CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET
SACRAMENTO, CA 95814-5112

DOCKET
07-AFC-3C
DATE Aug 09 2011
RECD. Aug 09 2011

DATE: August 9, 2011

TO: Interested Parties

FROM: Dale Rundquist, Compliance Project Manager

SUBJECT: CPV Sentinel Energy Project (07-AFC-3C)
Staff Analysis of Request for General Arrangement Refinements

On June 6, 2011, CPV Sentinel, LLC filed a petition with the California Energy Commission (Energy Commission) requesting to amend the Energy Commission's final Decision for the CPV Sentinel Energy Project (project) . Staff prepared an analysis of this proposed change, and a copy is enclosed for your information and review.

The project is an 850 MW peaking power plant located near Desert Hot Springs in unincorporated Riverside County The project was certified by the Energy Commission on December 1, 2010 and is currently under construction.

The requested facility changes include several changes to the location and/or heights of tanks and structures from those approved in 2010 Energy Commission Decision. These refinements are all within the 37-acre project site, and do not result in any additional disturbed areas beyond the previously evaluated site.

Energy Commission staff has reviewed the petition and assessed the impacts of this proposal on environmental quality, public health and safety, and proposes no revisions to existing conditions of certification. It is staff's opinion that the project will remain in compliance with applicable laws, ordinances, regulations, and standards and that the proposed modifications will not result in a significant adverse direct or cumulative impact to the environment (Title 20, California Code of Regulations, Section 1769).

The petition and staff's analysis have been posted on the Energy Commission's webpage at www.energy.ca.gov/sitingcases. The Energy Commission's Order (if approved) will also be posted on the webpage. Energy Commission staff intends to recommend approval of the petition at the September 21, 2011 Business Meeting of the Energy Commission. If you have comments on this proposed modification, please submit them to me at the address below prior to September 8, 2011

Dale Rundquist, Compliance Project Manager
California Energy Commission
1516 9th Street, MS-2000
Sacramento, CA 95814

Comments may be submitted by fax to (916) 654-3882, or by e-mail drundqui@energy.state.ca.us. If you have any questions, please contact me at (916) 651-2072.

For further information on how to participate in this proceeding, please contact the Energy Commission Public Adviser's Office, at (916) 654-4489, or toll free in California at (800) 822-6228, or by e-mail at publicadviser@energy.state.ca.us. News media inquiries should be directed to the Energy Commission Media Office at (916) 654-4989, or by e-mail at mediaoffice@energy.state.ca.us.

Mail List # 7240
Enclosures

CPV SENTINEL ENERGY PROJECT (07-AFC-3C)

Request for General Arrangement Refinements

AIR QUALITY
Tao Jiang, Ph.D., P.E.

INTRODUCTION

On June 6, 2011, the CPV Sentinel, LLC (CPV Sentinel) filed a petition with the California Energy Commission (Energy Commission) requesting to make some minor facility refinements to the CPV Sentinel Energy Project (CPVS or project). The 850-megawatt simple cycle project was certified by the Energy Commission on December 1, 2010. The power plant site encompasses 37 acres of land situated within unincorporated Riverside County, California.

The requested facility changes include several changes to the location and/or heights of tanks and structures from those approved in Energy Commission's Final Decision (Decision). These refinements are all within the 37-acre project site, and do not result in any additional disturbed areas beyond the previously evaluated site. Staff evaluated the proposed changes and found them consistent with all applicable laws, ordinances, regulations and standards (LORS). Therefore, these proposed changes do not result in any significant air quality impacts.

LAWS, ORDINANCES, REGULATIONS, AND STANDARDS (LORS) COMPLIANCE

At the time of certification, applicable laws, ordinances, regulations, and standards (LORS) were identified in the Final Staff Assessment (FSA). The recently-adopted federal short-term NO_2 standard was not evaluated because the project was not required to obtain a Prevention of Significant Deterioration (PSD) permit, which would have otherwise triggered evaluation of this new standard. Instead, the permitting requirements at the time the application were deemed to be complete defined the applicable LORS. The analysis of the general arrangement refinements would not change any LORS.

ANALYSIS

CPV Sentinel recently identified additional refinements to the general arrangement during detail project design. These refinements are listed as follows:

- The air inlet structures are larger and taller, and the turbine housing lengths are shorter for all eight units.
- The warehouse building located south of Unit 1 is relocated and attached to the operations building. The height of the control/warehouse building is reduced.

- The gas compressor area is shifted east and the height of the building is reduced.
- The control/electrical rooms for each combustion turbine unit are relocated. In previous design these rooms were located north of each unit's air inlet structure and orientated north-south. Now they are orientated east-west and located east of each unit's cooling tower and north of each unit's combustion turbine generator intercooler.
- The fire pump skid was reoriented from an east-west to a north-south direction. The fire pump stack was moved to south end of the skid.
- A wastewater collection tank is added north of the water storage tanks and immediately south of the wastewater treatment area.
- The raw water storage tank is moved further southeast to make room for the new wastewater collection tank.
- The demineralized water storage tank is relocated north due to the relocation of the portable demineralized trailer parking area.
- The two 40-foot-tall zero liquid discharge (ZLD) evaporator towers within the wastewater treatment area are replaced with one ZLD evaporator tower.

Construction Phase Impacts

The construction emissions and impacts for the previous design have been calculated and evaluated in the FSA and approved in the Decision. The modifications to the project will not result in an increase in the disturbed area or the change of the expected number, duration, or location of the construction equipment operations or emissions. Therefore, the previous estimated construction emissions and impacts can still accurately characterize the potential air quality impacts during the construction of the modified project. All staff conditions of certifications for construction in the Decision remain valid and must be implemented during the project construction.

Operation Phase Impacts

These minor refinements of the facility general arrangement will not result in any significant change to project emissions or impacts. Operation emission rates of all sources are the same as those presented in the FSA except for combustion turbine CO emissions, which would be reduced. The emission rates used in the FSA are based on the 6 ppm exhaust concentration during normal operations. The South Coast Air Quality Management District (SCAQMD) determined that the best available control technology (BACT) level is 4 ppm for CO. Although the new BACT requirement was included in the conditions of certifications, the emission estimates and modeling had not been updated to reflect this change. In addition, the changes of the locations and/or heights of tanks and structures will cause minor changes to the air pollution dispersion and downwind concentrations. Therefore a new air dispersion modeling analysis has been conducted by the facility owner to estimate the operation impacts of the modified project. The worst case results of the operation modeling analysis are summarized in

Air Quality Table 1. For NO_2 and CO, the results represent the maximum impacts during the startup.

Staff continues to believe that PM10 and PM2.5 emissions from operation would cause a significant impact because they will contribute to existing violations of ambient air quality standards. Therefore, staff continues to recommend the emissions be mitigated using feasible emission control measures proposed in the Decision. The direct impacts of NO_2, CO and SO_2 in conjunction with worst-case background conditions, would continue to not be significant because the operation would neither cause new violations or nor contribute to existing violations of the standards.

Air Quality Table 1
Project Maximum Operation Impacts ($\mu g/m^3$)

Pollutants	Avg. Period	Modeled Impacts	Background	Total Impact	Limiting Standard	Percent of Standard
NO_2	1-hr	110.85	174.8	285.65	339	84%
	Annual	0.46	24.5	24.96	57	44%
CO	1-hr	155.66	2,645	2800.66	23,000	12%
	8-hr	36.98	944.4	981.38	10,000	10%
PM10	24-hr	8.89	161	169.89	50	340%
	Annual	0.35	54.9	55.25	20	276%
PM2.5	24-hr	8.89	44.3	53.19	35	152%
	Annual	0.35	10.8	11.15	12	93%
SO_2	1-hr	6.8	62.9	69.7	655	11%
	3-hr	5.95	41.6	47.55	1300	4%
	24-hr	2.53	39.4	41.93	105	40%
	Annual	0.33	10.7	11.03	80	14%

Commissioning Phase Impacts

The commissioning phase was also remodeled by the facility owner and the maximum impacts in comparison with the one-hour NO_2 and CO standards and the 8-hour CO standard are listed in Air Quality Table 2. The data show that the emissions from initial commissioning will continue to not cause or contribute to an exceedance of the limiting ambient air quality standards.

Air Quality Table 2
Project Maximum Commissioning Impacts ($\mu g/m^3$)

Pollutants	Avg. Period	Modeled Impacts	Background	Total Impact	Limiting Standard	Percent of Standard
NO_2	1-hr	143.06	174.8	317.86	339	94%
CO	1-hr	324.32	2,645	2969.32	23,000	13%
	8-hr	162.72	944.4	1107.12	10,000	11%

CONCLUSIONS AND RECOMMENDATIONS

The requested project changes would conform with applicable Federal, State, and SCAQMD air quality laws, ordinances, regulations, and standards, and the modified project would not cause significant air quality impacts. The proposed conditions of certification in the Decision would remain unchanged and no new conditions would be required.

PROPOSED MODIFICATIONS TO CONDITIONS OF CERTIFICATION

Staff does not propose additions or modifications to the existing conditions of certification.

CPV SENTINEL ENERGY PROJECT (07-AFC-3C)

Request for General Arrangement Refinements

FACILITY DESIGN and NOISE

Shahab Khoshmashrab

INTRODUCTION

On June 6, 2011, the CPV Sentinel, LLC (CPV Sentinel) filed a petition with the California Energy Commission (Energy Commission) requesting to make some minor facility refinements to the CPV Sentinel Energy Project (CPVS or project). The 850-megawatt simple cycle project was certified by the Energy Commission on December 1, 2010. The power plant site encompasses 37 acres of land situated within unincorporated Riverside County, California.

The requested facility changes include several changes to the location and/or heights of tanks and structures from those approved in Energy Commission's Final Decision (Decision). These refinements are all within the 37-acre project site, and do not result in any additional disturbed areas beyond the previously evaluated site. Staff evaluated the proposed changes and found them consistent with all applicable laws, ordinances, regulations and standards (LORS). Therefore, these proposed changes do not result in any significant air quality impacts.

LAWS, ORDINANCES, REGULATIONS AND STANDARDS (LORS) COMPLIANCE

At the time of certification, all LORS applicable to Facility Design were identified in staff's Final Staff Assessment (FSA) and the Decision. Approval of the amendment would not require analysis of any new LORS.

ANALYSIS

CPV Sentinel recently identified additional refinements to the general arrangement during detail project design. These refinements are listed as follows:

- The air inlet structures are larger and taller, and the turbine housing lengths are shorter for all eight units.
- The warehouse building located south of Unit 1 is relocated and attached to the operations building. The height of the control/warehouse building is reduced.
- The gas compressor area is shifted east and the height of the building is reduced.
- The control/electrical rooms for each combustion turbine unit are relocated. In previous design these rooms were located north of each unit's air inlet structure

and orientated north-south. Now they are orientated east-west and located east of each unit's cooling tower and north of each unit's combustion turbine generator intercooler.

- The fire pump skid was reoriented from an east-west to a north-south direction. The fire pump stack was moved to south end of the skid.
- A wastewater collection tank is added north of the water storage tanks and immediately south of the wastewater treatment area.
- The raw water storage tank is moved further southeast to make room for the new wastewater collection tank.
- The demineralized water storage tank is relocated north due to the relocation of the portable demineralized trailer parking area.
- The two 40-foot-tall zero liquid discharge (ZLD) evaporator towers within the wastewater treatment area are replaced with one ZLD evaporator tower.

CONCLUSION AND RECOMMENDATION

Based on review of the amendment, there is no possibility that the modifications will cause significant impacts in the technical areas of Facility Design and Noise. The project will remain in compliance with the engineering LORS and will not increase noise levels at the projects nearest noise-sensitive receptors. All conditions of certification outlined in the original Decision will remain unchanged and apply to this amendment.

PROPOSED MODIFICATIONS TO CONDITIONS OF CERTIFICATION

Staff does not propose additions or modifications to the existing conditions of certification.

CPV SENTINEL ENERGY PROJECT (07-AFC-3C)

Request for General Arrangement Refinements

VISUAL RESOURCES

Mark Hamblin

INTRODUCTION

On June 6, 2011, the CPV Sentinel, LLC (CPV Sentinel) filed a petition with the California Energy Commission (Energy Commission) requesting to make some minor facility refinements to the CPV Sentinel Energy Project (CPVS or project). The 850-megawatt simple cycle project was certified by the Energy Commission on December 1, 2010. The power plant site encompasses 37 acres of land situated within unincorporated Riverside County, California.

The requested facility changes include several changes to the location and/or heights of tanks and structures from those approved in Energy Commission's Final Decision (Decision). These refinements are all within the 37-acre project site, and do not result in any additional disturbed areas beyond the previously evaluated site. Staff evaluated the proposed changes and found them consistent with all applicable laws, ordinances, regulations and standards (LORS). Therefore, these proposed changes do not result in any significant air quality impacts.

LAWS, ORDINANCES, REGULATIONS AND STANDARDS (LORS) COMPLIANCE

At the time of Certification, LORS applicable to Visual Resources were identified in staff's Final Staff Assessment (FSA) and Commission Decision. Approval of the amendment would not require analysis of any new LORS.

ANALYSIS

CPV Sentinel recently identified additional refinements to the general arrangement during detail project design. These refinements are listed as follows:

- The air inlet structures are larger and taller, and the turbine housing lengths are shorter for all eight units.
- The warehouse building located south of Unit 1 is relocated and attached to the operations building. The height of the control/warehouse building is reduced.
- The gas compressor area is shifted east and the height of the building is reduced.
- The control/electrical rooms for each combustion turbine unit are relocated. In previous design these rooms were located north of each unit's air inlet structure and orientated north-south. Now they are orientated east-west and located east

of each unit's cooling tower and north of each unit's combustion turbine generator intercooler.

- The fire pump skid was reoriented from an east-west to a north-south direction. The fire pump stack was moved to south end of the skid.
- A wastewater collection tank is added north of the water storage tanks and immediately south of the wastewater treatment area.
- The raw water storage tank is moved further southeast to make room for the new wastewater collection tank.
- The demineralized water storage tank is relocated north due to the relocation of the portable demineralized trailer parking area.
- The two 40-foot-tall zero liquid discharge (ZLD) evaporator towers within the wastewater treatment area are replaced with one ZLD evaporator tower.

CONCLUSION AND RECOMMENDATION

The majority of the refinements to the general arrangement would not be visible, or would have a minimal visual modification at one or more of the five key observation points (KOPs) from what was simulated and presented for the Decision. Potential visual impacts by the revisions to the general arrangement at all five KOPs are expected to remain less than significant with implementation of conditions of certification set forth in the Decision.

PROPOSED MODIFICATIONS TO CONDITIONS OF CERTIFICATION

Staff does not propose additions or modifications to the existing conditions of certification.