are mitigation measures to reduce a potential environmental (public safety) impact. The text should not be deleted.</u></p>
Reliability	p. 81, para 4, 1 st sentence	Editorial comment	<p>Should read “test these initial Frame 7H machines” as there are two units.</p> <p><u>Staff response: As described above (first Efficiency comment), it is contextually appropriate to refer to the machine singularly.</u></p>
Soil and Water Resources	P. 89, last sentence.	Incorrect statement “The project owner has not provided a map that shows the proximity of the effective FEMA floodplain to the site.” AFC Figure 5.4-2 and response to DR 51 provide the maps.	<p>Delete sentence</p> <p><u>Staff response: Agree</u></p>