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To: Commissioner Karen Douglas, Presiding Member
Commissioner Andrew McAllister, Associate Member
Hearing Officer, Paul Kramer

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Subject: **CARLSBAD ENERGY CENTER PROJECT AMENDMENT (07-AFC-6C)
ISSUES IDENTIFICATION REPORT**

Attached is California Energy Commission staff's Issues Identification Report for the Carlsbad Energy Center Project (07-AFC-6C), Petition to Amend. This report serves as a preliminary scoping document that identifies the issues that staff believes will require careful attention and consideration. Energy Commission staff will present a summary of this report at the Environmental Scoping Meeting and Committee Conference to be held in Carlsbad on August 7, 2014.

cc: Docket (07-AFC-6C)
Proof of Service List

Attachment

CARLSBAD ENERGY CENTER PROJECT AMENDMENT

(07-AFC-6C)

August 6, 2014

ISSUES IDENTIFICATION REPORT

CALIFORNIA ENERGY COMMISSION

Siting, Transmission & Environmental Protection Division

**ISSUES IDENTIFICATION REPORT
CARLSBAD ENERGY CENTER PROJECT
(07-AFC-6C)**

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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 Carlsbad Energy Center Project (CECP) Amendment Committee and all interested parties of the potential issues that have been initially identified in two petitions filed in this amendment proceeding. Specifically, these are issues resulting from the review of requested modifications sought by Carlsbad Energy Center, LLC (Petitioner/Project Owner) in the May 2, 2014, Petition to Amend (PTA) and the April 29, 2014, Petition to Remove Obsolete Facilities (PTR), Docket Number 07-AFC-6C. Staff's initial discussions with other public agencies, our review of the CECP PTA reflected in this document's project description, and the summary of potentially significant environmental issues, are reflected in the proposed project schedule. Staff will provide periodic updates on issues, and on progress towards their resolution, in periodic status reports to the Committee.

PROJECT DESCRIPTION

The amended CECP would be a simple-cycle generating facility using six, nominally rated 100-megawatt (MW), natural gas-fired combustion turbines with a capacity of 632 MW net output, compared to 540 MW for the licensed CECP. Similar to the licensed CECP, the amended CECP's units would interconnect to the electrical transmission system via 138-kilovolt (kV) and 230-kV lines that connect to the respective, neighboring San Diego Gas & Electric (SDG&E) switchyards. The amended CECP would be sited within a recessed location along the eastern boundary of the Encina Power Station (EPS) site.

The PTA is the result of a January 14, 2014, multi-party agreement entered into by representative entities of NRG, the city of Carlsbad, and SDG&E. The licensed CECP consisted of two, combined-cycle units. By using six smaller, fast-start, peaking CTG's instead of two larger combined-cycle power blocks, the amended CECP would have greater operational flexibility and a shorter start-up time. The peaking units would also be much better suited to allow the continued integration of variable renewable generation by providing more readily dispatchable generation and increased local reliability. Additionally, electricity provided by the 632 MW amended CECP would displace the aging, inefficient EPS Units 1-5 that employ once-through cooling (OTC) using sea water.

The approximately 30-acre amended CECP site is located in the city of Carlsbad, in San Diego County, in an area zoned Public Utility, which specifically allows electrical generation and transmission facilities. Figure 2.0-1 of the PTA shows the location of the Amended CECP generating facility, its electric transmission lines, natural gas-supply pipeline, reclaimed water-supply pipeline, and potable water-supply line.

The shutdown and decommissioning of the existing EPS Units 1 through 5 would provide emission offsets for use by the project and enable the cessation of OTC. The 95.5 acre EPS parcel located between Carlsbad Boulevard on the west, Agua Hedionda Lagoon on the north, Interstate-5 on the east and Cannon Boulevard on the south, comprises two parcels owned by Cabrillo Power I LLC (which, like Carlsbad Energy Center, is a wholly-owned subsidiary of NRG, Inc.): the 62.5 acre parcel west of the railroad tracks that houses the primary EPS facility (APN 210-01-43), and the smaller 30-acre parcel east of the tracks where the amended CECP would be located (APN 210-01-41). The 30-acre

“Cabrillo Parcel” is currently occupied by the “east tank farm” and its four large above-ground fuel oil storage tanks (ASTs)

One modification of the amended CECP is its industrial raw water supply, which would preferentially be California Code of Regulations (CCR) Title 22 reclaimed water. While not stipulated in the PTA, it is unclear if the city of Carlsbad Municipal Water District would utilize reclaimed water generated at its Carlsbad Recycled Water Facility (CRWF).

CONSTRUCTION SCHEDULE

The amended CECP would be constructed over a 23-month period, with a projected online date in the fourth quarter of 2017 (complying with the State Water Resources Control Board’s OTC Policy). Following the commissioning and operation of the new power plant would be a 12-month period of preparing the EPS generation equipment, structures, and all auxiliary equipment east of the railroad tracks for removal, auction, or destruction. There could be additional on-site activities during this 12-month period, including site characterization activities that could be useful during the demolition and removal phase, which is scheduled to occur over a 22-month period, followed by a two-month period of grading and landscape contouring. Demolition and remediation of the EPS generating units, buildings, and all other related equipment, tanks, and ancillary facilities, would occur in a nine-step process, beginning with the 12-story enclosure building and 400-foot stack, and concluding with the water separator tank system’s removal. In conjunction with the demolition of EPS, the existing power plant operation and maintenance facilities would be relocated on the east side of the railroad tracks with a new administrative and control room building and a smaller warehouse.

Following demolition of the aboveground EPS structures, parcels comprising the western portion of the Cabrillo Parcel would be transferred to the city’s redevelopment agency for joint non-power redevelopment with NRG, as defined in the recently adopted (April, 2014) amendment to the Carlsbad General Plan.

Petitioner indicates that removal of the EPS units would create substantial environmental benefits, including elimination of the permitted intake of 857 million gallons-per-day of seawater for cooling the existing units, and the resulting decrease in impingement and entrainment of marine organisms. In addition, the project would create the opportunity to redevelop the portion of the parcel west of the railroad tracks for non-power-production uses.

PROJECT CONSTRAINTS

This portion of the report contains a discussion of the potential issues the Energy Commission staff has identified with modifications sought in the PTA. The Committee should be aware that this report might not include all of the significant issues that may arise during this amendment proceeding. Staff is diligently working with other agencies to identify all potential issues. Those contained in this report are based on comments of other government agencies and on staff judgment of whether any of the following circumstances would occur:

1. Potential significant impacts of the proposed modification which may be difficult to mitigate;
2. Potential areas of modification noncompliance with applicable laws, ordinances, regulations or standards (LORS);
3. Areas of conflict, or potential conflict, between different parties regarding the proposed modifications; or
4. Areas where resolution may be difficult or may ultimately affect the schedule.

The following table lists all the subject areas that will be evaluated during this amendment proceeding and notes those areas where potentially significant issues have been identified. For example, 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	Data Request	Subject Area	Major Issue	Data Request	Subject Area
Yes	Yes	Air Quality	No	No	Noise
No	Yes	Biological Resources	No	No	Paleontological Resources
TBD	Yes	Cultural Resources	TBD	Yes	Public Health
No	Yes	Efficiency and Reliability	No	Yes	Socioeconomics
No	No	Electromagnetic Fields & Health Effects	TBD	Yes	Soils and Water Resources
No	No	Facility Design	No	No	Traffic and Transportation
No	No	Geological Hazards and Resources	No	No	Transmission Line Safety and Nuisance
No	No	Hazardous Materials	TBD	Yes	Transmission System Engineering
No	No	Industrial Safety and Fire Protection	No	Yes	Visual Resources
No	TBD	Land Use	Yes	Yes	Waste Management
No	No	Project Overview	No	No	Alternatives

PROJECT PROPOSAL

This report does not limit the scope of staff's analysis throughout this proceeding, but acts to aid in the analysis of potentially significant issues during this amendment proceeding. The following discussion summarizes each potential issue, identifies the parties needed to resolve the issue, and where applicable, suggests a process for achieving resolution. At this time, staff does not see any of these potential issues as non-resolvable, but we will need active, timely and coordinated involvement from the petitioner, especially as it relates to specifics for demolition and remediation activities west of the railroad tracks.

DEMOLITION AND REMEDIATION

The PTA includes the decommissioning and above-grade removal of the EPS Units 1-5 and associated above-ground infrastructure. EPS is in the city of Carlsbad, on a 95-acre site owned by Cabrillo Power, LLC (NRG)¹ and is located between the Carlsbad Energy Center Project (CECP) site (30 acre parcel) to the east and the Pacific Ocean shoreline to the west. Decommissioning of EPS is planned to begin soon after the amended CECP is online. Demolition of EPS would support the city's land use goal of enabling future non-power-production redevelopment of portions of the former EPS footprint. The PTA states that upon completion of demolition of EPS, the areas located outside the CECP site boundaries would be removed from Energy Commission jurisdiction and made available for redevelopment plans along with any other available adjacent lands.

Staff believes the PTA did not include sufficient information for a proper California Environmental Quality Act (CEQA)-level analysis of the demolition of EPS, and the need for data requests and responses could potentially delay the petitioner's proposed aggressive schedule. For example, staff has air quality, public health, waste management, and worker safety questions about the demolition and removal of the stack and any ash/soot containment; staff also has questions about demolition and remediation to grade, while large condenser bays are below grade; and staff is concerned about coordination with agencies such as the Department of Toxic Substances Control and the San Diego County Department of Environmental Health.

AIR QUALITY

Staff reviewed both the PTR and PTA for the CECP Amendment. The lack of specific information included in the PTA regarding the effects from demolishing large features of the power plant west of the railroad tracks could delay the Commission review process. Additionally, it is not clear that the applicant's emission reduction credit (offset) mitigation for this project would result in the nonattainment pollutants and their precursors being offset at a minimum 1:1 basis. The applicant's offset mitigation proposal includes taking credit for shutting down the existing EPS Units 1, 2, and 3.

It is unclear that cessation of the historic boiler emissions, per San Diego Air Pollution Control District (District) new source review and/or emission banking rule requirements, would reduce the net facility emissions of nitrogen oxides (NOx) and volatile organic compounds (VOC) below District offset thresholds. The San Diego Air Basin in the area of the project site is classified as nonattainment for the state ozone, particulate matter less than 10 microns (PM10) and PM2.5 standards, and federal ozone standard. Without proper offset mitigation for NOx, VOC, PM10, and sulfur oxides, this project could contribute to existing violations of the state and federal ambient air quality standards. Staff is addressing these issues through data requests to the applicant, including several issued on July 16, 2014 in Data Requests, Set 1.

¹ NRG Energy, Inc. is the parent company of both Carlsbad Energy Center LLC (project owner of CECP) and Cabrillo Power I LLC (owner of EPS).

CULTURAL RESOURCES

The Amended CECP proposes to redesign the licensed CECP from a combined-cycle to simple-cycle combustion natural gas turbine plant, and to demolish EPS Units 1 - 5 and ancillary facilities such as tanks and buildings, all of which are activities that could affect cultural resources. Staff has examined all cultural resources documents from the original proceeding, as well as the PTA, and identified the following potentially significant cultural resource issues: there are two archaeological sites, CA-SDI-6751 and CA-SDI-16885, which are the subject of data requests for both the PTA and PTR. These sites need to be evaluated for significance according to the CEQA criteria, but staff has not received data responses to these requests as of yet.

Staff submitted a request to the Native American Heritage Commission (NAHC), the response to which indicated that multiple Native American traditional sites/places are located in the project area. The NAHC did not indicate the nature of the sites/places, only their presence. Therefore, staff will contact the 23 tribal groups and individuals identified by the NAHC to better understand the NAHC-identified sites/places and any Native American concerns in the project area. Staff expects this may be a substantial effort that may entail multiple phone calls, emails, field meetings, and other in-person meetings in the San Diego region. Moreover, these efforts are likely to require cooperation and coordination on the part of the project owner, various tribal entities (and possibly additional entities not initially identified by the NAHC), staff, and other agencies, which could take several months to coordinate.

The PTA and PTR are complex project amendments that differ from the licensed project in many ways. The complexity of the proposed amendments raises questions and analytical issues that are commensurate with those typically associated with an application for certification (AFC) of a newly proposed power project. Staff has issued data requests that will require substantial information gathering by the project owner; the staff-requested information would fill in critical analytical gaps and is typically provided to staff as part of the initial application or petition. Submittal of data responses to staff by August 11, 2014, will be crucial to maintaining a timely amendment proceeding. However, any delay in the response or evaluation would prevent staff from committing to a specific schedule.

TRANSMISSION SYSTEM ENGINEERING

Staff has reviewed the PTA but has not found a complete description of the transmission interconnection facilities for all six simple-cycle combustion turbine generating (CTG) units. Staff needs a complete description of the proposed transmission interconnection facilities, including the project switchyards, the generation tie lines, and the interconnections to the existing transmission grid. These facilities fall under the licensing authority of the Energy Commission and complete descriptions are required in order to analyze the amended CECP's continuing compliance with applicable LORS.

Staff has reviewed the California ISO's "Interconnection Reassessment Study Report" dated October 22, 2013, along with Individual Reports for the proposed CECP combined-cycle units (Queue project nos. Q137 and Q189). This study analyzed the original project, a total of 520 MW split between two combined cycle units (260 MW each). However, the current PTA is for six CTG units totaling 632 MW. In order to analyze the project's

compliance with LORS, and to assess the potential impacts of the transmission system, staff needs an interconnection study consistent with the proposed project amendment. Staff issued data requests to ascertain this information in Data Request, Set 1, filed on July 16, 2014.

WASTE MANAGEMENT

Sections 1.1.3 and Section 2.1 of the PTR indicate that Tanks 1, 2 and 4 will be demolished and remediated. The PTR states that the project owner will remove the walls and roofs of ASTs 1, 2 and 4 and remove associated piping and equipment to within the bermed areas of each tank. The PTR also states that the oily sands will be removed from beneath all three ASTs, and the berm that separates ASTs 4 & 5 will be removed. The petition does not include an explanation or description of the subsurface remediation that will take place.

Section 2.2.6 of the PTA states that subsurface remediation of the EPS is not part of the petition. However, section 5.14.3.1.1 of the 2007 CECP AFC notes, based on recommendations from the 2007 Phase I Environmental Site Assessment of the EPS, that several locations at the site could not be assessed due to the inability to collect samples from from beneath existing structures. These inaccessible areas are under tanks, piping, the generation building, and other buildings and remain as potential environmental conditions that should be addressed at the time facilities would be removed. The 2007 AFC also indicated that there is possible historical contamination (i.e. fuel oil no. 6) in the areas related to both the PTR and PTA.

Any unmitigated contamination at the EPS or releases of hazardous substances that pose a risk to human health or environmental receptors would be considered a significant impact by the Energy Commission staff. The PTA does not include sufficient information for a complete analysis. There will be a need for additional data requests to better understand site conditions, and absent accurate and thorough data responses, schedule delays will occur.

SCHEDULING

Timely resolution of the above-mentioned issues is critical to the schedule for this project. Staff's proposed schedule below provides estimates of key aspects of discovery and analysis through publication of the Final Staff Assessment (FSA). Please note that it will be very difficult to achieve this schedule without consistent and timely cooperation from the petitioner.

ENERGY COMMISSION STAFF PROPOSED SCHEDULE

CARLSBAD ENERGY CENTER PROJECT AMENDMENT (07-AFC-6C)

<u>EVENT</u>	<u>DATE</u>
Project Owner Files Petition to Remove	04/29/14
Project Owner Files Petition to Amend	05/02/14
CECP Amendment Data Requests, Set 1	07/07/14
Staff Files Issues Identification Report / Proposed Schedule	08/06/14
CECP Amendment Data Requests, Set 2 (tent)	08/06/14
CECP Amendment Committee Site Visit / Committee Conference	08/07/14
CECP Data Response Issues Resolution Workshop	08/19/14
San Diego APCD issues PDOC	08/21/14
CECP Amendment Data Requests, Set 3 (tent)	09/01/14
Preliminary Staff Assessment (PSA) filed	11/14/14
PSA workshop	12/03/14
San Diego APCD issues FDOC	12/15/14
Final Staff Assessment filed	01/16/15
Evidentiary hearings*	TBD
Committee files proposed decision*	TBD
Hearing on the proposed decision*	TBD
Committee files revised proposed decision*	TBD
Final Commission Decision	TBD

* The assigned Committee will determine this part of the schedule