

Memorandum

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Date: September 13, 2006
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To: Jackalyne Pfannenstiel, Chairman and Presiding Member
Jeffrey Byron, Commissioner and Associate Member

From: California Energy Commission - *Robert Worl*
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Subject: **HIGHGROVE PROJECT (06-AFC-2) – ISSUES IDENTIFICATION REPORT**

Attached is staff's Issues Identification Report. This report serves as a preliminary scoping document of the issues the Energy Commission staff believes will require careful attention and consideration. However, this report may not include all the significant issues that may arise during the case, as discovery is not yet complete, and other parties have not had an opportunity to identify their concerns. Energy Commission staff will be prepared to present the Issues Identification Report at the Informational Hearing on September 19, 2006.

Attachment

cc: Proof of Service List
Docket

**PROOF OF SERVICE (REVISED _____) FILED WITH
ORIGINAL MAILED FROM SACRAMENTO ON 9/13/06**

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Issues Identification Report

Highgrove Project (06-AFC-2)

September 2006

CALIFORNIA ENERGY COMMISSION

Energy Facility Siting Division

**Robert Worl
Project Manager**

ISSUES IDENTIFICATION REPORT

HIGHGROVE PROJECT

(06-AFC-2)

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PURPOSE OF THE REPORT

This report has been prepared by the California Energy Commission staff to inform the Committee and all interested parties of the potential issues that have been identified in the case thus far. Issues are identified as a result of discussions with federal, state, and local agencies, and our review of the Highgrove Project Application for Certification (AFC), Docket Number 06-AFC-2. This Issues Identification Report contains a project description, summary of potentially major environmental issues, and issues related to conformance with laws, ordinances, regulations and standards (LORS). A proposed project schedule based on our current understanding of the issues is also provided. Additionally, the staff proposes to address the status of potential issues and progress towards their resolution in periodic status reports to the Committee.

PROJECT DESCRIPTION

AES Highgrove, LLC (AES), proposes to construct, own and operate the Highgrove Project (HP) in the City of Grand Terrace, San Bernardino County. The HP would be a 300 megawatt natural gas-fired simple-cycle power project designed to provide electricity to the grid during peak demand periods, usually hot summer day-time hours.

The project site is located at 12700 Taylor Street, Grand Terrace, San Bernardino County. Currently the site is zoned M-2 (Industrial), and in February and April of 2005, the Grand Terrace Planning Commission and the City Council voted, respectively, to approve power generation facilities as an authorized use within the M-2 zone (AES 2006a, Vol. 2, section 8.4a). The site of the HP is the 9.8 acre northern portion of a larger property that also contains the former Southern California Edison (SCE) Highgrove Generating Station which has been shut down since AES acquired the facility in 2001. The proposed HP site once held fuel storage tanks and is below surface level by approximately 10 feet. An 8-foot high surrounding berm that originally surrounded the tanks will be removed during construction of the HP.

The 9.8-acre portion of the site proposed for construction of the HP is currently owned by the City of Grand Terrace Redevelopment Agency (RDA). The RDA and AES plan to exchange this site for a parcel of the same size on the south of the larger AES site, or the RDA has the option to sell the site to AES. The decision to exchange properties or to sell the site outright will be made by the RDA upon the completion of the planned demolition of the Highgrove Generating Station by AES.

The proposed HP site and the Highgrove Generating Station property is bounded by State Highway 215 and the Burlington Northern and Santa Fe (BNSF) railroad on the west, by Taylor Street, the Union Pacific Railroad (UPRR), an agricultural field and a former chrome plating site on the east, and an industrial storage area to the north. South of the site is the decommissioned Highgrove Generating Station and Cage Park, once a private park and recreation area that is now closed. The Colton Joint Unified School District plans to construct a new high school to the east of Taylor Road and across from the Highgrove Generating Station site. Primary access to the HP site will be provided from the east via Taylor Road. A secondary access route is planned on the north side of the site from a proposed street, Adventure Way.

AES proposes to use three General Electric (GE) LMS100 combustion turbine generators (CTGs) capable of generating 100 megawatts (MW) each, for a total of 300 MW of electrical output. Emissions from each of the three turbines will be controlled through use of Lowest Achievable Emissions Rate and Best Available Control Technology (LAER/BACT) for the turbines and the cooling towers, selective catalytic reduction (SCR) units, and water injection during combustion. The applicant proposes using the South Coast Air Quality Management District's (SCAQMD) Priority Reserve Program to acquire emission offsets for the project.

Natural gas will be delivered to the site via a new 7.2 mile-long, 12-inch diameter, underground pipeline that will extend southward into the City of Riverside ultimately connecting to the Southern California Gas Company's (SoCalGas) natural gas Transmission Line 2001. The natural gas will flow through gas scrubber/filtering equipment, gas compressors, a gas pressure control station and a flow-metering station prior to entering the combustion turbines.

Water for CTG evaporative cooling and water injection, process system makeup, and landscape irrigation will be provided by two of four existing onsite wells. At this time no alternative source of sufficient recycled water has been identified by AES. Water for all uses is expected to be approximately 415 acre-feet per year (afy) based upon the 30 percent capacity (approximately 2920 hours annually) projected by AES for the HP. Water for cooling is estimated to be 209 afy of that total. Plant process water will be stored in a 350,000 gallon aboveground raw water storage tank. Water for the cooling tower basins will be provided from the storage tank and will be chemically treated to reduce scaling, corrosion and biofouling. Water for emissions control, primarily oxides of nitrogen or NO_x, will be produced through onsite water treatment prior to project use. Treatment equipment will include a reverse osmosis (RO) and ion exchange system producing demineralized water that will be stored in a 100,000-gallon demineralized water storage tank.

Potable water for plant service use will be supplied by the Riverside Highland Water Company through a 1,300-foot water line connecting the plant to the water main in Main Street.

By recycling plant process water on-site through up to 6.5 cycles of concentration, discharge of non-reclaimable water is expected to be approximately 42 afy. The applicant has proposed daily truck-hauling of this non-reclaimable wastewater from the site for delivery to the Santa Ana Regional Interceptor (SARI) brine pipeline system. Once delivered to the SARI the wastewater will be routed to the Orange County Sanitation District's Reclamation Plant system and then discharged to the Pacific Ocean through an ocean outfall system. Plant sanitary wastewater will be routed to the city sanitary sewer system.

The HP will connect to Southern California Edison's (SCE) electrical transmission system at the Highgrove Substation, which is approximately 600 feet south of the project site, adjacent to the decommissioned Highgrove Generating Station.

Construction of the generating facility, from site preparation and grading to commercial operation is expected to take approximately 15 months.

POTENTIAL MAJOR ISSUES

This portion of the report contains a discussion of the potential major issues the Energy Commission staff has identified to date. This report may not include all the significant issues that may arise during the case, as 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 was based on Energy Commission staff's judgment of whether any of the following circumstances may occur:

- Significant impacts resulting from the project that may be difficult to mitigate;
- The potential non-compliance with applicable laws, ordinances, regulations, or standards (LORS); or
- Potential conflicts arising between the parties about the appropriate findings or conditions of certification for the Commission decision that could result in a delay to the schedule.

The following table lists all the subject areas evaluated and notes those areas where potential major issues have been identified and areas where data requests are being prepared. Even though an area may be identified as having no potential major issues in this report, it does not mean that an issue may not arise during the discovery and analysis phases of the process.

Subject Area	MAJOR ISSUES	Data Requests
Air Quality	Yes	Yes
Alternatives	No	No
Biological Resources	No	Yes
Cultural Resources	No	Yes
Facility Design	No	No
Geology / Paleontology Resources	No	No
Hazardous Materials Management	No	Yes
Land Use	Yes	Yes
Noise	No	No
Project Description	No	No
Public Health	No	No
Reliability / Efficiency	No	No
Socioeconomics	No	Yes
Soil & Water Resources	Yes	Yes
Traffic & Transportation	No	No
Transmission Line Safety & Nuisance	No	No
Transmission System Engineering	No	No
Visual Resources/Visible Plume	Yes	Yes
Waste Management	Yes	Yes
Worker Safety and Fire Protection	No	No

TECHNICAL ISSUES

Potential Issues have been identified that could affect the project schedule or may require additional effort to resolve. These areas of concern are discussed more fully below and include Air Quality, Land Use, Soil and Water Resources, Visual Resources/Visible Plume, and Waste Management.

AIR QUALITY

AES faces significant challenges in securing adequate criteria air pollutant mitigation for the power plant project. The project is located in the South Coast Air Quality Management District (District or SCAQMD) where emission reduction credits (ERCs) and RECLAIM Trading Credits (RTCs) are scarce and expensive. Since AES has not yet purchased sufficient ERCs or RTCs necessary for project mitigation, they may ultimately rely on a recent District rulemaking process to secure the balance of the mitigation for this project.

Staff is working with AES and the District to fully understand the rule changes. The most significant issues which will be the subject of staff data requests, are summarized below.

District Rule 1309.1 (Priority Reserve) Revision

AES may ultimately rely on the District's revised Priority Reserve program (District Rule 1309.1) to mitigate PM10 (particulate matter less than 10 microns), possibly SOx (sulfur oxides), and CO (carbon monoxide) project emissions. For the purpose of revising District Rule 1309.1, the District initiated a rulemaking process in December 2005,

issued a Notice of Preparation and Initial Study in February 2006, issued an Environmental Assessment (EA) on June 30, 2006 and conducted a hearing before the SCAQMD Governing Board on September 8, 2006. The Board adopted the revisions to the rule, and will soon publish the final revisions to that program. Review of the final adopted rule and providing a complete air mitigation package including the PM2.5 (fine particulate matter 2.5 microns or less) emissions on a timely basis may impact the schedule for the project.

Fine Particulate Matter (PM2.5) Mitigation

The District is classified as non-attainment for both the State and federal PM2.5 standards. The District is in the process of preparing a State Implementation Plan (SIP), which when approved by the California Air Resources Board and the U.S. Environmental Protection Agency (USEPA), would result in the preparation of revised New Source Review rules that would likely require offsetting of PM2.5 emissions. The timeline for the District to address PM2.5 in their rules is well beyond the schedule for the proposed project. However, staff has a responsibility under the California Environmental Quality Act (CEQA) to address the PM2.5 issue since there are current ambient air quality standards for this pollutant and the air basin is classified as non-attainment. In the AFC, AES discusses the project's PM2.5 impacts; however, they have not proposed any mitigation specifically for PM2.5. Staff is evaluating whether PM10 credits from the Priority Reserve, if obtained, would be adequate for the required PM2.5 mitigation.

Carbon Monoxide (CO) Mitigation & District CO Redesignation

AES proposes three possible CO mitigation strategies. Staff believes that each strategy raises timing and implementation issues. The District has applied to USEPA for redesignation as attainment of the federal CO standards. AES notes that if the District is redesignated as attainment by the USEPA, the District would not require CO offsets. Currently, the USEPA expects the redesignation to be completed in late December of 2006. However, federal redesignation can be a multi-year process and might not occur in the time frame of this licensing proceeding. Second, AES proposes to purchase CO ERCs on the open market, where they are in short supply. Third, AES identified the Priority Reserve as an option for CO credits. At this time AES has not yet obtained sufficient CO ERCs through option contracts, the new Priority Reserve, or outright ownership, and has not provided a schedule for obtaining these offsets.

Nitrogen Oxides (NOx) Mitigation & the District RECLAIM Program

The project is required to participate in the District RECLAIM program for NOx (District Regulation XX). As in the Inland Empire Energy Center Project (01-AFC-17), AES will need to provide proof that they have 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. AES has not yet obtained sufficient NOx RTCs either through option contracts or outright ownership, nor provided a schedule for obtaining these offsets.

Volatile Organic Compound (VOC) Mitigation

Based on the offsetting requirements of District Regulation XIII, the applicant must offset the project's VOC emissions with ERCs. Based on the most current proposed revisions to the District Priority Reserve Rule (Rule 1309.1), VOC offsets from the Priority Reserve program will not be available for this project. The applicant has not yet obtained sufficient VOC ERCs either through option contracts or outright ownership, nor provided a schedule for obtaining these offsets.

LAND USE

Although the proposed power plant conforms to the City of Grand Terrace's Zoning Ordinance as it applies to the site, a proposed high school across Taylor Street to the southeast from the proposed HP raises the potential for land use incompatibility issues. On August 1, 2006, and on September 7, 2006, Commission staff discussed with the California Department of Education (CDE) staff whether the School Site Report had been prepared and issued for the proposed school. CDE are awaiting final comments from other state agencies prior to releasing the report. The report will indicate whether there are potential safety issues that need to be addressed before final approval of the school by CDE.

The CDE has established standards under Title 5, California Code of Regulations that pertain to new or proposed schools that are within 1,500 feet of above-ground water storage or fuel storage tanks or underground pipelines that can pose a safety hazard, and 350 feet from 500-550 kV lines triggering a requirement for risk assessment and consideration of mitigation measures.

Areas of CDE concern may include traffic, toxic substances, powerline locations, hazardous pipeline (gas pipeline) locations, hazardous material deliveries, and air quality/public health issues. Though the CDE has not released the report, the school district has indicated that school construction is scheduled to begin by January of 2007.

Staff is working closely with CDE and the applicant to resolve some of the issues addressed above by means of data requests to the applicant and continued telephone conversations with CDE.

SOIL AND WATER

On a daily basis during operations, the HP proposes to haul wastewater by truck to the SARI brine line which is located approximately 5 miles from the site. During operations (projected to be 30 percent capacity) the HP would produce up to 103 gallons per minute, 42 acre-feet per year, of non-reclaimable wastewater. This water would be stored temporarily in on-site tanks and then trucked to the SARI Line. Staff calculated that this amount of water would require between eleven and nineteen truck trips per day, based on an 8,000 gallon capacity tanker truck, to transport wastewater offsite. Given the relatively short distance to the SARI Line disposal location, approximately 5 miles, it appears that an adequate environmental and economic analysis was not conducted comparing the relative merit(s) of alternative wastewater disposal methods including zero liquid discharge systems (ZLD), piping to the SARI Line, and the approach that was proposed in the application (i.e. truck-hauling the wastewater to a

disposal facility). In addition, the volume, length of time, and specifics on the storage tanks, are not presented in the AFC. Staff will request additional information from the applicant to conduct its analysis, and will work with the applicant to resolve this issue.

The HP is proposing to use groundwater to provide the HP's needed cooling water from two on-site wells that have the potential to affect wells adjacent to the project that are owned by the Riverside Highlands Water Company (RHWC). Staff assumes that this raw water source is unimpaired and could be used as a clean water source for potable uses. Pursuant to State law and policy (State Constitution Article X, section 2; State Water Resources Control Board, Resolution 75-58) the use of fresh water for power plant cooling will not be approved unless alternate sources or cooling technologies are deemed economically unsound or environmentally infeasible. An impaired water source, groundwater impaired with nitrates, may be available for use from the Spring Street Wells that are also operated by the RHWC and are approximately 0.5 miles southeast of the project site. It appears that an adequate environmental and economic analysis was not conducted in evaluating the relative merit(s) of alternative power plant cooling water sources that include impaired groundwater, dry cooling, and reclaimed water. Staff will request additional information from the applicant in order to conduct its analysis and will work with the applicant to resolve this issue.

VISUAL RESOURCES--VISIBLE PLUME

The project's design elements include three GE LMS100 combustion turbine generators each with a two-cell mechanical draft, wet cooling tower. Staff's plume modeling experience for these design elements in both the proposed Walnut Creek Energy Park (05-AFC-2) and Sun Valley Energy Project (05-AFC-3) shows a high frequency for visible plumes. In addition to the visual impact concerns relative to plume formation, staff will be analyzing plume data for potential traffic safety impacts of ground hugging plumes at the proposed high school. The proposed high school would be located across the street to the east of the plant in line with the region's prevailing wind direction.

The applicant for the proposed Sun Valley Energy Project and Walnut Creek Energy Park has consulted with the cooling tower manufacturer, Marley, about potential mitigation measures to reduce the plume formation potential associated with these facility design elements. The HP applicant may also need to work with the cooling tower vendor on potential design changes to reduce plume frequencies.

WASTE MANAGEMENT

The AES Highgrove site is considered a Resource Conservation and Recovery Act (RCRA) contaminated site based on a 1994 Stipulation Order placed upon Southern California Edison (SCE), the previous site owner. This allows the State's Department of Toxic Substances Control (DTSC) and the local Certified Unified Program Agency

(CUPA) RCRA authority over the site for purposes of monitoring and mandating remediation for specific site contaminants. DTSC's concerns arise from the old SCE power plant's lined retention basins, originally built in the 1970s, which have been determined to contain cleaning and corrosion prevention chemical contaminants from boiler water and cooling tower blow-down operation. DTSC is in the process of a RCRA Facility Investigation that is evaluating the potential contamination of other portions of the AES Highgrove property, including the proposed HP site that once held the fuel tank farm, the power generation facilities, and the Cage Park at the south end of the property. Currently, there is a DTSC Corrective Action directive for the site covering potential past hazardous constituent releases resulting from solid waste management and the retention basins at the project site. The objective of the Corrective Action program is to identify the contamination locations and constituents requiring further investigation and clean up. The Corrective Action process requires that specific steps be completed which may be time-consuming. The Corrective Action for this site has been ongoing for several years and is not yet completed. Although Southern California Edison (SCE) is responsible for completing the Corrective Action, AES has approached DTSC and has requested to oversee this work, hoping to expedite completion of all the necessary steps.

Soil and soil vapor samples were taken from retention basins and the areas around their associated pipelines. Metals were detected in soil matrix samples and small amounts of Trichloroethylene (TCE) and methyl tertiary butyl ether (MTBE) were detected in soil vapor samples.

Further investigation at deeper depths concluded that no retention basin liquid had leaked to the soil beneath the liner but the detection of some liquid and volatile organic compounds (VOCs) in soil vapor samples triggered a request for a groundwater investigation. As part of the investigation a statistical analysis of the soil data is being prepared for the site to determine whether there was any release of contaminants (metals) into the soil.

Staff is working with DTSC and the applicant to understand how the scheduling of the Corrective Action will affect the demolition and construction schedule of the proposed project.

SCHEDULING ISSUES

Following is staff's proposed schedule for key events of the project. The ability of staff to meet this schedule will depend on the applicant's timely response to staff's data requests, timely receipt of draft and final determinations from agencies, and clarifying and reaching agreement on an emissions mitigation plan for PM10 and PM2.5, SO_x, CO, NO_x and for VOCs. Mitigation of potential air quality impacts will rely primarily on the SCAQMD Priority Reserve Program adopted on September 8, 2006, allowing electric generation facilities access. The new rules for the Priority Reserve Program will clarify the emissions covered and provide a means for mitigation of identified air quality impacts. Resolution of other possible factors not yet discovered may also impact the schedule for completing staff's analysis.

ENERGY COMMISSION STAFF'S PROPOSED SCHEDULE

	Activity	Day	Calendar Day
1	Applicant filed Application for Certification (AFC)	-	May 25, 2006
2	Executive Director's recommendation on data adequacy	-	July 17, 2006
3	Decision on data adequacy at business meeting	0	July 19, 2006
4	Staff files Issues Identification Report	56	September 13, 2006
5	Information hearing, site visit	62	September 19, 2006
6	Staff files data requests	63	September 20, 2006
7	Data Requests and Issues Workshop	70	Held If Needed
8	Applicant provides data request responses	93	October 20, 2006
9	Data response and issues resolution workshop	104	October 31, 2006
10	Local, state, and federal agency draft determinations	120	November 16, 2006
11	Preliminary Staff Assessment filed	175	January 10, 2007
12	Preliminary Staff Assessment workshops	180-184	January 15-19, 2007
13	Local, state, and federal agency final determinations (e.g. NPDES Permit)	180	January 15, 2007
14	Final Staff Assessment filed	210	February 14, 2007
15	Prehearing Conference	215	February 20, 2007
16	Evidentiary hearings	219-239	Feb 23, to March 16, 2007
17	Presiding Member's Proposed Decision (PMPD)	308	May 21, 2007
18	Committee Conference on PMPD	335	June 18, 2007
19	Energy Commission Hearing--Final Decision	366	July 18, 2007

- Items 6, and 15 through 19 are scheduled by the Committee assigned to the Highgrove Power Project.
- **BOLD** items are estimated based upon the SCAQMD Priority Reserve Rule-adoption on September 8, 2006 and receipt of all necessary information in a timely fashion.

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

APPLICATION FOR CERTIFICATION
FOR THE AES HIGHGROVE
POWER PLANT PROJECT

Docket No. 04-AFC-1
PROOF OF SERVICE
(Established 8/2/06)

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. 04-AFC-01
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DECLARATION OF SERVICE

I, Angela Hockaday, declare that on September 13, 2006, I deposited copies of the attached Issues Identification Report for the Highgrove Project (06-AFC-2), in the United States mail at Sacramento, CA 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.


Angela Hockaday
[signature]