

# Memorandum

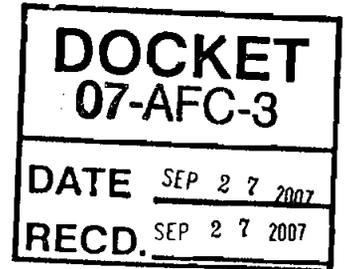
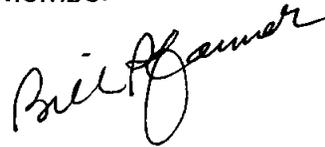
Date: September 27, 2007

Telephone: (916) 654-4206

File: 07-AFC-3

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Chairman Jackalyne Pfannenstiel, Associate Member

From: California Energy Commission - Bill Pfanner  
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Sacramento, CA 95814-5512



Subject: **CPV SENTINEL ENERGY PROJECT (07-AFC-3)**  
**ISSUES IDENTIFICATION REPORT**

Attached is the staff's Issues Identification Report for the CPV Sentinel Energy Project (07-AFC-3). This report serves as a preliminary scoping document that identifies the issues that the California Energy Commission staff believes will require careful attention and consideration. Energy Commission staff will present the Issues Identification Report at the Informational Hearing and Site Visit to be held on October 5, 2007.

This report also provides a proposed schedule pursuant to the 12-month Application for Certification process.

cc: Docket (07-AFC-3)  
Proof of Service List

Attachment

PROOF OF SERVICE (REVISED 8/29/07) FILED WITH  
ORIGINAL MAILED FROM SACRAMENTO ON 9/27/07 TP

# **CPV SENTINEL ENERGY PROJECT**

(07-AFC-3)

September 27, 2007

## **ISSUES IDENTIFICATION REPORT**

**CALIFORNIA ENERGY COMMISSION**

**Energy Facilities Siting Division**

**ISSUES IDENTIFICATION REPORT  
CPV SENTINEL ENERGY PROJECT  
(07-AFC-3)**

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# ISSUES IDENTIFICATION REPORT

California Energy Commission Staff

This report has been prepared by the California Energy Commission staff to inform the CPV Sentinel Committee and all interested parties of the potential issues that have been identified in the case thus far. These issues have been identified as a result of staff's discussions with federal, state, and local agencies, and our review of the CPV Sentinel, LLC Application for Certification, Docket Number 07-AFC-3. The Issues Identification Report contains a project description, summary of potentially significant environmental issues, and a discussion of the proposed project schedule. The staff will address issues and progress towards their resolution in periodic status reports to the Committee.

## PROJECT DESCRIPTION

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On June 25, 2007, CPV Sentinel, LLC, (CPV Sentinel) submitted an Application for Certification (AFC) to the California Energy Commission to construct and operate a simple-cycle (peaking) power plant. The CPV Sentinel project (Sentinel) is a proposed nominally rated 850 megawatt (MW) electrical generating facility that would be located on 37 acres of land situated within unincorporated Riverside County, California, adjacent to the Palm Springs northern city limits. The proposed project consists of eight natural gas-fired General Electric (GE) LMS100 combustion turbine generators (CTGs) operating in simple-cycle mode. CPV Sentinel has a power purchase agreement with Southern California Edison (SCE) for five of the eight units as a result of a competitive Request For Offer (RFO) process, and anticipates securing a long-term agreement to sell the capacity, energy, and ancillary services of the remaining three units to one or more of the load-serving entities. The project will supply quick-start peaking capacity, energy, and ancillary services into the California Independent System Operator's (CAISO) Los Angeles Basin Local Capacity Requirement Area. The CAISO has identified this region as one needing additional peaking capacity to meet resource adequacy requirements and ensure grid reliability.

The proposed project site is located approximately 1.3 miles east of State Route (SR) 62 (also referred to as Twentynine Palms Highway), 1.7 miles north of Interstate 10 (I-10), and 1.3 miles west of Indian Avenue. Powerline Roads North and South run along the south side of the property. Access to the site will be available from Dillon Road north onto the proposed access road to the project site. Access to Dillon Road is from the Dillon Road exit off SR 62 and from the Indian Avenue exit off the I-10.

The main project features will consist of a 37-acre power plant site, 14-acre construction laydown area, 3,250 feet of new transmission lines (in a configuration that follows property lines), and 2.6 miles of new natural gas pipeline. The power plant, transmission lines, and portions of the gas line and construction laydown area will be located within unincorporated Riverside County. Portions of the construction laydown area and portions of the proposed gas line route will be located within the city of Palm Springs. The site is situated approximately 8 miles northwest of the center of Palm Springs and 4.5 miles west of the center of Desert Hot Springs.

The 37-acre proposed power plant site is currently vacant, with the exception of an unoccupied dwelling unit at the southeastern corner of the site. The surrounding area is primarily characterized by industrial use with extensive development of wind energy turbines and electricity transmission infrastructure. Southern California Edison's (SCE) Devers substation is approximately 700 feet to the west of the proposed project site, and the 135 MW Indigo Energy Facility is approximately 1.8 miles to the southeast. The nearest current residence to the power plant site is approximately 330 feet to the east. CPV Sentinel has an option to acquire this property. The project site was selected to optimize nearby access to a natural gas fuel supply line and tie-in location to the SCE transmission system at the Devers substation, as well as to minimize environmental impacts.

The proposed power plant site is zoned W 2 (Controlled Development Area) and designated as PF (Public Facilities) in the Riverside County General Plan. Electrical power-generating facilities are permitted uses within this zoning district and General Plan designation.

Electricity generated by the proposed project will be delivered via a 3,250-foot new transmission line connecting the project switchyard to the Devers substation at the 220 kilovolt (kV) bus. It is currently anticipated that SCE will execute contracts with CPV Sentinel under which SCE will be responsible for final design, engineering, construction, operation, and maintenance of the new transmission line to the Devers substation. SCE would need to obtain a Certificate of Public Convenience and Necessity (CPCN) from the California Public Utilities Commission (CPUC) for the transmission line. However, the environmental review and permitting of the new transmission line are part of the Energy Commission proceeding.

Fuel will be supplied to the Sentinel project by a 2.6-mile long extension of a 24 inch-diameter natural gas line extending from the Indigo Energy Facility which is owned by CPV Sentinel.

CPV Sentinel has performed a Best Available Control Technology Evaluation as required by the South Coast Air Quality Management District (SCAQMD) for the emission of specific air pollutants: nitrogen oxide (NO<sub>x</sub>), sulfur oxides (SO<sub>x</sub>), carbon monoxide (CO), volatile organic compounds (VOC), particulate matter (PM<sub>10</sub>), and ammonia from the Sentinel project. The combustion turbines will be equipped with water injection for the combustion chambers and selective catalytic reduction (SCR) with ammonia injection for the exhaust stack to control NO<sub>x</sub> emissions (2.5 ppm @ 15 percent O<sub>2</sub>), an oxidation catalyst for the exhaust stack to control CO and VOC emissions (6 ppm and 2 ppm respectively @ 15 percent O<sub>2</sub>), restricted to use only pipeline grade natural gas to control PM<sub>10</sub> and SO<sub>x</sub> emissions and finally ammonia slip emissions from the exhaust stack will be controlled to a level of 5 ppm @ 15percent O<sub>2</sub> through careful operational practices. The air pollution emissions from the Emergency Firewater Pump (240 BHP) and the Black Start (2,206 BHP) engines will be controlled by using U.S. Environmental Protection Agency Tier II diesel engines fired on California Air Resources Board Ultra Low Sulfur Diesel Fuel.

CPV Sentinel is required to provide emission offsets for maximum potential increases in air emissions of nonattainment pollutants in excess of specified thresholds that would result from the operation of the proposed facility. Based on expected project emission levels, the proposed project will be required to supply offsets for NO<sub>x</sub>, PM<sub>10</sub>, SO<sub>2</sub> and VOCs. CO offsets will not be required because of the current attainment designation of the SCAQMD for this pollutant.

Under SCAQMD rules, the proposed project offset requirements for all pollutants other than NO<sub>x</sub> will be determined based on the maximum expected monthly emissions (in pounds) divided by 30, i.e., essentially the average day of the worst-case month. The offset ratio for emission reduction credits (ERCs) is 1.2 to 1.0, and 1.0 to 1.0 for Priority Reserve Credits (PRCs). NO<sub>x</sub> RECLAIM credit requirements are calculated based on the annual project emissions of this pollutant using a 1 to 1 ratio. Because the proposed project site is located in the Salton Sea Air Basin portion of the SCAQMD, it is not automatically a NO<sub>x</sub> RECLAIM Trading Credits (RTCs) source, but may elect to opt into the program for that pollutant.

The proposed project will use a cooling tower for LMS100 turbine equipment cooling and oil cooling. The project proposes using high quality groundwater from onsite wells for power plant cooling. Peak water usage is expected to be about 1,100 acre-feet per year (AFY) with an average use of 550 AFY

The applicant is proposing that groundwater used for power plant operations will be provided by the Mission Springs Water District (MSWD) through a water banking program involving reclaimed wastewater. Specifically, the AFC states that reclaimed water would be supplied by the MSWD's Horton Wastewater Treatment Plant (WWTP), located approximately five miles from the project site. Wastewater from the Horton WWTP is currently treated to a secondary level, but the MSWD plans to upgrade the treatment system to a tertiary level. The expansion of the wastewater treatment plant is an independent project already planned by the MSWD, which will conduct its own environmental review of the upgrade. The applicant has proposed that reclaimed water will be sent to existing percolation ponds located adjacent to the Horton WWTP, where it will percolate into the underlying Sub-basin and be banked for later use by the proposed project. As stated in the AFC, the applicant is proposing that the Horton WWTP would supply, on average, 1,500 acre-feet per year (afy) of reclaimed water. Of this, the proposed project operations would use a maximum of 1,100 afy. The project proposes to access its banked water supply via onsite or nearby wells that overlie the same Basin. The proposed project will also include installing a 3,200-foot long potable water line extension from an existing municipal water line running along Dillon Road.

The proposed project will use a zero liquid discharge system, comprised of membrane-based wastewater treatment processes (microfiltration and reverse osmosis) coupled with a crystallizer system. This process will result in zero liquid wastewater discharge from the site. The residual salt cake will be tested and disposed in an appropriate waste disposal site.

## POTENTIAL MAJOR ISSUES

This portion of the report contains a discussion of the potential major issues the Energy Commission staff has identified to date. The Committee should be aware that this report might not include all of the significant issues that may arise during the case. Discovery is not yet complete, and other parties have not had an opportunity to identify their concerns. The identification of the potential issues contained in this report is based on comments of other government agencies received to date and on staff's judgment of whether any of the following circumstances will occur:

- Potential significant impacts which may be difficult to mitigate;
- Potential areas of noncompliance with applicable laws, ordinances, regulations or standards (LORS);
- Areas of conflict between the parties; or
- Areas where resolution may be difficult or may affect the schedule.

The following table lists all the subject areas evaluated and notes those areas where significant issues have been identified. Even though an area is identified as having no potential issues, it does not mean that an issue will not arise related to the subject area.

Disagreements regarding the appropriate conditions of certification may arise between staff and applicant that will require discussion at workshops or even subsequent hearings.

| Major Issue | DRs | Subject Area                            | Major Issue | DRs | Subject Area               |
|-------------|-----|---|-------------|-----|----------------------------|
|             |     |   | No          |     | Noise and Vibration        |
| No          |     | Biological Resources                    | No          |     | Paleontological Resources  |
| No          | Yes | Cultural Resources                      | No          |     | Public Health              |
| No          |     | Efficiency and Reliability              | No          | Yes | Socioeconomics             |
| No          |     | Electromagnetic Fields & Health Effects |             |     |                            |
| No          |     | Facility Design                         | No          |     | Traffic and Transportation |
| No          |     | Geological Resources                    | No          |     | Transmission Line Safety   |
| No          |     | Hazardous Materials                     | No          | Yes | Transmission System Design |
| No          |     | Worker Safety and Fire Protection       | No          | Yes | Visual Resources           |
| No          | Yes | Land Use                                | No          |     | Waste Management           |
| No          |     | Project Overview                        | No          |     | Alternatives               |

This report does not limit the scope of staff's analysis throughout this proceeding, but acts to aid in the identification and analysis of potentially significant issues that the Sentinel proposal poses. Staff is preparing data requests (DRs) in the technical areas of Air Quality, Cultural Resources, Land Use, Socioeconomics, Soil and Water Resources, Transmission Systems Engineering, and Visual Resources. The following discussion summarizes issues, identifies the parties needed to resolve the issue, and outlines a process for achieving resolution.

## **AIR QUALITY**

### **BACKGROUND AND CRITICAL ISSUE**

The CPV Sentinel project faces significant challenges in securing adequate criteria air pollutant mitigation for the proposed power plant project. The project is located in the South Coast Air Quality Management District (SCAQMD) where emission reduction credits (ERCs) and RECLAIM Trading Credits (RTCs) are scarce. Since CPV Sentinel has not yet purchased sufficient ERCs (for VOC, SOx or PM10 emissions) or RTCs (for NOx emissions) necessary to mitigate the project's impacts, it will need to rely on SCAQMD rule 1309.1 to secure the balance of the mitigation (for SOx and PM10 emissions) for this project. Staff presents a summary of the most significant issues below and will be issuing data requests addressing these and other matters.

### ***SCAQMD RULE 1309.1 (PRIORITY RESERVE)***

Under the current requirements for Rule 1309.1, CPV Sentinel might not be eligible to access the SCAQMD Priority Reserve. Rule 1309.1 includes a cancer risk limit, a NOx and PM10 emission rate limit as a prerequisite, among other requirements, for accessing the Priority Reserve. The CPV Sentinel project may be in excess of these limits and thus not be permitted access to the Priority Reserve. Staff is currently working with the SCAQMD and CPV Sentinel to better understand what evidence or modifications might be necessary for the proposed project to demonstrate compliance.

### ***NITROGEN OXIDES (NOx) MITIGATION & THE SCAQMD RECLAIM PROGRAM***

The project is required to participate in the SCAQMD RECLAIM program for NOx (Regulation XX). Based on the Energy Commission Decision for the Inland Empire Energy Center Project (01-AFC-17), staff will recommend that CPV Sentinel will need to provide proof that it has obtained sufficient NOx RECLAIM trading credits (RTCs) for the first year of operation through either option contracts or outright ownership, by the time of the Evidentiary Hearings. CPV Sentinel has not yet obtained sufficient NOx RTCs either through option contracts or outright ownership nor provided a schedule for obtaining these offsets. Staff will issue data requests to ensure this information is obtained prior to publication of the Preliminary Staff Assessment (PSA).

### ***VOLATILE ORGANIC COMPOUNDS (VOC)***

Based on the offsetting requirements of SCAQMD Regulation XIII, the applicant must offset the project's VOC emissions with ERCs. The applicant has not yet obtained sufficient VOC ERCs either through option contracts or outright ownership nor provided a schedule for obtaining these offsets. Staff will issue data requests to ensure this information is obtained prior to publication of the PSA.

## **WATER AND SOIL RESOURCES**

### **BACKGROUND AND CRITICAL ISSUE**

The project proposes using high quality groundwater from onsite wells for power plant cooling. Peak water usage is expected to be about 1,100 acre-feet per year (AFY) with an average use of 550 AFY. The groundwater sub-basin the project will be drawing

water from is in a state of overdraft by 9,000 to 10,000 AFY, and requires constant replenishment. The Applicant proposes mitigating the use of the groundwater by purchasing recycled water for groundwater recharge and by paying for State Water Project (SWP) water through the Desert Water Agency. However, all water sources are currently earmarked for groundwater replenishment, and SWP water available to recharge the sub-basin is likely to be curtailed by up to 35% due to a recent court ruling<sup>1</sup>. Additional analysis is needed; however, the proposed use of groundwater may not conform with the Energy Commission's water policy, and may create significant adverse environmental impacts.

The Energy Commission staff are working with water districts/agencies and the applicant to evaluate alternative water sources and alternative cooling technologies (i.e., air-cooling) to resolve these issues.

## **SCHEDULING**

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Following is staff's proposed 12-month schedule for key events of the project. Meeting the proposed schedule will depend on: the applicant's timely response to staff's data requests; the timing of the SCAQMD's filing of the Determination of Compliance; determinations by other local, state and federal agencies; and other factors not yet known. The SCAQMD will be required to provide a Preliminary Determination of Compliance (PDOC) and a Final Determination of Compliance (FDOC). Prior to the publication of the Preliminary Staff Assessment (PSA) staff normally requires a PDOC from the air district, and the FDOC before it publishes the Final Staff Assessment.

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<sup>1</sup> U.S. District Court, Eastern District of California, August 31, 2007

## **PROPOSED SCHEDULE**

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### **CPV SENTINEL ENERGY PROJECT (07-AFC-3)**

| <b>EVENT</b>   | <b>DATE</b> |
|--|-------------|
| Applicant files Application for Certification (AFC)  | 6/25/07     |
| Executive Director's recommendation on data adequacy   | 8/21/07     |
| Decision on data adequacy at the Commission business meeting   | 8/29/07     |
| Staff files Issue Identification Report  | 9/27/07     |
| Staff files data requests  | 10/1/07     |
| Information hearing and site visit   | 10/5/07     |
| Applicant provides data responses  | 11/1/07     |
| Data response and issue resolution workshop  | 11/15/07    |
| Local, state and federal agency draft determinations (120 days)  | 12/27/07    |
| SCAQMD's Preliminary Determination of Compliance (120 days)  | 12/27/07    |
| Preliminary Staff Assessment (PSA) filed   | 1/25/08     |
| Preliminary Staff Assessment workshop  | 2/20/08     |
| Local, state and federal agency final determinations & SCAQMD Final Determination of Compliance (FDOC) | 2/20/08     |
| Final Staff Assessment filed   | 3/26/08     |
| Evidentiary hearings*  | 4/15/08*    |
| Committee files proposed decision*   | 6/30/08*    |
| Hearing on the proposed decision*  | 7/16/08*    |
| Committee files revised proposed decision*   | 8/13/08*    |
| Commission Decision  | 8/28/08*    |

\* The assigned Committee will determine the dates for these events

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE  
STATE OF CALIFORNIA

APPLICATION FOR CERTIFICATION  
FOR THE **CPV SENTINEL ENERGY  
PROJECT**  
**Power Plant Licensing Case**

**Docket No. 07-AFC-3**  
**PROOF OF SERVICE**  
(Established 8/29/07)

**INSTRUCTIONS:** All parties shall 1) send an original signed document plus 12 copies OR 2) mail one original signed copy AND e-mail the document to the web address below, AND 3) all parties shall also send a printed OR electronic copy of the documents that shall include a proof of service declaration to each of the individuals on the proof of service:

CALIFORNIA ENERGY COMMISSION  
Attn: Docket No. 07-AFC-3  
1516 Ninth Street, MS-4  
Sacramento, CA 95814-5512  
[docket@energy.state.ca.us](mailto:docket@energy.state.ca.us)

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**INTERVENORS**

None to date

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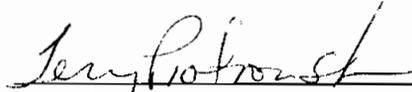
**DECLARATION OF SERVICE**

I, Terry Piotrowski, declare that on September 27, 2007, I deposited copies of the attached Issues Identification Report in the United States mail at Sacramento, California with first-class postage thereon fully prepaid and addressed to those identified on the Proof of Service list above.

**OR**

Transmission via electronic mail was consistent with the requirements of California Code of Regulations, title 20, sections 1209, 1209.5, and 1210. All electronic copies were sent to all those identified on the Proof of Service list above.

I declare under penalty of perjury that the foregoing is true and correct.



Terry Piotrowski  
Siting Office