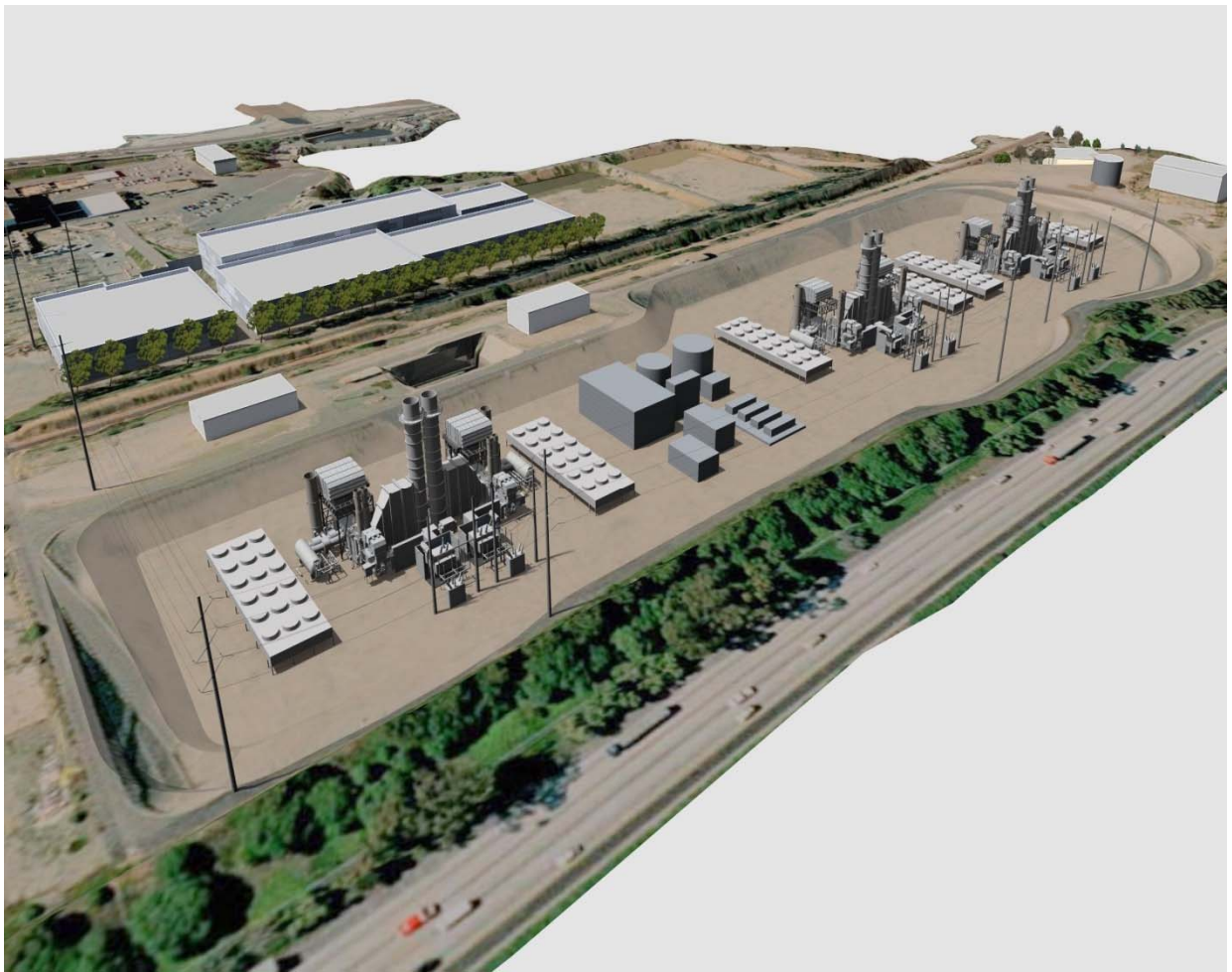


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# CARLSBAD ENERGY CENTER PROJECT AMENDMENTS

## Final Decision



**CALIFORNIA  
ENERGY COMMISSION**  
Edmund G. Brown Jr., Governor

July 2015  
CEC-800-2015-001 CMF

DOCKET NUMBER 07-AFC-06C

**CALIFORNIA  
ENERGY COMMISSION**

1516 Ninth Street  
Sacramento, CA 95814

<http://www.energy.ca.gov/sitingcases/carlsbad/>

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BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT  
COMMISSION OF THE STATE OF CALIFORNIA  
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**PETITIONS TO AMEND THE  
CARLSBAD ENERGY CENTER PROJECT**

**Order No. 15-0730-5  
Docket No. 07-AFC-06C**

## **COMMISSION ADOPTION ORDER**

This Commission Order adopts the Presiding Member's Proposed Decision (PMPD), and the recommendations set forth therein for the Petitions for Amendment for the Carlsbad Energy Center Project (ACECP). The Commission Decision consists of the PMPD docketed June 9, 2015 (TN 204953) as modified by the Errata docketed on July 15, 2015 (TN 205362). The Commission Decision is based upon the evidentiary record of these proceedings and takes into consideration the comments received prior to and at the July 30, 2015, Business Meeting. The Commission Decision contains a summary of the proceedings, the evidence presented, and the rationale for the findings reached and conditions imposed.

This Order incorporates by reference the text and evidence referred to in the PMPD and the Errata to the PMPD. The requirements contained in the Commission Decision ensure that the proposed facility will be designed, sited, and operated in a manner to protect environmental quality, to assure public health and safety, and to operate in a safe and reliable manner.

## **FINDINGS**

The Commission hereby adopts the following findings, pursuant to the California Environmental Quality Act (California Public Resources Code section 21000 et seq.), the Warren-Alquist Act (California Public Resources Code section 25000 et seq.) and the Energy Commission Regulations (California Code of Regulations, Title 20), in addition to those contained in the Commission Decision:

1. The ACECP would benefit the local and regional study areas in terms of an increase in local expenditures and payrolls during construction and operation of the facility, as well as a possible benefit to public finance and local economies through taxation. These activities will provide a degree of economic benefits to the local area. In addition, the ACECP increases consistency between the project and local land use regulations; reduces water usage and eliminates the use of ocean water for cooling; and removes the existing EPS power plant, thus improving visual aesthetics in the area

2. Implementation of the Conditions of Certification contained in the Commission Decision will ensure that the ACECP will be designed, sited, and operated in conformity with applicable local, regional, state, and federal laws, ordinances, regulations, and standards, including applicable public health and safety standards, and air and water quality standards.
3. Implementation of the Conditions of Certification contained in the Commission Decision will ensure protection of environmental quality and assure reasonably safe and reliable operation of the facility. The Conditions of Certification also assure that the project will neither result in, nor contribute substantially to, any significant direct, indirect, or cumulative environmental impacts except for those described in the Override Findings section of the Commission Decision.
4. Changes or alterations have been incorporated into the ACECP which mitigate or lessen the impacts of the amended project and will be beneficial to the public.
5. The ACECP is required for public convenience and necessity. There are not more prudent and feasible means of achieving the public convenience and necessity.
6. The ACECP's benefits outweigh the significant environmental impacts identified in the Commission Decision.
7. The ACECP's benefits outweigh the non-conformity between the ACECP and the local land use requirements regarding the permitted heights of structures in the land use zone in which it will be built.
8. Existing governmental land use restrictions are sufficient to adequately control population density in the area surrounding the facility and may be reasonably expected to ensure public health and safety.
9. No feasible alternatives to the ACECP would reduce or eliminate any significant environmental impacts of the project.
10. The evidence does not establish the existence of any environmentally superior alternative site.
11. An environmental justice screening analysis was conducted and the ACECP, as mitigated, will not have a disproportionate impact on low-income or minority populations.

12. The Commission Decision contains a discussion of the public benefits of the ACECP as required by Public Resources Code section 25523(h).
13. The Commission Decision contains measures to ensure that the planned, temporary, or unexpected closure of the ACECP will occur in conformance with applicable laws, ordinances, regulations, and standards.
14. The proceedings leading to the Commission Decision have been conducted in conformity with the applicable provisions of Commission regulations governing the consideration of an amendment to an approved Application for Certification and thereby meet the requirements of Public Resources Code sections 21000 et seq. and 25500 et seq.

## **ORDER**

Therefore, the Commission **ORDERS** the following:

1. The PMPD docketed on June 9, 2015, TN 204953, and the Errata docketed on July 15, 2015, TN 205362, are hereby adopted as the Commission Decision and incorporated by reference into this Order.
2. The Carlsbad Energy Center Project Amendments as described in the Commission Decision are hereby granted and a certificate to construct and operate the project is hereby granted.
3. The approval of the Carlsbad Energy Center Project Amendments is subject to the timely performance of the Conditions of Certification and Compliance Verifications. The Conditions and Compliance Verifications are integrated with this Order and are not severable therefrom. While the project owner may delegate the performance of a Condition or Verification, the duty to ensure adequate performance of a Condition or Verification may not be delegated.
4. This Order is adopted, issued, effective, and final on the date this Order is docketed.
5. Reconsideration of this Order is governed by Public Resources Code, section 25530.
6. Judicial review of this Order is governed by Public Resources Code, section 25531.
7. The Commission hereby adopts the Conditions of Certification, Compliance Verifications, and associated dispute resolution procedures set forth in the Commission Decision as its mitigation monitoring program required by Public Resources Code section 25532. All Conditions take effect immediately upon

adoption and apply to all construction and site preparation activities including, but not limited to, ground disturbance, site preparation, and permanent structure construction.

8. This Order licenses the project owner to commence construction on the project Subject to the provisions of California Code of Regulations, title 20, section 1720.3, this license expires by operation of law when the project's start-of-construction deadline passes with no construction.
9. The Executive Director of the Commission shall transmit a Notice of Decision and appropriate accompanying documents, as provided by Public Resources Code section 25537, and California Code of Regulations, title 20, section 1768.
10. Pursuant to Public Resources Code section 25523(d)(1), the Executive Director of the Commission shall notify the appropriate agencies of the Commission's adoption of findings pursuant to Public Resources Code section 25525.

### **CERTIFICATION**

The undersigned Secretariat to the Commission does hereby certify that the foregoing is a full, true, and correct copy of an Order duly and regularly adopted at a meeting of the California Energy Commission held on July 30, 2015.

AYE: Weisenmiller, Douglas, Scott  
NAY: Hochschild  
ABSENT: McAllister  
ABSTAIN: None

Dated: July 30, 2015, at Sacramento, California.

Original signed by \_\_\_\_\_  
Tiffani Winter  
Secretariat  
California Energy Commission

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## I. INTRODUCTION

### A. SUMMARY OF THE PROPOSED DECISION

This Decision contains the rationale of the California Energy Commission (Energy Commission) in approving the two proposed amendments to the previously approved Carlsbad Energy Center Project (CECP<sup>1</sup>). It determines that the proposed amended CECP (ACECP or “amended project” or “amended CECP”) will, as mitigated, have no significant impacts on the environment. It will comply with all applicable laws, ordinances, regulations, and standards (LORS), except for a significant cumulative visual impact relating to the potential inability to fully visually screen the facility following the expected widening of Interstate 5 (I-5) and the incompatibility of certain facility structures with a 35-foot height limitation in the City of Carlsbad’s Agua Hedionda Land Use Plan, described further in the **Visual Resources** and **Land Use** sections of this Decision, below. This Decision is based exclusively upon the record established during this amendment proceeding and summarized in this document. We have independently evaluated the evidence, provided references to the record<sup>2</sup> supporting our findings and conclusions, and specified the measures required to ensure that the ACECP is designed, constructed, and operated in the manner necessary to protect public health and safety, promote the general welfare, and preserve environmental quality.

The Energy Commission has exclusive jurisdiction to license this project and is considering the amendments under a review process established by Public Resources Code section 25540.6 and California Code of Regulations, Title 20, section 1769.

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1 A table of acronyms and abbreviations used in this Decision is contained in **Appendix D** for reference.

2 The Reporter’s Transcripts of the evidentiary hearings are cited as “date of hearing RT page:line-page:line. For example: 04/01/15 RT 77:14-78:16. The exhibits included in the evidentiary record are cited as “Ex. Number,” followed by a page reference. Where the document is unpaginated, or is a compilation of two or more documents with overlapping pagination, we may refer to the page location in the official .pdf file copy of the document. Where a document is referred to by “TN” (transaction) number, it may be accessed via the Energy Commission’s web page for this project, more specifically the “Docket Log,” whose address for the Carlsbad Compliance proceedings is <https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=07-AFC-06C>. Alternatively, you may type the TN number into the search dialog at <https://efiling.energy.ca.gov/getdocument.aspx>. A list of all exhibits is contained in Appendix B of this Decision.

## Prior Commission Action

The ACECP would be constructed and operated within the existing footprint of the still-operating Encina Power Station (EPS). The EPS is located on approximately 95 acres, adjacent to the southern edge of the Agua Hedionda Lagoon, in the City of Carlsbad in San Diego County. The EPS contains five units, built between 1950 and the late 1970s, and has been operating in this location since the 1950s. The EPS is bounded by San Diego Gas and Electric (SDG&E) property and Cannon Road to the south, Interstate 5 (I-5) to the east, Carlsbad Boulevard to the west, and the Agua Hedionda Lagoon to the north. The north/south AT&SF/North County Transit District (NCTD) Rail Corridor bisects the EPS. Approximately 65 acres lie to the west of the railroad and contain the existing generating equipment (Assessor Parcel Number [APN] 210-01-43). Approximately 30-acres east of the railroad tracks (APN 210-01-41) contain large above-ground fuel oil storage tanks (ASTs) formerly used to supply backup fuel for the EPS.<sup>3</sup>

In 2007, Carlsbad Energy Center, LLC, (the Petitioner) filed an Application for Certification (AFC) with the Energy Commission to construct an air-cooled, natural gas-fired combined cycle generating facility with steam power augmentation and evaporative air inlet cooling on a portion of the EPS site.<sup>4</sup>

In May 2011, the Committee issued a Presiding Member's Proposed Decision (PMPD).<sup>5</sup> The May 2011 PMPD found the CECP to be consistent with the City of Carlsbad's land use regulations and standards. The PMPD was presented to the full Energy Commission in June 2011; at that time, the CECP was referred back to the Committee so that additional evidence could be taken on certain specified topics. In October 2011, the City of Carlsbad amended its General Plan, the Agua Hedionda Land Use Plan applicable to the CECP site, and the zoning ordinance. Those enactments rendered the proposed CECP inconsistent with the City of Carlsbad's land use LORS.<sup>6</sup>

Despite the City of Carlsbad's amendments to the applicable land use laws, the Energy Commission approved the AFC and granted the Petitioner a license to construct the CECP on May 31, 2012. In order to grant the license, the Energy Commission "overrode" the inconsistencies between the project and the City's newly-adopted land use LORS, finding that the CECP was required for the public convenience and

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<sup>3</sup> The Original 2012 Commission Decision, found as Ex. 3002 or at <https://efiling.energy.ca.gov/getdocument.aspx?tn=203721>, pp. 1-1 – 1-2.

<sup>4</sup> Ex. 3002, p. 1-1.

<sup>5</sup> <http://www.energy.ca.gov/2011publications/CEC-800-2011-004/CEC-800-2011-004-PMPD.pdf>

<sup>6</sup> Ex. 3002, p. 8.1-1.

necessity and that there was not a more prudent and feasible means of achieving the public convenience and necessity.<sup>7</sup> Because the inconsistencies with the relevant laws concerned land use, the inconsistency also created a significant, unmitigable environmental impact under CEQA. This required, and the Energy Commission so found, that the benefits of the project would outweigh the significant impacts on the environment.<sup>8</sup>

The CECP, as approved, was to be built on 23 acres of the 95-acre EPS site, in the area occupied by the EPS east tank farm, including ASTs 5, 6, and 7.<sup>9</sup> Those tanks were to be demolished as part of the CECP, and the soil underlying them remediated.

The CECP would have retired three of the five EPS units; Units 4 and 5 would have continued operating regardless of the approval of the CECP.<sup>10</sup> The CECP would connect its nominal 540 megawatts (MWs) of electricity to the existing, slightly modified, Encina 138 kilo-volt (kV) switchyard, and to a proposed new Encina 230-kV switchyard (which would be built and located at SDG&E's Cannon Substation, located immediately south of the proposed CECP site).<sup>11</sup>

The CECP was approved to use up to 700,000 gallons per day of water for industrial, wash-down and associated water necessary for its industrial steam generation and landscape irrigation.<sup>12</sup> The source of this water was ocean water, desalinated onsite.<sup>13</sup> The approval also provided that the CECP could use reclaimed water if the City of Carlsbad was able to provide it.<sup>14</sup>

The CECP would not remove the existing EPS 200-foot tall main building enclosure and 400-foot-tall exhaust stack; the stack is the tallest structure in Carlsbad and a prominent regional landmark. It was required, however that the CECP owners develop a plan and obtain permits for removing the EPS when the EPS' services were no longer required to maintain electricity grid reliability.<sup>15</sup>

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<sup>7</sup> Pub. Resources § 25525; Ex. 3002, pp. 9-1, 9-9 – 9-11. These override findings also included a minor variation in the permissible width of a fire access road. Ex. 3002, p. 9-2.

<sup>8</sup> Pub. Resources § 21081; Ex. 3002 pp. 9-1 – 9-2, 9-9 – 9-11.

<sup>9</sup> Ex. 3002, p. 1-1.

<sup>10</sup> Ex. 3002, p. 1-2.

<sup>11</sup> Ex. 3002, p. 1-2.

<sup>12</sup> Ex. 3002, p. 1-2.

<sup>13</sup> Ex. 3002, pp. 1-2, 7.2-3, 7.2-8 – 7.2-9.

<sup>14</sup> Ex. 3002, pp. 7.2-8 – 7.2-9.

<sup>15</sup> Ex. 3002, p. 8.5-6.

## **The Current Amendments**

After issuance of the license to construct, negotiations continued between the Petitioner, the City of Carlsbad, and SDG&E, resulting in an agreement regarding changes to the approved CECP to address some of the issues raised in the original licensure proceedings. The parties reached an agreement, resulting in the filing of the two current amendment petitions.

The two amendment petitions are being considered together in this proceeding. The first (Petition to Remove Obsolete Facilities to Support Construction of the Carlsbad Energy Center Project, TN 202267), seeks permission to demolish three above-ground storage tanks - tanks 1 and 2 to the west of the rail corridor, and tank 4 to the south of the approved project boundary. Those tanks would be demolished in addition to tanks 5 – 7 on the approved project site; tanks 5 – 7 were approved for demolition in the 2012 Decision.

The second petition (Petition to Amend Carlsbad Energy Center Project, TNs 202287-1, 202287-2, and 202287-3) would change the project to consist of six simple-cycle turbine generators producing approximately 632 MW. The project site would be expanded to include the storage tank (AST 4) area to the south of the presently approved area, adding seven acres to the approved 23 acre facility. A new administration and control building and a warehouse would be added on the site. After the new project is commercially operational, the existing EPS facilities to the west of the railroad tracks would be decommissioned and demolished, and that site would be made available for redevelopment.

The changes to the original project proposed by the amendments are described in greater detail in the **PROJECT DESCRIPTION** section of this decision.

## **B. STANDARDS APPLICABLE TO AMENDMENT PROCEEDINGS**

### **Warren-Alquist Act and Title 20 Regulations**

The ACECP and its related facilities are subject to Energy Commission licensing jurisdiction.<sup>16</sup> In fulfilling this responsibility, Energy Commission staff provides an independent assessment of the amendments' engineering design, evaluates their potential effects on the environment and on public health and safety, and determines whether the project, if modified, would remain in conformance with all applicable local, state, and federal LORS. Energy Commission staff also recommends any needed modifications to existing mitigation measures required by the conditions of certification

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<sup>16</sup> Pub. Resources Code § 25500 et seq.; Cal. Code Regs., tit. 20, §1769.

in the CECP Final Decision and proposes additional conditions of certification to mitigate any significant environmental effects of the amended project.

The Energy Commission's certification process provides a thorough review and analysis of all aspects of a proposed power plant project. During this process, the Energy Commission conducts a comprehensive examination of a project's potential economic, public health and safety, reliability, engineering, and environmental ramifications. Specifically, the Energy Commission's process allows for and encourages public participation so that members of the public may become involved either informally or on a formal level as intervenors who have the opportunity to present evidence and question witnesses. Public participation is encouraged at every stage of the process.

Depending on the complexity of the proposed change, an amendment may be analyzed by Energy Commission Staff and referred directly to the Energy Commission for a final decision. Alternatively, as is the case in this proceeding, the amendment may be referred to a committee of two Commissioners who take evidence and submit a PMPD to the Energy Commission.

Before approving an amendment, the Energy Commission must find that:

- The amended project will not have significant,<sup>17</sup> unmitigated, environmental effects or that specific economic, social, or other considerations make infeasible the mitigation measures or project alternatives identified in the proceeding and that the benefits of the project outweigh the unavoidable significant environmental effects of the project;
- The amended project will remain in compliance with all applicable LORS or that the facility is required for the public convenience and necessity and that there are not more prudent and feasible means of achieving the public convenience and necessity;
- The change in the project will be beneficial to the public, Applicant, or Intervenors; and
- There has been a substantial change in circumstances since the original approval justifying the change or that the change is based on information which was not

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<sup>17</sup> The Commission's regulations use the term "significant adverse environmental effect." See, e.g., Cal. Code Regs., tit. 20, §1755. "Adverse" is redundant, however, in that by definition in the CEQA Guidelines (Cal. Code Regs., tit. 14, § 15382.) an effect must be "adverse" in order to be "significant;" positive or beneficial effects cannot be significant. Therefore, when we use the terms "significant effect" or "significant impact" in this document, the reader may assume that those effects and impacts are adverse.

known and could not have been known with the exercise of reasonable diligence prior to the original approval.<sup>18</sup>

Following publication of the Final Staff Assessment (FSA), the Committee conducts a Prehearing Conference to assess the adequacy of available information, identify issues, and determine the positions of the parties. Based on information presented at this event, the Committee issues a Hearing Order to schedule formal Evidentiary Hearings. At the Evidentiary Hearings, all formal parties, including intervenors, may present sworn testimony, which is subject to questioning by the other parties and the Committee. Members of the public may offer oral or written comments at these hearings. Evidence submitted at the hearings provides the basis for the Committee's analysis and recommendations to the full Commission.

The Committee's analysis and recommendations appear in the PMPD, which is available for a 30-day public comment period. Depending upon the extent of revisions necessary after considering comments received during this period, the Committee may elect to publish a revised version. If so, the Revised PMPD triggers an additional public comment period. Finally, the full Energy Commission decides whether to accept, reject, or modify the Committee's recommendations at a public hearing.

Throughout the licensing process, members of the Committee, and ultimately the Energy Commission, serve as fact-finders and decision-makers. Parties, including the Applicant, Commission staff, and intervenors, function independently with equal legal status. An "ex parte" rule prohibits parties in the case, or other persons with an interest in the case, from communicating on any issued in the proceeding with the decision-makers, their staffs, or assigned Hearing Officer unless these communications are made on the public record. The Office of the Public Adviser is available to assist the public in participating in all aspects of the certification proceeding.

## **Environmental Review**

The California Environmental Quality Act (CEQA)<sup>19</sup> requires that an agency consider the effects on the environment for projects it is considering. During licensing proceedings,

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<sup>18</sup> Cal. Code Regs, tit. 20, §§ 1769, subd. (a)(3); 1755, subd. (d).

<sup>19</sup> The CEQA statute, California Public Resources Code § 21000 et seq., codifies a statewide policy of environmental protection. The California Resources Agency promulgates the CEQA Guidelines, California Code of Regulations, Title 14, section 15000 et seq., (Guidelines) which detail the protocol by which state and local agencies comply with CEQA requirements. We refer to the statute and the Guidelines collectively as "CEQA". Hereafter, we will refer to the CEQA Guidelines in the format CEQA Guidelines, section \_\_\_\_\_.



the Energy Commission acts as lead state agency under CEQA.<sup>20</sup> The Energy Commission's regulatory process, including the evidentiary record and associated analyses, is functionally equivalent to the preparation of an Environmental Impact Report (EIR).<sup>21</sup> As a practical matter, the Commission utilizes the substantive concepts from CEQA, including baseline, cumulative impacts, and tiering/streamlining of environmental review for projects previously approved by the Energy Commission.

CEQA encourages decision makers to, where appropriate, use a previous environmental analysis rather than conduct a new, duplicative analysis. When an EIR has been previously certified or a negative declaration has been adopted, the Energy Commission is precluded from preparing a subsequent or supplemental EIR unless:

1. Substantial changes are proposed in the project which will require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
2. Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
3. New information of substantial importance, which was not known and could not have been known in 2012, shows:
  - (A) The project will have one or more significant effects not discussed in the previous EIR;
  - (B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;
  - (C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects

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<sup>20</sup> Pub. Resources Code §§ 25519(c), 21000 *et seq.*

<sup>21</sup> Pub. Resources Code, § 21080.5. An "environmental impact report" is a detailed informational document setting forth such matters as the significant environmental effects of a proposed project, any significant environmental effects which cannot be avoided if the project is implemented, mitigation measures proposed to minimize the significant environmental effects and alternatives to the proposed project. (Pub. Resources Code, §§ 21061, 21100, 21100.1.) Although not called such, the Energy Commission prepares documents that function as EIRs. We use the term "EIR" to refer to our decisional document for ease of comparison with the language of the cases interpreting CEQA. Pub. Resources Code § 21080.5; CEQA Guidelines, §15251, subd. (j).

of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

(D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.<sup>22</sup>

Doubts are resolved in favor of finality, not in favor of reopening the CEQA process with a supplemental EIR, “even if the initial EIR is discovered to have been fundamentally inaccurate and misleading in the description of a significant effect or the severity of its consequences.”<sup>23</sup> The courts err in favor of finality because “the time for challenging the sufficiency of the original EIR has long since expired, and the question is whether circumstances have changed enough to justify repeating a substantial portion of the process.”<sup>24</sup>

The Energy Commission’s environmental review is limited to those topics for which a subsequent or supplemental analysis is required by CEQA. If so required, we analyze the impacts of the incremental changes associated with the amendments.<sup>25</sup>

The remainder of this document is thus organized by topic. The discussions focus on whether supplementation of the previous environmental document (the 2012 Decision) is required, and whether the amended project will comply with all applicable LORS. Where there are no significant changes to the findings and conclusions in the 2012 Decision (Ex. 3002), its analysis will not be repeated beyond a brief explanation of the reasons for making that determination. For the convenience of the parties and public, we will, however, all of the conditions of certification for the amended project will be included, whether or not they are changed from those adopted in 2012.<sup>26</sup>

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<sup>22</sup> Pub. Resources Code §21166; CEQA Guidelines §15162.

<sup>23</sup> *Laurel Heights Improvement Assn. v. Regents of University of California* (1993) 6 Cal.4th 1112, 1130.

<sup>24</sup> *Bowman v. City of Petaluma* (1986) 185 Cal.App.3d 1065, 1073, internal citations and italics omitted.

<sup>25</sup> “[I]f the project under review merely constitutes a modification of a previously approved project previously subjected to environmental analysis, then the ‘baseline’ for purposes of CEQA is adjusted such that the originally approved project is assumed to exist.” (Remy & Thomas, *Guide to CEQA* (11th ed. 2006) p. 207.

<sup>26</sup> The 2012 decision listed the conditions at the end of each topic section. As a further convenience, we follow the Commission’s newly adopted practice of gathering all of the conditions into a single appendix.

### **C. PROCEDURAL HISTORY OF THE CURRENT PETITIONS TO AMEND**

The Warren-Alquist Act and Energy Commission regulations<sup>27</sup> mandate a public review process and specify the occurrence of certain procedural events in which the public may participate. The key procedural events that occurred in the present case are summarized below.

On April 29, 2014, the Petitioner filed a Petition to Remove Obsolete Facilities. This would permit it the demolition of three obsolete, aboveground fuel oil storage tanks (ASTs) to facilitate the construction of the CECP.<sup>28</sup> Petitioner filed a second petition on May 2, 2014 asking that the CECP's license be amended as described above.<sup>29</sup>

The formal parties to this action included the Petitioner, Energy Commission staff (Staff), and Intervenors Power of Vision; Kerry Siekmann, individually and on behalf of Terramar Association; Rob Simpson; Robert Sarvey; and the Sierra Club.

The Committee published a Notice of Public Site Visit, Environmental Scoping Meeting, and Committee Conference on June 27, 2014. The Committee conducted the site visit, public scoping meeting, and committee conference on August 7, 2014, at the Hilton Carlsbad Oceanfront Resort.

Staff held a public workshop on September 24-25, 2014, on the topics of air quality, biological resources, cultural resources, hazardous materials, noise and vibration, public health, socioeconomics, traffic and transportation, transmission system engineering, visual resources, worker safety and fire protection, waste management, soil and water resources, and greenhouse gases.

The Committee issued a scheduling order on September 26, 2014, that was subsequently revised on October 30, 2014. On October 24, 2014, the Committee filed a notice scheduling status conferences on November 3, 2014; December 3, 2014 (that was continued to December 10, 2014); January 7, 2015, and February 4, 2015. An additional status conference was held on March 4, 2015.

Staff published its Preliminary Staff Assessment (PSA) on December 15, 2014. Staff provided notice of a public workshop in the PSA on December 17, 2014. Intervenor Terramar moved to delay the staff's PSA workshop. The Committee orally denied this motion during the January 7, 2015, status conference, and provided a formal written

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<sup>27</sup> Cal. Code Regs., tit. 20, § 1701 et seq.

<sup>28</sup> Ex. 1030.

<sup>29</sup> Exs. 1000, 1001. The Committee assigned to conduct proceedings on the two petitions consolidated them into this single proceeding on September 23, 2014.

order on January 15, 2015. Staff conducted a public workshop on the PSA on January 12 and 13, 2015, at the Hilton Carlsbad Oceanfront Resort.

On February 17, 2015, staff published the FSA. The Committee conducted a Prehearing Conference on March 18, 2015.

Evidentiary hearings were conducted on the amendment petitions on April 1 and April 2, 2015, at the Hilton Carlsbad Oceanfront Resort. The Committee filed its PMPD on June 9, 2015, subject to a 30-day comment period. The Committee conducted a Committee Conference on the PMPD on June 29, 2015. The comment period closed on July 9, 2015.

On July 15, 2015, the Committee filed a PMPD Errata containing corrections to the PMPD and responses to significant comments on the PMPD. At its July 30, 2015, Business Meeting, the full Energy Commission considered the PMPD and Errata and adopted an Order approving the amendments.

#### **D. ENERGY COMMISSION OUTREACH**

Several divisions within the Energy Commission provide various notices concerning power plant siting cases. Staff provides notices of Staff workshops and the release of the Staff Assessments. The Hearing Office notices Committee-led events such as the Informational Hearing and Site Visit, Status Conferences, the Prehearing Conference, and Evidentiary Hearings. The Public Adviser's Office provides additional outreach for critical events as well as information to interested persons that would like to become more actively involved in a power plant siting proceeding or require translation services. Further, the Media Office provides notice of events to local and regional press through press releases. The public may also subscribe to the proceeding's e-mail List Server offered on the Energy Commission's web site for each project which gives an immediate notification of documents filed in the proceeding. Through the activities of these entities, the Energy Commission has made every effort to ensure that interested persons are notified of activities in this proceeding.

#### **E. PUBLIC COMMENT**

The record contains public comments from concerned individuals and organizations. Throughout these proceedings, as reflected in the transcribed record, the Committee provided an opportunity for public comment at each Committee-sponsored conference and hearing. A summary and response to substantive comments is included in the individual topic sections that follow.

## II. PROJECT DESCRIPTION AND PURPOSE

### POWER PLANT

The key feature of the proposed amendments is the change in equipment to be used to generate power at the facility.

The licensed CECP would have been a 558-megawatt (MW) gross combined-cycle power generating facility configured with two, Siemens SCC6-5000F natural-gas fired combustion turbines and a steam-turbine generator in a combined-cycle configuration.<sup>1</sup>

The amended CECP facility would consist of six gas turbine power blocks, with the following major components, providing a total nominal generating capacity of 632 MW net:

- Six General Electric LMS100PA gas turbines equipped with water injection for NOx control, inlet air filters, inlet air evaporative coolers, and compressor intercoolers;
- Each gas turbine would be equipped with a selective catalytic reduction (SCR) system with 19-percent aqueous ammonia injection to further reduce NOx emissions, and an oxidation catalyst to reduce CO emissions;
- Six air-cooled fin-fan coolers that serve the gas turbines' intercoolers;
- Six 90-foot tall, 13.5-foot inside diameter exhaust stacks;
- A continuous emission monitoring (CEM) system installed on each stack would record concentrations of NOx, CO, and oxygen in the flue gas;
- A 779 brake-horsepower (bhp) emergency generator engine;
- A 327 brake-horsepower (bhp) emergency fire pump engine; and
- Three electric motor-driven 50 percent capacity fuel gas compressors.<sup>2</sup>

### LOCATION

The project site has remained largely unchanged between the approved project and the proposed amended project. The ACECP will be constructed on the existing power generating facility known as the Encina Power Station (EPS). The EPS is located on approximately 95 acres, adjacent to the southern edge of the Agua Hedionda Lagoon, in the City of Carlsbad in San Diego County. The EPS has been operating in this location since the 1950s. The EPS is bounded by San Diego Gas and Electric (SDG&E) property and Cannon Road to the south, Interstate 5 (I-5) to the east, Carlsbad

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<sup>1</sup> Ex. 3002, p. 2-1.

<sup>2</sup> Ex. 2000, pp. 3-3, 4.1-28.

Boulevard to the west, and the Agua Hedionda Lagoon to the north. The north/south AT&SF/North County Transit District (NCTD) Rail Corridor bisects the EPS. Approximately 65 acres lie to the west of the railroad and contain the existing generating equipment (Assessor Parcel Number [APN] 210-01-43). Under the initial project, the plant would have occupied approximately 23 acres to the east of the railroad; under the ACECP, the site area increases to approximately 30 acres.<sup>3</sup>

Under the 2012 decision, the EPS facilities would remain in place for an undetermined period of time until its units 4 and 5 were no longer needed for electricity system reliability and it was financially feasible to remove its equipment, notably the 400-foot high exhaust stack and 200-foot high building housing its generators. With the Petitions to Amend, the project owner seeks permission to demolish three above-ground fuel oil storage tanks—ASTs 1 and 2 west of the rail corridor to provide space for power plant construction parking and lay-down, as well as AST 4 to the east of the corridor. AST 4, along with ASTs 5, 6 & 7 will be removed so that the ACECP can be constructed inside the berms in which they exist. Internal berm walls currently separating the tanks will be removed to provide a continuous area for the ACECP equipment, 25-feet below grade.<sup>4</sup> Following successful commercial operation of ACECP, the petitioner will, over the course of no greater than three-years, shutdown, decommission and demolish all above-ground EPS facilities west of the rail corridor.<sup>5</sup>

## **TRANSMISSION SYSTEM**

Similar to the licensed CECP, the amended CECP units would interconnect with SDG&E's 138-kv and 230-kV switchyard facilities. The estimated total length of the 230kV gen-tie line would be 2,171 feet. The estimated total length of the 138kV gen-tie line would be 1,150 feet. All key power plant operation and maintenance features would be located to the eastern side of the railroad tracks within the 30-acre project footprint.<sup>6</sup>

## **WATER SUPPLY AND WASTEWATER TREATMENT**

As approved in the 2012 Decision, the CECP would use evaporative air cooling, requiring 700,000 gallons of water per day (or 784.62 acre-feet per year (AFY)). That demand could be met with either recycled water from the City of Carlsbad or desalinated water drawn from the lagoon adjoining the project site.<sup>7</sup> Potable water

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<sup>3</sup> Ex. 2000, p. 4.10-7.

<sup>4</sup> Ex. 2000, pp. 3-3, 3-7.

<sup>5</sup> Ex. 2000, pp. 3.3-3.4.

<sup>6</sup> Ex. 2000, pp. 3-3, 3.4.

<sup>7</sup> Ex. 3002, pp. 1-2, 2-3.

would be supplied by the City and used for domestic and fire protection purposes.<sup>8</sup> Wastewater treatment for discharges from restrooms, eye wash stations, safety showers, drinking fountains, and the like was to be provided by the City of Carlsbad.<sup>9</sup> If used to meet the project's industrial demands, recycled water would have been pretreated with wastewater treated as necessary and discharged to the Encina Wastewater Authority treatment plant.<sup>10</sup> On the other hand, if using saltwater from the lagoon, wastewater from the desalination process could be discharged to the Pacific Ocean.<sup>11</sup>

With the amendments to the CECP, water will now be provided by the City of Carlsbad.<sup>12</sup> For sanitary purposes, the project will continue to use potable water. For industrial purposes, including the water needed to run the inlet air evaporative cooling system, the City will provide reclaimed water. Water delivery to the project will be limited to 300 AFY.<sup>13</sup> Thus, with the changes to the project, the amount of water necessary will decrease by over 300 AFY per year and will eliminate the use of ocean water.<sup>14</sup>

Wastewater from the ACECP will still be treated at the City's plant.<sup>15</sup> However, the reclaimed water would require demineralization on resin-based trailer-mounted units. As the units are exhausted, the trailers would be disconnected and taken off-site to the trailer supplier's facility for regeneration.<sup>16</sup>

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<sup>8</sup> Ex. 3002, p. 7.2-3.

<sup>9</sup> Ex. 3002, p.7.2-4.

<sup>10</sup> Ex. 3002, pp. 3-4, 7.2-3 -7.2-4.

<sup>11</sup> Ex. 3002, p. 7.2-4.

<sup>12</sup> Ex. 101, Testimony of Kirsten Plonka; Ex. 102; Ex. 2000, p. 4.10-10.

<sup>13</sup> Ex. 2000, pp. 1-19, 4.10-2,

<sup>14</sup> Ex. 2000, p. 4.10-7, Soil & Water Resources Table 3.

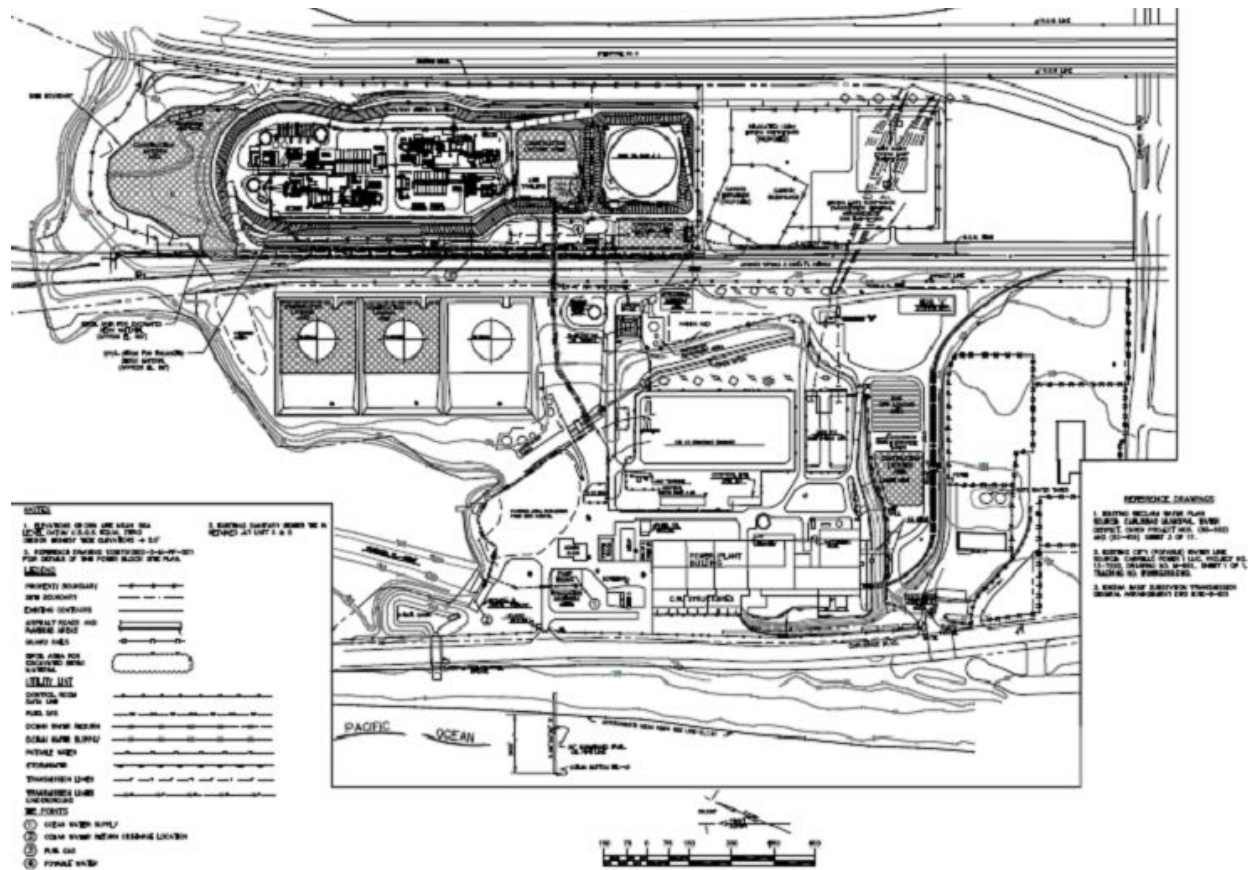
<sup>15</sup> Ex. 101, Testimony of Kirsten Plonka; Ex. 102; Ex. 2000, p. 4.10-10.

<sup>16</sup> Ex. 2000, pp. 3-6 – 3-7; 4.10-11.

# SITE LAYOUT

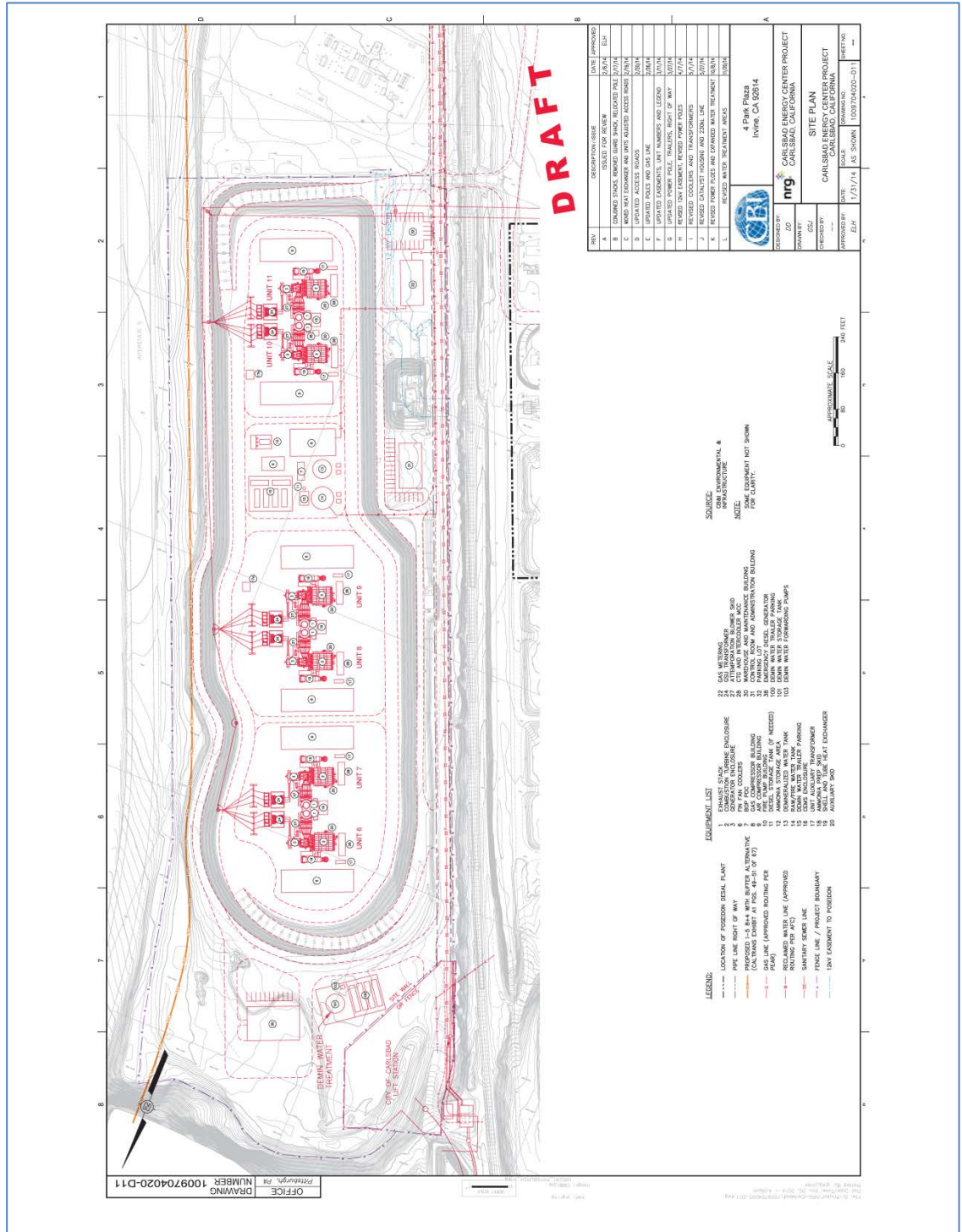
Project Description Figures 2 and 3 show the licensed CECP and proposed ACECP site layouts. Project Description Figure 4 depicts the current state of the EPS site, including the features such as the EPS and ASTs that will be removed.

### Project Description Figure 2 Licensed CECP Site Layout





# Project Description Figure 3 Proposed ACECP Site Layout



## Project Description Figure 4 ACECP Project Context



**LEGEND**

- |  |   |  |
|--|---|--|
| <span style="border: 2px solid red; display: inline-block; width: 20px; height: 10px; vertical-align: middle;"></span> Encina Power Station Site   | <span style="border: 1px solid pink; border-radius: 50%; width: 15px; height: 15px; display: inline-block; vertical-align: middle;"></span> Tanks to be Removed Under the Proposed Amendment    | <span style="border: 1px solid yellow; border-radius: 50%; width: 15px; height: 15px; display: inline-block; vertical-align: middle;"></span> Tank Removed As Part of the Development of the Poseidon Desalination Plant |
| <span style="border: 2px solid purple; display: inline-block; width: 20px; height: 10px; vertical-align: middle;"></span> Licensed CECP            | <span style="border: 1px solid white; border-radius: 50%; width: 15px; height: 15px; display: inline-block; vertical-align: middle;"></span> Tanks to be Removed as a Part of the Licensed CECP |  |
| <span style="border: 2px solid blue; display: inline-block; width: 20px; height: 10px; vertical-align: middle;"></span> Poseidon Desalination Site |   |  |
| <span style="display: inline-block; width: 10px; height: 10px; background-color: black; vertical-align: middle;"></span> → KOP                     |   |  |



Source: Ex. 2000, PROJECT DESCRIPTION - FIGURE 1

## SCHEDULE

The 64-month ACECP schedule has four phases:<sup>17</sup>

### Phase I: Tank Demolition and Remediation: 3th Quarter, 2015 through 4th Quarter, 2015

- Demolition of ASTs 1, 2, and 4;
- Removal of berm between ASTs 4 and 5
- Removal of oily sands from under ASTs 1, 2, and 4, as necessary
- Demolition of ASTs 5, 6, and 7
- Berm removal between ASTs 5 and 6 as well as between ASTs 6 and 7
- Soil remediation activities for ASTs 5, 6, and 7, as necessary

### Phase II: Construction / Commissioning / Operation of amended CECP: 4<sup>th</sup> Quarter, 2015 through 4<sup>th</sup> Quarter 2017

- Construct, commission and operate the reconfigured ACECP power plant
- Construct linear facilities (recycled water pipeline, 138-kV and 230-kV transmission lines)
- Upgrade the SDG&E 230-kV switchyard

### Phase III: Retirement and Decommissioning of EPS units: 4<sup>th</sup> Quarter, 2017 through 4<sup>th</sup> Quarter, 2018

- De-energize unnecessary electrical equipment. Some electrical supplies may remain in service in support of demolition activities.
- Purge industrial gases from equipment (e.g., natural gas, hydrogen)
- Remove industrial chemicals from the site, including aqueous ammonia, and mercury if present
- Remove oil from all pumps, motors, pipes, oil reservoirs, transformers, and other equipment
- Electrically isolate decommissioned equipment
- Physically isolate decommissioned equipment by disconnecting from piping systems or other means

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<sup>17</sup> Ex. 2000, pp. 1-3, 3-8 – 3-10, 4.10-7, 4.10-13.



## FINDINGS SPECIFIC TO AN AMENDMENT

As we note in the **Introduction**, above, in addition to the findings necessary to approve an initial power plant license, two additional findings are required in order to approve an amendment to a license:

1. The change in the project will be beneficial to the public, Applicant, or intervenors and
2. There has been a substantial change in circumstances since the original approval justifying the change or that the change is based on information which was not known and could not have been known with the exercise of reasonable diligence prior to the original approval.

### 1. Benefits

The changes in project location outlined above help further the goal of the City of Carlsbad to free up portions of the EPS site west of the railroad for redevelopment to non-power plant uses.<sup>19</sup> While the CECP project could also result in the redevelopment of the western portion of the EPS site, it lacks a power purchase agreement or other contractual commitment to purchase its output and is unlikely to be constructed in the near future. Even if its construction were to begin today, the CECP is required only to plan for and obtain permits for the removal of the EPS facilities after they are no longer required for system reliability.<sup>20</sup> The actual removal of the facilities is not required until a “viable City approved redevelopment plan” is in place. Removal could be delayed for years until that plan is approved and a future developer obtains financing for its project.

The ACECP, in contrast, has a power purchase tolling agreement. By agreement with the City of Carlsbad, it has committed to remove the EPS facilities following the start of commercial operation of ACECP.<sup>21</sup> Approving the ACECP is therefore likely to effect an earlier removal of the EPS facilities than would the speculative construction of the CECP.

The ACECP also reduces the total amount of water used by the power plant, and specifically eliminates the use of ocean water.<sup>22</sup>

The changes to the zoning and other land use regulations by the City of Carlsbad also eliminate almost all but one of the inconsistencies between the proposed amended

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<sup>19</sup> Ex. 2000, p. 3-7.

<sup>20</sup> Ex. 3002, pp. 8.1-25, 8.1-37 – 8.1-39, Conditions LAND-2 and LAND-3.

<sup>21</sup> Ex. 2000, pp. 3-9 – 3-10.

<sup>22</sup> Ex. 2000, pp. 4.10-52, 4.10-56.

project and those LORS. The remaining inconsistency is with the Agua Hedionda Land Use Plan's 35-foot height limitation.<sup>23</sup>

The ACECP would result in beneficial visual impacts at several public view locations due to the removal of the existing EPS during Phase IV of the construction schedule.<sup>24</sup>

## 2. Changed Information or Circumstances

The Applicant, in the one of the Petitions to Amend, explains the change in information and circumstances as follows:

The purpose of the proposed changes in this PTA is to make the CECP conform to current electrical energy needs for fast-response peaking generation and to better respond to the unanticipated and unprecedented retirement of the San Onofre Nuclear Generating Station [SONGS]. Further, and something that could not be anticipated, changing circumstances created an opportunity for cooperation with the City of Carlsbad. The result of that cooperation was an agreement<sup>25</sup> between the City of Carlsbad and the Project Owner that allows for a much improved design that also includes full shut down of EPS Units 1 through 5.<sup>26</sup>

We also note that the CPUC very recently approved a Power Purchase Tolling Agreement (PPTA), functionally equivalent to a Power Purchase Agreement (PPA) between the project owner and SDG&E for the output of five of the six turbines proposed for the ACECP.<sup>27</sup>

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<sup>23</sup> The City's land use amendments do not eliminate the land use inconsistencies that were found for the CECP. The City amendments specifically describe the project described in the settlement agreement between the City, project owner, and SDG&E (in other words, the ACECP) as the only allowed power plant use on the site. Ex. 105, p. 10.

<sup>24</sup> Ex. 2000, p. 4.13-35.

<sup>25</sup> Ex. 1001, Appendix 2A.

<sup>26</sup> Ex. 1000, p. 1-4.

<sup>27</sup> Ex. 501. We also note that, as of July 15, 2015, several applications for rehearing were pending in the CPUC proceeding. See TNs 205300 – 205305 (rejected Exhibits 6020 - 6025).

## **FINDINGS AND CONCLUSIONS**

Based upon the evidence, the Commission finds as follows:

1. The change in the project will be beneficial to the public, Applicant, and intervenor by providing better consistency between the project and local land use regulations; by reducing water use; by removing the existing EPS power plant and thus improving visual aesthetics in the area; by additional local generating capacity, construction and operations employment, tax revenues and reduced environmental impacts compared to the approved project; and
2. There has been a substantial change in circumstances since the original approval justifying the change in that the Applicant and the City of Carlsbad have entered into an agreement whereby the land use regulations applicable to the project site have been amended to allow for the development of ACECP. In addition, changes in the electricity market favor simple-cycle, rather than combined-cycle generating units to further the integration of renewable energy sources into the system and support system reliability, especially in light of the unexpected retirement of SONGS. This information was not known, nor could it have been known at the time the Energy Commission adopted the 2012 Decision.

### III. PROJECT ALTERNATIVES

#### INTRODUCTION

CEQA and the Energy Commission's regulations require an evaluation of the comparative merits of a range of feasible site and facility alternatives that achieve the basic objectives of the ACECP but would avoid or substantially lessen potentially significant environmental impacts.<sup>1</sup> (Cal. Code Regs., tit. 14, §§ 15126.6(c) and (e); see *a/so*, tit. 20, § 1765.) This topic was disputed. The evidence is contained in Exhibits 200, 201, 203, 205, 206, 207, 210, 212, 213, 214, 216, 217, 501, 1000, 1001, 1002, 1004, 1011, 1030, 1031, 2000, 2001, 2002, 2010, 3002, 3006, 3011, 3012, 3013, 3014, 3015, 3040, 3041, 3043, 3044, 3045, 6003, 6006, and 6009, and 04/02/2015 RT 137:9 - 200:12.

Of the subtopics discussed below, three were contested—whether any additional gas-fired generation is necessary, the reduced capacity alternative, and whether the licensed CECP is the preferred alternative.

Much of the discussion and conclusions in the Energy Commission's 2012 Decision<sup>2</sup> remain valid today. The electricity generation landscape is in a time of transition, however, providing us with new information that is relevant to our alternatives analysis. The LORS inconsistencies and significant environmental impacts that must be addressed and overridden have changed from those present in 2012. The project has changed from a combined-cycle to a simple-cycle configuration. The San Onofre Nuclear Generating Station, (SONGS), a 2200 MW base-load facility, a portion of whose generation served the San Diego area, was out of service while undergoing major maintenance in 2012 but expected to return to service; it has since permanently closed.

The remainder of this section follows the organization of the 2012 Decision, summarizing its conclusions where they are unchanged by new information, project or project vicinity changes and revising or supplementing when necessary for new information or proposed project changes.

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<sup>1</sup> Public Resources Code section 25540.6(b) requires an Applicant for a power plant such as the CECP, which is otherwise exempt from the notice of intention process, to include information on the site selection criteria, alternative sites, and the reasons for choosing the proposed site. Section 1765 of the Commission's regulations further requires the parties to present evidence on alternative sites and facilities. (Cal. Code Regs., tit. 14, § 15126.6 and tit. 20, § 1765.)

<sup>2</sup> Ex. 3002.



## **Project Description and Setting**

The ACECP project setting is essentially unchanged from the CECP approved in 2012. The proposed ACECP would increase the net output from 540 MW to 632 MW, using six simple-cycle generators instead of the previously approved two combined-cycle units. The ACECP footprint expands to the south, increasing the project site from 23 to 30 acres. Transmission lines connecting to the adjacent substation would be moved from the west side of the project site to its east side, adjacent to Interstate-5. The existing EPS would be decommissioned and removed after the ACECP is commercially operational.

## **Project Objectives**

The applicant provided a series of project objectives which staff evaluated and reformulated. We find staff's restated objectives to be reasonable and list them as follows:

- Meet the need for new, cost-effective, reliable energy resources that are dispatchable by the California Independent System Operator (CAISO) and located in the "load pocket" that includes the San Diego region.
- Improve San Diego regional electrical system reliability through fast-starting energy resources capable of rapid response to peak demand situations, and provide CAISO a dependable resource to back up intermittent renewable generation resources such as wind and solar.
- Modernize existing aging electrical generation infrastructure in north coastal San Diego County to enable retiring once-through cooling (OTC) facilities. Retiring the use of OTC is an objective mandated by the State Water Resources Control Board and shared by the utilities and other energy and environmental agencies in California, including the CPUC, California Coastal Commission, Energy Commission, and CAISO.<sup>3</sup>
- Modify the CECP to include retiring the five boiler units and one small combustion turbine at the Encina Power Station (EPS), thereby allowing for better grid support from the June 2013 shutdown of the San Onofre Nuclear Generating Station.
- Use existing infrastructure to accommodate replacement generation, and avoid potential environmental impacts and costs of developing a new power generating facility at a greenfield location.

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<sup>3</sup> We've modified this objective to clarify that retirement of OTC facilities is required, not simply a policy objective, and to add the Coastal Commission to the list of supporting agencies.

- Meet the commercial qualifications for long-term power contract opportunities in Southern California.
- Achieve project consistency with applicable laws, ordinances, regulations, and standards (LORS).<sup>4</sup>

In addition to the above objectives, we add another:

- Facilitate the decommissioning and removal of the EPS facilities and redevelopment of the portion of the EPS site to the west of the rail corridor for non-power generating uses.

### **Alternative Sites Evaluation**

The 2012 Decision analyzed five alternative locations for the CECP: Carlsbad Safety Center, the Encina Wastewater Authority, Maerke, Carlsbad Oaks North, and CATO. Staff's analysis finds that the alternative discussion for the 2012 CECP is still current and applicable to the ACECP. This subtopic was not contested. No evidence was offered to suggest a need to revisit or revise that portion of the analysis. The following is a summary of our findings about those alternatives from the 2012 Decision.

The Carlsbad Safety Center site was eliminated from further consideration during the screening process due to significant unmitigable impacts and the lack of nearby associated electric infrastructure (transmission lines).

The Encina Wastewater Authority site lacks sufficient acreage for a power generator and was eliminated from further consideration.

The Maerke site, is located close to residences, requires greater effort than does ACECP to prepare the site and construct necessary infrastructure, presents potential visual impacts due to the elevated topography of the site, and is not currently zoned for power generation. Use of this site would potentially increase environmental impacts over those identified for the CECP or ACECP.

The Carlsbad Oaks North site creates similar visual impact concerns as the Maerke site due to elevated topography, would intensify the use of the site with heavy industrial development, is inconsistent with the zoning, and requires lengthy linears. Use of this site would potentially increase environmental impacts over those identified for the CECP or ACECP.

The CATO site is also adjacent to residences, requires more construction to provide access and linears, presents greater potential for visual impacts due to site topography, and is inconsistent with the zoning. The site fails to substantially lessen environmental

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<sup>4</sup> Ex. 2000, p. 4.2-3.

impacts when compared to the ACECP, and could cause greater impacts over those identified for the CECP or ACECP.<sup>5</sup>

### Conclusion

None of the alternative sites would avoid or substantially lessen any significant effects of the ACECP. They would likely satisfy many of the project objectives, except those relating to the re-use of the existing EPS infrastructure and facilitating the retirement and redevelopment of the existing EPS facility.

### **Power Purchase Agreement Projects Alternative**

In addition to alternative locations, the 2012 Decision evaluated whether three other projects (Pio Pico Energy Center, Escondido Energy Center, and Quail Brush)<sup>6</sup> in the San Diego region that had entered into Power Purchase Agreements were alternatives that met basic project objectives while avoiding or substantially lessening potentially significant environmental impacts. The 2012 Decision found that the generation from CECP might be necessary *in addition to* the generation from the three projects, and that these three projects were therefore not reasonable alternatives to the CECP.

Since 2012, one of the projects, Pio Pico (300 MW), is under construction and projected to be on line in late 2016. The Escondido Energy Center was a turbine replacement project offering a net increase of 5 MW, enough to fill less than two percent of the projected need. The third, Quail Brush (102 MW), withdrew its application for certification (11-AFC-03) from the Energy Commission.

In March 2014, as part of the CPUC's 2012 Long-Term Procurement Plan (LTPP) proceeding, the CPUC issued decision D.14-03-004. This decision authorized Southern California Edison and SDG&E to procure generating capacity from a combination of preferred resources and gas-fired resources to meet local capacity needs stemming from the retirement of SONGS. SDG&E was required to procure 300 to 600 MW of additional generation capacity which may be either preferred resources (renewables, distributed generation, storage) or gas-fired generation, plus another 200 MW of preferred resources. Pio Pico's 300 MW is listed as part of an earlier authorization, confirming that the CPUC found a need for 300 – 600 MW of potentially gas-fired capacity in addition to Pio Pico.<sup>7</sup>

This subtopic was not contested.

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<sup>5</sup> Ex. 2000, 4.2-16 – 4.2-18.

<sup>6</sup> Ex 3002, p.p. 3.12 – 3.14.

<sup>7</sup> Ex. 6006, p. 4.

## Conclusion

Although certain circumstances have change since our 2012 Decision, none of the new information justifies revisiting its conclusion that there are no other projects which have already entered into Power Purchase Agreements, meet basic project objectives, and also avoid or substantially lessen potentially significant environmental impacts of the project.

## **Reduced Capacity Alternative**

### Positions of the Parties

Staff analyzed an alternative in which the ACECP would have four turbines, rather than the proposed six, for a generating capacity of approximately 421 MW. Intervener Terramar Association argues for removing one or more turbines from the project. Terramar's premise is that having fewer turbines would allow for more effective landscape screening of the ACECP from view by persons on I-5 and to the east.<sup>8</sup> Interveners Sarvey and Simpson argue for a reduction in capacity to align the project to the size approved for a PPTA between the project owner and SDG&E.<sup>9</sup> The project owner says that it intends to construct all six turbines whether or not they are all contracted to serve SDG&E.<sup>10</sup>

At the time of the Evidentiary Hearings, the capacity that the CPUC would ultimately approve in the PPTA between SDG&E and the project owner, if any, was uncertain. It was proposed by SDG&E as 600 MW. On May 21, 2015, the CPUC adopted Decision 15-05-051 in proceeding A1407009 (filed May 29, 2015). We take official notice of that decision and have filed it in the Docket of this proceeding. Decision 15-05-051 conditionally approves the PPTA provided that the generation contracted for is reduced to 500 MW and the additional 100 MW that was proposed as gas-fired generation under contract with the project owner is instead procured from preferred resources along with the already required 200 MW, meaning that SDG&E is mandated to procure 300 MW of preferred resources in addition to ACECP's 500 MW.<sup>11</sup>

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<sup>8</sup> Terramar post-hearing brief, TN 204356, p. 12.

<sup>9</sup> Robert Sarvey's Opening Brief, TN 204360, p. 16; Robert Simpson's Motion to (A) Require the Project Owner to Submit a Petition to Modify Its Application for Certification and (B) Delay the Issuance of a Proposed Decision In This Proceeding Until the Commission Has Fully Examined the Petition to Modify, TN 204185.

<sup>10</sup> 04/02/2015 RT 158:1-161:21; TN 204359, Project Owner's Post-Evidentiary Hearing Brief, pp. 17 – 18.

<sup>11</sup> Ex. 501.

## Discussion and Conclusion

Possession of a PPTA, PPA, or other contract to sell a facility's generation is not a prerequisite for approval of an Energy Commission license to construct the facility. Whether a facility is "needed" and the extent to which it is needed, can be of some relevance where, as here, there are LORS conflicts or unmitigatable significant impacts which we must balance against the project's benefits, one of which might be satisfaction of a system need. The need for a project is not dispositive, however.

As we discuss in the **Override Findings** section of this Decision, the Energy Commission and the CPUC, make complementary decisions regarding power plants, subject to different standards. No law or rule requires that the Energy Commission approve only the capacity for which the CPUC has approved contracts. The bidding for those contracts will be more competitive—to the ratepayers' benefit—if more shovel-ready projects are available to compete.

Here, the project owner professes an intention to build all six turbines despite having contracts for only five. Other contracting opportunities may present themselves or it may operate the sixth turbine in the spot market. Providing that additional capacity from the ACECP site makes good use of existing infrastructure. No compelling reason for reducing the size of the project has been presented and we decline to do so.

The reduced capacity alternative would not eliminate the significant cumulative impact relating to the potential inability to provide sufficient visual screening following the widening of I-5. While it may allow for a relocation of and reduction in the visibility of two of the transmission-line poles of concern to Interveners Terramar Association and Power of Vision, the poles as configured for the six-turbine ACECP do not cause significant visual impacts; no further reductions are necessary. If additional capacity beyond the staff analyzed alternative of 421 MW is necessary, a new facility at another location or expansion of an existing facility would be required, with additional potential impacts.<sup>12</sup>

### **Generation Technology Alternatives (Preferred Resources, Including Renewable Resources, Distributed Generation)**

Staff's analysis of the ACECP renewable resource alternatives focuses on distributed generation (DG)<sup>13</sup> as an alternative to additional utility-procured generation, including gas-fired generation such as the ACECP. It notes that of the 12,000 MW goal for locally distributed renewable generation in 2020 established by Governor Brown,

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<sup>12</sup> Ex. 2000, pp. 4.2-19 – 4.2-21; 04/02/2015 RT 146:17-148:8.

<sup>13</sup> DG by definition includes fossil-fueled generation. For purpose of this analysis, we assume that it is a renewable resource, most likely solar or wind based.

approximately 5,200 MWs were operating at the end of 2014, with an additional 1,200 MW pending. Existing programs are expected to yield another 2,500 MW of the 5,600 MW necessary to reach the goal.<sup>14</sup>

Staff asserts that DG is not a viable or feasible alternative to ACECP because:

- The CPUC LTPP process already accounts for development of DG in the San Diego and Southern California areas in determining the need for dispatchable, flexible generation in the San Diego area. DG also likely makes up a share of the 300 MW of preferred resources that SDG&E is required to procure to meet reliability needs.
- Development of DG is voluntary, not under the control of the CAISO, CPUC or utilities. It cannot be dispatched to support system reliability.
- DG fails to satisfy most of the project objectives. It is not dispatchable, does not support system reliability, does not leverage the existing infrastructure at the EPS site, and does not assist in retiring the EPS facility.<sup>15</sup>

The 2012 Decision reviewed a broader range of renewable technologies, including conservation and demand-side management, larger-scale renewables (solar, wind, biomass). None were found ready, particularly when viewed individually, rather than as a complementary suite of options, to substitute for gas-fired generation. Staff contends that at present and for the near term, gas-fired generation such as the ACECP is necessary to back them up as their output varies due to forces that the grid managers cannot control.<sup>16</sup>

Staff further notes in its updated analysis for the ACECP that energy conservation and demand-side management do not meet most of the project objectives. They do not help to modernize the EPS site by replacing aging infrastructure at the EPS site, allowing for the shutdown of its once-through cooling OTC system, or the removal of the EPS enclosure and stack. Further, they do not leverage the existing infrastructure at the site. Staff concluded that at least some of the demand-side management tools do not respond rapidly enough to grid events to be able to effectively maintain grid reliability.

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<sup>14</sup> Ex. 2000, pp. 4.2-9 – 4.2-10.

<sup>15</sup> Ex. 2000, pp. 4.2-11 – 4.2-13

<sup>16</sup> Ex. 3002, pp. 3-15 – 3-19.

## Discussion and Conclusions

With respect to generation technology alternatives including preferred resources, there is a theme underlying many of the statements of parties and the public<sup>17</sup> to the effect that California does not need any more fossil-fuel generators. The concept that instead we should rely on preferred resources (wind, solar, other renewables, conservation, and demand response/demand-side management) for our needs, including the present issue of identifying the best response to SONGS' retirement, deserves closer examination. Preferred resources are still emerging as a diverse group of choices with varying attributes and strengths for meeting the need for capacity, ancillary services, and overall regional reliability. When used in combination (e.g., demand response, rooftop solar, and storage), their technical capability to respond to various capacity and regional system demands has been demonstrated at the commercial microgrid scale for several years. The CPUC has recognized this technical readiness, by mandating that SDG&E procure at least 200 MW of its 500-800 MW allotment from preferred resources. We expect that, in the future, technical-regulatory approaches that ensure active coordination and appropriate visibility of multiple preferred resources will mature to provide all necessary attributes to satisfy reliability criteria at a scale that supports statewide GHG reduction goals. We agree that gas-fired generation currently has a significant role as back-up support while the electricity system continues a steady transition towards Governor Brown's direction of a 50 percent renewables supply mix by 2030.

In its 2012 LTPP proceeding, the CPUC faced this same issue. Proponents of preferred resources argued that all of the new procurement should be from those sources; utilities and CAISO urged caution, concerned that preferred resources, particularly when evaluated individually, could not provide all of the system reliability features that gas-fired generation provides. Its decision mandates that a portion of the capacity be from preferred resources but leaves the choices about the source of the remaining capacity to the utilities.

In D.13-02-015, [a previous procurement proceeding] Finding of Fact 30 stated: "It is necessary that a significant amount of this procurement level be met through conventional gas-fired resources in order to ensure LCR [local capacity requirement(s)] needs will be met." There is nothing in the record of Track 4 of this proceeding that would require a change to this Finding. While we strongly intend to continue pursuing preferred resources to the greatest extent possible, we must always ensure that grid operations are not potentially compromised by excessive reliance on

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<sup>17</sup> Including Christine Bevilacqua, Paul Thompson, and Phil Rogul.

intermittent resources and resources with uncertain ability to meet LCR needs.

In the Commission's [CPUC] RA [resource adequacy] proceeding (R.11-10-023), we are currently exploring the ability of various preferred resources and energy storage to meet LCR needs. The ISO is engaged in this effort as well. As this highly technical process develops, we will have a better idea of how such resources can be integrated with gas-fired resources to ensure reliability. In addition, we will learn more about the extent to which non-gas-fired resources can be used instead of gas-fired resources to meet LCR needs. Until this effort is better developed, we will take a prudent approach to reliability, while still promoting preferred resources to the greatest extent feasible. The prudent approach we take entails a gradual increase in the level of preferred resources and energy storage into the resource mix, to historically high levels.<sup>18</sup>

The Energy Commission also addressed this theme in its 2012 Decision:

Current demand-side programs alone are not sufficient to satisfy future electricity needs, nor is it likely that even much more aggressive demand-side programs could accomplish this at the economic and population growth rates that are projected for the state. Therefore, although it is likely that federal, state, and local demand-side programs will receive even greater emphasis in the future, both new generation and new transmission facilities will be needed in the immediate future and beyond in order to maintain adequate supplies.<sup>19</sup>

The 2012 Decision further reminds us that, in deciding whether and in what amounts the utilities should procure additional capacity from generation, state policy goals for energy efficiency and demand-side management are assumed to be met. The resulting capacity to be procured is the amount necessary to satisfy the demand that remains after the energy efficiency and demand-side management savings are realized.<sup>20</sup> The CPUC most recently did so in the 2012 LTPP proceeding, resulting, as noted above, in authorization for SDG&E to procure 500 – 800 MW of additional capacity, 300 – 600 MW of which may be gas-fired generation.<sup>21</sup>

The following words from the 2012 Decision continue to apply today:

While these alternative technologies should be pursued as a vital component of the electrical generation supply and implemented to the greatest extent feasible, they are not alternatives to having dispatchable

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<sup>18</sup> Ex. 6006, pp. 90 - 91.

<sup>19</sup> Ex. 3002, p. 3-16.

<sup>20</sup> Ex. 3002, p. 3-16.

<sup>21</sup> Ex. 6006, p. 4.



gas-fired backup in the electrical load pocket to provide system reliability and integration of these renewable resources. We need both renewable and dispatchable generation to back them up. In fact, the more renewables in the system, the greater the need for dispatchable backup.<sup>22</sup>

### **No Project Alternative**

Having previously approved the CECP in 2012, which approval remains in effect if the proposed amendments are not approved, we essentially have two potential no project scenarios—the CECP is constructed as approved or the EPS continues in place as it presently exists.

While the existing EPS is located in the “load pocket”, it is not a cost-effective, quick starting facility. It is costly to run on a regular basis, and it uses substantially more natural gas than modern generation facilities.<sup>23</sup> The aesthetic benefits from its removal would not be achieved, nor the modernization of the generating fleet. It might even operate past its 2017 closure deadline under the OTC phase-out rules if necessary to maintain grid reliability.

While the CECP would modernize the generating fleet and provide faster starting for responding to peak demands, it takes significantly longer to come up to full load than the ACECP’s equipment. SDG&E’s decision to award a PPTA to the ACECP confirms the utility’s view that ACECP’s more flexible simple-cycle units are more suited to the intended use of the facility than the combined-cycle units of the CECP. In addition, the CECP has a taller visual profile (and impact) and uses twice as much water compared to the ACECP.

The CECP is required to plan for the eventual redevelopment of the EPS site west of the rail corridor, but completion of that task is left to market forces to produce the necessary resources; the ACECP includes decommissioning and demolition as part of the project, making coastal land available for non-industrial uses. Finally, the CECP remains inconsistent with the City’s land use LORS, which were amended specifically to allow the facility described in the agreement between the project owner, SDG&E and the City (ACECP), but not other power plants such as the CECP.<sup>24</sup>

Staff concluded that the no project alternative of retaining the existing EPS would not meet any of the proposed project objectives. Mr. Sarvey stated in his post-hearing brief<sup>25</sup> that the 2012 licensed CECP is more efficient and flexible than the amended

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<sup>22</sup> Ex. 3002, pp. 3-18 – 3-19.

<sup>23</sup> Ex. 2000, p. 4.2-23.

<sup>24</sup> Ex. 105, pp. 1, 5.

<sup>25</sup> Robert Sarvey’s Opening Brief, TN 204360, p. 12-17.

project, given that the licensed project's combined cycle turbines would have a lower heat rate, and that it would be allowed more start-ups per day. Mr. Sarvey also asserts that the licensed CECP is the environmentally superior alternative because it emits substantially less criteria pollutant emissions and greenhouse gases than the ACECP. He recommends that the CECP be developed as it was approved in 2012, calling it "the right project to replace SONGS."<sup>26</sup>

### **Discussion and Conclusion**

Regarding the no project alternative of constructing the currently licensed CECP, we agree with staff's conclusions. This alternative would partially satisfy the objectives of providing dispatchable generation (although it is not as flexible as the proposed simple-cycle turbines): modernizing aging infrastructure, retiring EPS boilers, and using existing infrastructure. It would not, however, retire all of the EPS boilers; until all of the EPS boilers are retired the 200-foot EPS enclosure building and 400-foot exhaust stack remain in place. Nor would it satisfy the objective of bringing the facility into LORS compliance.<sup>27</sup>

California's energy marketplace does not appear to be choosing the option of the CECP approved in 2012. SDG&E, the most likely purchaser, has offered to purchase the output of simple cycle turbines rather than the approved "fast-start" combined-cycle units. Neither the project owner nor the Energy Commission are empowered to dictate the utility's equipment choices.

As staff notes in its testimony, the approved turbines in the 2012 Decision are not as well suited to the peaker duties that the project owner now aims to fulfill.

[T]he simple-cycle turbines are needed to effectively handle variable loads and perform multiple startups/shutdowns per day. While advanced combined-cycle turbines can start relatively quickly (within approximately 12 minutes to reach 100 percent rated capacity of the gas turbine generator), they may need as much as two hours to reach full combined-cycle output (combined output of gas turbine and steam turbine generator). While operating in simple cycle mode (while waiting for the steam system to warm up), fast-start combined-cycle units will have efficiencies that are no better than, and are likely worse than, those achieved with advanced simple-cycle turbines such as the GE LMS100. Further, such units cannot perform up to four starts per day, as required

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<sup>26</sup> 04/02/15 RT 156:10.

<sup>27</sup> Ex. 105, pp. 1, 5.

for the amended CECP project, without substantially shortening the life of the unit.<sup>28</sup>

Leaving the site as it presently exists would allow EPS to continue to operate, perhaps with all 5 units, although this would achieve none of the project objectives. If one assumes that it would be operated with OTC eliminated, it would meet that one project objective, but not the others regarding improved efficiency, and quick starting capability.

Given its age and obsolete technology, it is unlikely that the EPS facilities would be modernized to meet the state mandate to reduce impacts or eliminate marine water use for cooling. The no project alternative might require EPS to operate substantially longer, until local reliability is assured by an as yet unspecified solution that allows the aging facility to retire. Even if the facilities were modified to comply with the state mandate to eliminate OTC, it would only meet that one project objective.

Furthermore, we conclude that due to changed conditions in the energy market, development of the CECP as approved in 2012 would not meet the basic objectives of the ACECP project, and it is not a superior alternative.

## **PUBLIC COMMENT**

General comments were made by four individuals to the effect that no additional fossil-fueled generation should be permitted. We address this subtopic above.

## **FINDINGS OF FACT**

Based on the evidence, we find as follows:

1. The evidentiary record contains an acceptable analysis of a reasonable range of alternatives to the ACECP.
2. The evidentiary record contains a reasonable range of alternative sites, technologies, conservation and demand-side management, and the “no project” alternatives.
3. Individual alternative technologies do not meet the basic project objectives related to EPS: shutdown of OTC, and demolition of the old, less efficient power plant.
4. At this time the generation from ACECP, or a gas-fired project similar to it, is required in order to meet local capacity requirements, to support the integration of renewable resources, and to maintain system reliability.

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<sup>28</sup> Ex. 200, p. 4.2-22.

5. All committed renewable resources likely to be developed and available over the future planning horizon were taken into account in the CPUC's authorization for SDG&E to procure additional generation capacity in the amount of 500 to 800 MW, 300 to 600 MW of which may be gas-fired generation such as ACECP. Renewable resources are therefore not an alternative, but rather complementary to the additional generation.
6. No alternative site is capable of meeting the basic project objectives.
7. A reduced capacity facility at the proposed CECP site would not eliminate the identified Land Use LORS conflict or significant cumulative visual impact, would not make full use of the existing infrastructure at the site and would likely require that additional capacity be developed at an additional location with potential impacts of its own.
8. Photovoltaic projects or other local renewable distributed generation when used as single, rather than combined supply options, are not capable of providing the local reliability needs that ACECP, as a project objective, is intended to satisfy.
9. The "no project" alternative of retaining the EPS, would not comply with state policy regarding OTC, and would provide inferior electrical system reliability and support for the integration of renewable energy.
10. While the no project alternative of constructing the licensed CECP would be more efficient than the ACECP when the combined-cycle facility is fully warmed up and run at a steady state, it would not result in a reduction of the project GHG emissions compared to ACECP because ACECP would displace more energy from very high emitting peaking resources, and provide greater flexibility necessary to integrate larger amounts of energy from intermittent renewable resources into the electricity system. It also fails to achieve the objectives of obtaining a PPA and reducing inconsistencies with the City of Carlsbad's land use LORS. It may also delay the removal of the EPS facility and it has a more prominent visual profile than the ACECP.
11. There is no feasible<sup>29</sup> alternative to the project that is environmentally superior. A combination of Preferred Resources (renewable generation, DG, demand response, and storage) managed together to provide a stable, controllable output would be environmentally preferable were it currently feasible. While many of the technical elements necessary to create this hybrid approach are available today,

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<sup>29</sup> "Feasible" means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors. CEQA Guidelines, Cal. Code Regs., tit. 14, § 15364.

the regulatory mechanisms and market incentives necessary for its development and implementation are not in place. At some future time, it may be possible to use such a combination of technologies, in lieu of gas-fired generation, for meeting reliability requirements.

12. No alternative, including the “no project” alternatives would avoid or substantially lessen the significant cumulative visual impact.

### **CONCLUSION OF LAW**

1. If all Conditions of Certification contained in this Decision are implemented, construction and operation of the ACECP will not create any significant direct, indirect, or cumulative adverse environmental impacts, with the exception of a significant cumulative impact identified in the **Visual Resources** and discussed in the **Override Findings** sections of this Decision.

## IV. COMPLIANCE CONDITIONS AND COMPLIANCE MONITORING PLAN

Public Resources Code section 25532 requires the Commission to establish a post-certification monitoring system. The purpose of this requirement is to assure that certified facilities are constructed and operated in compliance with applicable laws, ordinances, regulations, standards, as well as the specific Conditions of Certification adopted as part of this Decision.

Evidence on the topic of Compliance and Closure is found in Exhibits 1000, 1001, 1029, 1030, 2000, 3002, and 6001.

### SUMMARY AND DISCUSSION OF THE EVIDENCE

The record contains a full explanation of the purposes and intent of the Compliance Plan (Plan). The Plan is the administrative mechanism used to ensure that the ACECP is constructed and operated according to the Conditions of Certification. It essentially describes the respective duties and expectations of the Project Owner and the Staff Compliance Project Manager (CPM) in implementing the design, construction, and operation criteria set forth in this Decision.<sup>1</sup>

The Compliance Plan is not a separate document but rather consists of the whole of the Conditions of Certification in Appendix A, with Conditions **COM-1** through **COM-16** focusing on the procedures and methods of compliance.

Compliance with the Conditions of Certification contained in this Decision is verified through mechanisms such as periodic reports and site visits. The Plan also contains requirements governing the planned closure, as well as the unexpected temporary or permanent closure, of the Project.<sup>2</sup>

The Compliance Plan is composed of two broad elements. The first element (**COM-1** through **COM-16**) establishes the following:

- the duties and responsibilities of the Compliance Project Manager (CPM), the project owner, delegate agencies, and others;
- the requirements for handling confidential records and maintaining the compliance record;
- the procedures for settling disputes and making post-certification changes;

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<sup>1</sup> Ex. 2000, pp. 6-3 – 6-5.

<sup>2</sup> Ex. 2000, p. 6-1.

- the requirements for periodic compliance reports and other administrative procedures necessary to verify the compliance status of all Commission imposed Conditions; and
- the requirements for facility closure.<sup>3</sup>

The second general element of the Plan contains the specific Conditions of Certification that are found in each individual topic area in this Decision. The individual Conditions contain the measures required to mitigate potentially significant Project impacts associated with construction, operation, and closure to levels of insignificance. Each Condition also includes a verification provision describing the method of assuring that the Condition has been satisfied.<sup>4</sup>

The contents of the Compliance Plan are intended to be implemented in conjunction with any additional requirements contained in the individual Conditions of Certification.

Intervenor Robert Sarvey requests that a Condition of Certification be included that requires that the project owner set aside funding for the demolition of the amended CECP at the end of its useful life.<sup>5</sup> Mr. Sarvey contends that this condition is necessary in all proceedings, but especially in this case because of the lack of conformity between the ACECP and the land use laws relating to height of structures.<sup>6</sup>

In the existing license (2012 Decision), the issue of requiring prepayment of closure expenses was referred to the Commission's Integrated Energy Policy Report Committee for future consideration.<sup>7</sup> Such requirements have been imposed on large solar projects in the desert.<sup>8</sup> Unlike those facilities or other "greenfield" developments, this Applicant is reusing an existing power plant site. In addition, the project calls for significantly

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<sup>3</sup> Ex. 2000, pp. 6-3 – 6-6.

<sup>4</sup> Ex. 2000, pp. 6-6 – 6-8.

<sup>5</sup> Ex. 6001, p. 4; Robert Sarvey's Motion to Require the Applicant to Set Aside Funding for Demolition of the Amended Carlsbad Energy Center, TN 203923.

<sup>6</sup> For our discussion of the project's consistency with the land use LORS, please see the **LAND USE** section of this Decision.

<sup>7</sup> Ex. 3002, p. 4-2; Ex. 6001, pp. 3-4.

<sup>8</sup> E.g., Ivanpah Solar Electric Generating System, 07-AFC-05. The bonding requirement is imposed by the U.S. Bureau of Land Management, described in the October 2010 Record of Decision for the Ivanpah Solar Electric Generating System Project and Associated Amendment to the California Desert Conservation Area Plan ([http://www.blm.gov/style/medialib/blm/ca/pdf/needles/lands\\_solar.Par.68027.File.dat/FinalRODIvanpahSolarProject.pdf](http://www.blm.gov/style/medialib/blm/ca/pdf/needles/lands_solar.Par.68027.File.dat/FinalRODIvanpahSolarProject.pdf)) at pages 17 and 29.

improving the coastal profile with the removal of the EPS. The City stated that, but for the nuances of the Coastal Act, it would have granted a height variance on the project.<sup>9</sup> Should the site no longer be needed for power generation, its prime coastal location will make it likely that the subsequent uses can bear the costs of ACECP's removal. Given those considerations, we decline to impose a closure funding requirement on the ACECP.

## **PUBLIC COMMENT**

There were no public comments on Compliance and Closure.

## **FINDINGS OF FACT**

The evidence establishes:

1. Requirements contained in the Compliance Plan and in the specific Conditions of Certification are intended to be implemented in conjunction with one another.
2. We adopt this Decision in its entirety as our Compliance Plan.

## **CONCLUSIONS OF LAW**

1. The compliance and monitoring provisions incorporated as a part of this Decision satisfy the requirements of Public Resources Code section 25532.
2. The Compliance Plan and the specific Conditions of Certification contained in this Decision assure that the ACECP will be designed, constructed, operated, and closed in conformity with applicable law.

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<sup>9</sup> 04/02/2015 RT 14:16 - 16:22 (discussing the lack of a variance process in the applicable land use regulations); 30:15-31:23.



## **V. ENGINEERING ASSESSMENT**

The broad engineering assessment of the ACECP consists of separate analyses that examine its facility design, engineering, efficiency, and reliability aspects. These analyses include the on-site power generating equipment and the project-related linear facilities.

### **A. FACILITY DESIGN**

#### **INTRODUCTION**

Facility Design encompasses the civil, structural, mechanical, and electrical engineering design of the project. The purpose of the Facility Design analysis is to verify that the LORS applicable to the design and construction of the project have been identified; verify that the project and ancillary facilities have been described in sufficient detail; determine whether special design features should be considered during final design to deal with conditions unique to the site; describe the design review and construction inspection process; and establish Conditions of Certification that will be used to monitor and ensure compliance with the intent of the LORS and any special design requirements.

Evidence on Facility Design can be found in Exhibits 1000, 1001, 1030, 2000, and 3002. The topic of Facility Design was not contested.

#### **SUMMARY OF THE EVIDENCE**

Staff testimony was sponsored by witnesses Edward Brady and Shahab Khoshmashrab. After reviewing Applicant's design proposals for the project's structural features, site preparation, major structures and equipment, mechanical systems, electrical designs and ancillary facilities, the Staff witnesses concluded that, with the implementation Conditions of Certification, the project design will meet all LORS and will impose no significant impacts on the environment.<sup>1</sup>

#### **FINDINGS AND CONCLUSIONS**

Based upon the uncontroverted evidence of record, we find as follows:

1. The LORS identified in the AFC and supporting documents are those applicable to the project.
2. The Energy Commission has evaluated the AFC, and the project engineering LORS and design criteria in the record, and concludes that the design,

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<sup>1</sup> Ex. 2000, p. 5.1-6.

construction, and eventual closure of the project is likely to comply with applicable engineering LORS.

3. The Conditions of Certification proposed will ensure that the proposed facilities are designed, constructed, operated, and eventually closed in accordance with applicable LORS. This will occur through the use of design review, plan checking and field inspections, which are to be performed by the local Chief Building Official (CBO) or other Energy Commission delegate agent. Energy Commission Staff will audit the CBO to ensure satisfactory performance.
4. The Energy Commission design review and construction inspection process will be in place for the project and will allow construction to start as scheduled if the project is certified. The process will provide the necessary reviews to ensure compliance with applicable facility design LORS and Conditions of Certification.
5. If the project owner submits a decommissioning plan required in the **Compliance and Closure** portion of this Decision prior to the commencement of decommissioning, the decommissioning procedure is likely to result in satisfactory decommissioning performance.
6. The record contains sufficient information to establish that the proposed facility can be designed and constructed in conformity with the applicable laws, ordinances, regulations and standards set forth in the appropriate portion of Appendix A of this Decision.
7. The Conditions of Certification set forth in Appendix A will ensure that the project is designed and constructed both in accordance with applicable law and in a manner that protects environmental quality and public health and safety and to ensure compliance with all applicable engineering LORS.
8. The Conditions of Certification in Appendix A and the provisions of the Compliance Plan contained in this Decision set forth requirements to be followed in the event of the planned, or the unexpected temporary, or the unexpected permanent closure of the facility.

We therefore conclude that with the implementation of the Conditions of Certification in **Appendix A**, the ACECP project is likely to be designed and constructed in conformity with applicable laws pertinent to its geologic location, and its civil, structural, mechanical, and electrical engineering aspects.

## **B. POWER PLANT EFFICIENCY**

### **INTRODUCTION**

In this section of the Decision, we review the proposed amended Carlsbad Energy Center Project (ACECP) to determine whether it will use energy efficiently and avoid unnecessary consumption of energy.

The topic of Power Plant Efficiency was contested. Evidence on the topic is contained in the following: Exhibits 200, 203, 1000, 1001, 1030, 2000, 3002, 3041, 3043, 3045, and 04/01/2015 RT 127:24-130:20.

### **SUMMARY AND DISCUSSION OF THE EVIDENCE**

Staff analyzed the changes to the licensed project, which include replacing the combined cycle power blocks with simple cycle turbines, reconfiguration of the project footprint, and the demolition and removal of portions of the Encina Power Station. Although the combined-cycle units proposed in the licensed CECP would achieve a higher full load efficiency than the simple-cycle units proposed in the ACECP (48 percent versus 43.6 percent), these quick-start<sup>1</sup> simple cycle units, with their faster ramping rate capability, would be more suitable to respond to the project's start-up requirements than the approved combined-cycle units.<sup>2</sup>

The ACECP would generate 632 MW (nominal net output) of peaking electric power at an overall project fuel efficiency of 43 percent lower heating value (LHV<sup>3</sup>) at maximum full load and average annual ambient conditions.<sup>4</sup> Project fuel efficiency, and therefore its rate of energy consumption, is determined by the configuration of the power producing system, the selection of equipment used to generate its power, and the percent of equivalent full load operation that the equipment achieves.<sup>5</sup>

The ACECP would provide peaking and load following power to the San Diego area.

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<sup>1</sup> The LMS100 machines to be employed in this project can achieve full load in ten minutes. (Ex. 2000, p. 5.3-2.)

<sup>2</sup> Ex. 2000, pp. 5.3-5 – 5.3-6.

<sup>3</sup> LHV is low heating value, or a measurement of the energy content of a fuel correcting for post-combustion water vapor. (Ex. 2000, p. 5.3-1.)

<sup>4</sup> At site average annual ambient temperature of 60.3°F and relative humidity of 70 percent. (Ex. 2000, p. 5.3-1.)

<sup>5</sup> Ex. 2000, p. 5.3-4.

## Positions of the Parties

The applicant's position is consistent with the proposed simple cycle turbine configuration presented in its Petition to Amend.<sup>6</sup>

Terramar Association argued that a smaller plant of 400 MW would be the preferable threshold for determining significance of energy resources and power plant efficiency.<sup>7</sup>

However, staff witnesses Edward Brady and Shahab Khoshmashrab testified that the incremental efficiencies are unaffected by the number of units being operated.<sup>8</sup> Staff found the ACECP's efficiency acceptable, and noted that the proposed LMS100 units are the most efficient of the comparable simple-cycle units it identified.<sup>9</sup> It concluded that there would be no new impacts related to power plant efficiency (i.e., when compared to the 2012 Decision), nor an increase in severity of such environmental impacts.<sup>10</sup>

## Discussion and Conclusion

We find the testimony of the staff witnesses to be persuasive. Although multiple units would logically burn more energy during operation,<sup>11</sup> the project is configured to allow only the necessary number of units to run at full load for optimum efficiency, rather than operating more machines at a less efficient part load.<sup>12</sup> We thus conclude that the project configuration (simple cycle) and generating equipment (LMS100) chosen, represent a sufficiently efficient combination to satisfy the project objectives identified in the petition. There are no alternatives that could significantly reduce energy consumption.<sup>13</sup>

## PUBLIC COMMENT

There were no public comments on the topic of efficiency.

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<sup>6</sup> 04/02/2015 RT 161:8-161:22.

<sup>7</sup> 04/01/2015 RT 127:24-128:23.

<sup>8</sup> 04/01/2015 RT 129:8-130:20.

<sup>9</sup> Ex. 2000, Efficiency Table 1, pp 5.3-5. The comparable units' efficiencies range from 37.7 percent to 40.3 percent.

<sup>10</sup> Ex. 2000, p. 5.3-1.

<sup>11</sup> Ex. 2000, p. 5.3-6.

<sup>12</sup> Ex. 2000, p. 5.3-4.

<sup>13</sup> Ex. 2000, p. 5.3-6.

## **FINDINGS OF FACT AND CONCLUSIONS OF LAW**

Based upon the evidence, we make the following findings:

1. ACECP would provide approximately 632 MW (nominal net output) of electrical power from six General Electric (GE) LMS100 natural-gas-fired combustion turbine generators (CTGs), along evaporative gas turbine inlet air cooling system. ACECP would generate electricity at a full load efficiency of approximately 43 percent low heat value.
2. None of the factors that require a subsequent or supplemental environmental analysis set forth in the CEQA Guidelines, at section 15162(a), described in the Introduction section of this Decision are present regarding this topic.
3. There are no LORS on the topic of energy efficiency.
4. There are no significant direct, indirect, or cumulative environmental effects regarding energy efficiency.

There are no Conditions of Certification required for energy efficiency.

## C. POWER PLANT RELIABILITY

We must determine whether the project will be designed, sited, and operated to ensure safe and reliable operation. (Pub. Resource Code, § 25520(b); Cal. Code Regs., tit. 20, § 1752(b)(2).) The Energy Commission generally makes the determination of reliability by looking at whether a project is at least as reliable as other power plants in the system.<sup>1</sup> This determination is generally based on: (1) adequate levels of equipment availability; (2) plant maintainability with scheduled maintenance outages; (3) fuel and water availability; and, (4) resistance to natural hazards.<sup>2</sup>

Evidence on the topic of Power Plant Reliability is found in Exhibits 1000, 1001, 1030, 2000, and 3002.

### SUMMARY AND DISCUSSION OF THE EVIDENCE

The ACECP proposes to use six simple-cycle LMS 100 natural gas-fired combustions turbine generators (CTGs), instead of the two combined-cycle units approved in the 2012 Decision.<sup>3</sup>

The project is expected to achieve an equivalent availability factor between 95 and 98 percent. The project's annual capacity factor is expected to be in the range of 30 percent, predicated on running no more than 2,700 hours per CTG per year.<sup>4</sup>

#### Equipment Availability

Equipment availability for ACECP will be ensured by use of appropriate quality assurance/quality control (QA/QC) programs during design, procurement, construction, and operation of the plant and by providing adequate maintenance and repair of the equipment and systems. The applicant describes a quality assurance/quality control (QA/QC) program<sup>5</sup> () that is typical of the power industry. Equipment would be purchased from qualified suppliers based on technical and commercial evaluations of their personnel, production capability, and past performance. The project owner will perform receipt inspections, test components, and administer independent testing contracts.<sup>6</sup> We find the equipment availability is sufficient to provide for reliable power production.

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<sup>1</sup> Ex. 2000, p. 5.4-3.

<sup>2</sup> *Id.*

<sup>3</sup> Ex. 2000, p. 5.4-1.

<sup>4</sup> Ex. 2000, p. 5.4-3.

<sup>5</sup> Ex. 1001, § 2.6.6.

<sup>6</sup> Ex. 2000, p. 5.4-4.

## **Plant Maintainability**

A generating facility must be capable of being maintained while operating. A typical approach for achieving this is to provide redundant examples of those pieces of equipment most likely to require service or repair. By having six CTGs operating in parallel, the failure of a single train will reduce output, but will not completely halt generation. Plant ancillary systems are also designed with adequate redundancy to ensure their continued operation if equipment fails. We find that this project's proposed equipment redundancy would be sufficient for its reliable operation.<sup>7</sup>

Equipment manufacturers provide maintenance recommendations for their products, and the applicant would base the project's maintenance program on those recommendations. The program would encompass both preventive and predictive maintenance techniques. Maintenance outages should be planned for periods of low electricity demand. We find that the project would be adequately maintained to ensure an acceptable level of reliability.<sup>8</sup>

## **Fuel and Water Availability**

For any power plant, the long-term availability of fuel and of water for cooling or process use is necessary to ensure reliability. The insufficiency of reliable sources of fuel and water may restrict the service life and the economic viability of the power plant.<sup>9</sup>

Natural gas would be delivered to the ACECP through an existing SDG&E high-pressure, natural gas pipeline. SDG&E and Southern California Gas Co. (SoCalGas) have confirmed its system's adequate capacity to supply the project; a will-serve letter is included in Ex. 1001, Appendix 4A. SoCalGas's natural gas system represents a resource of considerable capacity and offers access to adequate supplies of gas. We find that there would be adequate natural gas supply and pipeline capacity to meet the project's needs.<sup>10</sup>

The ACECP would use reclaimed water from the City of Carlsbad for power plant service needs, cooling system makeup, combustion turbine injection, combustion turbine evaporative cooling makeup, and secondary fire protection. The City of Carlsbad has provided a "will serve" letter to the Project.<sup>11</sup> We find that a reliable

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<sup>7</sup> Ex. 2000, p. 5.4-4.

<sup>8</sup> Ex. 2000, p. 5.4-4.

<sup>9</sup> Ex. 2000, p. 5.4-4.

<sup>10</sup> Ex. 2000, p. 5.4-5.

<sup>11</sup> Ex. 102.

source of water has been secured for the project. For further discussion of water supply, see the **SOIL AND WATER RESOURCES** section of this document.

### **Natural Hazards**

Natural forces can threaten the reliable operation of a power plant. Seismic shaking (earthquakes), flooding, and tsunami could threaten the project's reliable operation.

The site lies within a seismically active area; see the **GEOLOGY AND PALEONTOLOGY** section of this document. The project would be designed and constructed to the latest appropriate LORS. Compliance with current seismic design LORS represents an upgrading of performance during seismic shaking compared to older facilities since these LORS have been continually upgraded. Because it would be built to the latest seismic design LORS, this project would likely perform at least as well as, and perhaps better than, existing plants in the electric power system.<sup>12</sup> We thus find that the power plant is likely to remain functional during earthquakes.

The project site is outside the 100-year floodplain. A drainage, erosion and sediment control plan would be implemented (see **FACILITY DESIGN**).<sup>13</sup> In light of this, we find there are no special concerns with power plant functional reliability due to flooding.

While not likely to occur during the project design life, the site is in the coastal region and subject to inundation by tsunami. FEMA's Coastal Construction Manual, developed to provide design and construction guidance for structures built in coastal areas, addresses seismic loads for coastal structures and provides information on tsunami and associated loads. FEMA cites ASCE Standard ASCE 7-10, *Minimum Design Loads for Buildings and Other Structures* as the reference to be consulted during design of structures. ASCE 7-10 is codified in the 2013 California Building Code. The project would be designed and constructed to this code (see **FACILITY DESIGN**).<sup>14</sup>

### **Comparison to Industry Norms**

The North American Electric Reliability Corporation (NERC) maintains industry statistics for availability factors (as well as other related reliability data). The NERC figure for similar power plants throughout North America is 91.8 percent;

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<sup>12</sup> Ex. 2000, pp. 5.4-5 – 5.4-6.

<sup>13</sup> Ex. 2000, p. 5.4-6.

<sup>14</sup> Ex. 2000, p. 5.4-6.



the ACECP is expected to have an annual equivalent availability factor of 95-98 percent.<sup>15</sup>

The ACECP's CTGs have been on the market for several years and can be expected to exhibit high availability. The applicant's predicted annual availability factor of 95 to 98 percent appears reasonable compared to the NERC figure for similar plants throughout North America. In fact, these machines can well be expected to outperform the fleet of various (mostly older) gas turbines that make up the NERC statistics. Additionally, because the plant would consist of six generating trains, maintenance can be scheduled during times of the year when the full plant output is not required to meet market demand, which is typical of industry standard maintenance procedures. The applicant's estimate of plant availability, therefore, appears to be realistic. Stated procedures for assuring the design, procurement, and construction of a reliable power plant appear to be consistent with industry norms<sup>16</sup>, and we find they would ultimately produce an adequately reliable plant.

## **FINDINGS OF FACT**

Based on the uncontested evidence, we make the following findings:

1. No federal, state, or local/county LORS apply to the reliability of ACECP.
2. A project's reliability is acceptable if it does not degrade the reliability of the utility system to which it is connected.
3. Implementation of Quality Assurance/Quality Control (QA/QC) programs during design, procurement, construction, and operation of the ACECP, along with adequate maintenance and repair of the equipment and systems, will ensure the project is adequately reliable.
4. Appropriate conditions of certification included in the **FACILITY DESIGN** portion of this Decision ensure implementation of the QA/QC programs and conformance with seismic design criteria.
5. ACECP will have appropriate redundancy of function.
6. The project's fuel and water supply will be reliable.
7. The project will meet or exceed industry norms for reliability, including reliability during flooding or seismic events.
8. ACECP will not degrade the overall electrical system.

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<sup>15</sup> Ex. 2000, p. 5.4-6.

<sup>16</sup> Ex. 2000, pp. 5.4-6 - 5.4-7.

9. The North American Electric Reliability Corporation reports an availability factor of 91.8 percent as the generating unit average figure for gas turbine units.
10. An availability factor of 95 to 98 percent is achievable by the ACECP.

**CONCLUSION OF LAW**

We therefore conclude that ACECP will meet industry norms and not degrade the overall reliability of the electrical system. The project will be adequately reliable.

No conditions of certification are required for this topic area.

## **D. TRANSMISSION SYSTEM ENGINEERING**

### **INTRODUCTION**

The Energy Commission assesses the engineering and long-term planning consequences of new transmission facilities associated with a proposed project. The Commission's jurisdiction includes "...any electric power line carrying electric power from a thermal power plant ...to a point of junction with an interconnected transmission system." (Pub. Res. Code, § 25107.) Under this authority, the Commission evaluates whether the project's new transmission facilities and outlet line to the point of interconnection will comply with applicable LORS and whether any upgrades beyond the interconnection point are necessary to mitigate potential project-related impacts to the electrical grid.

The California Independent System Operator (CAISO) is responsible for ensuring electric system reliability for participating entities, and determines both the standards necessary to achieve system reliability and whether a proposed project conforms to those standards. The Commission staff consulted with CAISO in assessing the amended project's impacts on the transmission system.<sup>1</sup>

### **DISCUSSION**

This topic was not contested. Evidence and analysis of the project's potential impacts on the electricity system is contained in Exhibits 200, 1000, 1001, 1006, 2000, 2001, 3002, and 3041.

The evidence contained in the record describes the connections of the ACECP to the electric grid.<sup>2</sup> The six new turbines will continue to connect to the 115 and 230-kV switchyards on the southern boundary of the EPS site as the CECP would have. Interconnection studies assessing the effects that the CECP may have upon the grid under various contingencies (other power plants suddenly ceasing operation, transmission lines unexpectedly shutting down, etc.) were conducted during the original AFC proceeding that ended in the approval of the 2012 Decision.<sup>3</sup>

In September, 2014 an updated interconnection study for the ACECP<sup>4</sup> was released by CAISO. It found the potential overload effects of the ACECP to be a "slight improvement" over those of the CECP. No violations of NERC Reliability standards

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<sup>1</sup> Ex. 2000, p. 5.5-2.

<sup>2</sup> Ex. 2000, pp. 5.5-4 – 5.5-8.

<sup>3</sup> Ex. 2000, p. 5.5-8.

<sup>4</sup> Ex. 1006, Attachment DR30-1, pp. 15 – 40 of the .pdf file.

were observed during the studies.<sup>5</sup> Those impacts are not greater than those of the CECP. With the application of mitigation measures identified in the CAISO report, addition of the ACECP to the regional electricity system will not result in grid overload/shutdown or other significant impacts.

## **PUBLIC COMMENTS**

There were no public comments on this topic.

## **FINDINGS OF FACT AND CONCLUSIONS OF LAW**

Based on the evidence, we find and conclude as follows:

1. The 2012 Decision found that the CECP would conform with all applicable LORS and that, with the implementation of the Conditions of Certification contained therein, the CECP would not have any significant direct, indirect, or cumulative impacts related to transmission systems engineering.
2. None of the factors that require a subsequent or supplemental environmental analysis set forth in the CEQA Guidelines, at section 15162(a), described in the Introduction section of this Decision are present regarding this topic.
3. The ACECP will continue to comply with all applicable LORS.
4. The transmission system engineering aspects of the ACECP do not create significant direct, indirect, or cumulative environmental effects.
5. The Conditions of Certification set forth in Appendix A are appropriate and will ensure that the ACECP is designed and constructed both in accordance with applicable law and in a manner that protects environmental quality and public health and safety and to ensure compliance with all applicable LORS.

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<sup>5</sup> Id., at p. 23 of the .pdf file.

## **E. TRANSMISSION LINE SAFETY AND NUISANCE**

### **INTRODUCTION**

The ACECP's transmission lines must be constructed and operated in a manner that protects environmental quality, assures public health and safety, and complies with applicable law. This topic assesses the potential impacts of the transmission line on aviation safety, radio frequency interference, audible noise, fire hazards, and the creation of hazardous and/or nuisance electrical shocks. It also evaluates any potential risks resulting from electric and magnetic field (EMF) exposure, and identifies mitigation measures that would reduce any potential impacts to insignificant levels. This topic was not contested. Evidence and analysis of the project's potential transmission line impacts is contained in Exhibits 200, 1000, 1001, 2000, 2001, and 3002. The visual aspects of the transmission lines are discussed in the **Visual Resources** section of this Decision.

### **DISCUSSION**

The evidence contained in the record describes the proposed transmission lines connecting the six new generating units to an extension of the existing Cannon Road switchyard and to the existing switchyard. Staff's witness, Obed Odoemelam, Ph.D., found no changes in the potential impacts of the ACECP transmission lines from those identified for the CECP. He testified that the four Conditions of Certification applied to the CECP will assure that no significant impacts result from the ACECP and that all applicable LORS will be complied with.

### **PUBLIC COMMENTS**

There were no public comments on this topic

### **FINDINGS OF FACT AND CONCLUSIONS OF LAW**

Based on the evidence, we find as follows:

1. The 2012 Decision found that the CECP would conform with all applicable LORS and that, with the implementation of the Conditions of Certification contained therein, the CECP would not have any significant direct, indirect, or cumulative impacts related to Transmission Line Safety and Nuisance.
2. None of the factors that require a subsequent or supplemental environmental analysis set forth in the CEQA Guidelines, at section 15162(a), described in the **Introduction** section of this Decision are present regarding this topic.
3. The ACECP will continue to comply with all applicable LORS.
4. The transmission line safety and nuisance aspects of the ACECP do not create significant direct, indirect, or cumulative environmental effects.

5. The Conditions of Certification set forth in **Appendix A** are appropriate and will ensure that the ACECP is designed and constructed both in accordance with applicable law and in a manner that protects environmental quality and public health and safety and to ensure compliance with all applicable LORS.

## VI. PUBLIC HEALTH AND SAFETY

Construction and operation of the ACECP will create combustion products and utilize certain hazardous materials that pose health risks to the general public and to the workers at the facility. The following sections discuss the regulatory programs, standards, protocols, and analyses pertaining to these issues, as they relate to **GREENHOUSE GAS EMISSIONS, AIR QUALITY, PUBLIC HEALTH, HAZARDOUS MATERIALS MANAGEMENT**, and **WORKER SAFETY/FIRE PROTECTION**.

### A. GREENHOUSE GAS (GHG) EMISSIONS

#### INTRODUCTION

As we discussed in the 2012 Decision, the generation of electricity using fossil fuels, such as the natural gas that the ACECP will consume, produces “criteria air pollutants” and Greenhouse Gas (GHG) emissions. “Criteria air pollutants” are addressed in the Air Quality and Public Health sections of this Decision.

GHGs create a cumulative effect of an overall increase in global temperatures, which in turn produces numerous indirect effects on the environment and humans. The GHGs include carbon dioxide (CO<sub>2</sub>), nitrous oxide (N<sub>2</sub>O), methane (CH<sub>4</sub>), sulfur hexafluoride (SF<sub>6</sub>), hydrofluorocarbons (HFC), and perfluorocarbons (PFC). CO<sub>2</sub> emissions are far and away the most common of these emissions. As a result, even though the other GHGs have a greater impact on climate change on a per-unit basis, GHG emissions are often expressed in terms of “metric tons of CO<sub>2</sub>-equivalent” (MTCO<sub>2</sub>e) for simplicity.<sup>1</sup>

In the 2012 Decision, we determined that:

- The CECP’s construction-produced GHG emissions would be insignificant;
- Under CEQA, the assessment of GHG emission impacts from CECP must consider the operation of the entire electricity system of which the plant is an integrated part;
- From a policy and regulatory standpoint, the significance of any increase in GHG emissions from a power plant’s operation should be assessed in the context of the state’s GHG laws and policies, such as AB 32; and
- The CECP’s operation would be consistent with the state’s GHG laws and policies and would help achieve the state’s GHG goals, by: (1) causing a decrease in overall electricity system GHG emissions, and (2) fostering the addition of

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<sup>1</sup> Ex. 2000, pp. 4.1-85; AQ1-5.

renewable generation into the system, which will further reduce system GHG emissions.<sup>2</sup>

As a result, we found that the CECP's GHG emissions would comply with all applicable LORS identified in the 2012 Decision and would not result in any significant environmental impacts. We also found that the CECP was consistent with California's ambitious GHG laws, goals and policies.<sup>3</sup>

The proposed amendments to the CECP present new information and changed circumstances requiring us to determine whether we must supplement or modify our previous GHG analysis. The ACECP would change technologies from combined-cycle to simple-cycle turbine generators; those faster starting machines are better suited to support the integration of renewables into the system, because they are designed to start and ramp up quickly to meet peak demand for relatively short periods of time, when renewable energy resources are providing less generation. The change in turbines brings with it different efficiencies and operating profiles, as well as revised construction and operation GHG emissions. Additionally, the ACECP proposes the decommissioning and demolition of the less efficient, higher-GHG emitting EPS units 4 and 5, and the demolition of the entire EPS, (such demolition resulting in a new one-time source of GHG emissions.<sup>4</sup>

While the ACECP would burn natural gas for fuel and thus would produce GHG emissions that could contribute cumulatively to climate change, it would have a beneficial impact on overall electrical system operation and facilitate a reduction in GHG emissions in several ways:

- When dispatched,<sup>5</sup> the ACECP will displace less efficient (and thus higher GHG-emitting) generation. Because the ACECP's GHG emissions per megawatt-hour (MWh) would be lower than those power plants that it would displace, the addition of the ACECP to the electricity grid would contribute to a reduction of California, and overall Western Electricity Coordinating Council system, GHG emissions and GHG emission rate average.<sup>6</sup>

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<sup>2</sup> Ex. 3002, pp. 6.1-1 – 6.1-2; 6.1-21 – 6.1-24.

<sup>3</sup> Ex. 3002, p. 6.1-2.

<sup>4</sup> Ex. 2000, pp. AQ1-1, AQ1-14.

<sup>5</sup> The entity responsible for balancing a region's electrical load and generation will "dispatch" or call on the operation of generation facilities. The "dispatch order" is generally dictated by the facility's electricity production cost, efficiency, location or contractual obligations.

<sup>6</sup> The efficiency of a natural gas-fired power plants is closely correlated to the plant's fuel use and resulting carbon dioxide (CO<sub>2</sub>) emissions.. And since CO<sub>2</sub> emissions from fuel combustion dominate



- The ACECP would replace less efficient peaker power plant generation in the California Independent System Operator (CAISO) designated San Diego Local Capacity Area (LCA), reducing the GHG emissions associated with providing local reliability services and facilitating the retirement of the EPS, an aging, high GHG-emitting resource in the San Diego LCA.
- The ACECP would provide fast start and dispatchable flexibility capabilities necessary to integrate expected additional amounts of variable renewable generation (also known as “variable” or “intermittent” energy resources) to meet the State’s renewable portfolio standard (RPS) and GHG emission reduction targets.<sup>7</sup>

The topic of Greenhouse Gas Emissions was disputed. Testimony is contained in Exhibits 200, 201, 203, 205, 206, 207, 210, 212, 213, 214, 216, 217, 1000, 1001, 1002, 1004, 1011, 1030, 1031, 2000, 2001, 2002, 2010, 3002, 3006, 3011, 3012, 3013, 3014, 3015, 3040, 3041, 3043, 3044, 3045, 6003, 6006, and 6009, and 04/02/2015 RT 100:5-137:5.

## **SUMMARY AND DISCUSSION OF THE EVIDENCE**

### **Policy and Regulatory Framework**

The California Legislature stated 35 years ago: “it is the responsibility of state government to ensure that a reliable supply of electrical energy is maintained at a level consistent with the need for such energy for protection of public health and safety, for promotion of the general welfare, and for environmental quality protection.”<sup>8</sup> Today, it is well established that “environmental quality protection” includes the reduction of GHG emissions. Several laws and statements of policy address GHG emissions, as shown in **Greenhouse Gas Table 1**, below.<sup>9</sup>

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greenhouse gas (GHG) emissions from power plants, the terms CO<sub>2</sub> and GHG are used interchangeably in this section.

<sup>7</sup> Ex. 2000, pp. AQ1-1 – AQ1-2.

<sup>8</sup> Pub. Resources Code § 25001.

<sup>9</sup> Ex. 2000, pp. AQ1-3 – AQ1-4.

**Greenhouse Gas Table 1**  
**Laws, Ordinances, Regulations, and Standards (LORS)**

Applicable LORS	Description
<b>Federal</b>	
40 Code of Federal Regulations (CFR) Parts 51 and 52	A new stationary source that emits more than 100,000 TPY of greenhouse gases (GHGs) is also considered to be a major stationary source subject to Prevention of Significant Deterioration (PSD) requirements. As of June 23, 2014 the US Supreme Court has invalidated this requirement as a sole PSD permitting trigger. However, PSD still applies to GHGs if the source is otherwise subject to PSD (for another regulated NSR pollutant) and the GHG emissions exceed this value. The proposed facility modifications are not subject to the PSD analysis for other NSR pollutants and are therefore not subject to GHG PSD analysis.
40 Code of Federal Regulations (CFR) Part 60 Subpart TTTT [proposed]	This proposed rule sets annual CO2 emissions performance standards, based on gross output, for new stationary combustion turbines. The proposed emissions standards are 0.45 MT CO2/MWh for gas turbines with maximum heat input greater than 850 MMBtu/hr. As currently proposed, this rule is triggered for facilities that would operate with a capacity factor of 33 percent or higher. The ACECP would be limited to a capacity factor below 33 percent, so this proposed emissions performance standard would not apply.
40 Code of Federal Regulations (CFR) Part 98	This rule requires mandatory reporting of GHG emissions for facilities that emit more than 25,000 metric tons of CO2 equivalent emissions per year. This requirement is triggered by this facility.
<b>State</b>	
California Global Warming Solutions Act of 2006, AB 32 (Stats. 2006; Chapter 488; Health and Safety Code sections 38500 et seq.)	This act requires the California Air Resource Board (ARB) to enact standards to reduce GHG emission to 1990 levels by 2020. Electricity production facilities are included. A cap-and-trade program became active in California in January 2012, and enforcement began in January 2013. Cap-and-trade is expected to achieve approximately 20 percent of the GHG reductions expected under AB 32 by 2020.
California Code of Regulations, Title 17, Subchapter 10, Article 2, sections 95100 et. seq.	These ARB regulations implement mandatory GHG emissions reporting as part of the California Global Warming Solutions Act of 2006 (Stats. 2006; Chapter 488; Health and Safety Code sections 38500 et seq.)
Title 20, California Code of Regulations, Section 2900 et seq.; CPUC Decision D0701039 in proceeding R0604009	The regulations prohibit California utilities from entering into long-term contracts with any base load facility that does not meet a greenhouse gas emission standard of 0.5 metric tonnes carbon dioxide per megawatt-hour (0.5 MTCO2/MWh) or 1,100 pounds carbon dioxide per megawatt-hour (1,100 lbs CO2/MWh). The ACECP would not be a base load facility and this regulation does not apply.
<b>Local</b>	
City of Carlsbad Draft Climate Action Plan	This draft planning document identifies greenhouse gas emissions reduction measures. These measures are generally designed for residential, commercial, and traffic-based GHG emissions reduction measures that would not specifically apply to the project. At this time none of the measures in this draft plan appear to have been added as ordinances within the City Municipal Code.

## Cap and Trade

ACECP is required to participate in California's GHG cap-and-trade program. This cap-and-trade program is part of a broad effort by the State of California to reduce GHG emissions as required by AB 32, which is implemented by ARB. As currently implemented, market participants such as ACECP are required to report their GHG emissions and to obtain GHG emissions allowances (and offsets) for those reported emissions by purchasing allowances from the capped market and offsets from outside the AB 32 program. As new participants enter the market and the market cap is decreased over time, GHG emission allowance and offset prices will increase encouraging innovation by market participants to reduce their GHG emissions. Thus, ACECP, as a GHG cap-and-trade participant, would be consistent with California's AB 32 Program.<sup>10</sup>

## Renewable Portfolio Standard

California statutory law requires the state's utilities to provide at least 20 percent of their electricity supplies from renewable sources by the year 2013 and 33 percent by the year 2020.<sup>11</sup> Additionally, in January 2015, Governor Brown expressed a goal of reaching 50 percent renewable energy by 2030. Much of this energy will come from variable wind and solar resources to be developed in California, or on an "as generated" basis from neighboring states.<sup>12</sup> Even so, gas-fired power plants are likely to have continuing roles in an evolving high-renewables, low GHG system by providing variable generation and grid operations support; meeting local capacity requirements; satisfying extreme load and system emergency requirements; and providing general energy support.<sup>13</sup> This need for gas-fired generation to reliably operate the system was reaffirmed in the CPUC Decision authorizing SDG&E to procure from 300 MW to 600 MW of generation from any resource.<sup>14</sup>

## Federal New Source Performance Standard

On January 8, 2014, the US EPA proposed a New Source Performance Standard (NSPS) for GHG emissions for new electric power plants.<sup>15</sup> The proposed NSPS would

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<sup>10</sup> Ex. 2000, pp. AQ1-13 – AQ1-14, AQ1-26 – AQ1-27, AQ1-40.

<sup>11</sup> Pub. Util. Code §§ 399.11 et seq.

<sup>12</sup> Ex. 2000, p. AQ1-16.

<sup>13</sup> Ex. 2000, p. AQ1-16.

<sup>14</sup> Ex. 2000, pp. AQ1-16 – AQ1-17, citing D.14-03-004, *Decision Authorizing Long-Term Procurement for Local Capacity Requirements Due to Permanent Retirement of the San Onofre Nuclear Generation Stations*, March 13, 2014, p. 4. Decision D.14-03-004 is found as Exhibit 6006.

<sup>15</sup> Federal Register, Volume 79, No. 5, p. 1429.

limit large natural gas-fired stationary combustion turbines to an average of no more than 1,000 lbs CO<sub>2</sub> per MWh and small natural gas-fired stationary combustion turbines to an average of no more than 1,100 lbs CO<sub>2</sub> per MWh. Large natural gas-fired stationary combustion turbines are those with heat input ratings greater than 850 MMBtu/h (approximately 100 MWe) and small natural gas-fired stationary combustion turbines are those with heat input ratings less than 850 MMBtu/h. The proposed NSPS limits would apply to an electric generating unit if it supplies more than one-third of its potential electric output and more than 219,000 MWh net electric output to the grid per year.<sup>16</sup>

The ACECP would use turbines rated at larger than 850 MMBtu/h but is subject to operating limits that would keep the maximum potential electric output at just below one-third of its potential output; therefore, the ACECP would not be subject to this proposed NSPS GHG emissions standard.<sup>17</sup>

### CEQA Guidelines on GHG Emissions

The CEQA Guidelines (Guidelines) provide guidance for the assessment of greenhouse gas emissions. The Guidelines direct lead agencies “to make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project,” and permit agencies to “use a model or methodology to quantify greenhouse gases . . . and/or . . . rely on qualitative analysis or performance-based standards.”<sup>18</sup>

The Guidelines set forth three factors for a lead agency to consider, among others, in assessing the significance of impact from GHG emissions and the environment: “(1) the extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting; (2) whether the project emissions exceed a threshold of significance that the lead agency applies to the project; [and] (3) the extent to which the project complies with regulations or requirements adopted to implement a statewide regional or local plan for the reduction or mitigation of greenhouse gas emissions.”<sup>19</sup>

While the Guidelines do not specify any threshold of significance for GHGs, they continue to encourage agencies to adopt quantitative thresholds of significance for pollutants through a formal rulemaking process, and the amendments expressly allow agencies to “consider thresholds previously adopted or recommended by other public

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<sup>16</sup> Ex. 2000, p. AQ1-9; Ex. 500. p. 34854..

<sup>17</sup> Ex. 2000, p. AQ1-10; see also Conditions of Certification AQ-49 through AQ-51.

<sup>18</sup> Guidelines, § 15064.4, subd. (a).

<sup>19</sup> Guidelines, § 15064.4, subd. (a).

agencies or recommended by experts, provided the decision of the lead agency to adopt such a threshold is supported by substantial evidence.”<sup>20</sup>

In the *Avenal* Decision, the Energy Commission established a three-part test to aid in its analysis of a proposed gas-fired power plant’s ability to advance the goals and policies described above. Gas-fired power plants must:

- not increase the overall system heat rate for natural gas plants;
- not interfere with generation from existing renewable facilities nor with the integration of new renewable generation; and
- reduce system-wide GHG emissions and support the goals and policies of AB32.

The *Avenal* Decision was issued before the CEQA Guidelines were amended. However, it is consistent with the framework articulated by CEQA Guidelines, which provide that agencies should consider the overall effect of projects in increasing or reducing emissions.<sup>21</sup>

The CEQA Guidelines also direct Lead Agencies to consider the “extent to which the project complies with regulations or requirements adopted to implement a statewide . . . plan for the reduction or mitigation of [GHG] . . . adopted by a relevant public agency . . . [that] must reduce or mitigate the project’s incremental contribution of [GHG] emissions.”<sup>22</sup> The state’s plans for reduction or mitigation of GHGs in the electricity sector are articulated in the ARB’s Scoping Plan for AB 32, which identifies two major programs for reducing the GHG emissions of the electricity sector: the development of renewable energy resources in compliance with the state Renewable Portfolio Standard and other programs; and the implementation of Cap and Trade, which went into effect in 2013 and requires all current and future covered GHG emission sources, including electricity generators, to obtain tradable “allowances” for their GHG emissions. This will result in the amount of available allowances declining over time, with the effect of reducing GHG emissions from the electricity (and industrial) sector.<sup>23</sup> Consideration of the ACECP’s compliance with these policies is consistent with the second and third factors articulated in the *Avenal* decision, identified above.

For the ACECP, we also note that *Avenal* considered a combined-cycle plant, not the proposed simple-cycle LMS 100. In considering the first factor articulated in *Avenal*—that the facility not increase the overall system heat rate—we find it appropriate to

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<sup>20</sup> Guidelines, § 15064.7.

<sup>21</sup> Guidelines, §15064.4, subd. (b)(1).

<sup>22</sup> Guidelines, §15064.4, subd. (b)(3).

<sup>23</sup> Ex. 2000, pp. AQ1-7 - AQ1-8.

compare like to like, i.e., combined-cycle to combined cycle; simple-cycle to simple-cycle. The CECP is a fast-start combined cycle that could function as both a baseload and peaker plant; and would have been called upon to operate more frequently than ACECP due to a higher position in the dispatch queue; the ACECP is a peaker only, albeit one that is more efficient and flexible than older simple-cycle technologies.<sup>24</sup>

As discussed further below, a system-wide assessment indicates that the operation of ACECP will result in the overall reduction of GHG emissions, by displacing less efficient generators, and that ACECP will help to integrate the new Renewable Portfolio Standard generating resources that the ARB Climate Change Scoping Plan anticipates utilities will purchase to lower the carbon content of the electric generating sector. In addition, as discussed above, the ACECP will be required to participate in the cap-and-trade program, and purchase allowances for its GHG emissions.

### **CONSTRUCTION EMISSIONS AND IMPACTS**

Power plant construction involves vehicles and other equipment that emit GHGs. These activities result in temporary, unavoidable increases in GHG emissions. The ACECP's construction emissions are projected at 6832 MTCO<sub>2</sub>E; this is an increase of approximately 1200 MTCO<sub>2</sub>E over the CECP. However, emissions estimates for the CECP omitted some overlapping project features of CECP and the ACECP, such as the demolition of Tanks 5 through 7. Also, some estimating factors have changed since the approval of the CECP. Thus, the total emissions estimate for the ACECP construction, excluding the proposed demolition of EPS, is lower than estimated for the licensed CECP, while the total construction emissions for ACECP, including the emissions from the EPS demolition, is approximately 46 percent greater than that estimated for the CECP.<sup>25</sup>

The evidence shows that the GHG emission increases from construction activities would not be significant for several reasons. First, we have imposed Condition of Certification **WASTE-5**, which requires construction/demolition wastes be recycled during the ACECP construction and during the EPS demolition. Second, the temporary construction emissions occur only for a limited period of the construction phase, not during the entire life of the project. Additionally, control measures, such as limiting idling times and requiring, as appropriate, equipment that meets the latest criteria pollutant emissions standards, would further minimize GHG emissions to the extent feasible. The use of newer equipment will increase efficiency and reduce GHG emissions and be compatible with low-carbon fuel (e.g., bio-diesel and ethanol) mandates that will likely

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<sup>24</sup> Ex. 2000, pp. AQ1-1, AQ1-39, 1-3, 2-1, 4.1-2, 4.1-69, 5.3-1, 5.3-2, 5.3-4, 5.4-3.

<sup>25</sup> Ex. 2000, pp. AQ1-10 – AQ1-11.

be part of future ARB regulations to reduce GHG emissions from construction vehicles and equipment.<sup>26</sup>

We find that such measures directly and indirectly limit the emission of GHGs during the construction of the ACECP and are in accordance with current best practices. We also note that the GHG emissions anticipated from construction are minimal compared with anticipated operational emissions. GHG emissions from construction will be intermittent and mitigated during that time due to the implementation of the best practices incorporated into Conditions of Certification **AQ-SC1** through **AQ-SC5**. We therefore find that the GHG emissions from construction activities will not result in a significant impact.

### **OPERATIONS EMISSIONS AND IMPACTS**

The ACECP is a proposed natural-gas fired, simple-cycle, air-cooled, 632-net MW electrical generating facility that would replace the existing EPS. The ACECP would consist of six General Electric LMS100 gas turbines. The primary sources of GHG emissions would be the natural gas-fired combustion turbines. The employee and delivery traffic GHG emissions from off-site activities are negligible in comparison with the gas turbine GHG emissions. This configuration is proposing to use the most efficient simple-cycle gas turbine known to be in operation.<sup>27</sup>

**Greenhouse Gas Table 2** shows the estimated maximum annual CO<sub>2</sub> and CO<sub>2</sub>E emissions for the stationary sources and the two fugitive emissions sources (sulfur hexafluoride containing equipment leaks and methane from estimated natural gas compressor leaks).<sup>28</sup>

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<sup>26</sup> Ex. 2000, p. AQ1-14.

<sup>27</sup> Ex. 2000, pp. AQ1-11, AQ1-39.

<sup>28</sup> Ex. 2000, p. AQ1-11.

**Greenhouse Gas Table 2**  
**ACECP Estimated Potential Operating Greenhouse Gas Emissions**

	<b>Project Emissions (metric tonnes <sup>a</sup> per year)</b>	<b>Global Warming Potential <sup>b</sup></b>	<b>CO<sub>2</sub>-equivalent (MTCO<sub>2</sub>E per year)</b>
Carbon Dioxide (CO <sub>2</sub> )	845,845	1	845,845
Methane (CH <sub>4</sub> )	15.94	25	399
Methane (CH <sub>4</sub> ) - Fugitive	2.19	25	55
Nitrous Oxide (N <sub>2</sub> O)	1.59	298	475
Hexafluoride (SF <sub>6</sub> )	0.0054	22,800	123
Maximum Full-Load GHG emissions – MTCO <sub>2</sub> E per year			846,896
Total MWh per year (net)			1,763,159
Full-Load CO <sub>2</sub> Emissions Performance - MTCO <sub>2</sub> /MWh <sup>c</sup>			0.4797
Full-Load GHG Emissions Performance - MTCO <sub>2</sub> E/MWh <sup>c</sup>			0.4802
Expected CO <sub>2</sub> Emissions Performance- MTCO <sub>2</sub> /MWh			0.5026
Expected GHG Emissions Performance - MTCO <sub>2</sub> E/MWh			0.5033
Licensed CECP - Maximum Full-Load GHG Emissions – MTCO <sub>2</sub> e per year			846,076
Licensed CECP - Total MWh per year			2,089,764
Licensed CECP Full-Load CO <sub>2</sub> Emissions Performance - MTCO <sub>2</sub> /MWh			0.404
Licensed CECP Full-Load GHG Emissions Performance - MTCO <sub>2</sub> E/MWh			0.405

Notes: a One metric tonne (MT) equals 1.1 short tons or 2,204.6 pounds or 1,000 kilograms.

b The global warming potential is a measure of the chemicals' warming properties and lifetime in the atmosphere relative to CO<sub>2</sub>. The analysis uses updated global warming potential values that became effective January 1, 2014.

c Based on full load gas turbine emissions and corresponding gross energy production.

### **Comparison of ACECP to the Permitted Project**

The GHG emissions totals noted above in **Greenhouse Gas Table 2** are maximum permitted values, assuming a capacity factor of 30.8 percent. However, the Staff's testimony indicates that the ACECP is, based on the historical capacity factors for San Diego area simple-cycle power plants, more likely to operate at much lower capacity factor, perhaps at a 6 percent capacity factor, or approximately 500 hours per year.<sup>29</sup> Consequently, it is not foreseeable that the ACECP will actually emit more GHGs than the CECP.

Even if the ACECP were to operate at its maximum permitted capacity of 30.8 percent, it would have the potential to emit a negligible increase in GHG emissions as opposed to the CECP (846,896 v. 846,076 MTCO<sub>2</sub>E, a 0.1 percent increase). This is a very small increase compared with the permitted facility, and is not significant. Moreover, staff's testimony on the comparison between the licensed CECP and ACECP is that even if

<sup>29</sup> Ex.2000, p. AQ1-28.



the ACECP were to operate at its maximum permitted levels and emit very slightly higher emissions than CECP, ACECP would

- Displace generation and thus GHG emissions from far higher-emitting peaking resources than the combined-cycle facilities that would frequently be displaced by the CECP.<sup>30</sup>
- Due to its greater flexibility allow for the integration of more energy-compared to CECP-from intermittent renewable resources (e.g., solar and wind energy), energy that would in turn displace energy currently provided by gas-fired generation.<sup>31</sup>

Thus, the relative efficiency of the ACECP compared to existing peaking generation in the San Diego region and its greater flexibility compared to a combined-cycle more than compensates for its lower generating efficiency. resulting in lower overall GHG emissions from the grid.

In sum, the maximum permitted emissions from the ACECP are nearly identical to those of the previously analyzed CECP, and the actual project emissions of the ACECP are likely to be far less than the licensed CECP because it is expected to run less often. Consequently, under CEQA Guidelines section 15162, we are therefore not required to supplement or revisit the analysis or conclusions of the 2012 Decision—that the CECP will not have significant direct or cumulative GHG impacts. We nonetheless summarize that analysis and conclusions here, both to acknowledge new information that supports our analytical approach and to address the Sierra Club’s challenge to the displacement theory that underlies the analysis.

### **Determining Operational GHG impacts: A System Approach**

As established by *Avenal*, any assessment of the impact of a new power plant on system-wide GHG emissions must begin with the understanding that electricity generation and demand must be in balance at all times; the energy provided by any new generation resource simultaneously displaces exactly the same amount of energy from an existing resource or resources.<sup>32</sup> The GHG emissions produced by any new facility – whether CECP, ACECP, or some other facility – are thus not incremental additions to system-wide emissions, but are offset by reductions in GHG emissions from

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<sup>30</sup> 04/02/2015 RT 74:13-74:14, 110:7-112:5.

<sup>31</sup> Ex. 2000 pp. AQ 1-22 to 24.

<sup>32</sup> Over time, the development of demand-side and storage technologies that can cost-effectively substitute for dispatchable generation as providers of regulation, load-following, and multi-hour ramping services may obviate the need for gas-fired generation, but this is not expected to occur soon enough to eliminate the need for gas-fired generation to replace a share of the capacity retired at SONGS, and by the retirement of aging OTC facilities such as EPS. (Ex. 2000, p. AQ1-12.)

those generation resources that are displaced, depending on the relative GHG emission rates.<sup>33</sup>

In general, when an agency conducts a CEQA analysis of a project such as a proposed factory, shopping mall, or residential subdivision, it does not need to analyze how the operation of the proposed project will affect the larger system or group of factories, malls, or houses in a large multistate region. Rather, such projects are generally analyzed and evaluated on a stand-alone basis. The analysis and evaluation for power plants is, by necessity, different.<sup>34</sup>

California's electricity system – which is actually a system serving the entire western region of the United States, Canada, and Mexico – is large and complex. Hundreds of power plants, thousands of miles of transmission and distribution lines, and millions of points of electricity demand operate in an interconnected, integrated, and simultaneous fashion. Because the system is integrated, and because electricity is produced and consumed instantaneously, and will be unless and until large-scale electricity storage technologies are available, any change in demand and, most important for this analysis, any change in output from any generation source, is likely to affect the output from all generators. (Committee CEQA Guidance (*Committee Guidance on Fulfilling California Environmental Quality Act Responsibilities for Greenhouse Gas Impacts in Power Plant Siting Applications*), CEC-700-2009-004.)<sup>35</sup>

In sum, the unique way power plants operate in an integrated system means that we must assess their operational GHG emissions on a system-wide basis rather than on a stand-alone basis.

On October 8, 2008, the Energy Commission adopted an Order Instituting Informational Proceeding (08-GHG OII-1) to solicit comments on how to assess the greenhouse gas impacts of proposed new power plants in accordance with CEQA.<sup>36</sup> A report prepared as a response to this GHG OII defines the roles that natural gas-fired power plants fulfill in an evolving high-renewables, low-GHG system. Such new facilities serve to:

- Provide variable generation and grid operations support;

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<sup>33</sup> Ex. 2000, p. AQ1-20.

<sup>34</sup> Ex. 2000, p. AQ1-4.

<sup>35</sup> The report was issued in March 2009 and is found on the Commission website at: <http://www.energy.ca.gov/2009publications/CEC-700-2009-004/CEC-700-2009-004.PDF>.

<sup>36</sup> This need for gas-fired generation to reliably operate the system was reaffirmed in the CPUC decision authorizing Southern California Edison to procure new gas-fired generation in the Los Angeles Basin. D.13-02-015, See Decision Authorizing Long-Term Procurement for Local Capacity Requirements, February 13, 2013, p. 2.

- Meet extreme load and system emergency requirements;
- Meet local capacity requirements; and,
- Provide general energy support.<sup>37</sup>

These factors informed the Commission's precedential decision in *Avenal*, discussed above. We now turn to the specifics of the project's operation.

### ***ACECP's Effects on the Electricity System***

#### *Comparison of Heat Rate of ACECP with Facilities of Similar Operational Profiles*

As set forth above, *Avenal* directs that we first consider the impact that the project will have on the heat rate for the system as a whole. **Greenhouse Gas Table 3** compares the estimated performance of the ACECP with existing peaking facilities in the San Diego area. ACECP is slightly more efficient than the most efficient facility on the list and significantly more efficient than the least efficient facilities. ACECP satisfies the first part of the *Avenal* test, regarding its efficiency relative to other peaking generators.

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<sup>37</sup> Ex. 212.

**Greenhouse Gas Table 3**  
**Heat Rates, Capacity Factors, and GHG Emissions Performance**  
**for San Diego Peakers, 2013**

Plant Name	Capacity (MW)	Output (MWh)	Heat Rate (Btu/kWh)	Capacity Factor	GHG Performance MTCO <sub>2</sub> /MWh)
Miramar Energy Facility	95	143,932	9,669	17.3%	0.511
Larkspur Energy	90	87,575	10,127	11.1%	0.536
El Cajon Energy Center	49	13,154	10,276	3.1%	0.544
Orange Grove	100	38,978	10,474	4.4%	0.554
CalPeak Enterprise	49	12,503	10,873	2.9%	0.575
Cuyamaca Peak Energy Plant	49	40,203	11,178	9.4%	0.591
CalPeak Border	50	8,600	11,250	2.0%	0.595
Kearny 1	15	2,608	14,400	2.0%	0.762
Kearny 2	57	7,891	15,866	1.6%	0.839
Kearny 3	55	5,625	15,953	1.2%	0.844
Encina Gas Turbine	14	2,245	17,123	1.8%	0.906
Miramar 1A 1B	33	2,561	17,390	0.9%	0.920
Chula Vista	44	511	17,821	0.1%	0.943
El Cajon Gas Turbine	13	694	19,333	0.6%	1.023
<b>Total</b>	<b>713</b>	<b>367,080</b>	<b>10,520</b>	<b>5.9%</b>	<b>0.557</b>
Amended CECP Estimates	632		9,473		0.503

Source: Ex. 2000, pp. AQ1-26

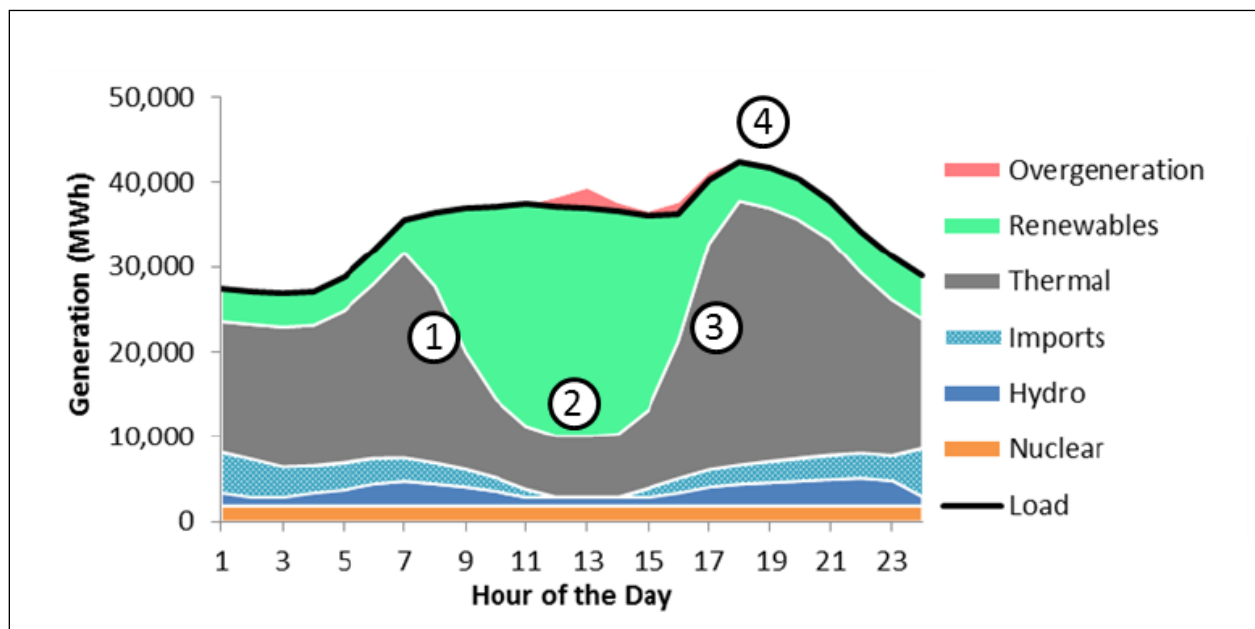
### *Fostering Renewables Integration*

The second factor under *Avenal* is that the approval of any project must not interfere with the integration of renewables into the California energy system. The dispatch of the ACECP would generally not result in the displacement of energy from renewable resources or large hydroelectric generation. Most renewable resources have must-take contracts with utilities, guaranteeing purchase of all the energy produced by these renewable generators. Rare exceptions occur due to transmission congestion or seasonal surpluses. Even in those instances where this is not the case (e.g., where renewable generation is participating in a spot market for energy) the variable costs associated with renewable generation are far lower than those associated with the ACECP (e.g., fuel costs for wind, solar, other renewable generation technologies, and large hydroelectric facilities are zero or minimal); these resources can bid into spot markets for energy at prices far below the ACECP and other natural gas-fired generators. Nor would the ACECP displace energy from operating (zero-GHG emission)

nuclear generation facilities, as these resources have far lower variable operating costs as well.<sup>38</sup>

In fact, at levels of renewable energy penetration in excess of 33 percent, relatively efficient fast-start, fast-ramping resources such as the ACECP units further contribute to GHG emission reductions by increasing the amount of renewable energy that can be integrated into the electricity system. **Greenhouse Gas Figure 1** depicts the estimated operating profile of the generating resources of the high-solar electricity system that California will increasingly have over the next three to 15 years and beyond.<sup>39</sup>

**Greenhouse Gas Figure 1**  
**California Generation Typical for a Non-Summer Day (“Duck” Chart)**



The large “belly” (Number 2 in the figure) represents solar generation on a typical non-summer day; this “belly” gets larger over time as more solar is added to the system. The gray area represents necessary thermal generation, which is increasingly natural gas over time as California portfolios are divested of coal pursuant to the state’s Emission Performance Standard.<sup>40</sup>

**Greenhouse Gas Figure 1** also illustrates the need for dispatchable generation, notwithstanding the potential for over-generation by renewables at midday. The long-term solution for potential over-generation and serving peak demand (which falls

<sup>38</sup> Ex. 2000, p. AQ1-22.

<sup>39</sup> Ex. 2000, p. AQ1-23.

<sup>40</sup> Ex. 2000, pp. AQ1-23 – AQ1-24.

outside the time of maximum renewables generation) is expected to be the development of cost-effective, multi-hour storage, allowing the surplus to be stored until it can be used in evening hours. In the interim, developing gas-fired resources, such as the LMS100s proposed for the ACECP, that can cycle on and off at least twice a day provides the needed flexible generation to meet peak demand.<sup>41</sup>

While the ACECP is less thermally efficient at full load than most of the natural gas-fired combined cycle units installed in California during the past decade, the ACECP units are designed to operate at much lower capacity levels compared with combined cycle facilities, and doing so without a marked decrease in efficiency or negative impact on the lifespan of the facility. Moreover, they could be off line until moments before being needed in the late afternoon and early evening, as they are able to reach full load within ten minutes of startup (compared to 45 minutes for the CECP and even longer for combined cycle units without fast start capabilities<sup>42</sup>). As a result, they can support the integration of more renewable generation compared to a conventional combined cycle, with the concomitant reduction in GHG emissions serving to offset the impact of their lower efficiency. Finally, the ACECP units can make a greater contribution to meeting the steep evening ramp (Number 3 in **Greenhouse Gas Figure 1**) than the combined cycle as they can change output more rapidly (50 MW/minute per unit), compared to the 150 MW/10 minute ramp rate noted for the CECP.<sup>43</sup>

#### *Displacement of More-Costly, Less-Efficient, and Higher-Emitting Power Plants*

The final *Avenal* factor concerns the displacement of less efficient power producers. The CAISO is responsible for operating the system so that it provides power reliably and at the lowest cost. Thus, the CAISO dispatches generating facilities generally in order of cheapest to operate (i.e., typically the most efficient) to most expensive (i.e., typically the least efficient). It is reasonable to assume that the ACECP units would be dispatched (called upon to generate electricity) whenever they are a cheaper source of energy than an alternative, i.e., that they will displace a more expensive resource. Ninety percent or more of the cost of dispatching a power plant is the cost of fuel. It follows that the new ACECP units would be dispatched when they burn less fuel per MWh than the resource(s) they displace, i.e., when they produce fewer GHG emissions. Holding the portfolio of generation resources constant, energy from new natural gas-

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<sup>41</sup> For a detailed discussion of the operational needs for a high-solar portfolio, see Energy and Environmental Economics, *Investigating a Higher Renewables Standard in California*, January 2014, available at [http://www.ethree.com/public\\_projects/renewables\\_portfolio\\_standard.php](http://www.ethree.com/public_projects/renewables_portfolio_standard.php). Ex. 2000, p. AQ1-24.)

<sup>42</sup> Ex. 200, p. 5.3-4.

<sup>43</sup> Ex. 2000, p. AQ1-24.

fired plants displaces energy from existing natural gas-fired plants. The development and operation of the ACECP would reduce the use of less efficient generation resources, and ultimately, lead to the retirement of less efficient generation resources by reducing revenue streams accruing to other resources (for the provision of both energy and capacity-related services, whether through markets or under a bilateral contract), and thus rendering those other facilities less profitable and riskier to operate. This conclusion follows from the fixed demand for energy and ancillary services; the developers of the ACECP cannot stimulate demand for energy and other products they provide, but merely provide a share of the energy that is needed to meet demand and the capacity needed to reliably operate the system. In doing so, the ACECP both discourages the use of, and allows for the retirement of less-efficient generation.<sup>44</sup>

Based on the foregoing, we conclude that the net effect of the ACECP will be to reduce system-wide GHG emissions by satisfying our stated goals under *Avenal* and by displacing less efficient plants. We also find that ACECP is consistent with the state's long-term strategies for reducing GHG emissions of the electricity sector, as articulated in the AB 32 Scoping Plan.

### **ACECP is Subject to Cap and Trade**

As discussed above, it is incomplete to consider the GHG emissions from the operation of ACECP in isolation, without consideration of the overall effect on the electricity grid. However, even if the GHG emissions of the ACECP were considered in isolation, its operational GHG impacts would not be significant. This is because, in addition to being consistent with the state's AB 32 goals as discussed in the foregoing section, the ACECP will be required to comply with the state's Cap and Trade program directly. Specifically, the ACECP will be required to report its GHG emissions, and to obtain GHG emissions allowances (or offsets) for those reported emissions by purchasing or otherwise acquiring allowances from the capped market. Cap and Trade represents "a statewide regulation or requirement adopted to implement a statewide regional or local plan for the reduction or mitigation of greenhouse gas emissions."<sup>45</sup> Consistent with this subdivision (b)(3) of section 15064.4 of the CEQA Guidelines, so long as ACECP complies with this statewide program, its operational GHG impacts will be less than significant, even without consideration of the reduction in total system impacts it will cause when it operates.

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<sup>44</sup> Ex. 2000, pp. AQ1-20- AQ1-21.

<sup>45</sup> Guidelines, §15064.4, subd. (b)(3).

## ***Sierra Club's Contentions***

In its brief filed after the evidentiary hearings in this matter,<sup>46</sup> Intervenor Sierra Club has questioned two facets of the analysis of GHG for the ACECP emissions. First, it contends that staff used an improper baseline against which to measure GHG emissions. Second, it asserts that the displacement theory is not supported by the record. We discuss each contention in turn.

### ***GHG Baseline***

The Sierra Club readily admits that CEQA prefers that an agency analyze a project's impacts by comparing the proposed project with the current physical conditions.<sup>47</sup> Nonetheless, the Sierra Club argues that, for the purposes of considering system-wide GHG analysis, the Energy Commission should use a baseline that includes "historic GHG emissions information pre-dating SONGS shut-down."<sup>48</sup> Essentially, the Intervenor argues that the Commission should analyze the impacts to the system as a whole from the cessation of operations at SONGS in these proceedings, claiming that to do otherwise results in an artificially inflated baseline.<sup>49</sup>

Section 15125 of the CEQA Guidelines generally instructs agencies to take the environmental setting at the time analysis is commenced as their baseline for analysis. The Sierra Club did not introduce any evidence for a baseline that assumes that SONGS is fully operational, when that facility has not operated for nearly four years and was formally retired in 2013.

Sierra Club is correct that the "carbon intensity" of the electricity grid increased when SONGS ceased generation years ago. That is because its lost generation was replaced by, among other things, other generation sources, much of which is gas-fired, including the obsolete EPS facility in Carlsbad and other regional peaking plants depicted in Greenhouse Gas Table 3. As discussed above, these gas-fired facilities that help compensate for the SONGS retirement are less efficient than the ACECP. If ACECP goes on-line in 2018 (six years after SONGS ceased to operate), those less efficient facilities will operate less (or in the case of EPS, be retired entirely), reducing GHG emissions from the electric generation system.

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<sup>46</sup> TN 204355. The Sierra Club repeated its arguments in its comments on the PMPD (TN 205312), attaching a copy of its brief to those comments. As we responded to its arguments in the PMPD, we find no further response is required.

<sup>47</sup> Guidelines § 15125, subd. (a).

<sup>48</sup> TN 204355, p. 8.

<sup>49</sup> TN 204355, pp. 7-8.



Sierra Club is thus mistaken when it asserts that ACECP will displace or replace the zero-carbon emissions from the retired SONGS facility. Rather, its singular effect is to displace the gas-fired generation that already serves to compensate for the SONGS closure, and replace the aging gas-fired generation at EPS. Thus the analysis of GHG emission effects from ACECP correctly uses a baseline of existing conditions.

### *Displacement Theory*

The Sierra Club contends that our analysis of GHG emissions that relies on the ACECP's displacement of other, less efficient facilities is flawed because it fails to properly characterize the shut-down of SONGS and the short-term nature of the resources needed to fill the necessary capacity.<sup>50</sup> Specifically, the argument is based on the assertion that ACECP is "slated to replace SONGS generation capacity in the electric system."<sup>51</sup> The argument continues by noting that, in this instance, the displacement theory is overly simplistic because it fails to acknowledge that ACECP is replacing generation from SONGS, a zero-carbon facility.

It is true that ACECP is designed to provide reliability in a world without SONGS, thus playing a role in its replacement. However, Sierra Club's argument appears to conflate "replacement" with "displacement." Displacement will occur at the moment the ACECP is dispatched, thus eliminating the use of a different resource that would have been used but for the dispatching of ACECP. The ACECP cannot displace SONGS, which ceased operation more than three years ago. The fact that ACECP will assist in maintaining reliability without SONGS does not undermine the conclusion that ACECP is likely to displace less efficient conventional generation with a similar operational profile (i.e. other facilities providing peaking services) when it becomes operational and its power is dispatched.

As discussed in the discussion of the first factor of *Avenal*, above, the efficiency of this facility is greater than other peaking facilities. It is therefore likely to decrease system-wide impacts when it is dispatched as it will displace less efficient peaking resources. Thus, the displacement theory advanced by staff and adopted in this Decision is sound.

Furthermore, history shows that more efficient energy producers displace less efficient facilities. **Greenhouse Gas Figure 2**, below, compares the use of combined-cycles and boiler units in meeting electricity demands. In 2001, approximately 62.5 percent of natural gas-fired generation in California was from pre-1980 gas-fired boilers (called "aging" in the figure), combusting an average of 11,268 Btu per kWh (not shown in the figure). By 2010, boilers' share had fallen to approximately 5.4 percent; 64.1 percent of

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<sup>50</sup> TN 204355, pp. 3-7.

<sup>51</sup> TN 204355, p. 4.

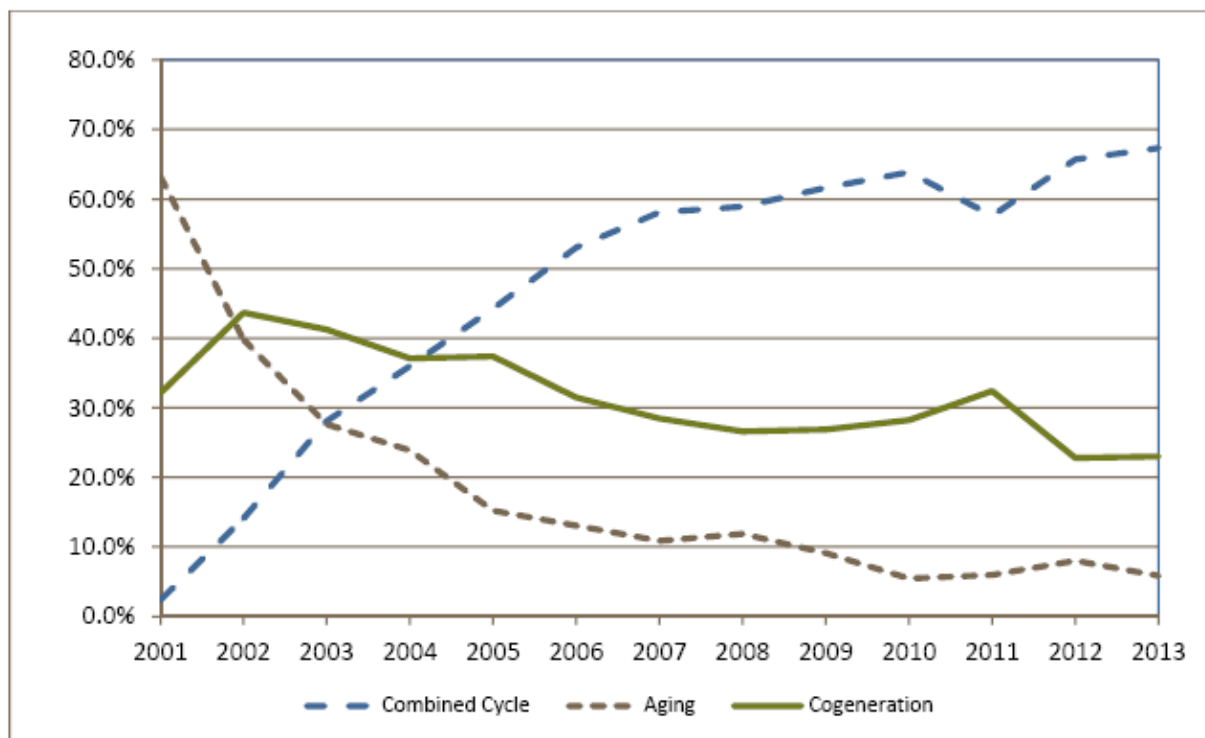
natural gas-fired generation was from new combined cycles with an average heat rate of 7,201 Btu per kWh.<sup>52</sup> Because efficiency inversely correlates to heat rate; these figures thus show that, as average heat rate fell, the fleet efficiency improved. At the same time, this transition to more efficient units caused a 22 percent reduction in GHG emissions, despite a 3.5 percent increase in generation. New combined-cycle generation has allowed for the retirement of aging natural gas-fired boilers along the California Coast and in the San Francisco Bay Delta. Those that remain in operation have seen a dramatic reduction in their capacity factors<sup>53</sup> and are used primarily as a source of dispatchable capacity—in other words, peaking facilities such as the ACECP. Thus, as the ACECP displaces less efficient power plants, it may facilitate the retirement of these aging facilities still in operation.

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<sup>52</sup> The remaining 30 percent of natural gas-fired generation is largely cogeneration; slightly more than one percent is from peaking units. For a detailed discussion of the evolution of natural gas-fired generation in California since 2000, see *Thermal Efficiency of Gas-Fired Generation in California: 2012 Update* (CEC-200-2013-002; May 2013).

<sup>53</sup> A unit's capacity factor is its output expressed as a share of potential output, the amount it would generate if it were operated continuously at 100 percent of their maximum capacity for every hour of the year.

**Greenhouse Gas Figure 2  
Annual California Output (GWh), Selected Natural Gas-Fired Generation  
Technologies, 2001 – 2013**



Source: QFER CEC-1304 Power Plant Data Reporting.

Source: Ex. 2000, p. AQ1-22.

## CUMULATIVE IMPACTS

Cumulative impacts are defined as “two or more individual effects which, when considered together, are considerable or . . . compound or increase other environmental impacts.” (CEQA Guidelines § 15355.) “A cumulative impact consists of an impact that is created as a result of a combination of the project evaluated in the EIR together with other projects causing related impacts.” (CEQA Guidelines § 15130[a][1].) Such impacts may be relatively minor and incremental, yet still be significant because of the existing environmental background, particularly when one considers other closely related past, present, and reasonably foreseeable future projects.

GHG assessment is by its very nature a cumulative impact assessment. ACECP would emit GHGs and, therefore, we have analyzed its potential cumulative impact in the context of its effect on the electricity system, resulting GHG emissions from the electricity system, and existing GHG regulatory requirements and GHG energy policies.

The evidence supports our finding that ACECP would not cause or contribute to a significant adverse cumulative impact on GHG.

## **CONCLUSION**

At present, the California electricity system needs new efficient gas-fired generation to displace and replace less efficient generation, and to help integrate additional intermittent renewable generation. California's electricity system continues to change; increasing the importance of the specific location, type, operation, and timing of each proposed plant. As a result, each proposed plant will have somewhat different impacts. Furthermore, future implementation of efficiency, demand response measures, distributed generation, and new technologies such as energy storage and smart grid, are likely to further change the physical needs and operation of the state's electrical system. It is therefore reasonable to assume that at some point in the future there will be a decrease in the need for additional gas-fired generation. It follows that not all proposed gas-fired projects will meet the criteria established in *Avenal* and discussed above. We will continue to analyze future proposed projects individually in light of the goals and policies discussed above.

In this case, the evidence establishes that the ACECP will support the integration of existing and new renewable generation and displace less efficient gas-fired generation, thereby reducing system-wide GHG emissions. Moreover, the ACECP will be subject to the State's cap-and-trade program, which is the programmatic approach to addressing stationary source GHG emissions. We thus find that the project is consistent with state energy policy, will help the State achieve its renewable energy goals, and that its emissions result in no significant impacts under CEQA.

## **PUBLIC COMMENT**

There were no public comments on the topic of greenhouse gases during the evidentiary hearings on the ACECP.

## **FINDINGS OF FACT**

1. The GHG emissions from the ACECP's construction are likely to be 6832 MTCO<sub>2</sub>E during the 64-month construction and EPS demolition period.
2. There is no numerical threshold of significance under CEQA for construction-related GHG emissions.
3. The project will use best practices to control its construction-related GHG emissions.
4. State government has a responsibility to ensure a reliable electricity supply, consistent with environmental, economic, and health and safety goals.

5. California utilities are obligated to meet whatever demand exists from any and all customers.
6. The maximum annual CO<sub>2</sub> emissions from the ACECP's operation will be 1,763,159 MTCO<sub>2</sub>E, which constitutes an emissions performance factor of 0.5033 MTCO<sub>2</sub>E/MWh.
7. The California RPS requires the state's electric utilities obtain at least 33 percent of the power supplies from renewable sources, by the year 2020.
8. California's power supply loading order requires California utilities to obtain their power first from the implementation of all feasible and cost-effective energy efficiency and demand response, then from renewables and distribution generation, and finally from efficient fossil-fired generation and infrastructure improvement.
9. The ACECP will not increase the overall system heat rate for natural gas plants because it will displace plants that have higher heat rates.
10. The ACECP will not interfere with generation from existing renewables or with the integration of new renewable generation. Renewables have a higher priority in the loading order and will be dispatched before ACECP.
11. When it operates, the ACECP will displace generation from higher-GHG-emitting power plants.
12. The ACECP's operation will reduce overall GHG emissions from the electricity system.
13. Intermittent solar and wind generation will account for most of the installation of renewables in the next few decades.
14. The ACECP's operation will foster the addition of renewable generation into the electricity system, which will further reduce system GHG emissions because renewable generation emits no or very few GHGs.
15. The ACECP will be required to participate in the State's cap-and-trade program and will be required to purchase allowances for GHG emissions.
16. SONGS ceased operation in January 2012 and was formally retired in 2013.

## **CONCLUSIONS OF LAW**

1. None of the factors that require a subsequent or supplemental environmental analysis of GHG impacts, as set forth in the CEQA Guidelines, section 15162(a), are present.

2. The ACECP's construction-related GHG emissions will not cause a significant environmental impact because they are limited in duration and of a relatively small magnitude when compared to operations emissions.
3. The GHG emissions from a power plant's operation should be assessed in the context of the operation of the entire electricity system of which the plant is an integrated part.
4. When considered on a system-wide basis, the operation of the ACECP will reduce GHG emissions, and will therefore not cause a significant environmental impact.
5. The ACECP's operation will help California utilities meet their RPS obligations.
6. The ACECP's construction and operation will be consistent with California's loading order for power supplies and with all other applicable LORS.
7. The ACECP's operation will foster the achievement of the GHG goals of AB32.
8. The ACECP would be a peaking facility that would not be subject to SB1368 Emission Performance Standard of 0.500 MTCO<sub>2</sub>/MWh or the proposed federal NSPS of 0.454 MTCO<sub>2</sub>E per MWh gross.
9. The ACECP is consistent with the Energy Commission's Avenal Precedential Decision.
10. Even if considered in isolation, the GHG impacts from operation of the ACECP will not cause a significant environmental impact, because the ACECP will comply with cap and trade, a statewide program for management and reduction of the cumulative GHG impacts of the electric and industrial sectors.

## B. AIR QUALITY

### INTRODUCTION

This section of the Decision reviews the potential for the construction and operation of the ACECP to emit combustion products and use certain hazardous materials that could expose the general public and onsite workers to potential health effects. This section on air quality examines whether the ACECP will likely comply with applicable state and federal air quality laws, ordinances, regulations, and standards (LORS), whether it will result in significant air quality impacts, and whether the proposed mitigation measures will reduce potential impacts to insignificant levels.

When analyzing the potential impacts to air quality, and creating measures to ensure compliance with LORS, and to mitigating environmental impacts, the Energy Commission staff worked with the San Diego Air Pollution Control District (SDAPCD), which has jurisdiction over air quality standards in the project area.<sup>1</sup> SDAPCD released its Final Determination of Compliance (FDOC) on March 19, 2015—this was later amended to address administrative corrections in a final document released on April 17, 2015<sup>2</sup>—stating that ACECP is expected to comply with applicable SDAPCD rules, which incorporate state and federal requirements.<sup>3</sup>

The SDAPCD's permit conditions for the project are specified in the FDOC, a related errata, and incorporated into this Decision as Conditions of Certification **AQ-1** through **AQ-121**.<sup>4</sup> These conditions include emissions limitations, operating limitations, offset requirements, testing, monitoring, record keeping, and reporting requirements that ensure compliance with federal and state air quality LORS.

Although this topic was contested, by the end of oral testimony the parties appeared to have reached agreement. Evidence on the topic of the potential air quality impacts of the project's construction, demolition, and operation is contained in Exhibits 200, 201, 203, 205, 206, 207, 212, 500, 1000, 1001, 1002, 1004, 1011, 1030, 1031, 2000, 2001, 2002, 2010, 3002, 3012, 3013, 3014, 3015, 3041, 3043, 3044, 3045, 6001, 6003, and 6013, and 04/02/2015 RT 39:21-100:9.

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<sup>1</sup> Cal. Code Regs., tit. 20, §§ 1744.5, 1752.3.; Ex. 2000, p. 4.1-7.

<sup>2</sup> TN 204243.

<sup>3</sup> Exs. 2002, 2010.

<sup>4</sup> The Conditions of Certification for Air Quality are found in **Appendix "A"**.

## SUMMARY AND DISCUSSION OF THE EVIDENCE

This topic section assesses three kinds of impacts: construction/demolition, operation, and cumulative effects. As the name implies, construction/demolition impacts result from the emissions occurring during the construction or demolition phases of the project. The operation impacts result from the emissions of the proposed project during operation. Cumulative impacts result from the proposed project's incremental effect viewed over time, together with other closely related past, present, and reasonably foreseeable future projects whose impacts may compound or increase the incremental effect of the proposed project.<sup>5</sup>

The amended project would revise the power plant design of the licensed CECP from a 540-MW rapid response, combined-cycle gas turbine project to a 632-MW simple-cycle gas turbine project. The major differences in the licensed and proposed amended project design related to air quality are described in **Air Quality Table 1**:<sup>6</sup>

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<sup>5</sup> Ex. 2000, p. 4.1-32.

<sup>6</sup> Ex. 2000, p. 4.1-3.



**Air Quality Table 1  
Feature Comparison: ACECP and CECF**

<u>Amended Project - ACECP</u>	<u>Licensed Project - CECF</u>
Six GE LMS100 simple cycle turbines each with an air-cooled fin fan cooler.	Two Siemens Rapid Response SGT6-5000F gas turbines operating in combined- cycle mode, each with an air-cooled fin fan cooler.
Project footprint would be 30 acres and requires the additional removal of aboveground storage tank (AST) 4 and the berm between ASTs 4 and 5.	Project footprint is 23 acres.
Limited to an equivalent of 2,700 hours of operation at full load.	Limited to an equivalent of 4,100 hours of operation at full load.
Operation would be restricted to 0600 to 2400 hours (6 am through midnight).	No operating hour restrictions.
Auxiliary equipment with air pollutant emissions would include: <ol style="list-style-type: none"> <li>1. A 327 brake-horsepower (bhp) diesel-fired emergency fire water pump engine (tier 3 engine).</li> <li>2. A 500-kW diesel fired emergency generator engine (interim tier 4 engine).</li> <li>3. Three electric-driven natural gas compressors</li> </ol>	Auxiliary equipment with air pollutant emissions include: <ol style="list-style-type: none"> <li>1. A 246 brake-horsepower (bhp) diesel-fired emergency fire water pump engine (engine tier based on regulatory requirement for 2009 model year).</li> </ol>
Would retire all five Encina Power Station (EPS) boilers and simple cycle gas turbine.	Would retire EPS Boilers 1-3, leaving boilers 4 and 5 to continue operating.
Includes a specific timeline and specified methodology for the demolition of the EPS.	No timeline or specified methodology for EPS demolition.

All project emissions of nonattainment criteria pollutants<sup>7</sup> and their precursors (NO<sub>x</sub>, VOC, PM<sub>10</sub>, and SO<sub>2</sub>) are considered significant cumulative impacts that must be mitigated. In addition, any ambient air quality standards (AAQS) exceedance or any contribution to any AAQS exceedance caused by any project emissions is considered to be significant and must be mitigated.<sup>8</sup>

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<sup>7</sup> Criteria air pollutants are defined as those air contaminants for which the state and/or federal government has established an ambient air quality standard to protect public health. The criteria pollutants analyzed are nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), carbon monoxide (CO), ozone (O<sub>3</sub>), respirable particulate matter (PM<sub>10</sub>), and fine particulate matter (PM<sub>2.5</sub>). In addition, volatile organic compounds (VOC) emissions are analyzed because they are precursors to both O<sub>3</sub> and particulate matter. (Ex. 2000, p. 4.1-2.)

<sup>8</sup> Ex. 2000, pp. 4.1-32 – 4.1-33.

## Construction/Demolition

Construction of the ACECP would consist of the following four primary phases:

Phase I - Tank Demolition and Remediation

Phase II - Construction and Initial Commissioning of the ACECP

Phase III - Retirement and Decommissioning of EPS units

Phase IV - EPS Demolition<sup>9</sup>

For construction/demolition emissions, the mitigation considered is limited to controlling both construction equipment tailpipe emissions and fugitive dust emissions to the maximum extent feasible. The Conditions of Certification included as part of the 2012 Decision, with minor amendments, provide mitigation for most of the air quality impacts of the construction and demolition phases of the project.<sup>10</sup>

However, because the ACECP operation would overlap with Phase III (EPS decommissioning) and Phase IV (EPS demolition), new Condition of Certification **AQ-SC12** requires the staging of specific major construction, demolition, and commissioning events to be performed sequentially, not concurrently.<sup>11</sup> New Condition of Certification **AQ-SC13**, ensures that major short-term air quality impacts would not occur from large implosion or felling events during the EPS demolition.<sup>12</sup>

With the imposition of these Conditions of Certification, we find that the air quality impacts related to construction and demolition have been mitigated to insignificant levels.<sup>13</sup>

## Operation

The ACECP facility would be capable of operating seven days a week, 24 hours per day, but is subject to permit conditions that limit daily operation to 18 hours per day from 6:00 a.m. to midnight except in the case of a CAISO declared emergency, and limit annual emissions to the amount resulting from 2,700 hours of full load operation per year per gas turbine. This is equivalent to an annual facility-wide capacity factor of approximately 31 percent. The CECP is permitted to an annual facility-wide capacity

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<sup>9</sup> Ex. 2000, p. 4.1-23.

<sup>10</sup> Ex. 2000, pp. 4.1-32 – 4.1-33.

<sup>11</sup> Ex. 2000, pp. 4.1-23, 4.1-37.

<sup>12</sup> Ex. 2000, p. 4.1-37.

<sup>13</sup> Ex. 2000, pp. 4.1-36 – 4.1-37.

factor of 47 percent.<sup>14</sup> The maximum short-term pollutant emission rates for NO<sub>x</sub>, CO, and VOC are higher for the CECP than the ACECP.<sup>15</sup> The maximum normal pollutant emission rates for all pollutants are higher for the ACECP than the CECP.<sup>16</sup> The maximum worst-case daily and annual emissions for ACECP are higher than those estimated for the CECP with the exception of the daily NO<sub>x</sub> emissions, the annual CO emissions, and the annual PM emissions.<sup>17</sup>

The SCAPCD's predicted maximum concentrations of the directly emitted pollutants for the amended CECP project, including the fire pump and emergency generator engines along with the gas turbines operating under normal steady-state conditions, are summarized in **Air Quality Table 2**.

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<sup>14</sup> Ex. 2000, p. 4.1-28.

<sup>15</sup> Ex. 2000, p. 4.1- 30.

<sup>16</sup> Ex. 2000, p. 4.1- 31.

<sup>17</sup> Ex. 2000, p. 4.1- 31.

**Air Quality Table 2**  
**ACECP Normal Facility Operating Impacts – Gas Turbines and Emergency Engines**

Pollutant	Averaging Period	Project Impact ( $\mu\text{g}/\text{m}^3$ )	Background ( $\mu\text{g}/\text{m}^3$ )	Total Impact ( $\mu\text{g}/\text{m}^3$ )	Limiting Standard ( $\mu\text{g}/\text{m}^3$ )	Type of Standard	Percent of Standard
NO <sub>2</sub>	1 hour	NA <sup>b</sup>	152	209	339	CAAQS	62%
	1 hour NAAQS	NA <sup>b</sup>	96	165	188	NAAQS	88%
	Annual	0.08	17	17.1	57	CAAQS	30%
PM10	24 hour	2.15	42	44.2	50	CAAQS	88%
	Annual	0.04	21	21.04	20	CAAQS	105%
PM2.5	24 hour	2.15	21.3	23.5	35	NAAQS	67%
	Annual	0.04	10.6	10.64	12	CAAQS	89%
CO	1 hour	38.8	5,039	5,078	23,000	CAAQS	22%
	8 hour	7.2	4,352	4,359	10,000	CAAQS	44%
SO <sub>2</sub>	1 hour	4.7	34	38.7	655	CAAQS	6%
	1 hour NAAQS	4.7	34	38.7	196	NAAQS	20%
	24 hour	0.6	8	8.6	105	CAAQS	8%

Source: Ex. 2000, p. 4.1-39.

The modeling results indicate that the ACECP's normal operational impacts would not create exceedances of NO<sub>2</sub>, SO<sub>2</sub>, or CO air quality standards, but could further exacerbate violations of the PM<sub>10</sub> standards. Additionally, the NO<sub>x</sub> and VOC emissions from operation, when considering their potential secondary ozone formation added to the existing ozone "background," have the potential to contribute to existing exceedances of the ozone standard.<sup>18</sup>

Peaking facilities of this nature can be shut down when electricity demand is low, have quick-start capabilities and have a high level of generating flexibility/turndown ratios that help support California's efforts to increase use of renewable resources which will reduce system-wide criteria pollutant emissions from power generation.<sup>19</sup>

For operating emissions, the mitigation includes both feasible emission controls (BACT) and the use of emission reduction credits to offset emissions of nonattainment criteria

<sup>18</sup> Ex. 2000, p. 4.1-39.

<sup>19</sup> Ex. 2000, p. 4.1-59.

pollutants and their precursors.<sup>20</sup> There are minor editorial revisions to CECP Conditions of Certification **AQ-SC6** through **AQ-SC8**.<sup>21</sup>

Licensed CECP Condition of Certification **AQ-SC9** would not apply to the initial commissioning of the ACECP gas turbines. Instead, we impose a new Condition **AQ-SC9** to require that the ACECP operate the gas turbines only between the hours of 0600 and 2400, except in the event of a declared emergency. This memorializes the project owner's agreement with SDG&E and the City of Carlsbad.<sup>22</sup>

We delete Condition of Certification **AQ-SC10**, originally adopted in the 2012 Decision to provide additional emission reductions to mitigate the CECP's ozone precursor emissions increase. The SDAPCD subsequently required ozone precursor mitigation in sufficient quantities to mitigate that impact and eliminate the need for this Condition.<sup>23</sup>

We delete existing Condition of Certification **AQ-SC11** as Prevention of Significant Deterioration (PSD) permitting does not apply to the ACECP.<sup>24</sup> In its place, we adopt a new Condition of Certification **AQ-SC11** that would require the project owner to develop and implement a leak detection and repair (LDAR) plan to reduce VOC emissions from the three proposed natural gas compressors.<sup>25</sup>

### **Cumulative Effects**

The evidence includes analysis of the ACECP's potential cumulative air quality impacts, including a description of the air quality background. The SDAPCD has developed several plans to implement the federal Clean Air Act and state law as it addresses the cumulative air impacts of criteria pollutants. These plans implement the SDAPCD's strategies for addressing these cumulative impacts and eventually achieving attainment with various federal and state standards.

Staff found no major off-site cumulative stationary sources or other nearby projects with known emissions estimates that could cause cumulative air quality impacts with the ACECP. Staff performed a quantitative cumulative analysis of concurrent emissions

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<sup>20</sup> Ex. 2000, pp. 4.1-32 – 4.1-33.

<sup>21</sup> Ex. 2000, p. 4.1-44.

<sup>22</sup> Ex. 2000, p. 4.1-44; Ex. 1000, p. 2-36; Ex. 1001, Exhibit G, (p. 64 of the .pdf file).

<sup>23</sup> Ex. 2001, p. 5.

<sup>24</sup> The evidence shows that the new plant is not subject to PSD review because it would have maximum allowable emissions of less than 250 tons per year and the net emissions increase over the EPS is not a major modification to an existing major stationary source. (Ex. 2000, pp. 4.1-52 – 4.1-53, 4.1-57 – 4.1-58; Ex. 3041, pp. 4-5.)

<sup>25</sup> Ex. 2000, pp. 4.1-45- 4.1-46.

from various on-site emissions sources within the EPS property during ACECP's commissioning, when EPS may continue to operate, and after ACECP begins commercial operation when EPS is being demolished. Staff's analysis of both found no new exceedances of state or federal air quality standards and a "negligible" and temporary increase in annual PM10 concentrations, which already exceed state standards.<sup>26</sup>

### **Federal Emissions Baseline<sup>27</sup>**

The primary area of air quality dispute between the parties concerned the appropriate baseline against which to measure the ACECP's emissions relative to those from the EPS.<sup>28</sup> This issue is significant because the baseline determines whether the ACECP, which under federal law is considered a "modification" of the EPS facility, would result in substantial emissions increases warranting provision of emission reduction credits (ERCs) as compensatory mitigation.

### **SDAPCD's Position**

Dr. Steven Moore from the SDAPCD testified that District may legally use either of two baselines: a five-year average or two contiguous years. In issuing the Preliminary Determination of Compliance (PDOC) for the ACECP, SDAPCD had used two contiguous years, 2012 and 2013, as the baseline because of the shutdown of the San Onofre Nuclear Generating Station (SONGS). He noted that the District had received numerous comments on the PDOC regarding concerns with using the two-year baseline.<sup>29</sup>

Dr. Moore testified that, in the FDOC, the SDAPCD had changed to a five-year average (2009-2013) for the baseline instead of using two contiguous years. The District's change came after discussions with the Energy Commission staff and the California ISO. The District felt that using 2012 was erroneous because of the need to operate EPS during that year for reliability in the face of SONGS shut-down.<sup>30</sup> In 2013, the need for EPS to generate was reduced by the installation of synchronous condensers at

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<sup>26</sup> Ex. 2000, p. 4.1-50 – 4.1-52.

<sup>27</sup> Because air quality is a federal issue, concepts of baseline may vary from those applicable to the ACECP under CEQA.

<sup>28</sup> 04/01/2015 RT 39:21-56:16. "The net annual emission increase for this project is the post-project PTE minus the most representative pre-project actual emissions (baseline emissions) for those emission units proposed to be shut down . . ." (Ex. 2002, p. 14.)

<sup>29</sup> 04/02/2015 RT 50:6-50:16.

<sup>30</sup> 04/02/2015 RT 50:17-51:13.

Huntington Beach Generating Station and the start of operations at Sunrise Power Link. Dr. Moore testified that 2013 appeared to be the “new normal”. He therefore concluded that using 2012 and 2013 would be anomalous. Where a representative two-year period within a five-year baseline period cannot be established, District rules require use of a five-year average.<sup>31</sup> With this revised baseline, the ACECP would be subject to air district off-sets as provided in Condition of Certification **AQ-4**, requiring the use of ERCs to mitigate NOX emissions.<sup>32</sup>

### Positions of the Parties

The project owner has not opposed the District’s choice of a five-year average emissions baseline or the resulting requirement that it obtain ERCs related to the change.

Staff did not express any reservations about or opposition to the District’s baseline choice.

Intervenor Terramar argued that using a 5-year average baseline would provide a more accurate assessment of emission changes in the region, and it would be consistent with the approach taken on the CECP.<sup>33</sup>

### Discussion and Conclusion

Although this issue generated much discussion during the pendency of the proceeding, the SDAPCD’s decision to use a five-year average baseline and supporting rationale obviates the need for the Commission to resolve any dispute on this issue. We therefore incorporate Condition of Certification **AQ-4** as proposed by staff and the SDAPCD in this Decision.<sup>34</sup>

## **FINDINGS OF FACT**

Based on the record, we find as follows:

1. The ACECP would be located in the San Diego Air Basin and within the SDAPCD.
2. The San Diego Air Basin is designated as nonattainment for both state and federal ozone standards, and nonattainment for the state PM10 and PM2.5 standards, attainment for federal PM10, nonattainment for state PM10 standards, and attainment for both state and federal CO, NO2 and SO2 standards.

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<sup>31</sup> 04/02/2015 RT 50:6-51:13.

<sup>32</sup> 04/02/2015 RT 49:3-7, 56:1-16.

<sup>33</sup> Exs. 3044, 3045.

<sup>34</sup> Ex. 2010.

3. The ACECP's annual PM10 emissions would contribute to the existing violation of state air quality standards. We adopt Conditions of Certification **AQ-SC1** through **AQ-SC8**, **AQ-SC12** and **AQ-SC13** to mitigate the impacts of the ACECP.
4. The SDAPCD's FDOC finds that the ACECP would comply with all applicable district rules and regulations for project operation. The District's revised FDOC conditions are included herein as Conditions of Certification **AQ-1** through **AQ-121**.
5. The ACECP will not cause significant direct, indirect, or cumulative air quality impacts.
6. None of the factors that require a subsequent or supplemental environmental analysis set forth in the CEQA Guidelines, at section 15162(a), described in the Introduction section of this Decision are present regarding this topic.
7. The ACECP will be consistent with all applicable LORS.

### **CONCLUSIONS OF LAW**

1. This analysis contains an adequate evaluation of the project's contributions to cumulative air quality impacts.
2. The SDAPCD's FDOC appropriately relies on a 5-year average for determining the ACECP's emissions baseline, rather than the two-year approach (2012 and 2013) contained in the PDOC.
3. Implementation of the conditions of certification listed in **Appendix A** would ensure that the ACECP will not result in any significant direct, indirect, or cumulative impacts to air quality and will ensure that the ACECP will conform with all applicable laws, ordinances, regulations, and standards relating to air quality as set forth herein.
4. Implementation of the mitigation measures described in the record and contained in the conditions of certification ensures that the project will not result in significant direct, indirect, or cumulative air quality impacts in conformance with CEQA requirements.



## C. PUBLIC HEALTH

### INTRODUCTION

This analysis supplements the previous discussion on air quality and considers the potential public health effects from project emissions of toxic air contaminants (TACs). We review here the evidence concerning whether such emissions will result in significant public health impacts or violate standards for public health protection.

### DISCUSSION

The evidence contained in the record assesses the potential for significant health impacts arising from the construction and operation of the ACECP and demolition of the EPS and whether mitigation measures are necessary to mitigate the identified impacts. This topic was not contested. Evidence and analysis of the project's potential public health impacts is contained in Exhibits 200, 1000, 1001, 2000, 2001, and 3002.

Staff witness Alvin Greenberg, Ph.D., in his written assessment, indicates that the ACECP would comply with all LORS and would not create any new significant public health impacts not previously analyzed nor would it increase the severity of public health impacts.<sup>1</sup> His review of updated risk assessments for the amended project, included a methodology that is not yet approved or required by the appropriate regulatory agencies. In each case the predicted increase in health effects is below the level of significance (ten in one million persons).<sup>2</sup>

Dr. Greenberg recommends eliminating previously imposed Condition of Certification **Public Health-1** as no longer necessary because its requirement that only natural gas be combusted by the EPS and CECP is now contained in the facility's Title V and air quality permits.<sup>3</sup>

### PUBLIC COMMENTS

There were no public comments on this topic.

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<sup>1</sup> Ex. 2000, p. 4.3-1.

<sup>2</sup> Ex. 2000, p. 4.8-11.

<sup>3</sup> Ex. 2000, p. 4.8-16.

## **FINDINGS OF FACT AND CONCLUSIONS OF LAW**

Based on the evidence, we find as follows:

1. The 2012 Decision found that the project would conform with all applicable LORS and that, with the implementation of the Conditions of Certification, the project would not have any significant direct, indirect, or cumulative public health impacts.
2. None of the factors that require a subsequent or supplemental environmental analysis set forth in the CEQA Guidelines, at section 15162(a), described in the **Introduction** section of this Decision are present regarding this topic.
3. The project as amended will continue to comply with all applicable LORS.
4. The amended project will not create significant direct, indirect, or cumulative public health impacts.

With the deletion of former condition **Public Health-1**, no Conditions of Certification are required for this topic.

## **D. WORKER SAFETY AND FIRE PROTECTION**

### **INTRODUCTION**

Workers at industrial facilities are exposed to potential health and safety hazards on a daily basis. Implementation of various existing laws and standards suffices to reduce these hazards to minimal levels. Therefore, this section of the Decision focuses on whether Applicant's proposed health and safety plans are in accordance with all applicable LORS and thus adequate to protect industrial workers. We also address the availability and adequacy of fire protection and emergency response services.

### **DISCUSSION**

This topic was contested in the original AFC proceeding but was not contested in this amendment proceeding. Evidence and analysis of the amended project's potential worker safety and fire protection impacts and compliance with applicable LORS is found in Exhibits 101, 200, 1000, 1001, 1010, 1024, 2000, 2001, and 3002.

The contested issue in the original AFC proceeding was about whether the City of Carlsbad could provide fire protection services to the ACECP. The City asserted that the internal access roads and ramps were not sufficiently wide to allow its fire personnel to safely provide those services. The City asserted that a 50-foot minimum width was necessary; after considering the evidence, the Energy Commission found that 28 feet was a satisfactory minimum. The City also asserted that provisions of the Fire Code (24 Cal. Code Regs. §§ 503.2.1, 503.2.2) required that we abide by its determination. In adopting the 28-foot standard, we overrode the Fire Code provisions.<sup>1</sup>

Changes in the design of the access roads, turning areas, and other features proposed in the amendment petitions have eliminated the City's concerns described above. It no longer asserts that the ACECP would violate the Fire Code provisions. The City can and will provide fire protection services to the amended project.<sup>2</sup>

Staff witness Alvin Greenberg, Ph.D., in his written assessment, indicates that the ACECP would comply with all LORS and would not create any new significant worker safety or fire protection impacts not previously analyzed nor would it increase the severity of previously identified significant worker safety or fire protection impacts.<sup>3</sup>

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<sup>1</sup> Ex. 3002, pp. 6.4-11 – 6.4-12.

<sup>2</sup> Ex. 101, p. 8.

<sup>3</sup> Ex. 2000, pp. 5.7-1 – 5.7-10.

Various modifications have been made to the Conditions of Certification, including:

- Former condition **Worker Safety-8** has been deleted. It is no longer necessary because the control room will be on the ACECP site, no longer on the adjacent EPS property, separated from the operating machines by an active rail corridor.<sup>4</sup>
- **Worker Safety-12** is added to assure that the new compressor building is constructed to prevent a potentially explosive build-up of natural gas.

## **PUBLIC COMMENTS**

There were no public comments on this topic.

## **FINDINGS OF FACT AND CONCLUSIONS OF LAW**

Based on the evidence, we find as follows:

1. The 2012 Decision found that the project would, with the exception of the Fire Code provisions alleged by the City of Carlsbad to give the City the right to set minimum access road widths, conform with all applicable LORS and that, with the implementation of the Conditions of Certification, the project would not have any significant direct, indirect, or cumulative worker safety or fire protection impacts.
2. None of the factors that require a subsequent or supplemental environmental analysis set forth in the CEQA Guidelines, at section 15162(a), described in the **Introduction** section of this Decision are present regarding this topic.
3. The City of Carlsbad no longer asserts that the project access roads must be wider than the widths we approve.
4. The project as amended will comply with all applicable LORS, including the Fire Code provisions previously asserted by the City of Carlsbad to allow it to set minimum access road widths.
5. The worker safety and fire protection aspects of the amended project do not create significant direct, indirect, or cumulative environmental effects.
6. The revised Conditions of Certification set forth in **Appendix A** are appropriate and will ensure that the project is designed and constructed both in accordance

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<sup>4</sup> In its final compilation of conditions (Ex. 2010), staff deleted **Worker Safety-8** and renumbered the subsequent conditions. This could cause confusion because staff's own testimony (Ex. 2000) refers to the conditions by their original numbers. In **Appendix A**, we leave a placeholder for **Worker Safety-8**, with a notation that it was "deleted."

with applicable law and in a manner that protects environmental quality and public health and safety and to ensure compliance with all applicable LORS.

## E. HAZARDOUS MATERIALS MANAGEMENT

### INTRODUCTION

In this section of the Decision, we review the proposed ACECP to determine whether it will create significant impacts to public health and safety resulting from the use, handling, storage, or transport of hazardous materials. Several factors affect the potential for project-related hazardous materials to cause adverse impacts.

The topic of Hazardous Materials Management was uncontested. Evidence on the topic is contained in Exhibits 200, 203, 1000, 1001, 1030, 2000, and 3002.

### SUMMARY AND DISCUSSION OF THE EVIDENCE

Staff analyzed the changes to the licensed project, which include replacing the combined cycle power blocks with simple cycle turbines, reconfiguration of the project footprint, and the demolition and removal of portions of the Encina Power Station. Imposition and performance of the requirements of Conditions of Certification **HAZ-1** through **HAZ-10** contained in the 2012 Decision would ensure that all phases of the ACECP would provide proper use, storage, and transportation of hazardous materials.

We adopt minor modifications to the Conditions to (1) handle the potential hazardous waste generated by tank demolition, closure/decommissioning and demolition of the Encina Power Station (EPS); (2) schedule for all phases of the ACECP; and (3) include the Carlsbad Police Department for the review and comment on security plans would provide for the proper use, storage, and transportation of all hazardous materials. Staff therefore concluded that there would not be any new impacts related to hazardous materials not previously analyzed, nor an increase in severity of such environmental impacts.<sup>1</sup>

In addition, Condition of Certification **HAZ-10** is modified to preclude the use of flammable gas blows for pipe cleaning in favor of non-flammable gas (e.g. nitrogen or steam). It requires development of a written procedure consistent with National Fire Protection Association standards.<sup>2</sup>

We therefore impose Conditions of Certification **HAZ-1** through **HAZ-10**, as set forth in Appendix A. With the imposition of Conditions of Certification **HAZ-1** through **HAZ-10**, we find that the project will be consistent with all LORS and will not have a significant direct, indirect, or cumulative impact on the environmental relating to hazardous materials management.

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<sup>1</sup> Ex. 2000, p. 4.5-1.

<sup>2</sup> Ex. 2000, pp. 4.5-8 - 4.5-9, 4.5-14, 7-77 - 7-78.

## **PUBLIC COMMENT**

There were no public comments on the topic of hazardous materials management.

## **FINDINGS OF FACT AND CONCLUSIONS OF LAW**

Based upon the evidence, we make the following findings:

1. The 2012 Decision found that the project would conform with all applicable LORS and that, with the implementation of the Conditions of Certification of the Original Project, the project would not have any significant direct, indirect, or cumulative impacts regarding hazardous materials management.
2. None of the factors that require a subsequent or supplemental environmental analysis set forth in the CEQA Guidelines, at section 15162(a), described in the Introduction section of this Decision are present regarding this topic.
3. The project, as amended, will continue to comply with all applicable LORS.
4. There are no significant direct, indirect, or cumulative environmental effects regarding hazardous materials management.
5. The revised Conditions of Certification set forth in **Appendix A** are appropriate and will ensure that the project is designed and constructed both in accordance with applicable law and in a manner that protects environmental quality and public health and safety and to ensure compliance with all applicable LORS.

## F. WASTE MANAGEMENT

### INTRODUCTION

This section presents an analysis of issues associated with the disposal of wastes generated from the proposed construction and operation of the ACECP and the closure/decommissioning and demolition of the EPS. Management and discharge of wastewater is addressed in the **Soil & Water Resources** section of this decision. Additional information related to waste management is covered in the **Worker Safety & Fire Protection** and **Hazardous Materials Management** sections of this document.

### DISCUSSION

The evidence contained in the record describes the resources available to handle waste generated by the construction and operation of the ACECP, as well as the demolition wastes to be generated by decommissioning/closure of the EPS. With respect to demolition, the Commission's primary ACECP involvement will be monitoring for compliance with conditions of certification applicable to removal of aboveground storage tanks (AST) No.1, 2, and 4, and related contaminated materials. Remediation of the below grade, contaminated portions, if any, of the EPS facility which do not involve ASTs 1, 2, and 4 would occur following San Diego County Department of Environmental Health's approval of a redevelopment plan to be completed by the City of Carlsbad. The petitioner expects that the site assessment and characterization, and remediation processes as needed, for these parts of the EPS site (i.e., areas without the ASTs) with certification by the SDCDEH, would take approximately two to three years.<sup>1</sup>

Conditions of Certification are also proposed to ensure compliance with applicable LORS and to mitigate any potential environmental impacts associated with waste management. The topic of waste management was not contested. Evidence and analysis of the project's waste streams and their proper disposal is contained in the following: Exs. 200, 1000, 1001, 1010, 1025, 1027, 1030, 2000, 2001, 3002, 3041, and 3043.

Staff witness Ellie Townsend-Hough, in her written assessment, indicates that the amended project would comply with all LORS and would not create any new significant waste management impacts not previously analyzed nor would it increase the severity of previously identified waste management impacts.<sup>2</sup>

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<sup>1</sup> Ex. 2000, p. 5.6-17.

<sup>2</sup> Ex. 2000, p. 5.6-1.



On Ms. Townsend-Hough's recommendation, we adopt minor clarifying amendments to Conditions of Certification **WASTE-1**, **WASTE-4**, **WASTE-5**, and **WASTE-6** to reflect the appropriate responsible agencies and their program requirements. Condition of Certification **WASTE-10** from the 2012 Decision is deleted because the water purification system it relates to is no longer part of the project.<sup>3</sup>

The EPS site has two fuel oil tank farms where various spills and remedial activities have been identified, and a number of areas that have been subject to toxics contamination investigations and clean-up activities under the supervision of the SDCDEH.<sup>4</sup> With the addition of decommissioning and demolition of the EPS as part of the ACECP, there are a substantial number of structures and equipment to be removed from the site where no investigations have been conducted.

Contaminated soils may be encountered during demolition in these areas. We therefore impose new Condition of Certification **WASTE-12** that requires a Soil Management Plan be provided to the CPM prior to demolition and removal of ASTs 1, 2 and 4. The project owner is required to properly and adequately characterize potentially contaminated areas and to complete clean-up as necessary in accordance with this Decision and other legal requirements.<sup>5</sup> The petitioner would conduct assessment and remediation activity for ASTs No. 1, 2, and 4 in conjunction with its current remediation plan and ongoing activity for ASTs No.5, 6, and 7<sup>6</sup> through the Voluntary Assistance Program (VAP) HI341-004, which has been established with SDCDEH. The initial characterization process will require soil sampling and analysis for determining determine complete horizontal and vertical delineation of potential contamination.

If the project owner encounters obvious soil contamination after Phase I demolition, Phase II development, and CECP operation, Condition of Certification **WASTE-4** stipulates the methods for determining the nature and extent of contamination, and appropriate remediation.<sup>7</sup>

## **PUBLIC COMMENTS**

There were no public comments on waste management during the evidentiary hearings.

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<sup>3</sup> Ex. 2000, pp. 5.6-1 – 5.6-2, 5.6-25, 5.6-29.

<sup>4</sup> Ex. 2000, p. 5.6-12.

<sup>5</sup> Ex. 2000, pp. 5.6-1, 5.6-14, 5.6-29- 5.6-30.

<sup>6</sup> Removal of ASTs No.5, 6, and 7 and related remediation was authorized as part of the 2012 Decision.

<sup>7</sup> Ex. 2000, pp. 5.6-1 – 5.6-2, 5.6-12, 5.6-26- 5.6-27

## **FINDINGS OF FACT AND CONCLUSIONS OF LAW**

Based on the evidence, we find as follows:

1. The 2012 Decision found that the CECP would conform with all applicable LORS and that, with the implementation of the Conditions of Certification, the CECP would not have any significant direct, indirect, or cumulative waste management impacts.
2. None of the factors that require a subsequent or supplemental environmental analysis set forth in the CEQA Guidelines, at section 15162(a), described in the **Introduction** section of this Decision are present regarding this topic.
3. The ACECP will continue to comply with all applicable LORS.
4. The ACECP will not create significant direct, indirect, or cumulative waste management environmental effects.
5. The revised Conditions of Certification set forth in **Appendix A** are appropriate and will ensure that the project is designed and constructed both in accordance with applicable law and in a manner that protects environmental quality and public health and safety and to ensure compliance with all applicable LORS.

## VII. ENVIRONMENTAL ASSESSMENT

In this section of the Decision, the Commission considers the potential impacts of project-related activities on resources in the area, including biological resources, soil and water resources, cultural resources, and geological and paleontological resources.

### A. BIOLOGICAL RESOURCES

#### INTRODUCTION

The Commission must consider the potential impacts of project-related activities on biological resources, including state and federally listed species, species of special concern, and other resources of critical biological interest such as wetlands and unique habitats.

#### DISCUSSION

The evidence contained in the record describes the biological resources in the vicinity of the project site, assesses the potential for adverse impacts, and determines whether mitigation measures are necessary to mitigate the identified adverse impacts. Conditions of Certification are also proposed to ensure compliance with applicable laws, ordinances, regulations, and standards (LORS). The topic of biological resources was not contested. Evidence and analysis of the project's potential impacts on biological resources is contained in the following: Exs. 200, 1000, 1001, 1010, 1024, 2000, 2001, 3002.

Staff witness Carol Watson, in her written assessment, indicates that the amended project would comply with all LORS and would not create any new significant biological resources impacts not previously analyzed nor would it increase the severity of biological resource impacts.<sup>1</sup> She recommends eliminating Condition of Certification **BIO-9** regarding the previously approved use of desalinated ocean water for power plant cooling, which is no longer needed. Instead, the amended project would be air-cooled and would utilize either potable or recycled water<sup>2</sup> for power plant needs. By eliminating the use of ocean water, the amended CECP would eliminate the potential impacts to biological resources through entrapment and entrainment that were analyzed and mitigated in the 2012 Decision. With the implementation of Conditions of Certification **BIO-1** through **BIO-8** and **SOIL&WATER-3** and **SOIL&WATER-4**, she

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<sup>1</sup> Ex. 2000, p. 4.3-1.

<sup>2</sup> The potable or recycled water would be provided by the City of Carlsbad. For a detailed discussion of water supplies for the project, please see the **SOIL AND WATER RESOURCES** section of this Decision

concludes that the amended project would not cause any significant effects on biological resources.<sup>3</sup>

Finally, Staff indicates that there are no new or changed biological resource LORS since the original project was certified in 2012 that would affect the amended project.<sup>4</sup>

## **PUBLIC COMMENTS**

Intervenor Rob Simpson filed a Supplemental Brief<sup>5</sup> raising various issues regarding potential impacts of the ACECP on avian species. He asserts that the exhaust stacks pose a collision risk, the exhaust plumes increase risks to birds, the spacing of the transmission lines poses a risk to larger-wingspan species, and suggests that the impacts of this gas-fired turbine facility are similar to those of the concentrating solar Ivanpah<sup>6</sup> project. These concerns were appropriately addressed in the 2012 Decision; mitigation measures were identified and imposed and no significant environmental impacts were found.<sup>7</sup> The comparison to the Ivanpah facility is inappropriate as Ivanpah's avian issues are related to solar flux, a phenomena not present here.

Mr. Simpson's comments fail to identify any new significant impacts, new information not available during the preparation of the 2012 Decision or new or newly feasible mitigation measures. We abide by the environmental analysis contained in that document. Mr. Simpson's comments on the PMPD<sup>8</sup> similarly fail to identify any new

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<sup>3</sup> Ex. 2000, pp. 4.3-1 – 4.3-2.

<sup>4</sup> Ex. 2000, p. 4.3-3.

<sup>5</sup> TN 204350. As Mr. Simpson, was not admitted as an Intervener on this topic, we treat his brief as public comment.

<sup>6</sup> 07-AFC-05.

<sup>7</sup> Ex. 3002, pp. 7.1-6 – 7.1-7.

<sup>8</sup> TN 205292-1.

information that would require supplementation of the 2012 Decision's analysis on this point.<sup>9</sup>

## FINDINGS OF FACT AND CONCLUSIONS OF LAW

Based on the evidence, we find as follows:

1. The 2012 Decision found that the project would conform with all applicable LORS and that, with the implementation of the Conditions of Certification, the project would not have any significant direct, indirect, or cumulative impacts to biological resources.
2. None of the factors that require a subsequent or supplemental environmental analysis set forth in the CEQA Guidelines, at section 15162(a), described in the **Introduction** section of this Decision are present regarding this topic.
3. The project as amended will continue to comply with all applicable LORS.
4. The Biological Resources aspects of the amended project do not create significant direct, indirect, or cumulative environmental effects.
5. The revised Conditions of Certification set forth in **Appendix A** are appropriate and will ensure that the project is designed and constructed both in accordance with applicable law and in a manner that protects environmental quality and public health and safety and to ensure compliance with all applicable LORS.
6. The ACECP would result in reduced collision risk for avian species because it lowers the stack height of the project and because it will remove the much larger and taller EPS power plant and stack.<sup>10</sup>

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<sup>9</sup> On page 1 of his PMPD comments, Mr. Simpson writes: “[t]his is also a motion to reopen the evidentiary record and restore my full intervention rights and consider testimony on the subject.” TN 205292-1. The General Orders Regarding Electronic Document Formats, Electronic Filing and Service of Documents and Other Matters issued in this proceeding (TN 202478) specify:

Motions made in a written document shall be clearly stated and include a statement of the relief or action requested, the grounds for the requested relief or action and citation to a rule, law or other authority authorizing the Committee or Energy Commission to grant the request. The caption or title of the document containing the motion shall clearly indicate that that document contains a motion. It is not sufficient to simply say “I move/request that \_\_\_\_\_” in the body of the document; such a statement may be ignored by the Committee or Energy Commission in its discretion.

Mr. Simpson's “motion” fails to mention the motion in the document's caption or to describe the legal authority authorizing us to grant the relief he requests. We therefore exercise our discretion to decline to consider it.

<sup>10</sup> Ex. 3002, pp. 7.1-6 – 7.1-7.

## B. SOIL & WATER RESOURCES

### INTRODUCTION

The Commission must consider the potential impacts of project-related activities on soil and water resources, including accelerated wind or water erosion and sedimentation; flood conditions in the vicinity of the project; local water supplies; wastewater disposal; water quality of surface and groundwater; and compliance with all LORS and state policies. Conditions of Certification are proposed to ensure compliance with applicable LORS.

### DISCUSSION

In the 2012 Decision, we reviewed the CECP's potential to impact soil and water resources. We concluded that CECP's construction would have the potential to induce erosion and sedimentation, adversely affect water supplies, and degrade water quality. However, with the adoption of Conditions of Certification, the potential impacts would be mitigated to a level of less than significant, and the CECP would comply with all LORS.<sup>1</sup>

The changes between the CECP and the proposed ACECP include replacing combined cycle units with simple-cycle combustion gas turbine generators. This change results in reduced demand for water (whether reclaimed or potable) for operation of the plant.<sup>2</sup> The ACECP also modifies the water treatment system resulting in reducing the amount of wastewater disposed to the municipal sewer system.<sup>3</sup> Finally, the shutdown of the EPS would eliminate the use of ocean water for power plant cooling,<sup>4</sup> with the ACECP designed to use reclaimed water for cooling. The availability of reclaimed water is discussed in more detail in the Water Supply Assessment subsection, below. The ACECP also includes the demolition of above-ground fuel oil storage tanks and an increased footprint for the proposed power plant.<sup>5</sup> New potentially significant impacts would result from the proposed EPS decommissioning and demolition. To mitigate these impacts, staff recommends a new condition of certification, as well as simple modifications to existing conditions of certification that were approved for the CECP.<sup>6</sup>

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<sup>1</sup> Ex. 3002, pp. 7.2-14 – 7.2.-15.

<sup>2</sup> Ex. 2000, pp. 4.10-18- - 4.10-19

<sup>3</sup> Ex. 2000, p. 4.10-22.

<sup>4</sup> Ex. 2000, pp. 4.10-1, 4.10-7, 4.10-19.

<sup>5</sup> Ex. 2000, pp. 4.10-1, 4.10-8 – 4.10-9.

<sup>6</sup> Ex. 2000, pp. 4.10-2, Soil & Water Resources Table 1.

Energy Commission staff witnesses, Mike Conway and Marylou Taylor, also concluded that the ACECP would comply with all LORS, including California Water Code sections 10910-10915 regarding water supply assessments.<sup>7</sup>

The evidence contained in the record describes the potential impacts that the project may have on soil and water resources, including accelerated wind or water erosion and sedimentation; flood conditions in the vicinity of the project; local water supplies; wastewater disposal; water quality of surface and groundwater; and compliance with all applicable LORS, and state policies. The topic of soil and water resources was not contested. Evidence and analysis of the project's potential impacts on soil and water resources is contained in the Exhibits 101, 102, 103, 104, 200, 1000, 1001, 1010, 1024, 1026, 1030, 2000, 2001, and 3002

## **COMPLIANCE WITH LORS**

### **Water Supply Assessment**

The requirement to prepare a water supply assessment (WSA) is found in California Water Code sections 10910-10915.<sup>8</sup> These Water Code sections, enacted in 1995 but substantially amended in 2001 by Senate Bill 610 (Chapter 643, Statutes of 2001), apply to any large land use project (not only residential developments) and to approval of any such project subject to CEQA (not only to subdivision map approvals).<sup>9</sup> When a proposed project is subject to CEQA, and it is also a "project" within the meaning of Water Code section 10912 subdivision (a), a WSA is required.<sup>10</sup> The WSA is generally prepared by the public water system<sup>11</sup> that may provide water for the project.<sup>12</sup> The WSA is intended to assist local governments in deciding whether to approve a project.<sup>13</sup> "The purpose of a WSA is 'to ensure that local land use authorities will thoroughly

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<sup>7</sup> Ex. 2000, p. 4.10-2.

<sup>8</sup> For our discussion of the environmental impacts of providing water to the project, see below.

<sup>9</sup> *Vineyard Area Citizens for Responsible Growth, Inc., v. City of Rancho Cordova* (2007) 40 Cal. 4th, 412, 433, 150 P.3d 709, 53 Cal. Rptr. 3d 821.

<sup>10</sup> *O.W.L. Foundation v. City of Rohnert Park* (2008) 168 Cal.App.4th 568, 576, 86 Cal.Rptr.3d 1.

<sup>11</sup> A "public water system" is defined as "a system for the provision of piped water to the public for human consumption that has 3000 or more service connections." (§ 10912, subd. (c).) The Carlsbad Municipal Water District is the public water system for the ACECP. (Ex. 2000, pp. 4.10-38 – 4.10-39.)

<sup>12</sup> Water Code §10910, subd. (b).

<sup>13</sup> See Water Code §§ 10910 –10915.

consider the availability of water supplies *before* approving major new developments,’ and ‘to respond to...CEQA litigation concerning water supply.’ ”<sup>14</sup>

Section 10910 specifically calls upon cities and counties to prepare WSAs. The Energy Commission is not a city or a county. However, when acting to permit power plants, the Energy Commission “stands in the shoes” of local agencies.<sup>15</sup> Therefore, in an abundance of caution, we will treat the WSA requirement as applying to the Energy Commission.

As set forth above, the ACECP proposes to re-use a portion of the existing EPS site. The CECP was approved to use 517 acre-feet per year (AFY) of desalinated ocean water for cooling during operations; an additional 19 AFY of potable water was also needed for various purposes.<sup>16</sup> ACECP, on the other hand, proposes to use 215 AFY of reclaimed water for cooling which is expected to be available for delivery from the City of Carlsbad to the project site beginning in 2017<sup>17</sup> along with 3 AFY of potable water for drinking water and sanitary uses. Potable water will be used for construction and operations until the reclaimed water is available to the project site; in emergencies, potable water may also be used after reclaimed water is generally available to the site.<sup>18</sup>

We have not found, nor does any party cite, authority for the proposition that use of reclaimed water is not subject to Water Code sections 10910-10915. We will not distinguish between potable and reclaimed water in determining whether the WSA requirement applies because (1) the project will use potable water until reclaimed water is available<sup>19</sup>; (2) the availability of water resources (whether potable or reclaimed) other than ocean water to meet project demands has not previously been analyzed; and (3) the drought conditions currently confronting this state mandate careful consideration of all water usage.<sup>20</sup> As such, we will utilize the demand figure of 218 AFY, which represents the total anticipated demand of the ACECP during operations

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<sup>14</sup> *Center for Biological Diversity v. County of San Bernardino* (2010) 185 Cal.App.4th 866, 886, 111 Cal. Rptr. 3d 374 (“CBD”).

<sup>15</sup> Pub. Resources Code §25500.

<sup>16</sup> Ex. 2000, p. 4.10-11.

<sup>17</sup> Ex. 2000, p. 4-10.-10. The delay in delivery is to accommodate the City’s construction of a pipeline to convey the reclaimed water from the treatment plant to the site. The pipeline project is not a part of these proceedings.

<sup>18</sup> Ex, 2000, pp. 4.10-17 – 4.10-19.

<sup>19</sup> Ex. 2000, p. 4.10-50.

<sup>20</sup> Ex. 2000, p. 4.10-28 (describing current and potential drought restrictions in the City of Carlsbad).



We thus turn to whether the ACECP is a “project” under Water Code sections 10910-10915. Two definitions from Water Code section 10912 potentially apply to the ACECP:

- industrial, manufacturing, or processing plants that house more than 1,000 persons, occupy more than 40 acres of land, or have more than 650,000 square feet of floor area subdivision;<sup>21</sup> and
- projects that would demand an amount of water equivalent to that required by a 500 dwelling unit project.<sup>22</sup>

The ACECP is an industrial plant which would have 10-20 full-time employees during operation. The facility will occupy approximately 30 acres of land. Finally, the facility is anticipated to have less than 20,000 square feet of floor area.<sup>23</sup> As a consequence, we find that ACECP would not require the preparation of a WSA under Section 10912, subdivision (a)(5), because it will not house more than 1,000 people, will not occupy more than 40 acres, and will not have more than 650,000 square feet of floor area.

We must next determine whether the project will use as much water as a 500 dwelling unit project. The “Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001” (“Guidebook”) prepared by the California Department of Water Resources (DWR) contains guidance on calculating water demand for a 500 dwelling unit project:

*An agency should contact its local water supplier to obtain its advice on the annual water demand for a development within the local community in order to determine whether the water demand for the development under consideration is equivalent to the water demand of a 500 dwelling unit project. Water Code §10912, subd. (a)(7).*

Commission Staff contacted the Carlsbad Municipal Water District, which stated that a 500-unit subdivision would require 308 AFY.<sup>24</sup> As set forth above, in the worst case scenario where the ACECP would use all potable water to meet its water demands, the ACECP would require 218 AFY— considerably less than the 308 AFY for a 500-unit

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<sup>21</sup> Cal. Water Code §10912, subd. (a)(5));

<sup>22</sup> Cal. Water Code §10912, subd. (a)(7).

<sup>23</sup> Ex. 2000, 4.10-32.

<sup>24</sup> Ex. 2000, p. 4.10-35; see also Exs. 101, 102, 103, 104.

subdivision. As such, we find that the ACECP is not a project within the meaning of California Water Code sections 10910-10915.<sup>25</sup>

## **ENVIRONMENTAL ANALYSIS**

### **Local Water Supplies and Wastewater Service**

#### Water Supplies

While no WSA is required, we must still analyze the environmental impacts of providing water to the project. Staff's witnesses concluded that, after completion of the supply pipeline in 2017, there will be a sufficient supply of reclaimed water available to meet the project's industrial demands.<sup>26</sup> Staff further concluded that there were sufficient potable supplies to meet the project's operational demands, even in conditions of extreme drought.<sup>27</sup>

In order to minimize the potential use of potable water for the project's needs in the event of the lack of available reclaimed water, Condition of Certification **SOIL & WATER-6** is modified to limit the use of potable water to 3 AFY and further require that the project owner file a Petition to Amend if potable water will be used for more than emergency back-up or the lifetime use of potable water for emergency back-up exceeds 300 acre-feet.<sup>28</sup>

With the imposition of Condition of Certification **SOIL & WATER-6**, we find that the potential impacts of the project on the local water system and water supplies are mitigated to a level of "less than significant".

#### Wastewater Service

The use of reclaimed water for industrial purposes will require pretreatment on-site. The treatment residue would exceed limitations on the quality of wastewater returned to the wastewater treatment facilities. Therefore, the ACECP will use trailer-mounted demineralizer units, which will be regenerated off-site after they are exhausted.<sup>29</sup>

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<sup>25</sup> We do not reach the other bases for whether the water demand of the ACECP meets the 500 unit subdivision threshold put forward by staff. As a practical matter, we adopt the findings of local governments whenever possible.

<sup>26</sup> Ex. 2000, pp. 4.10-19 – 4.10-21

<sup>27</sup> Ex. 2000, 4.10-41.

<sup>28</sup> Ex. 2000, pp. 4.10-2; 4.10-18 – 4.10-19.

<sup>29</sup> Ex. 2000, pp. 4.10-21 – 4.10-22. For a discussion of the impacts of transporting the demineralizing units off-site, please see the **Waste Management** section of this Decision.

## **PUBLIC COMMENT**

There were no public comments on the topic of soil and water resources.

## **FINDINGS OF FACT AND CONCLUSIONS OF LAW**

Based on the evidence, we find as follows:

1. The 2012 Decision found that the project would conform with all applicable LORS and that, with the implementation of the Conditions of Certification, the CECP would not have any significant direct, indirect, or cumulative impacts to soil and water resources.
2. None of the factors that require a subsequent or supplemental environmental analysis of impacts to soil and water resources, as set forth in the CEQA Guidelines, section 15162(a), are present.
3. The ACECP will continue to comply with all applicable LORS.
4. The ACECP will demand approximately 218 AFY of potable and reclaimed water for operations. The water demand of a 500-unit residential development in the City of Carlsbad is approximately 308 AFY. The amended project is therefore not a “project” for which we are required to provide a water supply analysis under Water Code Section 10910 and following.
5. The Soil & Water Resources aspects of the ACECP do not create significant direct, indirect, or cumulative environmental effects.
6. The revised Conditions of Certification set forth in **Appendix A** are appropriate and will ensure that the project is designed and constructed both in accordance with applicable law and in a manner that protects environmental quality and public health and safety and to ensure compliance with all applicable LORS.

## C. CULTURAL RESOURCES

### INTRODUCTION

The Commission must consider the potential impacts of project-related activities on cultural resources. Cultural resources are defined under state law as buildings, sites, structures, objects, areas, places, records, manuscripts, and historic districts and fall roughly into three broad classes: prehistoric, ethnographic, and historic.<sup>1</sup>

### DISCUSSION

The evidence contained in the record describes the cultural resources in the vicinity of the project site, assesses the potential for significant impacts, and determines whether mitigation measures are necessary to mitigate the identified adverse impacts. Conditions of certification are proposed to (1) ensure compliance with applicable laws, ordinances, regulations, and standards (LORS) and (2) mitigate any potential adverse impacts to a level of less than significance. The topic of cultural resources was not contested. Evidence and analysis of the project's potential impacts on cultural resources is contained in the following: Exs. 200, 1000, 1001, 1024, 1028, 1030, 2000, and 3002.

Staff witnesses Melissa Mourkas and Matthew Braun, in their written assessment, indicate that the amended project would comply with all LORS and would not create any new significant cultural resources impacts nor would it increase the severity of previously analyzed cultural resource impacts.<sup>2</sup> Their testimony indicates that the regulatory framework for evaluating potential impacts has not changed since the adoption of the 2012 Decision.<sup>3</sup> In total, the project could affect 3 archaeological, 1 ethnographic, and 12 built-environment resources, plus an archaeological district associated with the Agua Hedionda Lagoon.<sup>4</sup> The evidence also indicates that the project area is likely to contain buried archaeological resources.<sup>5</sup> Staff recommends maintaining the Conditions of Certification contained in the 2012 Decision, with minor modifications to Condition of Certification **CUL-6**.<sup>6</sup>

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<sup>1</sup> Pub. Resources Code, §§5020.1, subd. (h), (j), 5024.1, subd. (e)(2), (e)(4); Cal. Code Regs., tit. 14, §§4852a, 5064.5, subd. (a)(3); Ex. 2000, pp. 4.4-1 – 4.4-2.

<sup>2</sup> Ex. 2000, pp. 4.4-1 – 4.4-2, 4.4-35 – 4.4-36.

<sup>3</sup> Ex. 2000, pp. 4.4-6.

<sup>4</sup> Ex. 2000, pp. 4.4-16 – 4.4-17.

<sup>5</sup> Ex. 2000, pp. 4.4-13 – 4.4-14.

<sup>6</sup> Ex. 2000, pp. 4.4-30 – 4.4-31.

The amendments to Condition of Certification **CUL-6** are informed by subsurface archaeological investigations.<sup>7</sup> The amended CECP would increase ground-disturbing activities because of the expanded footprint.<sup>8</sup> As such, staff and the applicant conducted various investigations, including subsurface investigations. These subsurface investigations revealed that some archaeological and ethnographic resources may be present, but they have been disturbed or displaced by incremental activity related to the existing EPS.<sup>9</sup> The changes to Condition of Certification **CUL-6** thus require monitoring only for the areas of the site where cultural material has been identified.<sup>10</sup> In the event of discovery of significant cultural resources, Condition of Certification **CUL-6** sets forth mechanisms to mitigate impacts to them.<sup>11</sup> We thus find that potential impacts of undiscovered cultural resources in the expanded areas of the amended CECP to be mitigated to a level of “less than significant”.

As set forth more fully in the project description, the amended CECP would add demolition of the EPS, a potentially historical resource due to its age, to the project.<sup>12</sup> The evidence establishes, however, that the EPS is not a historical resource under CEQA because it does not meet any of the four criteria under CEQA for finding a resource to be historically significant.<sup>13</sup> Therefore, there is no significant impact associated with the demolition of the EPS with the amended CECP.

We thus find that with the implementation of the Conditions of Certification contained in **Appendix A** to this Decision, the amended project would not cause any significant effects on cultural resources.<sup>14</sup>

## **PUBLIC COMMENT**

There were no public comments on the topic of cultural resources.

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<sup>7</sup> Ex. 2000, pp. 4.4-1, 4.4-31 – 4.4-32.

<sup>8</sup> Ex. 2000, p. 4.4-1.

<sup>9</sup> Ex. 2000, pp. 4.4-18 - 4.4.19.

<sup>10</sup> Ex. 2000, p. 4.4- 31 - 4.4-32; 7-62; 7-68 – 7-70.

<sup>11</sup> Ex. 2000, p. 4.4-32.

<sup>12</sup> Ex. 2000, p. 4.4-1.

<sup>13</sup> Ex, 2000, p. 4.4-27.

## **FINDINGS OF FACT AND CONCLUSIONS OF LAW**

Based on the evidence, we find as follows:

1. The 2012 Decision found that the CECP would conform with all applicable LORS and that, with the implementation of the Conditions of Certification, the project would not have any significant direct, indirect, or cumulative impacts to cultural resources.
2. None of the factors that require a subsequent or supplemental environmental analysis set forth in the CEQA Guidelines, at section 15162(a), described in the **Introduction** section of this Decision are present regarding this topic.
3. The project, as amended, will continue to comply with all applicable LORS.
4. The Cultural Resources aspects of the amended project do not create significant direct, indirect, or cumulative environmental effects.
5. The revised Conditions of Certification set forth in **Appendix A** are appropriate and will ensure that the project is designed and constructed both in accordance with applicable law and in a manner that protects environmental quality and public health and safety and to ensure compliance with all applicable LORS.

## **D. GEOLOGICAL AND PALEONTOLOGICAL RESOURCES**

### **INTRODUCTION**

This topic summarizes the project's potential exposure to geological hazards, as well as its potential impacts on geological, mineralogical, and paleontological resources.

The issue of whether the project would impact geological and paleontological resources was not disputed. Evidence on the topic is contained in Exhibits 200, 203, 1000, 1011, 1030, 2000, and 3002.

### **DISCUSSION**

The evidence evaluates whether the project site is located in an area where geologic hazards, such as faulting and seismicity, liquefaction, dynamic compaction, hydrocompaction, subsidence, expansive soils, landslides, tsunamis, or seiches, could damage project structures or injure occupants of the facility. The evidence also discusses whether project construction or operation could potentially result in adverse impacts on geologic or mineralogical resources in the area. Finally, the evidence examines whether paleontological resources, such as fossilized remains or trace remnants of prehistoric plants or animals, could be present at the site and, if so, whether the project's potential impacts on these resources will be adequately mitigated.<sup>1</sup>

The Staff witness, Casey Weaver, concluded that, even with the substitution of equipment, reconfiguration of the project footprint, and the demolition and removal of portions of the Encina Power Station, there would be:

1. No new significant geological or paleontological resource impacts not previously analyzed;
2. No increase in the severity of environmental impacts;
3. No mitigation measures previously found to be infeasible are now feasible, nor would these infeasible mitigation measures substantially reduce a significant effect of the amended CECP; and
4. No mitigation measures or alternatives that are considerably different from those analyzed in the 2012 Decision would substantially reduce one or more significant effects on the environment of the amended CECP.<sup>2</sup>

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<sup>1</sup> Ex. 2000, pp. 5.2-1 – 5.2-2.

<sup>2</sup> Pub. Resources §21166; CEQA Guidelines, §15126; Ex. 2000, pp. 5.2-1 – 5.2-2.

Staff therefore concluded that adoption and implementation of Conditions of Certification **GEO-1** and **PAL-1** through **PAL-8**, along with **Facility Design** Conditions of Certification **GEN-1**, **GEN-5**, and **CIVIL-1**, would mitigate any impacts associated with the project.

Condition of Certification **GEO-1** was modified to assure that the design and construction of the ACECP conforms to the most recent California Building Code.<sup>3</sup>

While there are no known viable geological or paleontological resources at the ACECP site, some have been documented within three miles of the project. To the extent resources are discovered during construction, worker training and monitoring by qualified paleontologists would mitigate any potential impacts.<sup>4</sup> Condition of Certification **PAL-5** is modified from the 2012 Decision to add language to require that all site workers receive training to respond to the unexpected discovery of paleontological resources.<sup>5</sup> Similarly, Condition of Certification **PAL-8** governs the implementation as well as the preparation of a Paleontological Resources Monitoring and Mitigation Plan; under the 2012 Decision, Condition of Certification **PAL-8** only required preparation of the PRMMP.<sup>6</sup>

Additional new information since the 2012 Decision includes evaluation of seismicity and regional geologic information.<sup>7</sup> The Conditions of Certification mitigate these potential impacts to less than significant levels by enforcing compliance with the California Building Codes.<sup>8</sup>

We thus find that with the implementation of the Conditions of Certification contained in **Appendix A** to this Decision, the amended project would not cause any significant effects on geological and paleontological resources.

## **PUBLIC COMMENT**

There were no public comments on the topic of geological and paleontological resources.

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<sup>3</sup> Ex. 2000, pp. 5.2-3, 5.2-16 - 5.2-22.

<sup>4</sup> Ex. 2000, pp. 5.2-23 – 5.2-24.

<sup>5</sup> Ex. 2000, pp. 5.2-3, 5.2-23.

<sup>6</sup> Ex. 2000, pp. 5.2-3.

<sup>7</sup> Ex. 2000, pp. 5.2-3, 5.2-7, 5.2-9.

<sup>8</sup> Ex. 2000, pp. 5.2-16, 5.2-23 – 5.2-24.



## **FINDINGS OF FACT AND CONCLUSIONS OF LAW**

Based on the evidence, we find as follows:

1. The 2012 Decision found that the project would conform with all applicable LORS and that, with the implementation of the Conditions of Certification of the Original Project, the project would not have any significant direct, indirect, or cumulative impacts to geological and paleontological resources.
2. None of the factors that require a subsequent or supplemental environmental analysis set forth in the CEQA Guidelines, at section 15162(a), described in the **Introduction** section of this Decision are present regarding this topic.
3. The project, as amended, will continue to comply with all applicable LORS.
4. The Geological and Paleontological Resources aspects of the amended project do not create significant direct, indirect, or cumulative environmental effects.
5. The revised Conditions of Certification set forth in **Appendix A** are appropriate and will ensure that the project is designed and constructed both in accordance with applicable law and in a manner that protects environmental quality and public health and safety and to ensure compliance with all applicable LORS.

## VIII. LOCAL IMPACT ASSESSMENT

The effect of a power plant project on the local area depends upon the nature of the community and the extent of the associated impacts. Technical topics discussed in this portion of the Decision consider issues of local concern including **Land Use, Noise, Socioeconomics, Traffic and Transportation, and Visual Resources.**

### A. LAND USE

#### INTRODUCTION

In the 2012 Decision, the Energy Commission found that the CECP was inconsistent with the City of Carlsbad's LORS. The original Presiding Member's Proposed Decision (PMPD) issued in the Application for Certification proceeding in May 2011, found the CECP consistent with the City's land use LORS. However, before the Commission took final action on the PMPD, the City amended, among other things, its General Plan, Encina Specific Plan, Agua Hedionda Land Use Plan, and zoning ordinance. With these amendments, the original CECP project was inconsistent with the City's land LORS and the Energy Commission adopted findings overriding the LORS inconsistencies. It also overrode a significant environmental impact found to be created by the LORS inconsistencies.<sup>1</sup>

The land use analysis focuses on: (1) whether the project is consistent with local land use plans, ordinances, and policies; and (2) whether the project is compatible with existing and planned uses. Since the 2012 CECP Decision was issued, the project owner has entered into an agreement with the City of Carlsbad and SDG&E. As a result, the City rescinded the land use amendments it approved in 2011 referenced above. Thus, the analysis presented in the May 2011 PMPD for the original CECP is now applicable for the ACECP. The Energy Commission finds that the ACECP, with the exception of its height, meets the applicable land use LORS. The Energy Commission again overrides the inconsistency between the project and land use LORS on the height issue.

We also find that the ACECP is not a coastal dependent use. However, even if not coastal dependent, the ACECP can still be approved as the development is consistent with the Coastal Act.

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<sup>1</sup> Ex. 3002, pp. 8.1-1 – 8.1-2, 8.1-11 (comparing the General Plan applicable at the time of the May 2011 PMPD with the General Plan adopted in October 2011); pp. 9-2, 9-9 – 9-11.

Evidence on the topic of land use is found in the following: Ex. 101, 105, 1000, 1001, 2000, 2001, 2003, 2004, 2006, 3002, 3041, 04/02/2015 RT 8:18 – 39:22.

## **APPLICABLE LORS**

### **CEQA**

According to CEQA Guidelines, a project may result in significant land use impacts if it would conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction, or that would normally have jurisdiction, over the project. This includes, but is not limited to, a General Plan, community or specific plan, local coastal program, airport land use compatibility plan, or zoning ordinance.<sup>2</sup>

In the 2012 Decision, except as described above, the Energy Commission found that the project would create significant land use impacts because of the inconsistency with the changed local LORS.<sup>3</sup>

In these amendment proceedings, Staff witness Michael Baron concluded that the amended CECP would be consistent with applicable LORS as they have been amended, with the exception of a 35-foot height limitation in the Agua Hedionda Land Use Plan for future buildings.<sup>4</sup> Staff further concludes that the construction and operation of the amended project would not create any new significant land use impacts nor would it increase the severity of land use impacts, specifically the significant land use impacts identified in CEQA, above.<sup>5</sup>

### **Local Land Use LORS**

**Land Use Table 1** summarizes land use LORS applicable to the amended CECP.<sup>6</sup> The local land use LORS impact the analysis in three ways. First, under the Warren-Alquist Act we are required to determine the consistency between the project and local LORS.<sup>7</sup> Second, as set forth above, CEQA requires an analysis of whether inconsistency with land use laws will create a significant environmental impact. Finally, the consistency of a project under the Coastal Act is measured by policies contained in the general plan, local coastal program, and zoning act, as well as the Coastal Act.

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<sup>2</sup> CEQA Guidelines, Appendix. G, § X (b).

<sup>3</sup> Ex. 3002, pp. 9-3, 9-9 – 9-11.

<sup>4</sup> Ex. 2000, pp. 1-17, 4.6-1 – 4.6-2.

<sup>5</sup> Ex. 2000, p.4.6-1. 4.6-24 – 4.6-25.

<sup>6</sup> Ex. 2000, pp. 4.6-2 – 4.6-4; see also, Exs. 101, 105.

<sup>7</sup> Cal. Pub. Resources §25525.

**Land Use Table 1  
Applicable Laws, Ordinances, Regulations, and Standards (LORS)**

LORS	Description
<b>Local</b>	
Carlsbad General Plan	The Carlsbad General Plan establishes an overall multi-part vision for the entire city. Implementation of the City's overall vision is accomplished by the various general plan elements and various policies, programs, and procedures. The Encina Power Station (EPS) property has a Public Utilities (U) land use designation. The U land use designation includes the generation of electrical energy by fossil fuel only if it is the subject of and consistent with the agreement between and among the city of Carlsbad and the Carlsbad Municipal Water District (CMWD), Cabrillo Power I LLC, Carlsbad Energy Center LLC, and San Diego Gas and Electric, and approved by the city and CMWD on January 14, 2014
Carlsbad Municipal Code, Chapter 21.36 (Zoning Ordinance)	The Carlsbad Zoning Ordinance serves as the legal mechanism for implementation of the general plan. Chapter 21.36 of the City's municipal code addresses the Public Utilities ("P-U") Zone which is applied to the project site. The P-U Zone permits generation and transmission of electrical energy throughout the city. This section of the municipal code implements the "Public Utility" land use designation of the City's general plan.
Encina Power Station Precise Development Plan (PDP 00-02-F)	The purpose of the Encina Power Station Precise Development Plan is to identify existing and approved uses and provide land use information, procedures and standards for development consistent with the requirements of the Public Utility zone.
Carlsbad Local Coastal Program (LCP)/Agua Hedionda Land Use Plan (AHLUP)	The AHLUP is the segment of the City's LCP that applies to the Agua Hedionda Lagoon area and the EPS property. The AHLUP is a certified segment of the City's LCP. The City does review projects in the coastal zone for consistency with the requirements of the LCP, but has not been granted authority to issue Coastal Development Permits (CDP), which normally requires project proponent/developers to apply directly to the California Coastal Commission to obtain a CDP for their projects. The Energy Commission license is in lieu of the Coastal Commission permit.
Coastal Rail Trail (CRT)	The Coastal Rail Trail (CRT) is intended to provide a multi-modal transportation route that is separated from the roadway. The current trail network consists of 38 miles of open space trails and 48 miles of bike lanes. Future plans for approximately 20 more miles of trails in the city will bring the total trail mileage to approximately 58 miles.

**Land Use Table 1**  
**Applicable Laws, Ordinances, Regulations, and Standards (LORS)**

LORS	Description
<p>North County Multiple Habitat Conservation Plan (NCMHCP) and the Carlsbad Habitat Management Plan (HMP) for Natural Communities</p>	<p>The North County Multiple Habitat Conservation Plan (NCMHCP) has been prepared for a portion of San Diego County including the cities of Carlsbad, Encinitas, Escondido, Oceanside, San Marcos, Solana Beach, and Vista. The NCMHCP is a long-term conservation program that addresses existing biological resources, proposed urban growth, habitat losses, and direct, indirect, and cumulative effects on sensitive species throughout the San Diego region. The NCMHCP is a multi-jurisdictional planning effort and each city is tasked with developing a sub-area plan in order to set policies and regulatory mechanisms to carry out the goals outlined in the regional NCMHCP. The Habitat Management Plan (HMP) for Natural Communities in the City of Carlsbad, which serves as the city's sub-area plan, was approved in November, 2004.</p>

Local LORS Compliance

The ACECP site thus has a City of Carlsbad General Plan Land Use designation of Public Utility (U), and is zoned Public Utility (P-U). These local LORS allow for the generation of electrical energy, treatment of waste water, and operating facilities, or other primary utility functions designed to serve all or a substantial portion of the community.<sup>8</sup> The amended CECP is consistent with these local LORS.<sup>9</sup>

The amended CECP site is also located within the Agua Hedionda Land Use Plan area. Within that area, the height of new structures is limited to 35 feet. The proposed project includes 90-foot tall exhaust stacks. These stacks are shorter than both the existing facility's 400-foot tall stack and the approved project's 135-foot tall stacks.<sup>10</sup>

Because of the 90-foot tall exhaust stacks, the amended CECP is inconsistent with the local land use LORS. In many cases, the Commission would consider whether a variance would be available.<sup>11</sup> Here, however, Gary Barbario, the assistant city manager and former planner for the City of Carlsbad, testified about the ability of the City (and by extension the Energy Commission) to grant a variance to allow the overheight structures of the amended CECP. He testified that the local coastal plan did not contain a variance procedure. As such, varying from the height limit would require

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<sup>8</sup> Ex. 2000, p. 4.6-7.

<sup>9</sup> Ex. 2000, p. 4.6-12.

<sup>10</sup> Ex. 2000, p. 4.6-12.

<sup>11</sup> *Id.*

the California Coastal Commission to amend the local coastal plan.<sup>12</sup> The City would, however, support an Energy Commission override of the inconsistency.<sup>13</sup>

In the absence of a variance, the amended project is not consistent with the local land use LORS regarding only the 35-foot height limitation.

### CEQA Compliance

A land use incompatibility may be considered to be a significant impact under CEQA.<sup>14</sup> In the 2012 Decision, we found that the land use incompatibilities were a significant environmental impact and overrode the impact.<sup>15</sup>

The purpose of the height limit in the Agua Hedionda land use plan is to preserve visual resources in the coastal area.<sup>16</sup> For the ACECP, despite the lack of conformity with the height limit, the changes between the amended project and both the existing conditions and the approved project lessen the visual impacts and discontinue the use of ocean water for cooling purposes. The degree of incompatibility of the amended project with its surroundings is lower than that of either the existing Encina power plant or the approved CECP. Therefore, the land use incompatibility is not significant under CEQA.<sup>17</sup>

### Consistency with California Coastal Act.

The CECP site is within the Coastal Zone and therefore subject to the Coastal Act (Public Resources Code § 30000 et. seq.). Although the City of Carlsbad has a certified Local Coastal Program (LCP), the ACECP site (and the entire Agua Hedionda Land Use Plan area) is within the retained jurisdiction of the Coastal Commission. The Coastal Commission's permitting authority is in turn subject to the Energy Commission's jurisdiction over power plants.<sup>18</sup>

Were the Coastal Commission to exercise its permitting authority, it would review the project against the policies of the City of Carlsbad's LCP, general plan, and zoning ordinance as well as the Coastal Act. The Energy Commission, when exercising its jurisdiction, conducts a similar analysis and solicits and considers the views of the agencies that would otherwise have jurisdiction over a proposed project, such as the Coastal Commission.

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<sup>12</sup> 04/02/2015 RT 14:16 – 16:22; Ex. 101.

<sup>13</sup> 04/02/2015 RT 16:24 – 18:18.

<sup>14</sup> CEQA Guidelines, Appendix G, §§ X (b).

<sup>15</sup> Ex. 3002, pp. 9-3, 9-9 – 9-11.

<sup>16</sup> Ex. 2000, pp. 4.6-10, 4.6-12.

<sup>17</sup> Ex. 2000, p. 4.6-12.

<sup>18</sup> Pub. Resources Code, §§ 25500, 30600; 04/02/15 RT 14:16-16:22.

Public Resources Code Section 30255 provides: “Coastal-dependent developments shall have priority over other developments on or near the shore line. Except as provided elsewhere in this division, coastal-dependent developments shall not be sited in a wetland. When appropriate, coastal related developments should be accommodated within reasonable proximity to the coastal-dependent uses they support.”

The 2012 Decision found that the CECP was a "coastal dependent use" because of its continued use of desalinated ocean water for cooling.<sup>19</sup> The 2012 Decision also found that the CECP could be consistent with the Coastal Act as set forth in Public Resources Code sections 30001.5 and 30264. This conclusion was premised on the fact that, in deciding to override the inconsistencies between the LORS and the project, we had found that the project site had greater relative merit than identified alternatives.<sup>20</sup> Nonetheless, because of opposition by the City of Carlsbad and other opponents, the 2012 Decision assumed that the project was not consistent with the Coastal Act and overrode the inconsistency.<sup>21</sup>

The ACECP differs from the approved project. First, the project no longer uses ocean water for cooling. Intervenor Terramar Association, Robert Sarvey and Robert Simpson contend that the development is not coastal dependent.<sup>22</sup> We agree that the ACECP is no longer a “coastal dependent use”.<sup>23</sup> The City concurred with this conclusion.<sup>24</sup>

The Intervenor further assert that the loss of coastal dependency prevents a finding that ACECP is consistent with the Coastal Act. We disagree, as do the project owner, Commission staff, and the City of Carlsbad.<sup>25</sup> Gary Barbario, the City of Carlsbad’s assistant city manager, testified that coastal dependence is not required in order for a project to be consistent with the Coastal Act, citing houses, commercial, and other industrial development as occurring within the 37 percent of the city that lies within the coastal zone.<sup>26</sup> With the amendment of the City’s local LORS to now have the ACECP

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<sup>19</sup> Ex. 3002, p. 8.1-7.

<sup>20</sup> Ex. 3002, pp. 8.1-9 – 8.1-10.

<sup>21</sup> Ex. 2000, p. 4.6-14; Ex. 3002, pp. 8.1-10, 9-9 – 9-10.

<sup>22</sup> 04/02/2015 RT 23:18-24:4.

<sup>23</sup> Ex. 2000, p 4.6-14.

<sup>24</sup> Ex. 101; 04/02/2015 RT 18:19-20:9.

<sup>25</sup> 04/02/2015 RT 18:19-20: Project Owner’s Post-Evidentiary Hearing Brief, TN 204359, pp. 9 - 13; Energy Commission Staff Brief, TN 204351, pp. 4 – 5; Brief of the City of Carlsbad on Selected Issues, TN 204340, pp 2 - 4

<sup>26</sup> 04/02/2015 RT 22:2 - 22:19.

be consistent with the general plan, local coastal program, and the zoning, the project is consistent with the policies of the Coastal Act.<sup>27</sup>

### **CONDITIONS OF CERTIFICATION**

Upon staff's recommendation, we retain Condition of Certification **LAND-1** from the 2012 Decision. We delete Conditions of Certification **LAND-2** and **LAND-3**, which require planning and permitting for the eventual removal of the Encina power station. The agreement between the City, project owner, and SDG&E, and the incorporation of its requirement for the removal of Encina when the ACECP achieves commercial operation into ACECP's project description render those conditions obsolete and unnecessary.<sup>28</sup>

### **PUBLIC COMMENT**

There were no public comments on the topic of land use.

### **FINDINGS OF FACT AND CONCLUSIONS OF LAW**

Based on the evidence, we find as follows:

1. The 2012 Decision found that the project would not conform with the applicable LORS (City of Carlsbad General Plan, Encina Specific Plan, Agua Hedionda Land Use Plan, and zoning ordinance) and overrode that inconsistency. It further found the LORS inconsistencies to constitute a significant environmental impact, which it also overrode.
2. None of the factors that require a subsequent or supplemental environmental analysis set forth in the CEQA Guidelines, at section 15162(a), described in the **Introduction** section of this Decision are present regarding this topic.
3. The ACECP will, with the exception of a 35-foot height limitation in the local coastal plan (Agua Hedionda Land Use Plan), comply with all applicable LORS.
4. There are no significant direct, indirect, or cumulative environmental effects related to land use from the ACECP.
5. The revised Conditions of Certification set forth in **Appendix A** are appropriate and will ensure that the project is designed and constructed both in accordance with applicable law and in a manner that protects environmental quality and public health and safety and to ensure compliance with all applicable LORS except the 35-foot height limitation.

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<sup>27</sup> Ex. 2000, p. 4.6-14.

<sup>28</sup> Ex. 2000, p. 7-79. See also, the analysis in the 2012 Decision at pp. 8.1-5 – 8.1-10.



## B. TRAFFIC AND TRANSPORTATION

### INTRODUCTION

This section addresses the extent to which the ACECP will affect the local transportation network. The record contains an analysis of: (1) the roads and routings that are proposed to be used for construction and operation; (2) potential traffic-related problems associated with the use of those routes; (3) the anticipated encroachment upon public rights-of-way during the construction of the project and associated facilities; (4) the frequency of trips and probable routes associated with the delivery of hazardous materials; and (5) the potential effect of project operations on local airport flight traffic.

The issue of whether the project would impact traffic and transportation was contested. Evidence on the topic is contained in Exhibits 100, 1000, 1001, 1011, 1024, 1030, 2000, 2001, 2009, 3002, and 04/01/2015 RT 132:23 -145:8.

### SUMMARY AND DISCUSSION OF THE EVIDENCE

Staff concludes that there would not be any new significant traffic and transportation impacts not previously analyzed. Like the licensed CECP, the ACECP would generate exhaust stack plumes that could pose aviation hazards to low-flying aircraft using McClellan-Palomar Airport. Specifically, the ACECP could result in increased risk to aircraft from gas turbine exhaust stack plumes and decreased risk to aircraft from air cooler exhaust stack plumes as compared to the licensed CECP. Condition of Certification **TRANS-3** would require notification of pilots and the update of all applicable sectional aeronautical charts to advise pilots that invisible air plume hazards could exist, and that pilots should avoid direct overflight. This condition would mitigate potential impacts to aircraft from exhaust stack plumes.<sup>1</sup>

Construction of the ACECP and demolition of the existing EPS would add traffic to local roadways. This increase in traffic could impact existing traffic load and capacity of the street system. In addition, construction/demolition activities could result in impacts to emergency access and parking capacity, encroachment on public transportation and

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<sup>1</sup> Ex. 2000, pp. 4.11-1, 4.11-13 – 15. Intervenor Robert Simpson, in his PMPD comments (TN 205292-1) calls our attention to a recent Federal Aviation Administration (FAA) memorandum (TN 205292-3) regarding potential effects of thermal exhaust plumes on aviation. The FAA memo does not specifically address this project or its potential effects. It directs planners to software for analysis of the potential effects of thermal exhaust plumes on airport operations. Nothing in the memo, or in Mr. Simpson's comments identifies any of the grounds for supplementation of the 2012 Decision regarding this subtopic.

pedestrian facilities, and additional oversize and overweight vehicles on the local street system. However, the ACECP would generate less peak construction traffic than the licensed CECP, resulting in reduced traffic impacts. Implementation of proposed Condition of Certification **TRANS-1**, which would require preparation and implementation of a traffic control plan, would mitigate these traffic impacts to less than significant. Like the licensed CECP, the ACECP would generate minor operational traffic that would cause less than significant impacts to traffic levels of service and would require no mitigation.<sup>2</sup>

### **Eastbound Truck Traffic's Use of Cannon Road Gate**

During the project construction period, the applicant plans to have eastbound trucks use the Cannon Road Gate to exit the site and turn towards Interstate 5.

#### Positions of the Parties

Intervenor Terramar Association, represented by Kerry Siekmann, raised safety concerns about this plan for trucks exiting via the Cannon Road gate.<sup>3</sup> The concern was based, in part, on an incident observed by Ms. Siekmann in which a big-rig truck was stopped for a traffic light such that it was blocking the railroad tracks, creating a hazard for those on the railway and those near the rail crossing.<sup>4</sup> Ms. Siekmann requested that all truck traffic be routed to Avenida Encinas.<sup>5</sup>

Applicant's witness, Mr. Mason, testified sufficient space is available for a truck to stop between the stop line for the intersection and the railroad corridor such that rail traffic is not obstructed.<sup>6</sup> The use of the Cannon Road gate would largely occur during the second stage of construction and demolition.<sup>7</sup> During construction east of the railroad trucks, trucks would use the closer Avenida Encinas gate to avoid the internal rail crossing.<sup>8</sup> The applicant contended that, with modifications to **TRANS-1** requiring input from the City of Carlsbad and the Energy Commission's Compliance Project Manager, a

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<sup>2</sup> Ex. 2000, p. 4.11-1; 04/01/2015 RT 136:8-138:16.

<sup>3</sup> 04/01/2015 RT 133:25-145:8, Ex. 3042. In its comments on the PMPD (TNs 205149, 205248), Terramar reported another incident in which a truck was alleged to have waited for the stop light with a portion of its trailer blocking the railroad tracks.

<sup>4</sup> 04/01/2015 RT 140:23-143-6.

<sup>5</sup> 04/01/2015 RT 140:23-143:5.

<sup>6</sup> 04/01/2015 RT 134:9-135:8.

<sup>7</sup> 04/01/2015 RT 139:16-140.

<sup>8</sup> 04/01/2015 RT 139-24-140:8.

future traffic control plan could determine whether trucks heading east could safely utilize the Cannon Road gate.<sup>9</sup>

Staff concurred with the Applicant's assessment.<sup>10</sup>

### Discussion and Conclusion

Terramar requested that all truck traffic be required to avoid using the Cannon Road Gate via routing to Avenida Encinas.<sup>11</sup> However, Mr. Mason testified that there were difficulties with using Avenida Encinas exclusively because grading and slopes at the internal rail crossing made it difficult for large trucks to safely transit it.<sup>12</sup>

We find Mr. Mason's testimony compelling regarding problems with using Avenida Encinas exclusively, because grading and slopes at the internal rail crossing made it difficult for large trucks to safely transit it.<sup>13</sup>

With the creation of a **TRANS-1** traffic control plan with the review of the City of Carlsbad and the Energy Commission, any potential conflicts between trucks using the Cannon Road gate and nearby railroad tracks would be mitigated. We further find that the grade of the internal railroad crossing presents practical difficulties for large, loaded trucks using it and expect that these difficulties will be addressed through implementation of **TRANS-1**.

### **Summary**

With implementation of proposed Conditions of Certification **TRANS-1** through **TRANS-8**, we find that the ACECP, like the licensed CECP, would not generate a significant impact under CEQA.<sup>14</sup>

### **PUBLIC COMMENT**

There were no public comments on the topic of traffic and transportation.

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<sup>9</sup> 04/01/2015 RT 133-25-135-21.

<sup>10</sup> 04/01/2015 RT 136:8-138:16.

<sup>11</sup> 04/01/2015 RT 140:23-143:5.

<sup>12</sup> 04/01/2015 RT 143:8-144:1.

<sup>13</sup> 04/01/2015 RT 143:8-144:1.

<sup>14</sup> Ex. 2000, p. 4.11-2.

## **FINDINGS OF FACT AND CONCLUSIONS OF LAW**

Based on the evidence, we find as follows:

1. The 2012 Decision found that the project would conform with all applicable LORS and that, with the implementation of the Conditions of Certification of the Original Project, the project would not have any significant direct, indirect, or cumulative impacts to traffic and transportation facilities.
2. None of the factors that require a subsequent or supplemental environmental analysis set forth in the CEQA Guidelines, at section 15162(a), described in the **Introduction** section of this Decision are present regarding this topic.
3. The project, as amended, will continue to comply with all applicable LORS.
4. The ACECP will not result in any significant direct, indirect, or cumulative environmental effects regarding traffic and transportation.
5. The revised Conditions of Certification set forth in Appendix A are appropriate and will ensure that the project is designed and constructed both in accordance with applicable law and in a manner that protects environmental quality and public health and safety and to ensure compliance with all applicable LORS.
6. Implementation of TRANS-1 will address potential conflicts with truck traffic using the Cannon Road Gate and crossing over the nearby rail line.

## C. SOCIOECONOMICS

### INTRODUCTION

This topic summarizes the project's potential to impact population, housing, employment patterns, and community services, including law enforcement and parks and recreation.<sup>1</sup>

The issue of Socioeconomics impacts was not disputed. Evidence on the topic is contained in Exhibits 200, 1000, 1001, 1030, 2000, and 3002.

### DISCUSSION

The Staff witness, Lisa Worrall, concluded that the amended CECP, like the already licensed project, would not cause a significant adverse direct, indirect or cumulative socioeconomic impact on the area's housing, schools, law enforcement, or parks and recreation. Similar to the licensed CECP, the amended CECP would not induce a substantial population growth or displacement of population, or induce substantial increases in demand for housing, law enforcement services, or parks and recreation.<sup>2</sup> With the inclusion of the decommissioning and demolition of EPS, the period of construction and other activities lengthens from 25 months to 64 months. The peak workforce decreases from 357 to 279 workers. The number of workers necessary to operate the ACECP increases marginally, from 14 to 18.<sup>3</sup>

Ms. Worrall also concluded that there was no environmental justice population within six miles of the project radius.<sup>4</sup> The minority population within the six-mile radius of the project is neither greater than 50 percent nor meaningfully greater than the minority populations in the geographic areas adjacent to the project site.<sup>5</sup> The below-poverty-level population in the six-mile project radius is not meaningfully greater than that in the adjacent geographic areas.<sup>6</sup>

One change from the 2012 Decision is the applicability of the Carlsbad Unified School District school impact fee. The CECP had no covered, enclosed spaces. The ACECP

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<sup>1</sup> Ex. 2000, pp. 4.9-1 – 4.9-2.

<sup>2</sup> Ex. 2000, pp. 1-18, 4.9-1, 7-89.

<sup>3</sup> Ex. 2000, pp. 4.9-2 – 4.9-3.

<sup>4</sup> Ex. 2000, pp. 4.9-1, 4.9-4 – 4.9-7.

<sup>5</sup> Ex. 2000, pp. 4.9-4 – 4.9-6.

<sup>6</sup> Ex. 2000, pp. 4.9-6 – 4.9-7.

includes a new administrative/control building and a warehouse. This new space is subject to the school impact fees.<sup>7</sup>

As a consequence, we impose Condition of Certification **SOCIO-2** that requires payment of those impact fees.<sup>8</sup> By imposing the requirement that the ACECP pay the school impact fees, we conclude that the project is compliant with LORS relating to school impact fees.

## **PUBLIC COMMENT**

There were no public comments on this topic.

## **FINDINGS OF FACT AND CONCLUSIONS OF LAW**

Based on the evidence, we find as follows:

1. The 2012 Decision found that the CECP would conform with all applicable LORS and that, with the implementation of the Conditions of Certification of the Original Project, the CECP would not have any significant direct, indirect, or cumulative socioeconomic impacts.
2. None of the factors that require a subsequent or supplemental environmental analysis set forth in the CEQA Guidelines, at section 15162(a), described in the **Introduction** section of this Decision are present regarding this topic.
3. The project, as amended, will continue to comply with all applicable LORS with the imposition of Condition of Certification **SOCIO-2** requiring the project owner to pay school impact fees for new buildings added to the ACECP.
4. The amended project does not create significant direct, indirect, or cumulative socioeconomic effects.
5. The Conditions of Certification set forth in **Appendix A** are appropriate and will ensure that the project is designed and constructed both in accordance with applicable law and in a manner that protects environmental quality and public health and safety and to ensure compliance with all applicable LORS.

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<sup>7</sup> Ex. 2000, pp. 4.9-17, 7-89.

<sup>8</sup> Ex. 2000, pp. 1-18, 7-89.

## **D. NOISE AND VIBRATION**

### **INTRODUCTION**

This topic evaluates whether noise and vibration produced during project construction, demolition, or operation will be sufficiently mitigated to comply with applicable laws. This analysis considers factors such as the character and loudness of the noise, the times of day or night when it is produced, and the proximity to sensitive receptors to determine whether project noise will result in significant unmitigated environmental impacts. We also review whether vibration due to construction, demolition, or operation will cause significant impacts to adjacent properties.

This topic was not contested. Evidence and analysis of the ACECP's potential noise and vibration impacts is contained in Exhibits 100, 200, 203, 233, 1000, 1001, 1008, 1030, 2000, 2001, 2005, 3002, 3041, 3043, and 04/01/2015 RT 112:7-127:9.

### **DISCUSSION**

Due to the change in operational technology, reconfiguration of the project site, extended construction period, and the addition of the demolition of the Encina Power Station (EPS) as part of the amended project, this Decision reevaluates the noise and vibration impacts of the ACECP. The amended project's construction project period would be approximately 24 months, followed by EPS demolition which is expected to take approximately 22 months.

In analyzing noise and vibration impacts from the ACECP, we look at the nearest noise-sensitive receptors:

1. Measuring Location M1: West of the West Hotel and Restaurant, near the AT&SF rail line, approximately 2,200 feet south of the center of the ACECP site and near the San Diego Gas & Electric switchyard. Monitoring showed that ambient noise consisted chiefly of traffic on I-5, with some noise from the switchyard and intermittent rail traffic.
2. Measuring Location M2: In front of a residence at 5120 El Arbol Drive, part of a residential neighborhood approximately 2,950 feet south of the center of the ACECP site. Monitoring showed the prominent sources of noise to be I-5, rail traffic, and aircraft over flights.
3. Measuring Location M4: On a bluff above the ocean, just north of Tiera Del Oro, approximately 2,600 feet southwest of the center of the ACECP site and approximately 400 feet southwest of the EPS power plant building. Short-term monitoring showed noise due to surf and traffic on Carlsbad Boulevard, with some aircraft over flights.

4. Measuring Location M5: On a bluff above the Hubs-SeaWorld facility and on a residential property line, approximately 2,450 feet northwest of the center of the ACECP site. Long-term (25-hour) monitoring showed noise due to traffic on Carlsbad Boulevard and I-5, as well as rail traffic and surf noise.
5. Measuring Location M7: On a bluff at the end of Harbor Drive, overlooking the Agua Hedionda Lagoon and I-5, approximately 2,350 feet north-northwest of the center of the ACECP site. Short-term noise monitoring showed a noise regime dominated by traffic on I-5.<sup>1</sup>

As in the 2012 Decision, we consider noise of the project plus the background to be potentially significant if it exceeds the background by more than five dBA at the nearest sensitive receptor. An increase of 10 dBA or more is significant. An increase of between five and ten dBA is considered adverse, but could be either significant or insignificant, depending on these circumstances:

1. the resulting noise level;
2. the duration and frequency of the noise;
3. the number of people affected; and,
4. the land use designation of the affected receptor sites.<sup>2</sup>

Noise due to construction activities is usually considered to be insignificant in terms of CEQA compliance if:

- the construction activity is temporary; and,
- the use of heavy equipment and noisy activities is limited to daytime hours.<sup>3</sup>

## **Noise**

### Compliance with LORS

#### ***Construction/Demolition***

Since the issuance of the 2012 Decision, the City of Carlsbad has amended its noise ordinance. Chapter 8.48 now limits disturbing or offensive construction noise to the hours between 7:00 a.m. and 6:00 p.m. on weekdays and between 8:00 a.m. and 6:00 p.m. on Saturdays, and prohibits such noise on Sundays and any federal holiday. This

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<sup>1</sup> Ex. 2000, pp. 4.7-5 – 4.7-6.

<sup>2</sup> Ex. 2000, p. 4.7-7.

<sup>3</sup> Ex. 2000, p. 4.7-7.



ordinance also allows for modifying the hours of construction when the work to be performed is in the public interest.<sup>4</sup>

To ensure compliance with the Carlsbad Municipal Code, we impose Condition of Certification **NOISE-6** that mandates adherence to the City of Carlsbad's time restrictions to limit the potential for noise impacts of construction.<sup>5</sup>

In the construction of a power plant, pouring equipment foundations may require a full 24-hour cycle to complete.<sup>6</sup> We impose new Condition of Certification **NOISE-9** to mitigate impacts on nearby properties for concrete pours that would otherwise be prohibited under Condition of Certification **NOISE-6** and the Carlsbad Municipal Code.<sup>7</sup> With the imposition of these Conditions of Certification, we find that the construction and demolition phases of the ACECP will be consistent with the relevant LORS.

### ***Operations***

The noise modeling for the CECP showed that project operational noise at the nearest residential receptor (M7) was predicted not to exceed 51 dBA  $L_{eq}$ . The City of Carlsbad Noise Guidelines Manual sets a limit for residential land uses of 60 dBA CNEL. For a steady, continuous noise source such as a power plant, this is equivalent to 53 dBA  $L_{eq}$ .<sup>8</sup>

To ensure compliance with LORS during facility operation, the 2012 Decision imposed Condition of Certification **NOISE-4**. This Condition requires that project design and implementation include noise mitigation measures to ensure that operation of the project will not cause noise levels due solely to plant operation to exceed an average of 53 dBA  $L_{eq}$  at the most sensitive residential receptors. We reaffirm the imposition of Condition of Certification **NOISE-4** to ensure compliance with LORS.<sup>9</sup>

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<sup>4</sup> Ex. 2000, p. 4.7-3, 4.7-10.

<sup>5</sup> Ex. 2000, pp. 4.3-14 – 4.3-15, 4.7-8 - 4.7-10, 4.7-12, 7-82, 7-85 – 7-86.

<sup>6</sup> Ex. 2000, p. 4.7-14.

<sup>7</sup> Ex. 2000, pp. 7 - 87.

<sup>8</sup> Ex. 2000, p. 4.7-16.

<sup>9</sup> Ex. 2000, pp. 4.7-16 – 4.7-17.

CEQA

**Construction Impacts and Mitigation**

Construction of the ACECP would utilize similar construction equipment and consist of similar activities to those identified in the 2012 Decision. Construction would take approximately the same amount of time.<sup>10</sup>

**Noise Table 1** provides the predicted noise impacts for the ACECP's construction activities, taking into consideration the proposed reconfigured project site.<sup>11</sup>

**Noise Table 1  
Predicted ACECP Construction Noise Impacts**

Receptor	Distance to Nearest Construction Activity (feet)	Construction Activity	Highest Construction Noise Level <sup>a</sup> (dBA Leq)	Daytime Ambient Noise (dBA Leq) <sup>1</sup>	Cumulative <sup>b</sup> (dBA Leq)	Change <sup>c</sup> (dBA)
M1: West Hotel and Restaurant	1,400	Unit 10 and Unit 11	61	65	66	+1
M2: 5120 El Arbol Drive	2,150	Unit 10 and Unit 11	57	58	61	+3
M4: North of Tierra Del Oro	2,100	Unit 10 and Unit 11	58	62	63	+1
M5: Above Hubs-SeaWorld	2,050	Unit 6 and Unit 7	58	56	60	+4
M7: End of Harbor Drive	1,950	Unit 6 and Unit 7	58	57	61	+4

Notes:

- a. Construction noise is estimated to be 90 dBA at 50 feet, based on the loudest activities, site clearing and cleaning. Construction noise levels are calculated using the noise distance logarithm.
- b. Cumulative noise is calculated by adding the noise generated by construction to the measured existing ambient noise using the noise addition logarithm.
- c. The change is the difference between the cumulative noise and the measured existing ambient noise.

Because none of the changes exceed 5dBA, we find that the ACECP will not have significant adverse noise impacts during construction.

To ensure that the potential impacts are fully mitigated, we impose Conditions of Certification **NOISE-1**, **NOISE-2**, **NOISE-6**, and **NOISE-8**. Conditions of Certification **NOISE-1** and **NOISE-2** are modified slightly from the CECP. These Conditions require notice to property owners within one mile of the site and to the City of Carlsbad itself—a larger area than for the CECP, as well as creating a noise complaint process to resolve

<sup>10</sup> Ex. 2000, pp. 4.7-7 – 4.7-8.

<sup>11</sup> Ex. 2000, pp. 4.7-8 – 4.7-9, Table 3.

issues during construction and demolition.<sup>12</sup> The revisions are in part meant to address concerns expressed by Intervenor Terramar Association that the notices required for the CECP were did not provide sufficient information, such as the expected starting date, about the likely date that noise generating activities would begin.

Condition of Certification **NOISE-6**, as set forth above, mandates adherence to the City of Carlsbad's noise ordinance time restrictions to limit the potential for construction noise impacts.<sup>13</sup>

Former Condition of Certification **NOISE-7**, regulating steam blows, is no longer required as the ACECP removes the CECP's steam cycle. It is deleted.

### ***Demolition Impacts and Mitigation***

**Noise Table 2** provides the predicted noise impacts for the ACECP's demolition activities.<sup>14</sup>

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<sup>12</sup> Ex. 2000, pp. 4.7-12, 4.7-22, 4.7-25, 7-82- 7-83.

<sup>13</sup> Ex. 2000, pp. 4.3-14 – 4.3-15, 4.7-8 - 4.7-10, 4.7-12, 7-82, 7-85 – 7-86.

<sup>14</sup> Ex. 2000, p. 4.7-11, Table 4.

**Noise Table 2**  
**Predicted ACECP Demolition Noise Impacts**

Receptor	Distance to Nearest Demolition Activities at EPS (feet)	Location of Activity	Highest Demolition Noise Level <sup>a</sup> (dBA L <sub>eq</sub> )	Daytime Ambient Noise (dBA Leq)	Cumulative <sup>b</sup> (dBA Leq)	Change <sup>c</sup> (dBA)
M1: West Hotel and Restaurant	1,100	Southeast corner of EPS housing	63	65	67	+2
M2: 5120 El Arbol Drive	1,200	Southeast corner of EPS housing	62	58	63	+5
M4: North of Tierra Del Oro	400	Southwest corner of EPS housing	72	62	72	+10
M5: Above Hubs-SeaWorld	3,100	Northwestern corner of EPS housing	54	56	58	+2
M7: End of Harbor Drive	3,500	Northeastern corner of EPS housing	53	57	58	+1

Notes:

- a. Demolition noise is estimated to be 90 dBA at 50 feet (LL2014pp). Demolition noise impacts are calculated using the noise distance logarithm.
- b. Cumulative noise is calculated by adding the noise generated by demolition to the measured existing ambient noise using the noise addition logarithm.
- c. The change is the difference between the cumulative noise and the measured existing ambient noise.

Even though demolition of the EPS would occur during the daytime hours, it would occur over approximately 22 months, which would immediately follow approximately 24 months of construction, and because some of the impacts exceed the threshold of significance that we have identified, the impacts of the demolition are significant and must be mitigated.

To ensure the impacts of demolition activities are mitigated to a level of less than significant, we impose Conditions of Certification **NOISE-1** and **NOISE-2** that require notification to the public and the City of Carlsbad of the commencement of work and that establish a noise complaint process to resolve any complaints regarding demolition noise.<sup>15</sup> With the imposition and implementation of these Conditions of Certification, we find that the noise impacts of demolition of the existing EPS will be reduced to a level of “less than significant”.

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<sup>15</sup> Ex. 2000, p. 4.7-12.

## ***Operational Impacts and Mitigation***

### *Neighboring Properties*

Power plant noise is unique, operating as a steady, continuous, broadband noise source. Power plant noise contributes to, and becomes part of, the background noise level, or the sound heard when most intermittent noises cease. Where power plant noise is audible, it will tend to define the background noise level. For this reason, the projected power plant noise is compared to the existing nighttime ambient background noise levels at the affected sensitive receptors to identify any potential significant impacts for the ACECP.<sup>16</sup>

The CECP's noise levels at both M5 and M7 were predicted to reach 51 dBA Leq. When projected plant noise at M5 was added to the nighttime ambient value (as calculated by staff), the cumulative level was five dBA above the ambient value. This increase is considered to be less than significant. When projected plant noise at M7 was added to the nighttime ambient value, the cumulative level was two dBA above the ambient value; also considered to be less than significant.<sup>17</sup>

We amend Condition of Certification **NOISE-4** to prohibit the ACECP from operating between the hours of midnight and 6:00 a.m. unless required by (1) reliability related purposes or (2) as other required by CAISO tariff.<sup>18</sup> With the imposition and implementation of Condition of Certification **NOISE-4**, we find that the potential impacts of the ACECP operations have been reduced to a level of less than significance.

One possible source of annoyance would be strong tonal noises that, while not louder than permissible levels, stand out in sound quality. The petitioner plans to avoid the creation of annoying tonal (pure-tone) noises by balancing the noise emissions of various power plant features during plant design. This requirement is contained in Condition of Certification **NOISE-4**.

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<sup>16</sup> Ex. 2000, p. 4.7-17.

<sup>17</sup> Ex. 2000, pp. 4.7-17 – 4.7-18.

<sup>18</sup> Ex. 2000, p. 4.7-18.

## *Workers*

For effects on workers, we re-impose Condition of Certification **NOISE-5** to ensure that plant operation and maintenance workers are protected from operational noise impacts.<sup>19</sup>

### ***Cumulative Impacts and Mitigation***

Section 15130 of the CEQA guidelines (Cal. Code of Regs., tit. 14) requires a discussion of cumulative environmental impacts. Cumulative impacts are two or more individual impacts (from existing and/or reasonably foreseeable projects) that, when considered together, compound or increase other environmental impacts. CEQA guidelines require that this discussion reflect the severity of the impacts and the likelihood of their occurrence, but do not need to provide as much detail as the discussion of impacts solely attributable to the project.

As part of the CECP, the petitioner identified several projects in the vicinity of the proposed site for consideration in the cumulative impact assessment. During preparation of the petitions to amend, the relevant planning agencies were contacted and identified many of the same projects which were previously assessed for the CECP. The only project identified as offering the potential for cumulative noise impacts was the desalination project (Carlsbad Seawater Desalination Project), located at the existing EPS site, along the southern edge of the Aqua Hedionda Lagoon. The desalination project, at a predicted operational noise level of 35 dBA CNEL (28 dBA Leq), would not, however, contribute significantly to ambient noise levels. Due to the moderately elevated noise regime in the area, a level of 28 dBA will not be audible at the surrounding noise receptors. Staff concludes that the ACECP, when combined with this project, would not create a significant cumulative noise impact.

Noise generated from operation of the ACECP is expected to be similar to the CECP. Condition of Certification **NOISE-4** limits the ACECP operational noise impacts to the same levels that were previously analyzed and approved from the CECP, and would therefore have similar cumulative impacts as those approved for the CECP which were found less than significant.

The remaining projects would likely only have the potential for cumulative impacts during demolition or construction, which is generally short-term in nature. With the implementation of Conditions of Certification **NOISE-1**, **NOISE-2**, **NOISE-6**, **NOISE-8**,

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<sup>19</sup> Ex. 2000, p. 4.7-19; Ex. 3002, p. 8.4-13.

and **NOISE-9**, the ACECP's demolition and construction work is not expected to result in significant cumulative noise impacts.<sup>20</sup>

### **Vibration**

Vibration from an operating power plant could be transmitted by two chief means; through the ground (ground-borne vibration) and through the air (airborne vibration/low frequency noise).<sup>21</sup>

The operating components of the ACECP, a simple-cycle power plant, consist of high-speed gas turbine generators, compressors, and various pumps and fans. All of these pieces of equipment must be carefully balanced in order to operate; permanent vibration sensors are attached to the turbines and generators. Based on experience with numerous previous projects employing similar equipment, Staff believes that ground-borne vibration from the ACECP would be undetectable by any likely receptor.

Airborne vibration can rattle windows and objects on shelves and can rattle the walls of lightweight structures. In Staff's experience, airborne vibration impacts from a plant such as the ACECP are typically imperceptible at any significant distance from the plant. The ACECP's chief source of airborne vibration would be the gas turbines' exhaust. In a power plant such as the ACECP, however, the exhaust must pass through the selective catalytic reduction (SCR) modules and the stack silencers before it reaches the atmosphere. The SCRs act as efficient mufflers. The combination of SCR units and stack silencers ensure that the ACECP would not cause perceptible airborne vibration effects.<sup>22</sup>

### **PUBLIC COMMENTS**

Laura Keany provided public comment on noise and vibration during the evidentiary hearings, indicating her preference that noise be minimized, particularly during demolition and construction.<sup>23</sup> Jan Berry also commented that the project size should be reduced due to noise issues.<sup>24</sup> As we discuss above, we have adopted conditions of certification to minimize noise levels. There is no evidence of a correlation between the size of the project (number of turbine generators) and its noise generation.

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<sup>20</sup> Ex. 2000, pp. 4.7-19 – 4.7-20.

<sup>21</sup> Ex. 2000, p. 4.7-18.

<sup>22</sup> Ex. 2000, pp. 4.7-17 – 4.7-18.

<sup>23</sup> 04/01/2015 RT 171:15-171:19.

<sup>24</sup> 04/01/2015 RT 171:20-171:23.

## **FINDINGS OF FACT AND CONCLUSIONS OF LAW**

Based on the evidence, we find as follows:

1. The 2012 Decision found that the project would conform with all applicable LORS and that, with the implementation of the Conditions of Certification, would not have any significant direct, indirect, or cumulative noise impacts.
2. None of the factors that require a subsequent or supplemental environmental analysis set forth in the CEQA Guidelines, at section 15162(a), described in the **Introduction** section of this Decision are present regarding this topic.
3. The ACECP will continue to comply with all applicable LORS.
4. The ACECP will not create significant direct, indirect, or cumulative noise impacts.
5. The revised Conditions of Certification set forth in **Appendix A** are appropriate and will ensure that the project is designed and constructed both in accordance with applicable law and in a manner that protects environmental quality and public health and safety and to ensure compliance with all applicable LORS.



## E. VISUAL RESOURCES

### INTRODUCTION

Visual resources are the natural and cultural features of the landscape that contribute to the visual character or quality of the environment. CEQA requires an examination of a project's visual impacts to determine whether the project has the potential to cause substantial degradation to existing views of the site and its surroundings. (Cal. Code Regs., tit. 14 § 15382 and Appendix G, Part I.)

The topic of visual resources was contested regarding two specific issues, discussed below. Evidence and analysis of the project's potential impacts on visual resources is contained in Exhibits 200, 1000, 1001, 1010, 1024, 1032-1051, 2000, 2001, 3002, 3016-3037, 3041, 4000, 4001, 4002, 4003, 4005, 4006, 4009, 4010, 4011, 4012, 4015, 4016, 4017, 4018, and 4019, 04/01/2015 RT 10:5 – 112:1 and 04/02/2015 RT 35:21 – 38:11.

### SUMMARY AND DISCUSSION OF THE EVIDENCE

The evidence describes the visual resources in the vicinity of the project site, assesses the potential for adverse impacts, and determines whether mitigation measures are necessary to mitigate the identified adverse impacts. Conditions of certification are also proposed to mitigate potential environmental impacts and ensure compliance with applicable LORS.

The parties agree that the amended project is, in most respects, an improvement over the CECP as well as the existing environment:

- the ACECP's shorter equipment heights compared to the CECP—90 vs 139-foot exhaust stacks, 48 vs 76-foot gas turbine inlets and elimination of the CECP's 88-foot heat recovery steam generators;<sup>1</sup>
- the removal of the existing EPS once the ACECP is operational, including its 400-foot stack and 200-foot enclosure building;<sup>2</sup> and
- the power generation functions move from the parcel west of the rail corridor to the parcel east of the corridor, further away from the shoreline than the EPS.

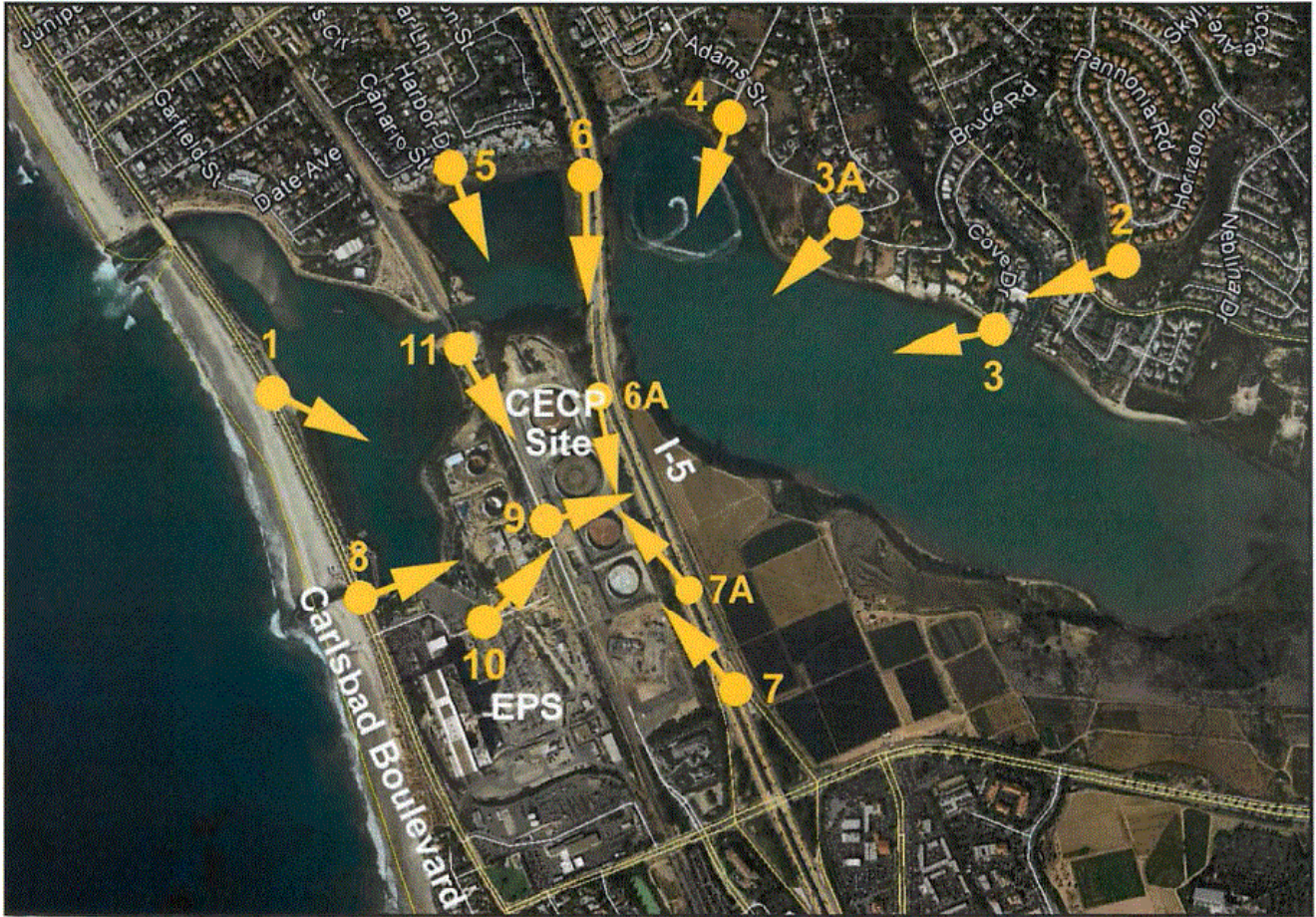
The visual renderings prepared for the amended project illustrate this point. We will not replicate the renderings from each of the Key Observation Points (KOPs) here.<sup>3</sup> One KOP, KOP 1, suffices to illustrate the improvements provided by the ACECP.

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<sup>1</sup> Ex. 2000, p. 4.13-7; Ex. 3041, p. 29 (of .pdf).

<sup>2</sup> *Id.*

**Visual Resources Figure 1  
Key Observation Point (KOP) Locations**



Source: Ex 2000, p. 686 (of .pdf), Visual Resources Figure 3.

<sup>3</sup> The locations of the various KOPs are shown on **Visual Resources Figure 1**. Renderings from additional KOPs may be found in Exhibit 2000 following page 4.3-49 at pages 686 – 706 of the pdf file.

**Visual Resources Figure 2**  
**KOP 1 – Looking from Carlsbad Blvd. Southeast at**  
**Agua Hedionda Lagoon, Existing Conditions**



Source: Ex 2000, p. 687 (of .pdf), Visual Resources Figure 4a.

**Visual Resources Figure 3  
KOP 1 – With the Approved CECP**



Source: Ex 2000, p. 687 (of .pdf), Visual Resources Figure 4b.

**Visual Resources Figure 4  
KOP 1 – With the ACECP, Before Removal of the EPS**



Source: Ex 2000, p. 688 (of .pdf), Visual Resources Figure 4c.

**Visual Resources Figure 5**  
**KOP 1 – With ACECP, After Removal of the EPS**



Source: Ex 2000, p. 688 (of .pdf), Visual Resources Figure 4d.

Comparing **Visual Resources Figures 3 and 4**, we find that the ACECP is less visible than the CECP. Visual impacts are therefore reduced; clearly there is no new significant impact from those found for the CECP in the 2012 Decision, nor is any previously identified impact increased. Thus no supplementation of our previous analysis is required.

When the EPS structures are removed (**Visual Resources Figure 5**), the visibility of power plant structures decreases even more.

In general the ACECP will have a reduced level of visual impact compared to the CECP, which was found to have an insignificant impact in the 2012 Decision. There are, however, two changes in the project design which are alleged to create new significant impacts which require supplementation of the environmental analysis contained in the 2012 Decision. They are discussed below.

## Transmission Lines

CECP's generators were connected to the local switchyard by transmission towers and lines located on the western edge of the project site. The ACECP relocates those lines to the eastern edge, abutting I-5. The following renderings from the evidence illustrate the relationship of the transmission lines to the I-5 corridor:

### Visual Resources Figure 6 KOP 7 – With CECP



Source: Ex 2000, p. 702 (of .pdf), Visual Resources Figure 11b.

**Visual Resources Figure 7  
KOP 7 – With ACECP**



Source: Ex 2000, p. 703 (of .pdf), Visual Resources Figure 11c.



**Visual Resources Figure 8  
KOP 7a – With ACECP**



Source: Ex 2000, p. 703 (of .pdf), Visual Resources Figure 11c.

A comparison of **Visual Resources Figures 6 and 7** shows that the taller exhaust stacks of the CECP are substituted with shorter, less prominent stacks of the ACECP. CECP's western perimeter transmission lines and towers would be further from I-5 and thus less prominent in comparison to the eastern perimeter transmission lines and towers of the ACECP. An overall comparison of the visual impacts of the CECP and the ACECP from this KOP shows a similar level of visual impact, but not an increase in visual impact between the CECP and the ACECP.

**Visual Resources Figure 8** shows the transmission lines of the ACECP from the Northbound lanes of I-5 at a point closer to the project site than KOP 7. This was added to staff's analysis in response to data requests from Intervenor Power of Vision. No comparison renderings, either with the CECP or current conditions, are available.

## Positions of the Parties

Intervenors Power of Vision and Terramar Association assert that this modification gives rise to a significant visual impact because of the visibility of the transmission towers and lines to persons traveling on I-5, especially at the points close to the project similar to that rendered in **Visual Resources Figure 8**. They recommend that the lines be routed along the rail corridor as they were for the CECP.<sup>4</sup>

Staff found the impacts of the ACECP to views from I-5, including the transmission lines, to be insignificant.<sup>5</sup> The project owner agrees.<sup>6</sup> Dr. Priestly, the project owner's expert witness noted that moving the lines to the western perimeter would increase their visibility from the beach and coastal area.

## Discussion and Conclusions

We agree with staff and the project owner that the impacts of the transmission line and towers are not significant, especially considered in light of the four larger existing transmission lines that cross I-5 just to the south of the project site (visible in the foreground in **Visual Resources Figures 6 and 7**, above). The same conclusion holds for the views represented by **Visual Resources Figure 8**. Given that conclusion, there is no need to consider mitigation such as moving the lines to the western perimeter. On that point we note that the City of Carlsbad expressed concerns about the effects on views from Carlsbad Boulevard (Highway 101) looking across the lagoon (essentially KOP 1) and from the as yet undetermined uses that will replace the EPS.<sup>7</sup>

### **Cumulative Effects of the Interstate-5 Widening**

Caltrans plans to increase the capacity of I-5 in the ACECP project vicinity by adding lanes to the existing roadway. The first phase, adding one additional lane in each direction, would begin in 2016. A second phase, adding another lane in each direction, is projected to occur in 2025-2030.<sup>8</sup> In order to do so, Caltrans must widen the I-5 right of way. For the portion of I-5 immediately to the east of the ACECP, the additional width will come in part from ACECP's property.

The 2012 Decision found the potential cumulative effects of the I-5 widening to be insignificant with the application of Conditions of Certification **VIS-2**, requiring perimeter

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<sup>4</sup> Exs. 4015; 3045, p. 13.

<sup>5</sup> Ex. 2000, pp. 4.13-23 – 4.13-29.

<sup>6</sup> 04/01/2015 RT 23:15 – 24:8.

<sup>7</sup> 04/02/2015 RT 38:18 – 39:3.

<sup>8</sup> Ex. 4002.

landscaping and **VIS-5** requiring coordination with Caltrans on the screening on the eastern perimeter of the project site.<sup>9</sup>

Staff testified to its concern that, following Caltrans acquisition of a portion of the eastern perimeter to widen the right of way, the portion remaining under the project owner's control might not be wide enough to allow for proper screening of the ACECP from view by motorists on I-5 and observers to the east. It may be necessary to plant some of the screening on the edge of the Caltrans right of way. If Caltrans will allow that use of its right of way, staff believes that the potential impact will, in fact, be mitigated to an insignificant level. With no authority to enforce such a requirement, however, staff recommends that we find a potential cumulative significant impact because the project may not be adequately screened.<sup>10</sup>

### Positions of the Parties

The Applicant believes that Caltrans has, by virtue of its EIR/EIS for the I-5 widening project, committed to allow mitigation on its expanded right of way to the extent necessary to screen the ACECP. It asserts that no finding of a significant cumulative impact is necessary.<sup>11</sup>

Intervenors Terramar Association and Power of Vision assert that the potential impact is significant and should be mitigated by decreasing the size of the project to free additional area for screening on the remaining project site.

### Discussion and Conclusions

The evidence establishes that sufficient screening can be provided if, where necessary, Caltrans allows some of it to be placed in its expanded right of way. The obligation to apply all feasible mitigation that CEQA imposes on the Energy Commission, applies equally to Caltrans. In order to remove one potential roadblock to that cooperation, we have modified Condition of Certification **VIS-5** to require that the project owner bear the costs of any screening placed in Caltrans' right of way.

The width of the area available for screening along the eastern perimeter varies. Our concern is focused on a few areas, described as "pinch points." At its worst, there may be some gaps in the screen in those areas, which will lead to momentary glimpses of the ACECP. Weighed against the benefits of the project, including the substantial improvement in the overall viewscape, we find it appropriate to override this impact.

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<sup>9</sup> Ex. 3002, pp. 8.5-53.

<sup>10</sup> Ex. 2000, pp. 4.13-35 – 4.13-38.

<sup>11</sup> Project Owner's Post-Evidentiary Hearing Brief, TN 204359, pp. 1 – 8.

## FINDINGS OF FACT

Based on the evidence, we find as follows:

1. The level of visual impact from the ACECP's lowered stack and equipment heights and location of transmission lines and towers on the eastern perimeter of the site is similar to, and no greater than, the level of impact from the CECP's higher stacks and western perimeter transmission lines and towers.
2. Caltrans is expected to acquire a strip of land from the eastern edge of the project site for its I-5 widening project. If it does so, the width of the remaining portion under the ownership and control of the project owner may be too narrow in some areas to allow planting and maintenance of a vegetative screen sufficient to screen views of the power plant facilities from I-5 and the east.
3. Sufficient mitigation can be provided by planting and maintaining screening on the project site and, where necessary, the edge of Caltrans' expanded right of way.
4. The 2012 Decision found that the CECP would conform with all applicable LORS and that, with the implementation of the Conditions of Certification, the project would not have any significant direct, indirect, or cumulative visual impacts.
5. With one exception, none of the factors that require a subsequent or supplemental environmental analysis of impacts to visual resources, as set forth in the CEQA Guidelines, section 15162(a), are present. Due to a change in the design of the project slopes inside the lowered area of the project site which reduces the potential width of the eastern visual screening area, a significant cumulative impact may occur if it is not possible to provide adequate visual screening of the project after Caltrans completes its I-5 widening project.

## CONCLUSIONS OF LAW

1. While we cannot enforce Caltrans' cooperation in allowing necessary screening to be placed in its expanded right of way, Caltrans can and should allow the necessary plantings and maintenance activities. By requiring, in Condition of Certification **VIS-5**, that the expenses of those activities be borne by the project owner, we have removed an obstacle to obtaining that cooperation. Nonetheless, because we cannot assure that it will happen, we find the potential cumulative impact to be significant and, in approving the amendments, override that impact for the reasons described in the **Override Findings** section of this Decision.

2. The visual impacts of the transmission lines and towers to be located on the eastern side of the project site bordering I-5 are not directly or indirectly significant.
3. The remaining aspects of the ACECP do not create significant direct, indirect, or cumulative environmental impacts.
4. The ACECP will continue to comply with all applicable LORS.

The revised Conditions of Certification set forth in **Appendix A** are appropriate and will ensure that the project is designed and constructed both in accordance with applicable law and in a manner that protects environmental quality and public health and safety and to ensure compliance with all applicable LORS.

## IX. OVERRIDE FINDINGS

### INTRODUCTION

In the **Land Use** section of this Decision, we find that the ACECP fails to comply with a provision of the City of Carlsbad's LORS relating to building heights. In the **Visual Resources** section we find a significant cumulative impact arising from the potential that, following the expansion of the I-5 right of way to accommodate the I-5 widening project, there will be insufficient space on the eastern border of the ACECP property to plant and maintain sufficient vegetative screening of the project. While some of that screening could be installed and maintained on Caltrans expanded right of way, there is no certainty that Caltrans will cooperate with the project owner to allow that to occur. Despite those findings, we approve the ACECP for the reasons discussed below.

### DISCUSSION

The Warren-Alquist Act specifies findings that must be made before approving a project that does not comply with state or local LORS:

"The commission may not certify a facility contained in the application when it finds, pursuant to subdivision (d) of Section 25523, that the facility does not conform with any applicable state, local, or regional standards, ordinances, or laws, unless the commission determines that the facility is required for public convenience and necessity and that there are not more prudent and feasible means of achieving public convenience and necessity. In making the determination, the commission shall consider the entire record of the proceeding, including, but not limited to, the impacts of the facility on the environment, consumer benefits, and electric system reliability. The commission may not make a finding in conflict with applicable federal law or regulation. The basis for these findings shall be reduced to writing and submitted as part of the record pursuant to Section 25523."<sup>1</sup>

CEQA prohibits a public agency from approving a project it finds to have one or more significant effects on the environment unless both of the following occur:

"(a) The public agency makes one or more of the following findings with respect to each significant effect:

(1) Changes or alterations have been required in, or incorporated into, the project which mitigate or avoid the significant effects on the environment.

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<sup>1</sup> Pub. Resources Code § 25525.

(2) Those changes or alterations are within the responsibility and jurisdiction of another public agency and have been, or can and should be, adopted by that other agency.

(3) Specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in the environmental impact report.

(b) With respect to significant effects which were subject to a finding under paragraph (3) of subdivision (a), the public agency finds that specific overriding economic, legal, social, technological, or other benefits of the project outweigh the significant effects on the environment.”<sup>2</sup>

### **Project LORS Inconsistency**

In the **Land Use** section of this Decision, we discuss in greater detail our finding that the ACECP’s 90-foot high exhaust stacks will not comply with the Agua Hedionda Land Use Plan’s 35 foot height limitation. Because this restriction is part of the local coastal plan, the normal planning tool for addressing such an issue—a variance—is unavailable to us. A representative of the City of Carlsbad testified that a height variance, if available, could be consistent with other height variances granted in the City, including the coastal zone.<sup>3</sup>

### **Significant Environmental Impact**

In the **Visual Resources** section we describe in detail our finding of a potentially significant cumulative visual impact. The impact arises because the widening of I-5 will require the dedication or transfer of a portion of the project site which abuts the I-5 right of way. Following that transfer, there may no longer be sufficient space on the eastern border of the ACECP property to plant and maintain sufficient vegetative screening of the project. While some of that screening could be installed and maintained on Caltrans’ expanded right of way, and we’ve addressed one potential objection by requiring that the project owner pay for any work on Caltrans property, there is no certainty that Caltrans will cooperate with the project owner to allow that to occur.

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<sup>2</sup> Pub. Resources Code § 21081.

<sup>3</sup> 04/02/2015 RT, 30:15 – 31:23.

## **Approval of projects under PRC Sections 25525 and 21081**

In this case, we address the question of whether the ACECP facility is required for public convenience and necessity and whether project benefits outweigh significant environmental effects together. The project attributes that we will consider are identified below. However, before we consider the ability of these attributes to meet the statutory standard, we will explain the role of “need” in this analysis, as it was a subject of some confusion at the evidentiary hearings.

Prior to 1999, the Energy Commission decisions certifying generation facilities were required to contain a finding about the conformity of the facility with a forecast adopted by the Energy Commission. That forecast included a specified level of need for new resource additions, and the finding was therefore referred to as the “need finding.” In 1999, the Legislature amended the required findings for facility certification and deleted the need finding. (Stats. 1999, ch. 581, § 7.) As a result, the Energy Commission does not generally consider the level of need for a proposed project. Rather, it reviews proposals submitted for environmental impacts and compliance with LORS, as required by the statutes governing the site certification process. If, as in this case, the project does not comply with LORS or creates significant unmitigable impacts, we must consider whether override findings can be made based on the facts in the record.

During the evidentiary hearings in this proceeding, several parties expressed concern about the consistency of any Energy Commission override findings with the decision that the CPUC would likely make on SDG&E’s application for approval to enter into a contract for the ACECP output. Such concerns are apparently based on a belief that override findings cannot be supported if the CPUC disapproves of the contract. To address these concerns, we offer a brief summary of the relationship between the override findings we are required to make and the existence or absence of a CPUC-approved contract for the purchase of a facility’s output.

Whether a facility is ultimately constructed depends on a variety of factors, including the ability of the facility proponent to sell the output of the facility. Because construction of a generating facility requires a substantial commitment of capital resources, developers will generally undertake construction if they are certain they will be able to sell the power it generates. Under the current regulatory regime for facilities that supply power to investor-owned utilities, the necessary assurance usually comes in the form of a power purchase agreement (PPA) or power purchase tolling agreement (PPTA). Without a PPA or PPTA, a project is unlikely to be constructed.

Nonetheless, the existence or lack of a PPA does not answer the legal question we are called on to address: whether the project is needed for the public convenience and necessity and whether project benefits outweigh significant project effects. Nothing in



the law states that a PPA is required for Energy Commission approval of an application, regardless of whether the approval involves override findings. It is important to note that approval of PPAs between facility proponents and investor-owned utilities – which is the responsibility of the CPUC – involves consideration of factors that are outside the purview of the Energy Commission.<sup>4</sup> Conversely, a facility may generate benefits properly considered by the Energy Commission as part of an override determination that are outside the purview of the CPUC. While there is a close relationship between the Energy Commission’s licensing function and the CPUC’s responsibilities to ensure just and reasonable rates, a CPUC decision on a PPA or PPTA is a different decision than that made by the Energy Commission. The Energy Commission must make its override decision based on the entirety of the evidence in its record, of which a CPUC PPA decision – proposed or final - is but one piece. Our decision on whether an override for this facility is justified is discussed further below.

### **Project Benefits**

The ACECP, if constructed and operated as set forth in this Decision, will provide the following benefits:

- Reducing the effects of climate change from GHG emissions by displacing generation from more GHG intensive resources when it is operated. Scientific studies establish the negative impacts of global climate change to California’s and the world’s population, environment, food supplies, flora and fauna, coastal regions, and public health.
- ACECP, while not itself a source of renewable energy, facilitates the integration of renewable energy into the electricity system by providing 632 MW of backup generation to even out fluctuations in renewable generation due to factors such as changes in wind velocity and solar shading by passing clouds. Producing electricity from renewable resources improves local air quality and public health, reduces global warming emissions, diversifies our energy supply, improves energy security, enhances economic development and creates jobs. In addition, California’s Renewable Portfolio Standard specifies that retail sellers of electricity serve 20 percent of their load with renewable energy by 2014 and 33 percent of their load by the end of 2020.<sup>5</sup>

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<sup>4</sup> CF Public Utilities Code § 454.5 regarding the contents of utility procurement plans.

<sup>5</sup> Pub. Util. Code, § 399.11 et seq.

- By facilitating the integration of renewable energy into the electricity system and replacing less efficient units that currently serve that role, ACECP will reduce California's dependence on fossil fuels.
- Facilitating the redevelopment of the EPS site. The existing EPS contains five generating units. They are housed together in the 200-foot tall power block structure and share the 400-foot tall exhaust stack that the City of Carlsbad and its residents would like to see removed from the shoreline. Once the ACECP achieves commercial operations, those five units will be decommissioned and the power block and stack demolished. The replacement generators will be placed on the portion of the site that is furthest from the shoreline, approximately 30 feet below grade.
- Reusing existing infrastructure (fuel lines, transmission lines). By placing the ACECP on the existing EPS site, the existing natural gas fuel connections and transmission line can be reused, avoiding disruption and potential impacts from the construction and operation of new infrastructure to serve a previously undeveloped site.
- Creating local and regional economic benefits. ACECP will provide construction jobs for an average and peak workforce of 95 and 279, respectively, during the 64-month construction and EPS demolition schedule and approximately 18 positions during operations. Most of those jobs will require highly trained workers.<sup>6</sup>
- Adding a \$90 - \$100 million construction payroll over 64 months to the local economy. Sales and use taxes during construction are estimated at \$4.46 - \$4.53 million and \$15,000 - \$20,000 annually during operations. An estimated \$1.5 - \$2 million would be spent annually for local operations and maintenance. Property taxes are estimated at \$6.98 – \$9.13 million per year.<sup>7</sup>
- Additional indirect economic benefits, such as employment in local service industry jobs and induced employment, will result from these expenditures associated with the construction and operation of ACECP.

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<sup>6</sup> Ex. 2000, pp. 4.9-10 – 4.9-13.

<sup>7</sup> Ex. 2000, p. 4.9-28.

## **Comparison of Project Alternatives**

Broadly speaking, the override findings for both a LORS inconsistency and for CEQA require a consideration of whether alternatives to the project would provide the same or similar benefits of the project in a more prudent or environmentally superior manner. As discussed in the Alternatives section, none of the alternative sites would avoid or substantially lessen the significant cumulative visual impact. Nor would they create the benefits and public convenience associated with reusing the existing EPS infrastructure or facilitating EPS' decommission and removal.

Of the three SDG&E PPA candidates (Pio Pico, Quail Brush and Escondido) Quail Brush was withdrawn, Pio Pico's PPA with SDG&E was taken into account in determining that there was a remaining need for 500 – 800 MW of additional capacity, and Escondido is offering only 5 MW of net generation increase. As a result, these alternatives do not create the benefits and public convenience associated with the output provided by the proposed facility.

Neither of the no project alternatives—leaving the existing EPS in place or the licensed CECP—would avoid or substantially lessen the significant cumulative visual impact. The EPS would not provide the project benefits and, while the CECP would provide many of the project benefits, it would do so at the cost of a larger visual profile and uncertainty about the ultimate removal of the EPS 200-foot high enclosure and 400-foot stack.

The generation technology alternatives, to the extent that they are reasonably expected to expand in capacity in the near future, have been factored into the determination of a remaining need for 500 – 800 MW of capacity. Therefore, they too fail to provide the benefits and public convenience associated with increased gas-fired generation in the project area. In addition, they do not facilitate reuse of the existing EPS infrastructure or the EPS' decommissioning and removal.

## **Site Characteristics**

The ACECP project will be constructed on a 30-acre portion of the 95-acre EPS in the City of Carlsbad. The generating equipment will be partially recessed into existing berms which currently house oil storage tanks. The site is between a railroad corridor and the I-5 freeway.

## **Positions of the Parties**

Terramar Association argues that we should approve a reduced-size alternative, not the proposed 632 MW project. Kerry Siekmann, Terramar's representative, cites to the CPUC Administrative Law Judge's proposed decision denying approval of the 600 MW PPTA between ACECP and SDG&E as evidence that the proposed project is too large. She believes that a smaller project would allow additional opportunities to reduce the

heights of the transmission towers and perhaps eliminate the potential cumulative visual impact related to the I-5 widening.<sup>8</sup>

Rob Simpson argues that the project size should conform to an approved PPTA and the Energy Commission should not decide the amendments until the PPTA proceeding concludes.<sup>9</sup>

Robert Sarvey, while joining Terramar and Mr. Simpson in suggesting that the size of ACECP be tied to the PPTA's outcome, prefers that we leave the current CECP permit in place. He views the CECP as a superior project due to its increased efficiency over the ACECP and its ability to serve a similar peaking function by virtue of its fast-start characteristics.<sup>10</sup>

### **Commission Discussion**

Whether a proposed project has a PPA is but one factor the Energy Commission considers in determining whether override findings are justified. The CPUC's Long Term Procurement Plan (LTTP) proceedings identify and authorize the state's investor-owned utilities, including SDG&E, to procure quantities of generation necessary to serve the demand for electricity in their service territories and maintain the reliability of the electricity system. In 2014, the CPUC issued its Decision D14-03-004, which authorizes SDG&E to procure 500 to 800 MW of additional generation, 300 to 600 MW of which can be from gas-fired generators such as ACECP.<sup>11</sup> The project owner and SDG&E subsequently entered into a Power Purchase Tolling Agreement (PPTA), similar in function to a PPA, for 632 MW of generation. It is approval of this PPA that the CPUC recently considered, ultimately deciding to approve a 500 MW PPTA.<sup>12</sup>

The intervenors focus on the specific need for a specific project, as evidenced by a PPA. The Energy Commission's focus, however, is broader. We do consider the general need for generation, evidenced by projections of future need such as the LTTP Decision identifying a need for a specified quantity of generation in the San Diego area and authorizing SDG&E to procure it. This need is but one possible factor to be weighed in deciding whether or not to override. The project owner and staff provided testimony

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<sup>8</sup> Terramar Issues for Briefing, TN 204356, pp. 14 – 17.

<sup>9</sup> Robert Simpson's Motion to (A) Require the Project Owner to Submit a Petition to Modify Its Application for Certification and (B) Delay the Issuance of a Proposed Decision In This Proceeding Until the Commission Has Fully Examined the Petition to Modify, TN 204185.

<sup>10</sup> Robert Sarvey's Opening Brief, TN 204360, pp. 4 – 22.

<sup>11</sup> Ex. 6006.

<sup>12</sup> Ex. 501.

about the other benefits and services the facility would provide, including the reduction of greenhouse gas emissions, facilitating the elimination of once-through cooling, and redevelopment of the EPS site. The Energy Commission may properly consider all of these in determining whether the facility is needed for the public convenience and necessity and whether project benefits outweigh unavoidable project effects. The existence or lack of a PPA is part of our consideration, but does not compel a specific result.

In the **Alternatives** section, we address the contention that the ACECP must be modified to conform to the amount of generation approved for the PPTA, which we decline to require.

This amended project, if constructed, will be a significant improvement over the existing EPS and the previously approved CECP. Its neighbors will be greatly benefited by the timely removal of the EPS' 200-foot high enclosure and 400-foot stack. The electricity system will receive a modern, efficient, simple-cycle power plant to assist with the integration of renewable energy sources and maintain system reliability.

The issues to be overridden are relatively minor. The LORS inconsistency exists because the Coastal Act does not provide for variances, a standard feature of local land use regulations. The cumulative visual impact is found as a precaution. With Caltrans' cooperation, it can be fully mitigated.

Based upon the evidence and arguments, we find that the ACECP is required for public convenience and necessity and that there are no more prudent and feasible means of achieving such public convenience and necessity. We further find that overriding considerations warrant the approval of the project as mitigated through the Conditions of Certification we adopt herein.

Based on the evidence, we find and conclude as follows:

### **FINDINGS OF FACT**

1. The ACECP will not comply with the City of Carlsbad's Agua Hedionda Land Use Plan's 35 foot height limitation.
2. The ACECP will have a significant cumulative environmental impact which may not be mitigated to insignificant levels if, after the widening of I-5 adjacent to the project site, there is insufficient space to provide vegetative screening. It is likely that, with Caltrans' cooperation, sufficient space will be available.
3. The project will provide the following benefits:
  - a. Provide 632 MW of generation in a subarea of the San Diego load area for which the CAISO has identified a need.

- b. Further the goals of the State's OTC policies by facilitating the closure of the EPS.
  - c. Reduce the effects of climate change from GHG emissions by displacing generation from more GHG intensive resources when it is operated.
  - d. Reduce the effects of climate change by supporting the integration of renewable energy resources into the electricity system and reducing, on average, the greenhouse gas emissions of the generating system.
  - e. Facilitate the redevelopment of the ocean-front portion of the EPS site and replace the existing generator with modern, efficient, less obtrusive generating units, placed below grade on the portion of the site that is furthest from the shoreline.
  - f. Reduce California's dependence on fossil fuels.
  - g. Reuse existing infrastructure for fuel delivery and transmission.
  - h. Boost the local economy due to the purchase of major equipment, payroll, and supplies, and increased sales tax revenue. Additional indirect economic benefits, such as indirect employment, and induced employment, will result from these expenditures as well.
  - i. Provide construction jobs for an average and peak workforce of 95 and 279, respectively, and approximately 18 jobs during operations. Most of those positions will require highly trained workers.
4. The ACECP is in the vicinity of existing development including I-5, a railway corridor, and existing electricity infrastructure including natural gas supply and major transmission lines.

## **CONCLUSIONS OF LAW**

1. This Decision requires mitigation of all direct, indirect, and cumulative project impacts for ACECP, except to visual resources as noted above.
2. We have no authority over Caltrans and declare the cumulative impact arising from the widening of I-5 significant because we cannot be sure that the mitigation will be effective after Caltrans obtains a portion of the project site to expand its right of way.
3. The ACECP's benefits outweigh the significant cumulative impact identified above.
4. There are no feasible alternatives which would avoid or substantially lessen the significant cumulative visual impact.

5. The ACECP facility is required for public convenience and necessity. There are not more prudent and feasible means of achieving the public convenience and necessity.
6. It is appropriate to approve the ACECP despite its remaining significant environmental impact and inconsistency with the City of Carlsbad's height limitation.
7. Therefore, this decision overrides the remaining LORS inconsistency and significant unavoidable cumulative impact that may result from this project, even with the implementation of the required mitigation measures described in this Decision.



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Appendix A: *Conditions of Certification*

Appendix B: *Exhibit List*

Appendix C: *Proof of Service List*

Appendix D: *Acronyms and Abbreviations*

# ***APPENDICES***

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# DEFINITIONS

## DEF-1 DEFINITIONS

The following terms and definitions apply to all of the Conditions of Certification in this Appendix “A”, unless specifically stated otherwise.

### **1. Project Certification**

Project certification occurs on the day the Energy Commission docket its Decision.

### **2. Site Assessment and Pre-Construction Activities**

Site assessment and pre-construction activities include the following, but only to the extent the activities are minimally disruptive to soil and vegetation and shall not affect listed or special-status species or other sensitive resources:

- a) the installation of environmental monitoring equipment;
- b) a minimally invasive soil or geological investigation;
- c) a topographical survey;
- d) any other study or investigation to determine the environmental acceptability or feasibility of the use of the site for any particular facility; and
- e) any minimally invasive work to provide safe access to the site for any of the purposes specified in (a) - (d), above.

### **3. Site Mobilization and Construction**

Site mobilization and construction activities are those necessary to provide site access for construction mobilization and facility installation, including both temporary and permanent equipment and structures, as determined by the CPM. Site mobilization and construction activities include, but are not limited to:

- a) ground disturbance activities like grading, boring, trenching, leveling, mechanical clearing, grubbing, and scraping;
- b) site preparation activities, such as access roads, temporary fencing, trailer and utility installation, construction equipment installation and storage, equipment and supply laydown areas, borrow and fill sites, temporary parking facilities, and chemical spraying and controlled burns; and

- c) permanent installation activities for all facility and linear structures, including access roads, fencing, utilities, parking facilities, equipment storage, mitigation and landscaping activities, and other installations, as applicable.

#### **4. System Commissioning and Decommissioning**

Commissioning activities are designed to test the functionality of a facility's installed components and systems to ensure safe and reliable operation. Although decommissioning is often synonymous with facility closure, specific decommissioning activities also systematically test the removal of such systems to ensure a facility's safe closure.

For compliance monitoring purposes, commissioning activities include interface connection and utility pre-testing, "cold" and "hot" electrical testing, system pressurization and optimization tests, grid synchronization, and combustion turbine "first fire." Decommissioning activity examples include utility shut down, system depressurization and de-electrification, structure removal, and site reclamation.

#### **5. Start of Commercial Operation**

For compliance monitoring purposes, "commercial operation" or "operation" begins once commissioning activities are complete, the certificate of occupancy has been issued, and the power plant has reached reliable steady-state electrical production. Operation activities can include a steady state of electrical production.

#### **6. Non-Operation**

Non-operation is time-limited and can encompass part or all of a facility. Non-operation can be a planned event, usually for minor equipment maintenance or repair, or unplanned, usually the result of unanticipated events or emergencies.

#### **7. Closure**

Closure is a facility shutdown with no intent to restart operation. It may also be the cumulative result of unsuccessful efforts to re-start over an increasingly lengthy period of non-operation, condemned by inadequate means and/or lack of a viable plan. Facility closures can occur due to a variety of factors, including, but not limited to, irreparable damage and/or functional or economic obsolescence.

## **8. Measurement**

Whenever distance to an external point is used in these Conditions of Certification, it shall be measured from nearest point on the project fence line.

## **9. CECP and ACECP**

Whenever the terms “CECP” or “ACECP” are used in these conditions, they shall refer to the Amended Carlsbad Energy Center Project unless the context clearly requires otherwise.

## AIR QUALITY

### STAFF CONDITIONS

**AQ-SC1** Air Quality Construction/Demolition Mitigation Manager (AQCMM): The project owner shall designate and retain an on-site AQCMM who shall be responsible for directing and documenting compliance with conditions **AQ-SC3**, **AQ-SC4**, and **AQ-SC5** for the entire project site and linear facility construction/demolition. The on-site AQCMM may delegate responsibilities to one or more AQCMM Delegates. The AQCMM and AQCMM Delegates shall have full access to all areas of construction on the project site and linear facilities and shall have the authority to stop any or all construction/demolition activities as warranted by applicable construction/demolition mitigation conditions. The AQCMM and AQCMM Delegates may have other responsibilities in addition to those described in this condition. The AQCMM shall not be terminated without written consent of the Compliance Project Manager (CPM).

**Verification:** At least 60 days prior to the start of ground disturbance, the project owner shall submit to the CPM for approval the name, resume, qualifications, and contact information for the on-site AQCMM and all AQCMM Delegates. The AQCMM and all Delegates must be approved by the CPM before the start of ground disturbance.

**AQ-SC2** Air Quality Construction/Demolition Mitigation Plan (AQCMP): The project owner shall provide an AQCMP, for approval, which details the steps that will be taken and the reporting requirements necessary to ensure compliance with conditions AQ-SC3, AQ-SC4, and AQ-SC5.

**Verification:** At least 60 days prior to the start of any ground disturbance, the project owner shall submit the AQCMP to the CPM for approval. The CPM will notify the project owner of any necessary modifications to the plan within 30 days from the date of receipt. The AQCMP must be approved by the CPM before the start of ground disturbance.

**AQ-SC3** Construction Fugitive Dust Control: The AQCMM shall submit documentation to the CPM in each Monthly Compliance Report (MCR) that demonstrates compliance with the following mitigation measures for the purposes of preventing all fugitive dust plumes from leaving the project site and linear facility routes. Any deviation from the following mitigation measures shall require prior CPM notification and approval.

- a) All unpaved roads and disturbed areas in the project and laydown construction/demolition sites shall be watered as frequently as necessary to comply with the dust mitigation objectives of AQ-SC4. The frequency of watering may be reduced or eliminated during periods of precipitation.
- b) No vehicle shall exceed ten miles per hour on unpaved areas within the project and laydown construction/demolition sites.
- c) The construction/demolition site entrances shall be posted with visible speed limit signs.
- d) All construction/demolition equipment vehicle tires shall be inspected and washed as necessary to be cleaned and free of dirt prior to entering paved roadways.
- e) Gravel ramps of at least 20 feet in length must be provided at the tire washing/cleaning station.
- f) All unpaved exits from the construction/demolition site shall be graveled or treated to prevent track-out to public roadways.
- g) All construction/demolition vehicles shall enter the construction/demolition site through the treated entrance roadways, unless an alternative route has been submitted to and approved by the CPM.
- h) Construction/demolition areas adjacent to any paved roadway shall be provided with sandbags or other measures as specified in the Storm Water Pollution Prevention Plan (SWPPP) to prevent runoff to roadways.
- i) All paved roads within the construction/demolition site shall be swept at least twice daily (or less during periods of precipitation) on days when construction/demolition activity occurs to prevent the accumulation of dirt and debris.
- j) At least the first 500 feet of any public roadway exiting the construction/demolition site shall be swept visually clean, using wet sweepers or air filtered dry vacuum sweepers, at least twice daily (or less during periods of precipitation) on days when construction/demolition activity occurs or on any other day when dirt or runoff from the construction/demolition site is visible on the public roadways.

- k) All soil storage piles and disturbed areas that remain inactive for longer than ten days shall be covered or shall be treated with appropriate dust suppressant compounds.
- l) All vehicles that are used to transport solid bulk material on public roadways and that have the potential to cause visible emissions shall be provided with a cover or the materials shall be sufficiently wetted and loaded onto the trucks in a manner to provide at least two feet of freeboard.
- m) Wind erosion control techniques (such as windbreaks, water, chemical dust suppressants, and/or vegetation) shall be used on all construction/demolition areas that may be disturbed. Any windbreaks installed to comply with this condition shall remain in place until the soil is stabilized or permanently covered with vegetation.
- n) Disturbed areas will be re-vegetated as soon as practical.
- o) Haul trucks used during the Encina Power Station demolition shall be limited to traveling on paved or graveled surfaces at all times within the boundary of the Encina Power Station property.

The fugitive dust requirements listed in this condition may be replaced with as stringent or more stringent methods as required by SDAPCD Rule 55.

**Verification:** The project owner shall include in the MCR: (1) a summary of all actions taken to maintain compliance with this condition, (2) copies of any complaints filed with the air district in relation to project construction/demolition, and (3) any other documentation deemed necessary by the CPM and AQCMM to verify compliance with this condition. Such information may be provided via electronic format or disk at the project owner's discretion.

**AQ-SC4** Dust Plume Response Requirement: The AQCMM or Delegate shall monitor all construction/demolition activities for visible dust plumes. Observations of visible dust plumes that have the potential to be transported: (1) off the project site, (2) 200 feet beyond the centerline of the construction of linear facilities, (3) within 100 feet upwind of any regularly occupied structures not owned by the project owner, or (4) within 50 feet upwind of the I-5 freeway indicate that existing mitigation measures are not resulting in effective mitigation. The AQCMM or Delegate shall implement the following procedures for additional mitigation measures in the event that such visible dust plumes, other than those occurring upwind of the I-5 Freeway, are observed:

- Step 1: The AQCMM or Delegate shall direct more intensive application of the existing mitigation methods within 15 minutes of making such a determination.
- Step 2: The AQCMM or Delegate shall direct implementation of additional methods of dust suppression if Step 1 specified above fails to result in adequate mitigation within 30 minutes of the original determination.
- Step 3: The AQCMM or Delegate shall direct a temporary shutdown of the activity causing the emissions if Step 2 specified above fails to result in effective mitigation within one hour of the original determination. The activity shall not restart until the AQCMM or Delegate is satisfied that appropriate additional mitigation or other site conditions have changed so that visual dust plumes will not result upon restarting the shut-down source. The owner/operator may appeal to the CPM any directive from the AQCMM or Delegate to shut down an activity, provided that the shutdown shall go into effect within one hour of the original determination, unless overruled by the CPM before that time.

The AQCMM or Delegate shall implement the following procedures for additional mitigation measures in the event that such visible dust plumes occurring within 50 feet upwind of the I-5 Freeway are observed:

- Step 1: The AQCMM or Delegate shall immediately cease the activities causing the visible dust plumes if any obscuration of visibility is occurring to drivers on the I-5 freeway. The AQCMM or Delegate shall direct more intensive application of the existing mitigation methods immediately if the visible plumes are seen within 50 feet of the I-5 freeway but are not causing obscuration of visibility to drivers.
- Step 2: The AQCMM or Delegate shall direct implementation of additional methods of dust suppression and monitor the start-up and/or continuation of the dust causing activities to ensure that the additional mitigation is effective.
- Step 3: The AQCMM or Delegate shall direct a temporary shutdown of the activity causing the emissions if Step 2 specified above fails to result in effective mitigation. The activity shall not restart until the AQCMM or Delegate is satisfied that appropriate additional mitigation or other site conditions have changed so that visual dust plumes that could impact visibility on the I-5 Freeway will not occur upon restarting the shut-down fugitive dust source.

**Verification:** The AQCMP shall include a section detailing how the additional mitigation measures will be accomplished within the time limits or directions specified.

**AQ-SC5**

Diesel-Fueled Engine Control: The AQCMM shall submit to the CPM, in the Monthly Compliance Report, a construction/demolition mitigation report that demonstrates compliance with the AQCMP mitigation measures for purposes of controlling diesel construction/demolition-related emissions. The following off-road diesel construction/demolition equipment mitigation measures shall be included in the Air Quality Construction Mitigation Plan (AQCMP) required by AQ-SC2, and any deviation from the AQCMP mitigation measures shall require prior CPM notification and approval.

- a) All diesel-fueled engines used in the construction/demolition of the facility shall have clearly visible tags issued by the on-site AQCMM showing that the engine meets the conditions set forth herein.
- b) All construction/demolition diesel engines with a rating of 50 hp or higher shall meet, at a minimum, the Tier 4 or 4i California Emission Standards for Off-Road Compression-Ignition Engines, as specified in California Code of Regulations, Title 13, section 2423(b) (1), unless a good faith effort to the satisfaction of the CPM that is certified by the on-site AQCMM demonstrates that such engine is not available for a particular item of equipment. In the event that a Tier 4 or 4i engine is not available for any off-road equipment larger than 50 hp, that equipment shall be equipped with a Tier 3 engine, or an engine that is equipped with retrofit controls to reduce exhaust emissions of nitrogen oxides (NOx) and diesel particulate matter (DPM) to no more than Tier 3 levels unless certified by engine manufacturers or the on-site AQCMM that the use of such devices is not practical for specific engine types. For purposes of this condition, the use of such devices is “not practical” for the following, as well as other, reasons.
  - 1. There is no available retrofit control device that has been verified by either the California Air Resources Board or U.S. Environmental Protection Agency to control the engine in question to Tier 3 equivalent emission levels and the highest level of available control using retrofit or Tier 2 engines is being used for the engine in question; or
  - 2. The construction/demolition equipment is intended to be on site for ten working days or less.
  - 3. The CPM may grant relief from this requirement if the AQCMM can demonstrate a good faith effort to comply with this requirement and that compliance is not practical.
- c) The use of a retrofit control device may be terminated immediately, provided that the CPM is informed within ten working days of the



termination and that a replacement for the equipment item in question meeting the controls required in item “b” occurs within ten days of termination of the use, if the equipment would be needed to continue working at this site for more than 15 days after the use of the retrofit control device is terminated, if one of the following conditions exists:

1. The use of the retrofit control device is excessively reducing the normal availability of the construction/demolition equipment due to increased down time for maintenance, and/or reduced power output due to an excessive increase in back pressure.
  2. The retrofit control device is causing or is reasonably expected to cause engine damage.
  3. The retrofit control device is causing or is reasonably expected to cause a substantial risk to workers or the public.
  4. Any other seriously detrimental cause which has the approval of the CPM prior to implementation of the termination.
- d) All heavy earth-moving equipment and heavy duty construction/demolition-related trucks with engines meeting the requirements of (b) above shall be properly maintained and the engines tuned to the engine manufacturer’s specifications.
- e) All diesel heavy construction/demolition equipment shall not idle for more than five minutes. Vehicles that need to idle as part of their normal operation (such as concrete trucks) are exempted from this requirement.
- f) Construction/demolition equipment will employ electric motors when feasible.

**Verification:** The AQCMM shall include in a table in the Monthly Compliance Report the following to demonstrate control of diesel construction/demolition-related emissions:

- A. A summary of all actions taken to control diesel construction/demolition-related emissions;
- B. A list of all heavy equipment used on site during that month, including the owner of that equipment and a letter from each owner indicating that equipment has been properly maintained; and
- C. Any other documentation deemed necessary by the CPM, and the AQCMM to verify compliance with this condition. Such information may be provided via electronic format or disk at the project owner’s discretion.

**AQ-SC6** The project owner shall submit to the CPM for review and approval any project air permit modification proposed by the project owner. The project owner shall submit to the CPM any modification to any permit proposed by the District or U.S. EPA and any revised permit issued by the District or U.S. EPA for the project.

**Verification:** The project owner shall submit any proposed air permit modification to the CPM within five working days of its submittal either by: 1) the project owner to an agency, or 2) receipt of proposed modifications from an agency. The project owner shall submit all modified air permits to the CPM within 15 days of receipt.

**AQ-SC7** The project owner shall not conduct any on-site remediation of contaminated soils at the project site, other than removal and transport.

**Verification:** The project owner shall provide transportation and disposition records of the contaminated soil removal and off-site remediation completion demonstrating compliance with this condition as part of the applicable Monthly Compliance Report (MCR) until the contaminated soil removal is complete.

**AQ-SC8** The project owner shall submit to the CPM Quarterly Operation Reports, following the end of each calendar quarter that include operational and emissions information as necessary to demonstrate compliance with the conditions of certification herein. The Quarterly Operation Report will specifically state that the facility meets all applicable conditions of certification or note or highlight all incidences of noncompliance.

**Verification:** The project owner shall submit the Quarterly Operation Reports to the CPM and District, if requested by the District, no later than 30 days following the end of each calendar quarter.

**AQ-SC9** The gas turbines shall only be operated between the military time hours of 0600 to 2400, except in the event of a California Independent System Operator declared emergency.

**Verification:** The project owner shall submit the Quarterly Operation Reports to the CPM and District, if requested by the District, no later than 30 days following the end of each calendar quarter that demonstrate the operating hours and provide documentation regarding declared emergency events when the gas turbines are operated between the hours of 2400 and 0600, military time.

**AQ-SC10** [Deleted]

**AQ-SC11** The project owner shall develop and implement a Leak Detection and Repair (LDAR) plan for the onsite natural gas compressors.

**Verification:** The project owner shall provide the LDAR plan to the CPM for review and approval at least 60 days prior to the start of installation of the natural gas compressors. The LDAR plan shall follow the general procedures outlined in the U.S. EPA's "Leak Detection and Repair – A Best Practices Guide" document. If requested the project owner shall provide records of the implementation of the LDAR plan.

**AQ-SC12** The project owner shall not allow the overlap of specific construction and demolition phase activities. The following activities shall not be conducted concurrently with any of the other listed activities:

1. ASTs 5, 6, and 7 demolition (licensed CECP activity);
2. ASTs 1, 2, and 4 demolition and berm removal (PTR described activities);
3. Amended CECP construction (PTA described activities); and
4. EPS demolition (PTA and Encina Power Station Demolition Plan described activities).

In addition, the gas turbines initial commissioning activity and the EPS demolition activity shall not be performed concurrently.

**Verification:** The project owner shall identify the start and conclusion of the work phases described above in the Monthly Compliance R reports.

**AQ-SC13** The project owner shall not implode or fell any concrete or mortar structure, such as the main exhaust stack or the power plant building, during the demolition of the Encina Power Station.

**Verification:** The project owner shall provide updates on the demolition progress and the demolition methods used in the Monthly Compliance Reports.

## **District Final Determination of Compliance Conditions (SDAPCD 2015)**

### **FACILITY-WIDE GENERAL CONDITIONS**

**AQ-1** The equipment authorized to be constructed under this permit is described in Application Nos. APCD2014-APP-003480, APCD2014-APP-003481, APCD2014-APP-003482, APCD2014-APP-003483, APCD2014-APP-003484, APCD2014-APP-003485, APCD2014-APP-003486, APCD2014-APP-003487.

**Verification:** The project owner shall provide copies of any applications to alter the equipment or the permit conditions for the equipment covered by the permit applications numbered above to the CPM within five days of sending such applications to the

District. The project owner shall make the site available for inspection of equipment and records by representatives of the District, ARB, and the Energy Commission.

**AQ-2** The project owner shall cancel all applications for permits and/or retire all permits to operate for all of the equipment authorized to be constructed under this permit on or before the date construction commences for any equipment authorized for construction under Application Numbers APCD2007-APP-985745, APCD2007-APP-985747, or APCD2007-APP-985748 (the 2012 Licensed CECP)

**Verification:** This condition requires canceling the amended CECP permit applications if the project owner decides to build the previously licensed CECP. The project owner shall provide to the CPM documentation of the cancellation of the 2014 permit applications, if the project approved under the 2007 permit applications is built, by the time any construction activity approved under the 2007 permit applications commences.

**AQ-3** The project owner shall cancel permit Application Nos. APCD2007-APP-985745, APCD2007-APP-985747, and APCD2007-APP-985748 (the 2012 Licensed CECP) on or before the date construction commences for any equipment authorized for construction under this permit.

**Verification:** This condition requires canceling the previously licensed CECP permit application if the project owner decides to build the amended CECP. The project owner shall provide to the CPM documentation of the cancellation of the 2007 permit applications, if the project approved under the 2014 permit applications is built, by the time any construction activity approved under the 2014 permit applications commences.

**AQ-4** Prior to the earliest initial startup date for any of the combustion turbines, the project owner shall surrender to the District Class A Emission Reduction Credits (ERCs) in an amount equivalent to 47.94 tons per year of oxides of nitrogen (NO<sub>x</sub>) to offset the net maximum allowable increase of 39.9 tons per year of NO<sub>x</sub> emissions for the equipment described in District Application Nos. APCD2014-APP-003480, APCD2014-APP-003481, APCD2014-APP-003482, APCD2014-APP-003483, APCD2014-APP-003484, APCD2014-APP-003485, APCD2014-APP-003486, APCD2014-APP-003487. [Rule 20.3(d)(8)]

**Verification:** The project owner shall submit to the CPM, within 15 days of ERC surrender to the District, information demonstrating compliance with this condition.

**AQ-5** This equipment shall be properly maintained and kept in good operating condition at all times and, to the extent practicable, the project owner shall maintain and operate the equipment and any associated air pollution

control equipment in a manner consistent with good air pollution control practices for minimizing emissions. [Rule 21 and 40 CFR §60.11]

**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-6** The project owner shall operate the project in accordance with all data and specifications submitted with the application under which this license is issued and District Application Nos. 2014-APP-003480, 2014-APP-003481, 2014-APP-003482, 2014-APP-003483, 2014-APP-003484, 2014-APP-003485, 2014-APP-003486, and 2014-APP-003487. [Rule 14]

**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-7** The project owner shall provide access, facilities, utilities, and any necessary safety equipment, with the exception of personal protective equipment requiring individual fitting and specialized training, for source testing and inspection upon request of the Air Pollution Control District. [Rule 19]

**Verification:** The project owner shall provide facilities, utilities, and safety equipment for source testing and inspections upon request of the District, ARB, and the Energy Commission.

**AQ-8** The project owner shall obtain any necessary District permits for all ancillary combustion equipment including emergency engines, prior to on-site delivery of the equipment. [Rule 10]

The project owner shall submit any proposed air permit modification to the CPM within five working days of its submittal either by 1) the project owner to an agency, or 2) receipt of proposed modifications from an agency. The project owner shall submit all modified air permits to the CPM within 15 days of receipt.

**AQ-9** A rolling 12-calendar-month period is one of a series of successive consecutive 12-calendar-month periods. The initial 12-month-calendar period of such a series shall begin on the first day of the month in which the applicable beginning date for that series occurs as specified in this permit. [Rule 20.3 (d)(3), Rule 20.3(d)(8) and Rule 21]

**Verification:** None required.

**AQ-10** Pursuant to 40 CFR §72.30(b)(2)(ii) of the Federal Acid Rain Program, the project owner shall submit an application for a Title IV Operating Permit at

least 24 months prior to the date the first turbine commences operation as defined in 40 CFR §72.2. [40 CFR Part 72]

**Verification:** The project owner shall submit to the CPM copies of the acid rain permit application within five working days of its submittal by the project owner to the District.

**AQ-11** The project owner shall comply with all applicable provisions of 40 CFR Part 73, including requirements to offset, hold and retire sulfur dioxide (SO<sub>2</sub>) allowances. [40 CFR Part 73]

**Verification:** The project owner shall submit to the CPM and the District the combustion turbine generator (CTG) annual SO<sub>2</sub> emission total and SO<sub>2</sub> allowance information demonstrating compliance with all applicable provisions of 40 CFR 73 as part of the Quarterly Operation Reports (**AQ-SC8**).

**AQ-12** All records required by this permit shall be maintained on site for a minimum of five years and made available to the District upon request. [Rule 1421]

**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-13** The fire pump and emergency diesel engines shall not be operated for maintenance and testing purposes at the same time that any combustion turbine is operating during its commissioning period. [Rule 20.3(d)(2)]

**Verification:** The project owner shall maintain records of the fire-pump and emergency diesel engine operation during the combustion turbine initial commissioning period that shows compliance with this condition and shall provide that data with the Monthly Compliance Reports required during any commissioning period.

## **COMBUSTION TURBINE CONDITIONS**

### **District Application Number 2014-APP-003482**

Unit #6: One nominal 104 MW natural-gas-fired simple-cycle General Electric LMS 100 PA combustion turbine generator with demineralized water injection, S/N TBD; maximum heat input of 984 MMBtu/hr (HHV) at average site-specific ambient conditions; an inlet-air evaporative cooler; combustion turbine exhaust ducted to an oxidation catalyst and selective catalytic reduction (SCR) system with aqueous ammonia injection.

### **District Application Number 2014-APP-003483**

Unit #7: One nominal 104 MW natural-gas-fired simple-cycle General Electric LMS 100 PA combustion turbine generator with demineralized water injection, S/N TBD;

maximum heat input of 984 MMBtu/hr (HHV) at average site-specific ambient conditions; an inlet-air evaporative cooler; combustion turbine exhaust ducted to an oxidation catalyst and selective catalytic reduction (SCR) system with aqueous ammonia injection.

**District Application Number 2014-APP-003484**

Unit #8: One nominal 104 MW natural-gas-fired simple-cycle General Electric LMS 100 PA combustion turbine generator with demineralized water injection, S/N TBD; maximum heat input of 984 MMBtu/hr (HHV) at average site-specific ambient conditions; an inlet-air evaporative cooler; combustion turbine exhaust ducted to an oxidation catalyst and selective catalytic reduction (SCR) system with aqueous ammonia injection.

**District Application Number 2014-APP-003485**

Unit #9: One nominal 104 MW natural-gas-fired simple-cycle General Electric LMS 100 PA combustion turbine generator with demineralized water injection, S/N TBD; maximum heat input of 984 MMBtu/hr (HHV) at average site-specific ambient conditions; an inlet-air evaporative cooler; combustion turbine exhaust ducted to an oxidation catalyst and selective catalytic reduction (SCR) system with aqueous ammonia injection.

**District Application Number 2014-APP-003486**

Unit #10: One nominal 104 MW natural-gas-fired simple-cycle General Electric LMS 100 PA combustion turbine generator with demineralized water injection, S/N TBD; maximum heat input of 984 MMBtu/hr (HHV) at average site-specific ambient conditions; an inlet-air evaporative cooler; combustion turbine exhaust ducted to an oxidation catalyst and selective catalytic reduction (SCR) system with aqueous ammonia injection.

**District Application Number 2014-APP-003487**

Unit #11: One nominal 104 MW natural-gas-fired simple-cycle General Electric LMS 100 PA combustion turbine generator with demineralized water injection, S/N TBD; maximum heat input of 984 MMBtu/hr (HHV) at average site-specific ambient conditions; an inlet-air evaporative cooler; combustion turbine exhaust ducted to an oxidation catalyst and selective catalytic reduction (SCR) system with aqueous ammonia injection.

**DEFINITIONS**

**AQ-14** For purposes of determining compliance with the emission limits of this permit, a shutdown period is the 13-consecutive-minute period preceding

the moment at which fuel flow to the combustion turbine ceases. [Rule 20.3 (d)(1)]

**Verification:** The project owner shall submit to the CPM the CTG shutdown event duration data demonstrating compliance with this condition as part of the Quarterly Operation Reports (**AQ-SC8**).

**AQ-15** Unless otherwise noted in a specific condition, a startup period is the period of time that begins when fuel flows to the combustion turbine following a non-operational period. For purposes of determining compliance with the emission limits of this permit, the duration of a startup period shall not exceed 25 consecutive minutes. [Rule 20.3(d)(1)]

**Verification:** The project owner shall submit to the CPM the CTG startup event duration data demonstrating compliance with this condition as part of the Quarterly Operation Reports (**AQ-SC8**).

**AQ-16** A non-operational period is any five-consecutive-minute period when fuel does not flow to the combustion turbine. [Rule 20.3(d)(1)]

**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-17** A Continuous Emission Monitoring System (CEMS) protocol is a document approved in writing by the District that describes the methodology and quality assurance and quality control procedures for monitoring, calculating, and recording stack emissions from the combustion turbine that is monitored by the CEMS. [Rules 69.3, 69.3.1, and 20.3(d)(1) and 40 CFR Part 60 Subpart KKKK, 40 CFR Part 60 Appendix B and F, and 40 CFR Part 75]

**Verification:** The project owner shall maintain a copy of the CEMS protocol on site and provide it for inspection on request by representatives of the District, ARB, and the Energy Commission.

**AQ-18** For each combustion turbine, the commissioning period is the period of time commencing with the initial startup of that turbine and ending after 213 hours of turbine operation, or the date the project owner notifies the District the commissioning period has ended, whichever comes first. For purposes of this condition, the number of hours of turbine operation is defined as the total unit operating minutes during the commissioning period divided by 60 rounded to the nearest hundredth of an hour. [Rule 20.3(d)(1)]



**Verification:** The project owner shall provide commissioning event data that shows compliance with the commissioning period operation limits for each combustion turbine in the Monthly Compliance Reports and shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-19** For the purposes of this permit, initial startup shall be defined for each combustion turbine as the first time that the combustion turbine combusts fuel on-site. [Rule 20.3]

**Verification:** None Required.

**AQ-20** For each combustion turbine, a unit operating day, hour, and minute mean the following:

- a. A unit operating day means any calendar day in which the turbine combusts fuel.
- b. A unit operating hour means any clock hour in which the turbine combusts fuel.
- c. A unit operating minute means any clock minute in which the turbine combusts fuel.

[Rule 21, 40 CFR Part 75, Rule 20.3(d)(1), 40 CFR Part 60 Subpart KKKK]

**Verification:** None required.

## **GENERAL CONDITIONS**

**AQ-21** The exhaust stack for each combustion turbine shall be at least 90 feet in height above site base elevation, and with an interior exhaust stack diameter of no more than 13.5 feet at the point of release unless it is demonstrated to the District that all requirements of District rules 20.3 and 1200 are satisfied with a different stack configuration. [Rules 20.3(d)(2) and 1200]

**Verification:** The project owner shall submit to the CPM for review the exhaust stack specification at least 60 days before initial construction of the stack.

**AQ-22** The combustion turbines shall be fired on Public Utility Commission (PUC) quality natural gas. The project owner shall maintain, on site, quarterly records of the natural gas sulfur content expressed in units of grains of sulfur per 100 dscf of natural gas and hourly records of the higher and lower heating values of the natural gas expressed in units of Btu/scf. These records shall be provided to District personnel upon request. [Rule 20.3(d)(1)] Natural gas sulfur content records must be kept with a

minimum reporting limit of 0.25 grains sulfur compounds per 100 dscf of natural gas. [Rule 20.3(d)(1)]

**Verification:** The project owner shall submit the quarterly fuel sulfur content values in the Quarterly Operation Reports **(AQ-SC8)** and make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-23** Unless otherwise specified in this permit, all continuous monitoring data shall be collected at least once every clock-minute. [Rules 69.3, 69.3.1, and 20.3(d)(1)]

**Verification:** None required.

## **EMISSION LIMITS**

**AQ-24** For purposes of determining compliance with emission limits based on source testing, the average of three subtests shall be used. For purposes of determining compliance with emission limits based on a Continuous Emission Monitoring System (CEMS), data collected in accordance with the CEMS protocol shall be used and the averages for averaging periods specified herein shall be calculated as specified in the CEMS protocol. [Rules 69.3, 69.3.1, 20.3(d)(1) and 40 CFR Part 60 Subpart KKKK, 40 CFR Part 60 Appendix B and F, and 40 CFR Part 75]

**Verification:** Source tests demonstrating compliance with this condition shall be provided to the CPM and are due within the timeframes specified in Conditions **AQ-57** and **AQ-58**. CEMS data summaries shall be submitted to the CPM as part of the Quarterly Operation Reports **(AQ-SC8)**.

**AQ-25** For purposes of determining compliance with emission limits based on CEMS data, all CEMS calculations, averages, and aggregates shall be performed in accordance with the CEMS protocol approved in writing by the District. [Rules 69.3, 69.3.1, 20.3(d)(1) and 40 CFR Part 60 Subpart KKKK, 40 CFR Part 60 Appendix B and F, and 40 CFR Part 75]

**Verification:** CEMS data summaries shall be submitted to the CPM as part of the Quarterly Operation Reports **(AQ-SC8)**.

**AQ-26** For each emission limit expressed as pounds, pounds per hour, or parts per million based on a one-hour or less averaging period or compliance period, compliance shall be based on using data collected at least once every minute when compliance is based on CEMS data except as specified in the District approved CEMS Protocol. [Rules 69.3, 69.3.1, and 20.3(d)(1)]

**Verification:** CEMS data summaries shall be submitted to the CPM as part of the Quarterly Operation Reports **(AQ-SC8)**.

**AQ-27** When a combustion turbine is combusting fuel (operating), the emission concentration of oxides of nitrogen (NO<sub>x</sub>), calculated as nitrogen dioxide (NO<sub>2</sub>), shall not exceed 2.5 parts per million by volume on a dry basis (ppmvd) corrected to 15 percent oxygen, averaged over a one-clock-hour period, except during commissioning, startup, and shutdown periods for that turbine. [Rule 20.3(d)(1)]

**Verification:** The project owner shall provide CEMS emissions data to demonstrate compliance with this condition as part of the Quarterly Operation Reports **(AQ-SC8)**.

**AQ-28** When a combustion turbine is operating, the emission concentration of carbon monoxide (CO) shall not exceed 4.0 ppmvd corrected to 15 percent oxygen, averaged over a one-clock-hour period, except during commissioning, startup, and shutdown periods for that turbine. [Rule 20.3(d)(1)]

**Verification:** The project owner shall provide CEMS emissions data to demonstrate compliance with this condition as part of the Quarterly Operation Reports **(AQ-SC8)**.

**AQ-29** When a combustion turbine is operating, the volatile organic compound (VOC) concentration, calculated as methane, measured in the exhaust stack, shall not exceed 2.0 ppmvd corrected to 15 percent oxygen, averaged over a one-clock-hour period, except during commissioning, startup, and shutdown periods for that turbine. For purposes of determining compliance based on the CEMS, the District approved VOC/CO surrogate relationship and the CO CEMS data averaged over a one-clock-hour period shall be used. The VOC/CO surrogate relationship shall be verified and/or modified, if necessary, based on source testing. [Rule 20.3(d)(1)]

**Verification:** The project owner shall provide the CEMS data, using the appropriate CO/VOC surrogate relationship, to demonstrate compliance with this condition as part of the Quarterly Operation Reports **(AQ-SC8)**.

**AQ-30** When a combustion turbine is operating, the ammonia concentration (ammonia slip), shall not exceed 5.0 ppmvd corrected to 15 percent oxygen and averaged over a one-clock-hour period, except during commissioning, startup, and shutdown periods for that turbine. [Rule 1200]

**Verification:** The project owner shall provide the estimated ammonia concentrations and ammonia emissions based on the annual source test data, the CEMS data and

SCR ammonia flow data to demonstrate compliance with this condition as part of the Quarterly Operation Reports **(AQ-SC8)**.

**AQ-31** When a combustion turbine is operating, the emission concentration of NO<sub>x</sub>, calculated as nitrogen dioxide (NO<sub>2</sub>) shall not exceed 42 ppmvd averaged over each one-clock-hour period and corrected to 15 percent oxygen except for startup and shutdown periods for that turbine, as defined in Rule 69.3. [Rule 69.3]

**Verification:** The project owner shall provide CEMS emissions data to demonstrate compliance with this condition as part of the Quarterly Operation Reports **(AQ-SC8)**.

**AQ-32** When a combustion turbine is operating with post-combustion air pollution control equipment that controls oxides of nitrogen (NO<sub>x</sub>) emissions, the emission concentration of NO<sub>x</sub>, calculated as nitrogen dioxide (NO<sub>2</sub>), shall not exceed 13.6 ppmvd averaged over each one-clock-hour period and corrected to 15 percent oxygen, except for startup and shutdown periods for that turbine, as defined in Rule 69.3.1. This limit does not apply during any period in which the facility is subject to a variance from the emission limits contained in Rule 69.3.1. [Rule 69.3.1]

**Verification:** The project owner shall provide CEMS emissions data to demonstrate compliance with this condition as part of the Quarterly Operation Reports **(AQ-SC8)**.

**AQ-33** When a combustion turbine is operating without any post-combustion air pollution control equipment that controls oxides of nitrogen (NO<sub>x</sub>) emissions, the emission concentration of NO<sub>x</sub> calculated as nitrogen dioxide (NO<sub>2</sub>) from each turbine shall not exceed 22.6 parts per million by volume on a dry basis (ppmvd) averaged over each one-clock-hour period and corrected to 15 percent oxygen, except for periods of startup and shutdown, as defined in Rule 69.3.1. This limit does not apply during any period in which the facility is subject to a variance from the emission limits contained in Rule 69.3.1. [Rule 69.3.1]

**Verification:** The project owner shall provide CEMS emissions data to demonstrate compliance with this condition as part of the Quarterly Operation Reports **(AQ-SC8)**.

**AQ-34** For each rolling four-unit operating hour period, average emission concentration of oxides of nitrogen (NO<sub>x</sub>) for each turbine calculated as nitrogen dioxide (NO<sub>2</sub>) in parts per million by volume dry (ppmvd) corrected to 15 percent oxygen or, alternatively, as elected by the project owner, the average NO<sub>x</sub> emission rate in pounds per megawatt-hour (lb/MWh) shall not exceed an average emission limit calculated in

accordance with 40 CFR Section 60.4380(b)(3). The emission concentration and emission rate averages shall be calculated in accordance with 40 CFR Section 60.4380(b)(1). The average emission concentration limit and emission rate limit shall be based on an average of hourly emission limits over the four-unit operating hour period including the operating-hour and three unit operating-hours immediately preceding. For any unit operating hour where multiple emission standards would apply based on load of the turbine, the applicable standard shall be the higher of the two limits. The hourly emission concentration limit and emission rate limit shall be as follows based on the load of the turbine over the four unit operating hour period:

<u>Case</u>	<u>Emission Limit, ppmvd at 15 percent O<sub>2</sub></u>	<u>Emission Limit, lb/MWh</u>
i. All four hours at or above 75% Load	15	0.43
ii. All four hours below 75% Load	96	4.7
iii. Combination of hours	$(a \times 15 + b \times 96)/4$	$(a \times 0.43 + b \times 4.7)/4$

Where: a = the number of unit operating hours in the four hour period with all operation above 75% load and b = 4-a.

The averages shall exclude all clock hours occurring before the Initial Emission Source Test but shall include emissions during all other times that the equipment is operating including, but not limited to, emissions during startup and shutdown periods. For each six-calendar-month period, emissions in excess of these limits and monitor downtime shall be identified in accordance with 40 CFR Sections 60.4350 and 60.4380(b)(2), except that Section 60.4350(c) shall not apply for identifying periods in excess of a NOx concentration limit. For the purposes of this condition, unit operating hour shall have the meaning as defined in 40 CFR 60.4420. [40 CFR Part 60 Subpart KKKK]

**Verification:** The project owner shall provide CEMS emissions data to demonstrate compliance with this condition as part of the Quarterly Operation Reports **(AQ-SC8)**.

**AQ-35** The emissions of particulate matter less than or equal to ten microns in diameter (PM10) from the exhaust stacks of the combustion turbine shall not exceed 5.0 pounds per hour for each combustion turbine. [Rule 20.3(d)(1),(2)]

**Verification:** Source tests demonstrating compliance with this condition shall be provided to the CPM and are due within the timeframes specified in Conditions **AQ-57** and **AQ-58**.

**AQ-36** The emissions of particulate matter less than or equal to ten microns in diameter (PM10) from the exhaust stacks of the combustion turbines shall not exceed 3.5 pounds per hour per turbine, averaged over all six combustion turbines, calculated as the arithmetic average of the most recent source test for each turbine. [Rule 20.3(d)(1),(2)]

**Verification:** Source tests demonstrating compliance with this condition shall be provided to the CPM and are due within the timeframes specified in Conditions **AQ-57** and **AQ-58**.

**AQ-37** The discharge of particulate matter from the exhaust stack of each combustion turbine shall not exceed 0.10 grains per dry standard cubic foot (0.23 grams/dscm) corrected to 12 percent carbon dioxide. The District may require periodic testing to verify compliance with this standard. [Rule 53]

**Verification:** Source tests demonstrating compliance with this condition shall be provided to the CPM and are due within the timeframes specified in Conditions **AQ-57** and **AQ-58**.

**AQ-38** Visible emissions from the lube oil vents and the exhaust stack of each combustion turbine shall not exceed 20 percent opacity for more than three minutes in any period of 60 consecutive minutes. [Rule 50]

**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-39** Mass emissions from each combustion turbine of oxides of nitrogen (NO<sub>x</sub>), calculated as NO<sub>2</sub>; carbon monoxide (CO); and volatile organic compounds (VOC), calculated as methane, shall not exceed the following limits, except during commissioning, startup, and shutdown periods for that turbine. A one-clock-hour averaging period for these limits shall be used when compliance is determined using CEMS data. [Rule 20.3(d)(2)]

	<u>Pollutant</u>	<u>Emission Limit, lb/hr</u>
a.	NO <sub>x</sub>	9.1
b.	CO	8.8
c.	VOC	2.5

**Verification:** The project owner shall submit to the CPM operating data demonstrating compliance with this condition as part of the Quarterly Operation Reports (**AQ-SC8**).

**AQ-40** Excluding any minutes that are coincident with a shutdown period, cumulative mass emissions from each combustion turbine of oxides of nitrogen (NO<sub>x</sub>), calculated as NO<sub>2</sub>; carbon monoxide (CO); and volatile

organic compounds (VOC), calculated as methane, shall not exceed the following limits during each of that turbine’s startup periods, except during that turbine’s commissioning period.

	<u>Pollutant</u>	<u>Emission Limit, lb</u>
a.	NO <sub>x</sub>	14.7
b.	CO	7.4
c.	VOC	2.0

[NO<sub>x</sub> and VOC: Rule 20.3(d)(1); CO: Rule 20.3(d)(2)]

**Verification:** The project owner shall submit to the CPM operating data demonstrating compliance with this condition as part of the Quarterly Operation Reports **(AQ-SC8)**.

**AQ-41** Cumulative mass emissions from each combustion turbine of oxides of nitrogen (NO<sub>x</sub>), calculated as NO<sub>2</sub>; carbon monoxide (CO); and volatile organic compounds (VOC), calculated as methane, shall not exceed the following limits during each of that turbine’s shutdown periods, except during that turbine’s commissioning period. [Rule 20.3(d)(1)]

	<u>Pollutant</u>	<u>Emission Limit, lb</u>
a.	NO <sub>x</sub>	0.6
b.	CO	3.4
c.	VOC	2.4

**Verification:** The project owner shall provide CEMS emissions data to demonstrate compliance with this condition as part of the Quarterly Operation Reports **(AQ-SC8)**.

**AQ-42** Emissions of oxides of nitrogen (NO<sub>x</sub>), calculated as nitrogen dioxide (NO<sub>2</sub>), from each combustion turbine shall not exceed 90 pounds per hour measured over each one-clock-hour period. In addition, the emission concentration of NO<sub>x</sub>, calculated as NO<sub>2</sub>, from each turbine shall not exceed 100 parts per million by volume on a dry basis (ppmvd) averaged over each one-clock-hour period and corrected to 15 percent oxygen. These emission limits shall apply during all times a turbine is operating, including, but not limited to, emissions during commissioning, startup, and shutdown periods for that turbine. [Rule 20.3(d)(2)]

**Verification:** The project owner shall provide CEMS emissions data to demonstrate compliance with this condition as part of the Quarterly Operation Reports **(AQ-SC8)**.

**AQ-43** The carbon monoxide (CO) emissions from each combustion turbine shall not exceed 248 pounds per hour measured over each one-clock-hour period. In addition, the emission concentration of CO from each turbine

shall not exceed 400 parts per million by volume on a dry basis (ppmvd) averaged over each one-clock-hour period and corrected to 15 percent oxygen. This emission limit shall apply during all times that a turbine is operating, including, but not limited to, emissions during commissioning, startup, and shutdown periods. [Rule 20.3(d)(2)(i)]

**Verification:** The project owner shall provide CEMS emissions data to demonstrate compliance with this condition as part of the Quarterly Operation Reports **(AQ-SC8)**.

**AQ-44** Total emissions from the equipment authorized to be constructed under this permit except emissions or emission units excluded from the calculation of aggregate potential to emit as specified in Rule 20.1 (d)(1) as it exists on the date the permit to operate for this equipment is approved and except for CO emissions during any rolling 12-calendar-month period in which a turbine commissioning period occurs, shall not exceed the following limits for each rolling 12-calendar-month period, beginning with the 12-calendar-month period that begins with the month in which the earliest initial startup among the equipment authorized to be constructed under this permit occurs:

	<u><b>Pollutant</b></u>	<u><b>Emission Limit, tons per year</b></u>
a.	NO <sub>x</sub>	84.18
b.	CO	77.8
c.	VOC	24.1
d.	PM <sub>10</sub>	28.4
e.	SO <sub>x</sub>	5.6

The aggregate emissions of each pollutant shall include emissions during all times that the equipment is operating, except for CO emissions during any rolling 12-calendar month period in which a turbine commissioning period occurs. All calculations performed to show compliance with this limit shall be performed according to a protocol approved in advance by the District. [Rules 20.3(d)(2), 20.3(d)(5), 20.3(d)(8), and 21]

**Verification:** The project owner shall submit to the CPM and the District the facility annual operating and emissions data demonstrating compliance with this condition as part of the fourth quarter’s Quarterly Operation Reports **(AQ-SC8)**.

**AQ-45** Total emissions of CO during any rolling 12-calendar-month period in which a turbine commissioning period occurs from the equipment authorized to be constructed under this permit except emissions or emission units excluded from the calculation of aggregate potential to emit



as specified in Rule 20.1 (d)(1) as it exists on the date the permit to operate for this equipment is approved shall not exceed the following limit for each rolling 12-calendar-month period, beginning with the 12-calendar-month period that begins with the month in which the earliest initial startup among the equipment authorized to be constructed under this permit occurs:

$$77.8 \text{ tons per year} + N \times 4.05 \text{ tons/yr}$$

Where N=number of turbines with commissioning periods occurring within the 12-calendar-month period. All calculations performed to show compliance with this limit shall be performed according to a protocol approved in advance by the District. [Rules 20.3(d)(2), 20.3(d)(5), 20.3(d)(8), and 21]

**Verification:** The project owner shall submit to the CPM and the District the facility annual operating and emissions data demonstrating compliance with this condition as part of the fourth quarter's Quarterly Operation Reports (**AQ-SC8**).

**AQ-46** Total emissions from each combustion turbine shall not exceed 14.3 tons per year of NO<sub>x</sub> calculated as nitrogen dioxide and shall not exceed 4.73 tons per year of PM<sub>10</sub>. For the purposes of this condition emissions shall be calculated on a rolling 12-calendar-month basis beginning with the calendar month in which the initial startup of the turbine occurs. All calculations performed to show compliance with this limit shall be performed according to a protocol approved in advance by the District. [Rules 20.3(d)(2), 20.3(d)(5), 20.3(d)(8), and 21]

**Verification:** The project owner shall provide emissions summary data in compliance with this condition as part of the Quarterly Operation Reports (**AQ-SC8**). The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-47** Total emissions from the equipment permitted under APCD2003-PTO-001267, APCD2003-PTO-000791, APCD2003-PTO-000792, APCD2003-PTO-000793, APCD2003-PTO-001770 and APCD2003-PTO-005238 shall not exceed any of the following mass emission limits according to the schedule based on the number of turbines that have undergone their initial startup as described in the following table:

<u>Number of Turbines Started</u>	<u>NOx(ton/yr)</u>	<u>PM10 (ton/yr)</u>
1	No Limit	No Limit
2	No Limit	No Limit
3	41.57	No Limit
4	27.42	27.6
5	13.27	22.9
6	0.00	18.2

For the purposes of this condition, emissions shall be calculated on a rolling 12-calendar-month basis beginning with the calendar month in which 180 days has passed since the latest initial startup from among the indicated number of turbines. Once a turbine has undergone its initial startup, it is included in determining the number of turbines started from the initial startup date going forward. All calculations performed to show compliance with this limit shall be performed according to a protocol approved in advance by the District. [Rules 20.3(d)(2), 20.3(d)(5), 20.3(d)(8), and 21]

**Verification:** This condition requires the existing Encina boilers and turbine to cease operations once the amended CECP is operational. The project owner shall provide emissions summary data in compliance with this condition as part of the Quarterly Operation Reports (**AQ-SC8**). The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-48** For each calendar month and each rolling 12-calendar-month period, the project owner shall maintain records, as applicable, on a calendar monthly basis, of mass emissions during each calendar month and rolling 12-calendar-month period of NO<sub>x</sub> calculated as NO<sub>2</sub>, CO, VOCs calculated as methane, PM10, and SO<sub>x</sub> calculated as SO<sub>2</sub>, in tons, from each emission unit located at this stationary source, except for emissions or emission units excluded from the calculation of aggregate potential to emit as specified in Rule 20.1 (d)(1) as it exists on the date the permit to operate for this equipment is approved. These records shall be made available for inspection within 15 calendar days after the end of each calendar month. [Rules 20.3(d)(3), 20.3(d)(8) and 21]

**Verification:** The project owner shall provide emissions summary data in compliance with this condition as part of the Quarterly Operation Reports (**AQ-SC8**). The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-49** For each combustion turbine, the number of annual operating hours in each calendar year shall not exceed 2,700. For the purposes of this condition, the number of operating hours shall be calculated as the total number of unit operating minutes divided by 60 rounded to the nearest hundredth of an hour. [Rules 1200, 20.3(d)(2) and 21]

**Verification:** The project owner shall submit facility annual operating data demonstrating compliance with this condition as part of the fourth quarter's Quarterly Operation Reports (**AQ-SC8**).

**AQ-50** For each combustion turbine, the number of startup periods occurring in each calendar year shall not exceed 400. When determining compliance with this limit, any startup that occurs during the commissioning period shall not be included. [Rules 1200, 20.3(d)(2) and 21]

**Verification:** The project owner shall submit facility annual operating data demonstrating compliance with this condition as part of the fourth quarter's Quarterly Operation Reports (**AQ-SC8**).

**AQ-51** For each combustion turbine, the number of startup periods occurring during its commissioning period shall not exceed 350. [Rules 1200, 20.3(d)(2) and 21]

**Verification:** The project owner shall submit facility annual operating data demonstrating compliance with this condition as part of the fourth quarter's Quarterly Operation Reports (**AQ-SC8**).

## **AMMONIA – SCR**

**AQ-52** Not later than 90 calendar days prior to the start of construction, unless a later date is approved in writing by the District, the project owner shall submit to the District the final selection, design parameters and details of the selective catalytic reduction (SCR) and oxidation catalyst emission control systems for the combustion turbines including, but not limited to, the minimum temperature for the SCR catalyst at which ammonia injection is feasible; the catalyst volume, catalyst material, catalyst manufacturer, space velocity and area velocity at full load; and control efficiencies of the SCR for controlling NOx emissions and the oxidation catalyst for controlling CO and VOC emissions at temperatures between the minimum and maximum operating temperatures at space velocities corresponding to 100 percent and 25 percent load. Such information may be submitted to the District as trade secret and confidential pursuant to District Rules 175 and 176. [Rules 20.3(d)(1) and 14]

**Verification:** The project owner shall submit to the CPM for review and District for approval final selection, design parameters and details of the SCR and oxidation catalyst emission control systems at least 90 days prior to the start of construction.

**AQ-53** When a combustion turbine is operating, ammonia shall be injected at all times that the associated selective catalytic reduction (SCR) system catalyst outlet temperature is 540 degrees Fahrenheit or greater. [Rule 20.3 (d)(1)]

**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-54** Continuous monitors shall be installed on each SCR system prior to their initial operation to monitor or calculate, and record the ammonia solution injection rate in pounds per hour and the SCR outlet temperature in degrees Fahrenheit for each unit operating minute. The monitors shall be installed, calibrated and maintained in accordance with a District approved protocol, which may be part of the CEMS protocol. This protocol, which shall include the calculation methodology, shall be submitted to the District for written approval at least 90 days prior to initial startup of the gas turbines with the SCR system, unless a later date is approved in writing by the District. The monitors shall be in full operation at all times when the turbine is in operation. [Rule 20.3(d)(1)]

**Verification:** The project owner shall submit to the CPM for review and the District for approval a turbine operation monitoring protocol in compliance with this condition at least 90 days prior to the initial startup.

**AQ-55** Except during periods when the ammonia injection system is being tuned or one or more ammonia injection systems is in manual control for compliance with applicable permit conditions, the automatic ammonia injection system serving each SCR system shall be in operation in accordance with manufacturer's specifications at all times when ammonia is being injected into the SCR system. Manufacturer specifications shall be maintained on site and made available to District personnel upon request. [Rule 20.3(d)(1)], 21]

**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-56** The concentration of ammonia solution used in the ammonia injection system shall be less than 20 percent ammonia by weight. Records of ammonia solution concentration shall be maintained on site and made available to District personnel upon request. [Rules 14, 21]

**Verification:** The project owner shall maintain on site and provide on request of the CPM or District the ammonia delivery records that demonstrate compliance with this condition.

Testing witnessed by the District, a proposed test protocol shall be submitted to the District for written approval at least 60 days prior to source testing. Additionally, the District shall be notified a minimum of 30 days prior to the test so that observers may be present unless otherwise authorized in writing by the District. [Rules 20.3(d)(1) and 1200 and 40 CFR Part 60 Subpart KKKK and 40 CFR.

## **TESTING**

**AQ-57** All source test or other tests required by this permit shall be performed by the District or an independent contractor approved by the District. Unless otherwise specified in this permit or authorized in writing by the District, if testing will be performed by an independent contractor and witnessed by the District, a proposed test protocol shall be submitted to the District for written approval at least 60 days prior to source testing. Additionally, the District shall be notified a minimum of 30 days prior to the test so that observers may be present unless otherwise authorized in writing by the District. [Rules 20.3(d)(1) and 1200 and 40 CFR Part 60 Subpart KKKK and 40 CFR §60.8]

**Verification:** The project owner shall submit to the CPM for review and the District for approval the initial source test protocol at least 60 days prior to the initial source test. The project owner shall notify the CPM and District no later than 30 days prior to the proposed source test date and time.

**AQ-58** Unless otherwise specified in this permit or authorized in writing by the District, within 45 days after completion of a source test or Relative Accuracy Test Audit (RATA) performed by an independent contractor, a final test report shall be submitted to the District for review and approval. [Rules 20.3(d)(1) and 1200 and 40 CFR Part 60 Subpart KKKK, 40 CFR §60.8, and 40 CFR Part 75]

**Verification:** The project owner will submit all RATA or source test reports to the CPM for review and the District for approval within 45 days of the completion of those tests.

**AQ-59** All testing conducted to measure concentrations or emissions of Volatile Organic Compounds (VOCs) shall include measurement of formaldehyde and the result shall be added to the result determined for other VOC concentrations or emissions, as applicable. Measurement of VOC emissions shall be conducted in accordance with EPA Method 18, or alternative methods approved by the District and EPA. Measurement of emissions of formaldehyde shall be conducted in accordance with EPA Method 316 or 323, or an alternative method approved by the District and EPA.

**Verification:** The project owner shall submit to the CPM for review and the District for approval the initial source test protocol and source test report within the timeframes specified in Conditions **AQ-57** and **AQ-58**.

**AQ-60** The exhaust stacks for each combustion turbine shall be equipped with source test ports and platforms to allow for the measurement and collection of stack gas samples consistent with all approved test protocols. The ports and platforms shall be constructed in accordance with District Method 3A, Figure 2, and approved by the District. Ninety days prior to construction of the turbine stacks the project owner shall provide to the District for written approval detailed plan drawings of the turbine stacks that show the sampling ports and demonstrate compliance with the requirements of this condition. [Rule 20]

**Verification:** The project owner shall submit to the CPM for review and District for approval a stack test port and platform plan at least 90 days before the construction of the turbine stacks.

**AQ-61**

Not later than 60 calendar days after completion of the commissioning period for each combustion turbine, an Initial Emissions Source Test shall be conducted on that turbine to demonstrate compliance with the NO<sub>x</sub>, CO, VOC, PM<sub>10</sub>, and ammonia emission standards of this permit. The source test protocol shall comply with all of the following requirements:

- a. Measurements of NO<sub>x</sub> and CO concentrations and emissions and oxygen (O<sub>2</sub>) concentration shall be conducted in accordance with U.S. Environmental Protection Agency (EPA) methods 7E, 10, and 3A, respectively, and District source test Method 100, or alternative methods approved by the District and EPA;
- b. Measurement of VOC concentrations and emissions, except for formaldehyde, shall be conducted in accordance with EPA Method 18, or an alternative method approved by the District and EPA;
- c. Measurement of formaldehyde concentrations and emissions shall be conducted in accordance with EPA Method 316 or 323, as specified by the District, or an alternative method approved by the District and EPA;
- d. Total VOC concentrations and emissions shall be the sum of those concentrations and emissions determined using Method 18 and the formaldehyde concentrations and emissions;
- e. Measurements of ammonia concentrations shall be conducted in accordance with Bay Area Air Quality Management District Method ST-1B or an alternative method approved by the District and EPA;
- f. Measurements of PM<sub>10</sub> emissions shall be conducted in accordance with EPA Methods 201A and 202 or an alternative method approved by the district and EPA;
- g. Source testing shall be performed at the normal load level, as specified in 40 CFR Part 75 Appendix A Section 6.5.2.1 (d), provided it is not less than 80 percent of the combustion turbine's rated load unless it is demonstrated to the satisfaction of the District that the combustion turbine cannot operate under these conditions . If the demonstration is accepted, then emissions source testing shall be performed at the highest achievable continuous power level. The District may specify additional testing at different load levels or operational conditions to ensure compliance with the emission and concentration limits of this permit and District Rules and Regulations;

- h. Measurements of particulate matter emissions shall be conducted in accordance with SDAPCD Method 5 or an alternative method approved by the District and EPA;
- i. Measurements of opacity shall be conducted in accordance with EPA Method 9 or an alternative method approved by the District and EPA; and
- j. Unless otherwise authorized in writing by the District, testing for NO<sub>x</sub>, CO, VOC, PM10 and ammonia concentrations and emissions, as applicable, shall be conducted concurrently with the NO<sub>x</sub> and CO continuous emission measurement system (CEMS) Relative Accuracy Test Audit (RATA).

[Rule 20.3(d)(1) and 1200]

**Verification:** The project owner shall submit to the CPM for review and the District for approval the initial source test protocol and source test report within the timeframes specified in Conditions **AQ-57** and **AQ-58**.

**AQ-62** A renewal source test and a NO<sub>x</sub> and CO Relative Accuracy Test Audit (RATA) shall be periodically conducted on each combustion turbine to demonstrate compliance with the NO<sub>x</sub>, CO, VOC, PM10, and ammonia emission standards of this permit and applicable relative accuracy requirements for the CEMS systems using District approved methods. The renewal source test and the NO<sub>x</sub> and CO RATAs shall be conducted in accordance with the applicable RATA frequency requirements of 40 CFR 75, Appendix B, Sections 2.3.1 and 2.3.3. The renewal source test shall be conducted in accordance with a protocol complying with all the applicable requirements of the source test protocol for the Initial Emissions Source Test. [Rules 69.3, 69.3.1, and 20.3(d)(1) and 40 CFR Part 60 Subpart KKKK, and 40 CFR Part 75]

**Verification:** The project owner shall submit to the CPM for review and the District for approval the periodic RATA and source test protocols, and RATA source test reports within the timeframes specified in Conditions **AQ-57** and **AQ-58**.

**AQ-63** Relative Accuracy Test Audit (RATAs) and all other required certification tests shall be performed and completed on the NO<sub>x</sub> CEMS in accordance with applicable provisions of 40 CFR Part 75 Appendix A and B and 40 CFR §60.4405 and on the CO CEMS in accordance with applicable provisions of 40 CFR Part 60 Appendix B and F. [Rule 21, Rule 20.3 (d)(1), 40 CFR Part 60 Subpart KKKK and 40 CFR Part 75]



**Verification:** The results and field data collected during source tests required by this condition shall be submitted to the CPM for review and the District for approval as required by Condition **AQ-58**.

**AQ-64** Not later than 60 calendar days after completion of the commissioning period for each combustion turbine, an initial emission source test for toxic air contaminants shall be conducted on that turbine to determine the emissions of toxic air contaminants from the combustion turbine. At a minimum the following compounds shall be tested for, and emissions, if any, quantified:

- a. Acetaldehyde
- b. Acrolein
- c. Benzene
- d. Formaldehyde
- e. Toluene
- f. Xylenes

This list of compounds may be adjusted by the District based on source test results to ensure compliance with District Rule 1200 and other conditions of this permit are demonstrated. The District may require one or more or additional compounds to be quantified through source testing as needed to ensure compliance with Rule 1200 and other conditions of this permit. Within 60 calendar days after completion of a source test performed by an independent contractor, a final test report shall be submitted to the District for review and approval. [Rule 1200]

**Verification:** The results and field data collected during source tests required by this condition shall be submitted to the CPM for review and the District for approval within 60 days of testing.

**AQ-65** The District may require one or more of the following compounds, or additional compounds to be quantified through source testing periodically to ensure compliance with Rule 1200 and other conditions of this permit and to quantify toxic emissions:

- a. Acetaldehyde
- b. Acrolein
- c. Benzene
- d. Formaldehyde
- e. Toluene
- f. Xylenes

If the District requires the project owner to perform this source testing, the District shall request the testing in writing a reasonable period of time prior to the testing date. [Rule 1200, California H&S Code §41510]

**Verification:** The results and field data collected during source tests required by the District under this condition shall be submitted to the CPM for review and the District for approval within 60 days of testing.

**AQ-66** The higher heating value of the combustion turbine fuel shall be measured by ASTM D1826–94, Standard Test Method for Calorific Value of Gases in Natural Gas Range by Continuous Recording Calorimeter or ASTM D1945–96, Standard Method for Analysis of Natural Gas by Gas Chromatography or an alternative test method approved by the District and EPA. [Rules 69.3, 69.3.1, and 20.3(d)(1) and 40 CFR Part 60 Subpart KKKK, and 40 CFR Part 75]

**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-67** The sulfur content of the combustion turbine fuel shall be sampled not less than once each calendar quarter in accordance with a protocol approved by the District, which shall be submitted to the District for approval not later than 90 days before the earliest initial startup date for any of the combustion turbines and measured with ASTM D1072–90 (Reapproved 1994), Standard Test Method for Total Sulfur in Fuel Gases; ASTM D3246–05, Standard Test Method for Sulfur in Petroleum Gas by Oxidative Microcoulometry; ASTM D4468–85 (Reapproved 2000), Standard Test Method for Total Sulfur in Gaseous Fuels by Hydrogenolysis and Rateometric Colorimetry; ASTM D6228–98 (Reapproved 2003), Standard Test Method for Determination of Sulfur Compounds in Natural Gas and Gaseous Fuels by Gas Chromatography and Flame Photometric Detection; or ASTM D6667–04, Standard Test Method for Determination of Total Volatile Sulfur in Gaseous Hydrocarbons and Liquefied Petroleum Gases by Ultraviolet Fluorescence or an alternative test method approved by the District and EPA. [Rule 20.3 (d)(1), Rule 21, and 40 CFR Part 75]

**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

## CONTINUOUS MONITORING

**AQ-68** The project owner shall comply with the applicable continuous emission monitoring requirements of 40 CFR Part 75 and 40 CFR Part 60. [40 CFR Part 75 and 40 CFR Part 60]

**Verification:** The project owner shall maintain a copy of the CEMS protocol required by **AQ-70** on site and provide it, other CEMS data, and the CEMS for inspection on request by representatives of the District, ARB, and the Energy Commission.

**AQ-69** A continuous emission monitoring system (CEMS) shall be installed on each combustion turbine and properly maintained and calibrated to measure, calculate, and record the following, in accordance with the District approved CEMS protocol:

- a. Clock-hourly average concentration of oxides of nitrogen ( $\text{NO}_x$ ) in parts per million (ppmvd) both uncorrected and corrected to 15 percent oxygen;
- b. Clock-hourly average concentration of carbon monoxide (CO) in parts per million (ppmvd) both uncorrected and corrected to 15 percent oxygen;
- c. Percent oxygen ( $\text{O}_2$ ) in the exhaust gas for each unit operating minute;
- d. Clock-hourly mass emissions of oxides of nitrogen ( $\text{NO}_x$ ) calculated as  $\text{NO}_2$ , in pounds;
- e. Cumulative mass emissions of oxides of nitrogen ( $\text{NO}_x$ ) calculated as  $\text{NO}_2$  in each startup and shutdown period, in pounds;
- f. Calendar-daily mass emissions of oxides of nitrogen ( $\text{NO}_x$ ) calculated as  $\text{NO}_2$ , in pounds;
- g. Calendar monthly mass emissions of oxides of nitrogen ( $\text{NO}_x$ ) calculated as  $\text{NO}_2$ , in pounds;
- h. Rolling four unit operating hour average concentration of oxides of nitrogen ( $\text{NO}_x$ ) in parts per million (ppmvd) corrected to 15 percent oxygen;
- i. Rolling four unit operating hour average emission rate of oxides of nitrogen ( $\text{NO}_x$ ), calculated as  $\text{NO}_2$ , in pounds per megawatt-hour (lb/MWh);
- j. Calendar quarter, calendar year, and rolling 12-calendar-month period mass emissions of oxides of nitrogen ( $\text{NO}_x$ ) calculated as  $\text{NO}_2$ , in tons;

- k. Cumulative mass emissions of carbon monoxide (CO) in each startup and shutdown period, in pounds;
- l. Clock-hourly mass emissions of carbon monoxide (CO), in pounds;
- m. Calendar-daily mass emission of carbon monoxide (CO), in pounds;
- n. Calendar-monthly mass emission of carbon monoxide (CO), in pounds;
- o. Rolling 12-calendar-month period mass emission of carbon monoxide (CO), in tons;
- p. Average concentration of oxides of nitrogen (NO<sub>x</sub>) and carbon monoxide (CO) in parts per million (ppmvd) both uncorrected and corrected to 15 percent oxygen during each unit operating minute; and
- q. Average emission rate in pounds per hour of oxides of nitrogen (NO<sub>x</sub>) calculated as NO<sub>2</sub> and carbon monoxide (CO) during each unit operating minute.

[Rules 69.3, 69.3.1, and 20.3(d)(1) and 40 CFR Part 60 Subpart KKKK, and 40 CFR Part 75]

**Verification:** The project owner shall submit to the CPM for review and the District for approval a CEMS protocol, as required by **AQ-70**, which includes description of the methods of compliance with the requirements of this condition. The project owner shall make the site available for inspection of records and equipment by representatives of the District, ARB, and the Energy Commission.

**AQ-70** No later than 90 calendar days prior to initial startup of each combustion turbine, the project owner shall submit a CEMS protocol to the District, for written approval that shows how the CEMS will be able to meet all District monitoring requirements. [Rules 69.3, 69.3.1, and 20.3(d)(1) and 40 CFR Part 60 Subpart KKKK, and 40 CFR Part 75]

**Verification:** The project owner shall submit to the CPM for review and the District for approval a CEMS operating protocol at least 90 days prior to the initial startup of each combustion turbine.

**AQ-71** No later than the earlier of 90 unit operating days or 180 calendar days after each combustion turbine commences commercial operation, a Relative Accuracy Test Audit (RATA) and other required certification tests shall be performed and completed on that turbine's NO<sub>x</sub> CEMS in accordance with 40 CFR Part 75 Appendix A and on the CO CEMS in accordance with 40 CFR Part 60 Appendix B. The RATAs shall

demonstrate that the NO<sub>x</sub> and CO CEMS comply with the applicable relative accuracy requirements. At least 60 calendar days prior to the test date, the project owner shall submit a test protocol to the District for written approval. Additionally, the District and U.S. EPA Region 9 shall be notified a minimum of 45 calendar days prior to the test so that observers may be present. Within 45 calendar days of completion of this test, a written test report shall be submitted to the District for approval. For purposes of this condition, commences commercial operation is defined as the first instance when power is sold to the electrical grid. [Rules 69.3, 69.3.1, and 20.3(d)(1) and 40 CFR Part 60 Subpart KKKK, and 40 CFR Part 75]

**Verification:** The project owner shall submit to the CPM for review and the District for approval the RATA certification test protocol at least 60 days prior to the RATA test and shall notify the CPM, the U.S. EPA Region 9, and District of the RATA test date at least 45 days prior to conducting the RATA and other certification tests. The project owner will submit all RATA or source test reports to the CPM for review and the District for approval within 45 days of the completion of those tests.

**AQ-72** A monitoring plan in conformance with 40 CFR 75.53 shall be submitted to U.S. EPA Region 9 and the District at least 45 calendar days prior to the Relative Accuracy Test Audit (RATA), as required in 40 CFR 75.62. [40 CFR Part 75]

**Verification:** The project owner shall submit to the CPM for review and the District and the U.S. EPA Region 9 for approval a monitoring plan in compliance with this condition at least 45 days prior to the RATA test.

**AQ-73** The oxides of nitrogen (NO<sub>x</sub>) and oxygen (O<sub>2</sub>) components of the CEMS shall be certified and maintained in accordance with applicable Federal Regulations including the requirements of sections 75.10 and 75.12 of title 40, Code of Federal Regulations Part 75 (40 CFR 75), the Performance Specifications of Appendix A of 40 CFR 75, the Quality Assurance procedures of Appendix B of 40 CFR 75 and the CEMS protocol approved by the District. The carbon monoxide (CO) components of the CEMS shall be certified and maintained in accordance with 40 CFR 60, Appendices B and F, unless otherwise specified in this permit, and the CEMS protocol approved by the District. [Rules 69.3, 69.3.1, and 20.3(d)(1) and 40 CFR Part 60 Subpart KKKK, and 40 CFR Part 75]

**Verification:** The project owner shall submit to the CPM for review and the District for approval a CEMS protocol, as required by **AQ-70**, which includes description of the

methods of compliance with the requirements of this condition. The project owner shall make the site available for inspection of records and equipment by representatives of the District, ARB, and the Energy Commission.

**AQ-74** The CEMS shall be in operation in accordance with the District approved CEMS protocol at all times when the turbine is in operation. A copy of the District approved CEMS monitoring protocol shall be maintained on site and made available to District personnel upon request. [Rules 69.3, 69.3.1, and 20.3(d)(1) and 40 CFR Part 60 Subpart KKKK, and 40 CFR Part 75]

**Verification:** The project owner shall make the site available for inspection of records and equipment by representatives of the District, ARB, and the Energy Commission.

**AQ-75** When the CEMS is not recording data and the combustion turbine is operating, hourly NO<sub>x</sub> emissions for purposes of calendar year and rolling 12-calendar-month period emission calculations shall be determined in accordance with 40 CFR 75 Subpart C. Additionally, hourly CO emissions for rolling 12-calendar-month period emission calculations shall be determined using CO emission factors to be determined from source test emission factors, recorded CEMS data, and fuel consumption data, in terms of pounds per hour of CO for the gas turbine. Emission calculations used to determine hourly emission rates shall be reviewed and approved by the District, in writing, before the hourly emission rates are incorporated into the CEMS emission data. [Rules 20.3(d)(3) and 21 and 40 CFR Part 75]

**Verification:** The project owner shall provide the District for approval and the CPM for review all emission calculations required by this condition, in a manner and time required by the District, and shall provide notation of when such calculations are used in place of operating CEMS data in the Quarterly Operation Reports **(AQ-SC8)**.

**AQ-76** Any violation of any emission standard as indicated by the CEMS shall be reported to the District's compliance division within 96 hours after such occurrence. [Rule 19.2]

**Verification:** The project owner shall notify the District regarding any emission standard violation as required in this condition and shall document all such occurrences in each Quarterly Operation Report **(AQ-SC8)**.

**AQ-77** The CEMS shall be maintained and operated, and reports submitted, in accordance with the requirements of Rule 19.2 Sections (d), (e), (f)(1),

(f)(2), (f)(3), (f)(4) and (f)(5), and a CEMS protocol approved by the District. [Rule 19.2]

**Verification:** The project owner shall submit to the District the CEMS reports as required in this condition and shall make the site available for inspection of records and equipment by representatives of the District, ARB, and the Energy Commission.

**AQ-78** Except for changes that are specified in the initial approved CEMS protocol or a subsequent revision to that protocol that is approved in advance, in writing by the District, the District shall be notified in writing at least 30 calendar days prior to any planned changes made in the CEMS or Data Acquisition and Handling System (DAHS), including, but not limited to, the programmable logic controller, software which affects the value of data displayed on the CEMS / DAHS monitors with respect to the parameters measured by their respective sensing devices and any planned changes to the software that controls the ammonia flow to the SCR. Unplanned or emergency changes shall be reported within 96 hours. [Rules 69.3, 69.3.1, and 20.3(d)(1) and 40 CFR Part 60 Subpart KKKK, and 40 CFR Part 75]

**Verification:** The project owner shall submit to the CPM for review and the District for approval any revision to the CEMS/DAHS or ammonia flow control software, as required by this condition, to be approved in advance at least 30 days before any planned changes are made. The project owner shall notify the District regarding any unplanned emergency changes to these software systems within 96 hours and shall document all such occurrences in each Quarterly Operation Report (**AQ-SC8**).

**AQ-79** At least 90 calendar days prior to the Initial Emissions Source Test, the project owner shall submit a monitoring protocol to the District for written approval which shall specify a method of determining the VOC/CO surrogate relationship that shall be used to demonstrate compliance with all VOC limits when using CEMS data. This protocol can be provided as part of the Initial Source Emissions Testing Protocol. [Rule 20.3 (d)(1)]

**Verification:** The project owner shall submit to the CPM for review and the District for approval the monitoring protocol as part of the initial source test protocol in compliance with requirements of this condition at least 90 days prior to the initial source test.

**AQ-80** Fuel flowmeters shall be installed and maintained to measure the fuel flow rate, corrected for temperature and pressure, to each combustion turbine. Correction factors and constants shall be maintained on site and made available to the District upon request. The fuel flowmeters shall meet the applicable quality assurance requirements of 40 CFR Part 75, Appendix

D, Section 2.1.6. [Rules 69.3, 69.3.1, and 20.3(d)(1) and 40 CFR Part 60 Subpart KKKK, and 40 CFR Part 75]

**Verification:** The project owner shall submit to the CPM the natural gas usage data from the fuel flow meters as part of the Quarterly Operation Report (**AQ-SC8**).

**AQ-81** Each combustion turbine shall be equipped with continuous monitors to measure, calculate and record unit operating days, hours, and minutes and the following operational characteristics:

- a. Date and time;
- b. Natural gas flow rate to the combustion turbine during each unit operating minute, in standard cubic feet per hour;
- c. Total heat input to the combustion turbine based the fuels higher heating value during each unit operating minute, in million British thermal units per hour (MMBtu/hr);
- d. Higher heating value of the fuel on an hourly basis, in British thermal units per standard cubic foot (Btu/scf);
- e. Stack exhaust gas temperature during each unit operating minute, in degrees Fahrenheit;
- f. Gross electrical power output during each unit operating minute in megawatts (MW); and
- g. Water injection rate in gallons per minute (gpm) or pounds per hour (lb/hr).

The values of these operational characteristics shall be recorded each unit operating minute. The monitors shall be installed, calibrated, and maintained in accordance with a turbine operation monitoring protocol, which may be part of the CEMS protocol, approved by the District, which shall include any relevant calculation methodologies. The monitors shall be in full operation at all times when the combustion turbine is in operation. Calibration records for the continuous monitors shall be maintained on site and made available to the District upon request. [Rules 69.3, 69.3.1, and 20.3(d)(1) and 40 CFR Part 60 Subpart KKKK, and 40 CFR Part 75]

**Verification:** The project owner shall submit to the CPM for review and the District for approval a turbine operation monitoring protocol in compliance with this condition and within the timeframes specified in **AQ-82** and the project owner shall make the site available for inspection of records and equipment required in this condition by representatives of the District, ARB, and the Energy Commission.



**AQ-82** At least 90 calendar days prior to initial startup of each combustion turbine, the project owner shall submit a turbine monitoring protocol to the District for written approval. This may be part of the CEMS protocol. [Rules 69.3, 69.3.1, and 20.3(d)(1) and 40 CFR Part 60 Subpart KKKK, and 40 CFR Part 75]

**Verification:** The project owner shall submit to the CPM for review and the District for approval a turbine monitoring protocol in compliance with this condition at least 90 days prior to the initial startup of each combustion turbine.

**AQ-83** Operating logs or Data Acquisition and Handling System (DAHS) records shall be maintained to record the beginning and end times and durations of all startup and shutdown periods to the nearest minute, quantity of fuel used in each clock minute, clock hour, calendar month, and 12-calendar-month period in standard cubic feet; hours of operation each day; and hours of operation during each calendar year. For purposes of this condition, the hours of turbine operation is defined as the total minutes the turbine is combusting fuel during the calendar year divided by 60 rounded to the nearest hundredth of an hour. [Rules 69.3, 69.3.1, and 20.3(d)(1) and 40 CFR Part 60 Subpart KKKK, and 40 CFR Part 75]

**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

## **COMMISSIONING AND SHAKEDOWN**

**AQ-84** Before the end of the commissioning period for each combustion turbine, the project owner shall install post-combustion air pollution control equipment on that turbine to minimize NO<sub>x</sub> and CO emissions. Once installed, the post-combustion air pollution control equipment shall be maintained in good condition and shall be in full operation at all times when the turbine is combusting fuel and the air pollution control equipment is at or above its minimum operating temperature. [Rule 20.3(d)(1)]

**Verification:** The project owner shall provide the CPM District records demonstrating compliance with this condition as part of the monthly commissioning status report (**AQ-85**).

**AQ-85** Within 30 calendar days after the end of the commissioning period for each combustion turbine, the project owner shall submit a written report to the District. This report shall include, at a minimum, the date the commissioning period started and ended, the dates and times of all startup and shutdown periods, the emissions of NO<sub>x</sub> and CO during other

periods, and the emissions of NO<sub>x</sub> and CO during steady state operation. This report shall also detail any turbine or emission control equipment malfunction, upset, repairs, maintenance, modifications, or replacements affecting emissions of air contaminants that occurred during the commissioning period. All of the following continuous monitoring information shall be reported for each minute and, except for cumulative mass emissions during startup and shutdown periods, averaged over each hour of operation:

- a. Concentration of oxides of nitrogen (NO<sub>x</sub>) in parts per million (ppmvd) both uncorrected and corrected to 15 percent oxygen;
- b. Concentration of carbon monoxide (CO) in parts per million (ppmvd) both uncorrected and corrected to 15 percent oxygen;
- c. Percent oxygen (O<sub>2</sub>) in the exhaust gas;
- d. Mass emissions of oxides of nitrogen (NO<sub>x</sub>) calculated as NO<sub>2</sub>, in pounds;
- e. Cumulative mass emissions of oxides of nitrogen (NO<sub>x</sub>) calculated as NO<sub>2</sub> in each startup and shutdown period, in pounds;
- f. Cumulative mass emissions of carbon monoxide (CO) in each startup and shutdown period, in pounds;
- g. Mass emissions of carbon monoxide (CO), in pounds;
- h. Total heat input to the combustion turbine based on the fuel's higher heating value, in million British thermal units per hour (MMBtu/hr);
- i. Higher heating value of the fuel on an hourly basis, in British thermal units per standard cubic foot (Btu/scf);
- j. Gross electrical power output of the turbine, in megawatts (MW);
- k. SCR outlet temperature, in degrees Fahrenheit;
- l. Water injection rate in gallons per minute (gpm) or pounds per hour (lb/hr); and
- m. Ammonia injection rate in pounds per hour (lb/hr).

The hourly average information shall be submitted in writing and in an electronic format approved by the District. The minute-by-minute

information shall be submitted in an electronic format approved by the District. [Rules 69.3, 69.3.1, 20.3(d)(1) and 20.3(d)(2)]

**Verification:** A log of the dates, times, and cumulative unit operating hours when fuel is being combusted during the commissioning period shall be maintained by the project owner. The project owner shall submit, commencing one month from the time of gas turbine first fire, a monthly commissioning status report throughout the duration of the commissioning phase that demonstrates compliance with the requirements listed in this condition. The monthly commissioning status report shall be submitted to the CPM by the tenth of each month for the previous month, for all months with turbine commissioning activities following the turbine first fire date. The project owner shall also provide the reporting required by this condition to the District and CPM within 30 day of completing commissioning of each turbine. The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-86** For each combustion turbine, the project owner shall submit the following notifications to the District and U.S. EPA, Region 9:

- a. A notification in accordance with 40 CFR Section 60.7(a)(1) delivered or postmarked not later than 30 calendar days after construction has commenced;
- b. A notification in accordance with 40 CFR Section 60.7(a)(3) delivered or postmarked within 15 calendar days after initial startup; and
- c. An Initial Notification in accordance with 40 CFR Section 63.6145(c) and 40 CFR Section 63.9(b)(2) submitted no later than 120 calendar days after the initial startup of the turbine.

In addition, the project owner shall notify the District when: (1) construction is complete by submitting a Construction Completion Notice before operating any unit that is the subject of this permit, (2) each combustion turbine first combusts fuel by submitting a First Fuel Fire Notice within five calendar days of the initial operation of the unit, and (3) each combustion turbine first generates electrical power that is sold by providing written notice within five days of this event.

[Rules 24 and 21 and 40 CFR Part 75, 40 CFR Part 60 Subpart KKKK, 40 CFR Part §60.7, 40 CFR Part 63 Subpart YYYY, and 40 CFR Part §63.9.]

**Verification:** The project owner shall provide notification to the District and U.S. EPA Region 9 as required by this condition and shall provide copies of these notifications as

part of the final monthly commissioning status reports (**AQ-85**) due the month after the notifications are sent.

## **REPORTING**

**AQ-87** The project owner shall file semiannual reports in accordance with 40 CFR §60.4375. [40 CFR Part 60 Subpart KKKK]

**Verification:** None required.

**AQ-88** Each semiannual report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31. Each such semiannual compliance report shall be postmarked or delivered no later than January 30 or July 30, whichever date is the first date following the end of the semiannual reporting period. [40 CFR Part 60 Subpart KKKK and Rule 21]

**Verification:** The project owner shall provide the District's Compliance Division the semi-annual reports required in this condition within the due dates specified in this condition, shall provide summaries of these semi-annual reports in the Quarterly Operation Reports (**AQ-SC8**) following each semi-annual report, and shall provide full copies of these reports to the CPM upon request.

**AQ-89** All semiannual compliance reports shall be submitted to the District Compliance Division [40 CFR §60.7]

**Verification:** None required.

**AQ-90** Within 120 days of startup of each gas turbine, the owner or operator shall submit an initial notification to US EPA Region 9 in accordance with 40 CFR 63.6145(c) with the information specified in 40 CFR 63.6145(d). [40 CFR 63 Subpart YYYY]

**Verification:** The project owner shall provide a copy of the initial notification required by this condition to the CPM as part of the Quarterly Operation Reports (**AQ-SC8**).

## **CONDITIONS FOR EMERGENCY FIRE PUMP ENGINE**

### **2014-APP-003481**

Emergency fire-pump diesel engine: John Deere/Clark model JW6H-UFADF0; S/N TBD; EPA certified Tier 3, family EJDXL09.0114; 327 bhp rated at 1760 rpm; turbocharged with charge air cooler for emission control; driving an emergency fire-pump.

**AQ-91** The exhaust stack for the emergency fire pump engine shall be a minimum of 20 feet in height above grade and a maximum of 0.5 feet in diameter at the point of release and shall not be equipped with a rain cap unless it is of flapper valve design. [Rules 1200, 20.3(d)(2)]

**Verification:** The project owner shall submit to the CPM for review the exhaust stack specification at least 60 days before the installation of the stack.

**AQ-92** The engine shall be EPA certified to the applicable emissions requirements for emergency fire pump engines of 40 CFR Part 60 Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, based on the power rating of the engine and the engine model year. 40 CFR Part 60 Subpart IIII, and 40 CFR Part 63 Subpart ZZZZ, 17 CCR §93115]

**Verification:** The project owner shall provide to the CPM for review and approval engine documentation demonstrating compliance with the condition at least 30 days prior to purchasing the engine.

**AQ-93** This EPA certified engine shall be installed, configured, operated and maintained according to the manufacturer's emission related instructions. The owner or operator may not change any emission related settings unless those changes are permitted by the manufacturer and do not affect the engine's compliance with the emission standards to which it is certified. [40 CFR 60 subpart IIII]

**Verification:** The project owner shall make the site available for inspection of equipment and records by representatives of the District, ARB, and the Energy Commission.

**AQ-94** The engine shall be operated exclusively during emergencies as defined in Rule 69.4.1, 40 CFR Part 60 Subpart IIII or 17 CCR §93115 as applicable, or for maintenance and testing.

**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-95** Engine operation for maintenance and testing purposes shall not exceed 35 hours per calendar year unless otherwise required by the National Fire Protection Association (NFPA) Section 25. [Rules 69.4.1, 40 CFR Part 60 Subpart IIII, 17 CCR §93115]

**Verification:** The project owner shall submit to the CPM the fire pump engine operating data demonstrating compliance with this condition as part of the Quarterly Operation Report (**AQ-SC8**).

**AQ-96** The engine shall only use CARB Diesel Fuel. [Rules 20.3(d)(1), 69.4.1, and 17 CCR §93115]

**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-97** Visible emissions including crankcase smoke shall comply with Air Pollution Control District Rule 50. [Rule 50]

**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-98** The equipment described above shall not cause or contribute to public nuisance. [Rule 51]

**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-99** This engine shall not operate for non-emergency use during the following periods, as applicable:

- A. Whenever there is any school sponsored activity, if engine is located on school grounds or
- B. Between 7:30 and 3:30 PM on days when school is in session, if the engine is located within 500 feet of, but not on school grounds.

This condition shall not apply to an engine located at or near any school grounds that also serve as the student's place of residence. [17 CCR §93115]

**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-100** A non-resettable engine hour meter shall be installed on this engine, maintained in good working order, and used for recording engine operating hours. If a meter is replaced, the Air Pollution Control District's Compliance Division shall be notified in writing within ten calendar days. The written notification shall include the following information:

- A. Old meter's hour reading.
- B. Replacement meter's manufacturer name, model, and serial number if available and current hour reading on replacement meter.
- C. Copy of receipt of new meter or of installation work order.

A copy of the meter replacement notification shall be maintained on site and made available to the Air Pollution Control District upon request. [Rule 69.4.1, 17 CCR §93115, and 40 CFR Part 60 Subpart IIII]

**Verification:** The project owner shall provide notification to the District as required by this condition and shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-101** The owner or operator shall conduct periodic maintenance of this engine and add-on control equipment, if any, as recommended by the engine and control equipment manufacturers or as specified by the engine servicing company's maintenance procedure. The periodic maintenance shall be conducted at least once each calendar year. [Rule 69.4.1 and 40 CFR Part 60 Subpart IIII]

**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-102** The owner or operator shall keep manuals of recommended maintenance as provided by the engine and control equipment manufacturers for at least the same period of time as the engine to which the records apply is located on site. [Rule 69.4.1 and 40 CFR Part 60 Subpart IIII]

**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-103** The owner or operator of this engine shall maintain records of all maintenance conducted on the engine, including a description of the maintenance and date the maintenance was performed. [Rule 69.4.1 and 40 CFR Part 60 Subpart IIII]

**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-104** The owner or operator shall maintain documentation for all fuel deliveries identifying the fuel as CARB diesel. [Rule 69.4.1, 17 CCR §93115, and 40 CFR Part 60 Subpart IIII]

**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-105** The owner or operator of this engine shall maintain a monthly operating log containing, at a minimum, the following:

- (a) Dates and times of engine operation, whether the operation was for compliance with the testing requirements of National Fire Protection

Association (NFPA) 25 or emergency use, and the nature of the emergency if known;

- (b) Hours of operation for all uses other than those specified above and identification of the nature of that use.

[Rule 69.4.1, 40 CFR 60 subpart IIII and 17 CCR §93115]

**Verification:** The project owner shall submit to the CPM the fire pump engine operating data demonstrating compliance with this condition as part of the Quarterly Operation Report (**AQ-SC8**).

## **CONDITIONS FOR EMERGENCY ENGINES (GENERATOR)**

### **District Application Number 2014-APP-003480**

Emergency diesel engine generator: Caterpillar model C15 ATAAC; S/N TBD; EPA Certified Tier 4i, family ECPXL15.2HZ; 779 bhp rated; turbocharged with charge air cooler and exhaust gas recirculation for emission control; driving a 500 kW generator.

**AQ-106** The exhaust stack for the emergency generator engine shall be a minimum of 70 feet in height above grade and a maximum of 0.46 feet in diameter at the point of release and shall not be equipped with a rain cap unless it is of flapper valve design. [Rules 1200, 20.3(d)(2)]

**Verification:** The project owner shall submit to the CPM for review the exhaust stack specification at least 60 days before the installation of the stack.

**AQ-107** The engine shall be EPA certified to the applicable emissions requirements for emergency engines of 40 CFR Part 60 Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, based on the power rating of the engine and the engine model year. [40 CFR Part 60 Subpart IIII, and 40 CFR Part 63 Subpart ZZZZ, 17 CCR §93115]

**Verification:** The project owner shall provide to the CPM for review and approval engine documentation demonstrating compliance with the condition at least 30 days prior to purchasing the engine.

**AQ-108** This EPA certified engine shall be installed, configured, operated and maintained according to the manufacturer's emission related instructions. The owner or operator may not change any emission related settings unless those changes are permitted by the manufacturer and do not affect the engine's compliance with the emission standards to which it is certified. [40 CFR 60 subpart IIII]



**Verification:** The project owner shall make the site available for inspection of equipment and records by representatives of the District, ARB, and the Energy Commission.

**AQ-109** The engine shall be operated exclusively during emergencies as defined in Rule 69.4.1, 40 CFR Part 60 Subpart IIII or 17 CCR §93115 as applicable, or for maintenance and testing.

**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-110** Engine operation for maintenance and testing purposes shall not exceed 50 hours per calendar year. [Rule 69.4.1, 40 CFR Part 60 Subpart IIII, 17 CCR §93115]

**Verification:** The project owner shall submit to the CPM the emergency generator engine operating data demonstrating compliance with this condition as part of the Quarterly Operation Report (**AQ-SC8**).

**AQ-111** The engine shall only use CARB Diesel Fuel. [Rules 20.3(d)(1), 69.4.1, and 17 CCR §93115]

**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-112** Visible emissions including crankcase smoke shall comply with Air Pollution Control District Rule 50. [Rule 50]

**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-113** The equipment described above shall not cause or contribute to public nuisance. [Rule 51]

**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-114** This engine shall not operate for nonemergency use during the following periods, as applicable:

- A. Whenever there is any school sponsored activity, if engine is located on school grounds or
- B. Between 7:30 and 3:30 PM on days when school is in session, if the engine is located within 500 feet of, but not on school grounds.

This condition shall not apply to an engine located at or near any school grounds that also serve as the student's place of residence. [17 CCR §93115]

**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-115** A non-resettable engine hour meter shall be installed on this engine, maintained in good working order, and used for recording engine operating hours. If a meter is replaced, the Air Pollution Control District's Compliance Division shall be notified in writing within ten calendar days. The written notification shall include the following information:

- A. Old meter's hour reading.
- B. Replacement meter's manufacturer name, model, and serial number if available and current hour reading on replacement meter.
- C. Copy of receipt of new meter or of installation work order.

A copy of the meter replacement notification shall be maintained on site and made available to the Air Pollution Control District upon request. [Rule 69.4.1, 17 CCR §93115, and 40 CFR Part 60 Subpart III]

**Verification:** The project owner shall provide notification to the District as required by this condition and shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-116** The owner or operator shall conduct periodic maintenance of this engine and add-on control equipment, if any, as recommended by the engine and control equipment manufacturers or as specified by the engine servicing company's maintenance procedure. The periodic maintenance shall be conducted at least once each calendar year. [Rule 69.4.1 and 40 CFR Part 60 Subpart III]

**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-117** The owner or operator shall keep manuals of recommended maintenance as provided by the engine and control equipment manufacturers for at least the same period of time as the engine to which the records apply is located on site. [Rule 69.4.1 and 40 CFR Part 60 Subpart III]

**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-118** The owner or operator of this engine shall maintain records of all maintenance conducted on the engine, including a description of the maintenance and date the maintenance was performed. [Rule 69.4.1 and 40 CFR Part 60 Subpart IIII]

**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-119** The owner or operator shall maintain documentation for all fuel deliveries identifying the fuel as CARB diesel. [Rule 69.4.1, 17 CCR §93115, and 40 CFR Part 60 Subpart IIII]

**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-120** The owner or operator of this engine shall maintain a monthly operating log containing, at a minimum, the following:

- (a) dates and times of engine operation; whether the operation was for maintenance and testing purposes or emergency use; and the nature of the emergency, if known;
- (b) hours of operation for all uses other than those specified above and identification of the nature of that use. [Rule 69.4.1, 40 CFR 60 subpart IIII and 17 CCR §93115]

**Verification:** The project owner shall submit to the CPM the emergency generator engine operating data demonstrating compliance with this condition as part of the Quarterly Operation Report (**AQ-SC8**).

**AQ-121** Within 120 days of startup of this engine, the owner or operator shall submit a notification to the District indicating that this source is a major source of HAP. [40 CFR 63 Subpart ZZZZ]

**Verification:** The project owner shall provide the notification as required to the District within the timeframe required and shall provide a copy of this notification to the CPM in the Quarterly Operation Report that follows the timing of the notification (**AQ-SC8**).

## **BIOLOGICAL RESOURCES**

The conditions of certification below include the approved conditions of certification from the licensed CECP and any modifications, additions or deletions required for the amended CECP. If compliance work has begun and no changes are required for the amended project, then the project owner need not duplicate those previous compliance activities. The compliance work already performed has been duly noted.

### **Designated Biologist Selection**

**BIO-1** The project owner shall assign a Designated Biologist to the project. The project owner shall submit the resume of the proposed Designated Biologist, with at least three references and contact information, to the compliance project manager (CPM) for approval.

The Designated Biologist must at least meet the following minimum qualifications:

1. bachelor's degree in biological sciences, zoology, botany, ecology, or a closely related field; and
2. three years of experience in field biology or current certification from a nationally recognized biological society, such as The Ecological Society of America or The Wildlife Society; and
3. at least one year of field experience with biological resources found in or near the project area.

In lieu of the above requirements, the resume shall demonstrate to the satisfaction of the CPM, that the proposed or alternate Designated Biologist has the appropriate training and background to implement effectively the project owner -proposed mitigation measures and conditions of certification.

**Verification:** The project owner shall submit the specified information at least 90 days prior to the start of any site (or related facilities) mobilization. No site or related facility activities shall commence until an approved Designated Biologist is available to be on site.

If a Designated Biologist needs to be replaced, the specified information of the proposed replacement must be submitted to the CPM at least ten working days prior to the termination or release of the preceding designated biologist. In an emergency, the project owner shall immediately notify the CPM to discuss the qualifications and approval of a short-term replacement while a permanent Designated Biologist is proposed to the CPM for consideration.

## **Designated Biologist Duties**

**BIO-2** The project owner shall ensure that the Designated Biologist performs the following during any site (or related facilities) mobilization, ground disturbance, grading, construction, operation, and closure activities. The Designated Biologist may be assisted by the approved biological monitor(s), but remains the contact for the project owner and CPM. The designated biologist shall:

1. advise the project owner's construction and operation managers on the implementation of the **Biological Resources** Conditions of Certification;
2. consult on the preparation of the Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP), to be submitted by the project owner;
3. be available to supervise, conduct, and coordinate mitigation, monitoring, and other biological resource compliance efforts, particularly in areas requiring avoidance or containing sensitive biological resources, such as wetlands and special-status species or their habitat;
4. clearly mark sensitive biological resource areas and inspect these areas at appropriate intervals for compliance with regulatory terms and conditions;
5. inspect active construction areas where animals may have become trapped prior to construction commencing each day. At the end of the day, inspect for the installation of structures that prevent entrapment or allow escape during periods of construction inactivity. Periodically inspect areas with high vehicle activity (i.e., parking lots) for animals in harm's way;
6. notify the project owner and the CPM of any non-compliance with any **Biological Resources** Condition of Certification;
7. respond directly to inquiries of the CPM regarding biological resource issues;
8. maintain written records of the tasks specified above and those included in the BRMIMP. Summaries of these records shall be submitted in the monthly compliance report and the annual report; and

9. train the biological monitors as appropriate, and ensure their familiarity with the BRMIMP, Worker Environmental Awareness Program (WEAP) training, and all permits.

**Verification:** The Designated Biologist shall submit in the monthly compliance report to the CPM copies of all written reports and summaries that document biological resources activities. If actions may affect biological resources during operation, a Designated Biologist shall be available for monitoring and reporting. During project operation, the Designated Biologist shall submit record summaries in the annual compliance report unless his/her duties are ceased as approved by the CPM.

### **Biological Monitor Qualifications**

**BIO-3** The project owner's CPM-approved Designated Biologist shall submit the resume, at least three references, and contact information of the proposed biological monitor(s) to the CPM for approval. The resume shall demonstrate to the satisfaction of the CPM, the appropriate education and experience to accomplish the assigned biological resource tasks.

Biological monitor(s) training by the Designated Biologist shall include familiarity with the conditions of certification, BRMIMP, WEAP, and all permits.

**Verification:** The project owner shall submit the specified information to the CPM for approval at least 30 days prior to the start of any site (or related facilities) mobilization.

The Designated Biologist shall submit a written statement to the CPM confirming that individual biological monitor(s) has been trained including the date when training was completed. If additional biological monitors are needed during construction, the specified information shall be submitted to the CPM for approval ten days prior to their first day of monitoring activities.

### **Designated Biologist and Biological Monitor Authority**

**BIO-4** The project owner's construction and operation manager shall act on the advice of the Designated Biologist and biological monitor(s) to ensure conformance with the biological resources conditions of certification.

If required by the Designated Biologist and biological monitor(s), the project owner's construction and operation manager shall halt all site mobilization, ground disturbance, grading, construction, and operation activities in areas specified by the Designated Biologist.

The Designated Biologist shall:

1. require a halt to all activities in any area when determined that there would be an unauthorized adverse impact to biological resources if the activities continued;
2. inform the project owner and the construction and operation manager when to resume activities; and
3. notify the CPM if there is a halt of any activities and advise the CPM of any corrective actions that have been taken, or will be instituted, as a result of the work stoppage.

If the Designated Biologist is unavailable for direct consultation, the lead biological monitor shall act on behalf of the Designated Biologist.

**Verification:** The project owner shall ensure that the Designated Biologist or biological monitor, notifies the CPM immediately (and no later than the following morning of the incident, or Monday morning in the case of a weekend) of any non-compliance or a halt of any site mobilization, ground disturbance, grading, construction, and operation activities. The project owner shall notify the CPM of the circumstances and actions being taken to resolve the problem.

Whenever corrective action is taken by the project owner, a determination of success or failure will be made by the CPM within five working days after receipt of notice that corrective action is completed, or the project owner will be notified by the CPM that coordination with other agencies will require additional time before a determination can be made.

### **Worker Environmental Awareness Program**

**BIO-5** The project owner shall develop and implement a CPM-approved Worker Environmental Awareness Program (WEAP) in which each of its employees, as well as employees of contractors and subcontractors who work on the project site or any related facilities during site mobilization, ground disturbance, grading, construction, operation and closure, is informed about sensitive biological resources associated with the project.

The WEAP must:

1. be developed by or in consultation with the Designated Biologist and consist of an on-site or training center presentation in which supporting written material and electronic media are made available to all participants;
2. discuss the locations and types of sensitive biological resources on the project site and adjacent areas;

3. present the reasons for protecting these resources;
4. present the meaning of various temporary and permanent habitat protection measures;
5. identify whom to contact if there are further comments and questions about the material discussed in the program; and
6. include a training acknowledgment form to be signed by each worker indicating that he/she received training and shall abide by the guidelines.

The specific program can be administered by a competent individual(s) acceptable to the Designated Biologist.

**Verification:** At least 60 days prior to the start of any project-related ground disturbing activities, the project owner shall provide to the CPM two copies of the proposed WEAP and all supporting written materials and electronic media prepared or reviewed by the Designated Biologist and a resume of the person(s) administering the program.

The project owner shall provide in the monthly compliance report the number of persons who have completed the training in the prior month and a running total of all persons who have completed the training to date. At least ten days prior to site (and related facilities) mobilization, the project owner shall submit two copies of the CPM-approved materials.

The signed training acknowledgement forms from construction shall be kept on file by the project owner for a period of at least six months after the start of commercial operation.

During project operation, signed statements for active project operational personnel shall be kept on file for six months following the termination of an individual's employment.

### **Biological Resources Mitigation Implementation and Monitoring Plan**

**BIO-6** The project owner shall submit two copies of the proposed BRMIMP to the CPM (for review and approval) and to CDFW and USFWS (for review and comment) and shall implement the measures identified in the approved BRMIMP.

The BRMIMP shall be prepared in consultation with the Designated Biologist and shall identify:

1. all biological resource mitigation, monitoring, and compliance measures proposed and agreed to by the project owner;



2. all project owner -proposed mitigation measures presented in the Application for Certification;
3. all biological resource conditions of certification in the Final Commission Decision to avoid or mitigate impacts;
4. all biological resource mitigation, monitoring and compliance measures required in other state agency terms and conditions, such as those provided in the Regional Water Quality Control Board permits;
5. all Biological Resource mitigation, monitoring, and compliance measures required in local agency permits, such as site grading and landscaping requirements;
6. all sensitive biological resources to be impacted, avoided, or mitigated by project construction, operation, and closure;
7. all required mitigation measures for each sensitive biological resource;
8. a detailed description of measures that shall be taken to avoid or mitigate temporary disturbances from construction activities;
9. all locations on a map, at an approved scale, of sensitive biological resource areas subject to disturbance and areas requiring temporary protection and avoidance during construction;
10. aerial photographs, at an approved scale, of all areas to be disturbed during project construction activities - one set prior to any site (and related facilities) mobilization disturbance and one set subsequent to completion of project construction. Include planned timing of aerial photography and a description of why times were chosen;
11. duration for each type of monitoring and a description of monitoring methodologies and frequency;
12. performance standards to be used to help decide if/when proposed mitigation is or is not successful;
13. all performance standards and remedial measures to be implemented if performance standards are not met;
14. a preliminary discussion of biological resources-related facility closure measures;
15. restoration and revegetation plan; and

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16. a process for proposing plan modifications to the CPM and appropriate agencies for review and approval.

**Verification:** The project owner shall provide the specified document at least 60 days prior to the start of any project-related ground disturbing activities.

The CPM will determine the BRMIMP's acceptability within 45 days of receipt. If there are any permits that have not yet been received when the BRMIMP is first submitted, these permits shall be submitted to the CPM, the CDFW, and USFWS within five days of their receipt, and the BRMIMP shall be revised or supplemented to reflect the permit condition within ten days of their receipt by the project owner. Ten days prior to site (and related facilities) mobilization, the revised BRMIMP shall be resubmitted to the CPM.

The project owner shall notify the CPM no less than five working days before implementing any modifications to the approved BRMIMP to obtain CPM approval.

Any changes to the approved BRMIMP must also be approved by the CPM in consultation with CDFW, the USFWS, and appropriate agencies to ensure no conflicts exist.

Implementation of BRMIMP measures will be reported in the monthly compliance reports by the designated biologist (i.e., survey results, construction activities that were monitored, species observed). Within 30 days after completion of project construction, the project owner shall provide to the CPM, for review and approval, a written construction closure report identifying which items of the BRMIMP have been completed; a summary of all modifications to mitigation measures made during the project's site mobilization, ground disturbance, grading, and construction phases; and which mitigation and monitoring items are still outstanding.

### **Impact Avoidance Mitigation Features**

**BIO-7** Any time the project owner modifies or finalizes the project design, all feasible measures shall be incorporated that avoid or minimize impacts to the local biological resources. The project owner shall:

1. design, install, and maintain transmission line poles, access roads, pulling sites, and storage and parking areas to avoid identified sensitive resources;
2. design, install, and maintain transmission lines and all electrical components in accordance with the *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006* to reduce the likelihood of electrocutions of large birds;

3. install bird flight diverters on the overhead ground wires of proposed transmission lines (230- and 138-kV) to reduce the likelihood of bird collision with power lines; if overhead ground wires are not installed, bird flight diverters shall be placed on the conductors;
4. eliminate from landscaping plans any List A California exotic pest plants of concern as defined by the California Exotic Pest Plant Council;
5. prescribe a road sealant that is non-toxic to wildlife and plants; and
6. design, install, and maintain facility lighting to prevent side casting of light toward wildlife habitat (i.e., Agua Hedionda Lagoon); obstruction lighting shall be white flashing lights unless specifically prohibited by FAA.

**Verification:** All mitigation measures and their implementation methods shall be included in the BRMIMP. Implementation of the measures will be reported in the monthly compliance reports by the Designated Biologist. Within 30 days after completion of project construction, the project owner shall provide to the CPM, for review and approval, a written construction termination report identifying how measures have been completed.

### **Mitigation Management to Avoid Harassment or Harm**

**BIO-8** The project owner shall implement the following measures to manage its construction site (and related facilities) in a manner to avoid or minimize impacts to local biological resources:

1. install temporary fencing and provide wildlife escape ramps for construction areas that contain steep-walled holes or trenches if outside an approved, permanent exclusionary fence. The temporary fence shall be hardware cloth or similar material that is approved by USFWS and CDFW;
2. ensure that all food-related trash is disposed of in closed containers and removed at least once a week;
3. prohibit feeding of wildlife by staff and subcontractors;
4. prohibit non-security-related firearms or weapons on site;
5. prohibit pets on site;
6. avoid work between March 1 and August 15 to avoid impacts to birds protected under the Migratory Bird Treaty Act.

- A. If this is not feasible, a survey shall be conducted for nesting birds within the project area.
- B. Should an active nest be discovered, the Designated Biologist or biological monitor shall establish an appropriate buffer zone (in which construction activities are not allowed) to avoid disturbance in the vicinity of the nest.
  - Construction activities shall not commence until the Designated Biologist or biological monitor has determined that the nestlings have fledged or that construction activities will not affect adults or newly fledged young; OR
  - The Designated Biologist or biological monitor shall develop a monitoring plan that permits the activity to continue in the vicinity of the nest while monitoring nesting activities to ensure that nesting birds are not disturbed.
7. report all inadvertent deaths of sensitive species to the biological monitor, who will notify CDFW or USFWS, as appropriate; and
8. minimize use of rodenticides and herbicides in the project area.

**Verification:** All mitigation measures and their implementation methods shall be included in the BRMIMP. Implementation of the measures shall be reported in the monthly compliance reports by the Designated Biologist. Within 30 days after completion of project construction, the project owner shall provide to the CPM, for review and approval, a written construction termination report identifying how biological resource measures have been completed.

## **CULTURAL RESOURCES**

**CUL-1** Prior to the start of ground disturbance,<sup>1</sup> including tank demolition and soil remediation, the project owner shall obtain the services of a Cultural Resources Specialist (CRS) and one or more alternates, if alternates are needed. The CRS shall manage all monitoring, mitigation, curation, and reporting activities required in accordance with the Conditions of Certification (Conditions). The CRS may elect to obtain the services of Cultural Resources Monitors (CRMs) and other technical specialists, if needed, to assist in monitoring, mitigation, and curation activities. The project owner shall ensure that the CRS makes recommendations regarding the eligibility for listing in the California Register of Historical Resources (CRHR) of any cultural resources that are newly discovered or that may be affected in an unanticipated manner (discovery). No ground disturbance, including tank removal and soil remediation, shall occur prior to CPM approval of the CRS, unless specifically approved by the CPM. Approval of a CRS may be denied or revoked for non-compliance on this project.

### **CULTURAL RESOURCES SPECIALIST**

The resumes for the CRS and alternate(s) shall include information demonstrating to the satisfaction of the CPM that their training and backgrounds conform to the U.S. Secretary of Interior's Professional Qualifications Standards, as published in the Code of Federal Regulations, 36 CFR Part 61. In addition, the CRS shall have the following qualifications:

1. The CRS's qualifications shall be appropriate to the needs of the project and shall include a background in anthropology, archaeology, history, architectural history, or a related field; and
2. At least three years of archaeological or historic, as appropriate, resources mitigation and field experience in California.
3. At least one year of experience in a decision-making capacity on cultural resources projects in California and the appropriate training and experience to knowledgeably make recommendations regarding the significance of cultural resources.

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<sup>1</sup> "Ground disturbance" includes "preconstruction site mobilization"; "construction ground disturbance"; and "construction grading, boring and trenching," as defined in the General Conditions for this project.

The resumes of the CRS and alternate CRS shall include the names and telephone numbers of contacts familiar with the work of the CRS/alternate CRS on referenced projects and demonstrate to the satisfaction of the CPM that the CRS has the appropriate education and experience to accomplish the cultural resource tasks that must be addressed during ground disturbance, including tank removal and soil remediation. After all ground disturbance is completed and the CRS has fulfilled all responsibilities specified in these cultural resources conditions, the project owner may discharge the CRS, if the CPM approves. With the discharge of the CRS, these cultural resources conditions no longer apply to the activities of this power plant.

### **CULTURAL RESOURCES MONITORS**

CRMs shall have the following qualifications:

1. a BS or BA degree in anthropology, archaeology, historical archaeology or a related field and one year's experience monitoring in California; or
2. an AS or AA degree in anthropology, archaeology, historical archaeology, or a related field, and four years' experience monitoring in California; or
3. enrollment in upper division classes pursuing a degree in the fields of anthropology, archaeology, historical archaeology, or a related field, and two years of monitoring experience in California.
4. CRMs assigned to monitor during tank removal and soil remediation shall hold an appropriate hazardous waste operations training certificate(s).

### **CULTURAL RESOURCES TECHNICAL SPECIALISTS**

The resume(s) of any additional technical specialists, e.g., historical archaeologist, historian, architectural historian, and/or physical anthropologist, shall be submitted to the CPM for approval.

### **Verification:**

1. At least 45 days prior to the start of ground disturbance, including tank removal and soil remediation, the project owner shall submit the resume for the CRS, and alternate(s) if desired, to the CPM for review and approval.
2. At least ten days prior to a termination or release of the CRS, or within ten days after the resignation of a CRS, the project owner shall submit the resume of the

proposed new CRS to the CPM for review and approval. At the same time, the project owner shall also provide to the approved new CRS the AFC and all cultural documents, field notes, photographs, and other cultural materials generated by the project.

3. At least 20 days prior to ground disturbance, including tank demolition and soil remediation, the CRS shall provide a letter naming anticipated CRMs for the project and stating that the identified CRMs meet the minimum qualifications for cultural resources monitoring required by this Condition. CRMs possessing current hazardous waste operations certificates shall be identified. If additional CRMs are obtained during the project, the CRS shall provide additional letters to the CPM identifying the CRMs and attesting to the qualifications of the CRMs, at least five days prior to the CRMs beginning on-site duties.
4. At least ten days prior to beginning tasks, the resume(s) of any additional technical specialists shall be provided to the CPM for review and approval.
5. At least ten days prior to the start of ground disturbance, including tank removal and soil remediation, the project owner shall confirm in writing to the CPM that the approved CRS will be available for on-site work and is prepared to implement the Cultural Resources Conditions.

**CUL-2** Prior to the start of ground disturbance, including tank demolition and soil remediation, if the CRS has not previously worked on the project, the project owner shall provide the CRS with copies of the Application for Certification (AFC), data responses, and confidential cultural resources reports for the project. The project owner shall also provide the CRS and the CPM with maps and drawings showing the footprint of the power plant, all linear facilities, access roads and laydown areas. Maps shall include the appropriate U.S. Geological Survey quadrangles and a map at an appropriate scale (e.g., 1:2000 or 1 inch = 200 feet) for plotting cultural features or materials. If the CRS requests enlargements or strip maps for linear facility routes, the project owner shall provide copies to the CRS and CPM. The CPM shall review submittals and, in consultation with the CRS, approve those that are appropriate for use in cultural resources planning activities.

The CRS and CRM shall coordinate their oversight of ground disturbance with the Geotechnical Investigation required by the **Facility Design** Conditions of Certification.

No ground disturbance, including tank removal and soil remediation, shall occur prior to CPM approval of maps and drawings, unless specifically approved by the CPM.

If construction of the project should proceed in phases, maps and drawings not previously provided shall be submitted prior to the start of each phase. Written notification identifying the proposed schedule of each project phase shall be provided to the CRS and CPM.

At a minimum, the CRS shall consult weekly with the project construction manager to confirm area(s) to be worked during the next week, until ground disturbance, including tank removal and soil remediation is completed.

The project owner shall notify the CRS and CPM of any changes to the scheduling of the construction phases.

**Verification:**

1. At least 40 days prior to the start of ground disturbance, including tank demolition and soil remediation, the project owner shall provide the AFC, data responses, and confidential cultural resources documents to the CRS, if needed, and the subject maps and drawings to the CRS and CPM. The CPM will review submittals in consultation with the CRS and approve maps and drawings suitable for cultural resources planning activities.
2. If there are changes to any project-related footprint, revised maps and drawings shall be provided at least 15 days prior to start of ground disturbance, including tank removal and soil remediation, for those changes.
3. If project construction is phased, if not previously provided, the project owner shall submit the subject maps and drawings 15 days prior to each phase.
4. On a weekly basis during ground disturbance, including tank removal and soil remediation, a current schedule of anticipated project activity shall be provided to the CRS and CPM by letter, email, or fax.
5. Within five days of identifying changes, the project owner shall provide written notice of any changes to scheduling of construction phase.

**CUL-3** Prior to the start of ground disturbance, including tank demolition and soil remediation, the project owner shall submit the Cultural Resources Monitoring and Mitigation Plan (CRMMP), as prepared by or under the direction of the CRS, to the CPM for review and approval. The CRMMP shall be provided in the Archaeological Resource Management Report



(ARMR) format, and, per ARMAR guidelines, the author's name shall appear on the title page of the CRMMP. The CRMMP shall identify general and specific measures to minimize potential impacts to sensitive cultural resources. Implementation of the CRMMP shall be the responsibility of the CRS and the project owner. Copies of the CRMMP shall reside with the CRS, alternate CRS, each monitor, and the project owner's on-site construction manager. No ground disturbance, including tank removal and soil remediation, shall occur prior to CPM approval of the CRMMP, unless specifically approved by the CPM.

The CRMMP shall include, but not be limited to, the following elements and measures:

1. A general research design that includes a discussion of archaeological research questions and testable hypotheses specifically applicable to the project area, and a discussion of artifact collection, retention/disposal, and curation policies as related to the research questions formulated in the research design. A prescriptive treatment plan may be included in the CRMMP for limited resource types. A refined research design will be prepared for any resource where data recovery is required.
2. The following statement included in the Introduction: "Any discussion, summary, or paraphrasing of the Conditions in this CRMMP is intended as general guidance and as an aid to the user in understanding the Conditions and their implementation. The Conditions, as written in the Commission Decision, shall supersede any summarization, description, or interpretation of the Conditions in the CRMMP. The Cultural Resources Conditions of Certification from the Commission Decision are contained in Appendix A."
3. Identification of the person(s) expected to perform each of the tasks, his or her responsibilities, and the reporting relationships between project construction management and the mitigation and monitoring team.
4. A description of the manner in which Native American observers or monitors will be included, the procedures to be used to select them, their roles and responsibilities, and provisions to comply with NAHC Guidelines.
5. A statement that all cultural resources encountered shall be recorded on a Department of Parks and Recreation (DPR) form 523 and mapped and photographed. In addition, all archaeological materials retained as a result of the archaeological investigations (survey, testing, data recovery) shall be curated in accordance with the

California State Historical Resources Commission's *Guidelines for the Curation of Archaeological Collections*, into a retrievable storage collection in a public repository or museum.

6. A statement that the project owner will pay all curation fees and a copy of an agreement with, or other written commitment from, a curation facility to accept artifacts from this project. Any agreements concerning curation will be retained and available for audit for the life of the project.
7. A statement that the CRS has access to equipment and supplies necessary for site mapping, photography, and recovery of any cultural resources materials that are encountered during construction and cannot be treated prescriptively.
8. A description of the contents and format of the Cultural Resources Report (CRR), which shall be prepared according to ARMR guidelines.

**Verification:**

1. At least 30 days prior to the start of ground disturbance, including tank demolition and soil remediation, the project owner shall submit the subject CRMMP to the CPM for review and approval. Ground disturbance, including tank removal and soil remediation, may not commence until the CRMMP is approved, unless specifically approved by the CPM.
2. At least 30 days prior to the start of ground disturbance, including tank demolition and soil remediation, a letter shall be provided to the CPM indicating that the project owner agrees to pay curation fees for any materials collected as a result of the archaeological investigations (survey, testing, data recovery).

**CUL-4** The project owner shall submit the Cultural Resources Report (CRR) to the CPM for approval. The CRR shall be written by or under the direction of the CRS and shall be provided in the ARMR format. The CRR shall report on all field activities including dates, times and locations, findings, samplings, and analyses. All survey reports, Department of Parks and Recreation (DPR) 523 forms, and additional research reports not previously submitted to the California Historical Resources Information System (CHRIS) and the State Historic Preservation Officer (SHPO) shall be included as an appendix to the CRR.

If the project owner requests a suspension of construction activities, then a draft CRR that covers all cultural resources activities associated with the project shall be prepared by the CRS and submitted to the CPM for review and approval within 30 days of the suspension/extension request. The

draft CRR shall be retained at the project site in a secure facility until construction resumes or the project is withdrawn. If the project is withdrawn, then a final CRR shall be submitted to the CPM for review and approval at the same time as the withdrawal request.

**Verification:**

1. Within 90 days after completion of ground disturbance (including landscaping), the project owner shall submit the CRR to the CPM for review and approval. If any reports have previously been sent to the CHRIS, then receipt letters from the CHRIS or other verification of receipt shall be included in an appendix.
2. Within ten days after CPM approval, the project owner shall provide documentation to the CPM confirming that copies of the CRR have been provided to the SHPO, the CHRIS, and the curating institution, if archaeological materials were collected.
3. Within 30 days after requesting a suspension of construction activities, the project owner shall submit a draft CRR to the CPM for review and approval.

**CUL-5** Prior to and for the duration of ground disturbance, including tank demolition and soil remediation, the project owner shall provide Worker Environmental Awareness Program (WEAP) training to all new workers within their first week of employment. The training shall be prepared by the CRS, may be conducted by any member of the archaeological team, and may be presented in the form of a video. The CRS shall be available (by telephone or in person) to answer questions posed by employees. The training may be discontinued when ground disturbance, including tank removal and soil remediation, is completed or suspended, but shall be resumed when ground disturbance, such as landscaping, resumes. The training shall include:

1. A discussion of applicable laws and penalties under the law;
2. Samples or visuals of artifacts that might be found in the project vicinity;
3. Instruction that the CRS, alternate CRS, and CRMs have the authority to halt construction in the area of a discovery to an extent sufficient to ensure that the resource is protected from further impacts, as determined by the CRS;
4. Instruction that employees are to halt work on their own in the vicinity of a potential cultural resources discovery and shall contact their

supervisor and the CRS or CRM, and that redirection of work would be determined by the construction supervisor and the CRS;

5. An informational brochure that identifies reporting procedures in the event of a discovery;
6. An acknowledgement form signed by each worker indicating that he/she has received the training; and
7. A sticker that shall be placed on hard hats indicating that environmental training has been completed.

No ground disturbance shall occur prior to implementation of the WEAP program, unless specifically approved by the CPM.

**Verification:**

1. At least 30 days prior to the beginning of ground disturbance, including tank demolition, the CRS shall provide the training program draft text and graphics and the informational brochure to the CPM for review and approval, and the CPM will provide to the project owner a WEAP Training Acknowledgement form for each WEAP-trained worker to sign.
2. The project owner shall provide in the monthly compliance report (MCR) the number of persons who have completed the training in the prior month and a running total of all persons who have completed the training to date. At least ten days prior to site (and related facilities) mobilization, the project owner shall submit two copies of the CPM-approved materials. The signed training acknowledgement forms from construction shall be kept on file by the project owner for a period of at least six months after the start of commercial operation.

**CUL-6** The project owner shall ensure that the CRS, alternate CRS, or CRMs monitor ground disturbance of soils at the project site, along linear facilities and roads, and at parking and other ancillary areas, including wetlands mitigation areas, if cultural materials are identified in these areas during these ground-disturbing activities, to ensure there are no impacts to undiscovered resources.

Monitoring for this project shall be restricted to the archaeological monitoring of earth-moving activities on the project site and laydown areas, including soil remediation, for as long as the activities are ongoing, in those areas where cultural materials are identified during these earth-moving activities.

Archaeological monitoring shall require at least one monitor where machines are actively disturbing soils in areas where cultural material is identified. If an excavation area or areas are too large for one monitor to effectively observe the soil removal, one or more additional monitors shall be retained to observe the area.

In the event that the CRS believes that the current level of monitoring is not appropriate in certain locations, a letter or e-mail detailing the justification for changing the level of monitoring shall be provided to the CPM for review and approval prior to any change in the level of monitoring.

If future geotechnical core borings are conducted for the project, they shall be monitored and the boring cores examined by a geoarchaeologist or qualified archaeologist for the presence of cultural material. If cultural material is identified, that information shall be reported to the CPM within 24 hours. Whether or not cultural material is identified, the results of the core examinations shall be provided in a report to the CPM.

In the event that the CRS determines that the current level of monitoring is not appropriate in certain locations, a letter or e-mail detailing the justification for changing the level of monitoring shall be provided to the CPM for review and approval prior to any change in the level of monitoring.

The research design in the CRMMP shall govern the collection, treatment, retention/disposal, and curation of any archaeological materials encountered.

On forms provided by the CPM, CRMs shall keep a daily log of any monitoring and other cultural resources activities and any instances of non-compliance with the Conditions and/or applicable LORS. From these logs, the CRS shall compile a monthly monitoring summary report to be included in the Monthly Compliance Report (MCR). If there are no monitoring activities, the summary report shall specify why monitoring has been suspended.

The CRS, at his or her discretion, or at the request of the CPM, may informally discuss cultural resources monitoring and mitigation activities with Energy Commission technical staff.

Cultural resources monitoring activities are the responsibility of the CRS. Any interference with monitoring activities, removal of a monitor from

duties assigned by the CRS, or direction to a monitor to relocate monitoring activities by anyone other than the CRS shall be considered non-compliance with these Conditions.

Upon becoming aware of any incidents of non-compliance with the Conditions and/or applicable LORS, the CRS and/or the project owner shall notify the CPM by telephone or e-mail within 24 hours. The CRS shall also recommend corrective action to resolve the problem or achieve compliance with the Conditions. When the issue is resolved, the CRS shall write a report describing the issue, the resolution of the issue, and the effectiveness of the resolution measures. This report shall be provided in the next MCR for the review of the CPM.

The project owner shall retain a Native American monitor to monitor ground disturbance in any areas where cultural resource monitoring is required. Informational lists of concerned Native Americans and guidelines for monitoring shall be obtained from the Native American Heritage Commission. Preference in selecting a monitor shall be given to Native Americans with traditional ties to the area that shall be monitored. If efforts to obtain the services of a qualified Native American monitor are unsuccessful, the project owner shall immediately inform the CPM. The CPM will either identify potential monitors or will allow ground disturbance, including tank removal and soil remediation, to proceed without a Native American monitor.

**Verification:** At least 30 days prior to the start of ground disturbance, including tank removal and soil remediation, the CPM will provide to the CRS an electronic copy of a form to be used as a daily monitoring log. While monitoring is ongoing, the project owner shall include in each MCR a copy of the monthly summary report of cultural resources-related monitoring prepared by the CRS.

1. When monitoring is occurring, daily the CRS shall provide a statement that “no cultural resources more than 50 years of age were discovered” to the CPM as an e-mail or in some other form acceptable to the CPM. The statement shall also include information based on the twice daily observations of soils by the archaeological monitor and indicate the likelihood of disturbing native soils. If the CRS concludes that daily reporting is no longer necessary, a letter or e-mail providing a detailed justification for the decision to reduce or end daily reporting shall be provided to the CPM for review and approval at least 24 hours prior to reducing or ending daily reporting. At least 24 hours prior to implementing a proposed change in monitoring

level, documentation justifying the change shall be submitted to the CPM for review and approval.

2. At least 24 hours prior to implementing a proposed change in monitoring level, documentation justifying the change shall be submitted to the CPM for review and approval.
3. If geotechnical core borings are conducted and cultural material is identified by a geoarchaeologist or archaeologist, the CPM shall be notified within 24 hours. Within 30 days after the examination of the core borings is completed, the CRS shall provide a copy of the results of the core examinations in a report to the CPM.

**CUL-7** The project owner shall grant authority to halt construction to the CRS, alternate CRS, and the CRMs in the event of a discovery. Redirection of ground disturbance, including tank removal and soil remediation, shall be accomplished under the direction of the construction supervisor in consultation with the CRS.

In the event cultural resources more than 50 years of age or considered exceptionally significant are found, or impacts to such resources can be anticipated, construction shall be halted or redirected in the immediate vicinity of the Discovery sufficient to ensure that the resource is protected from further impacts. The halting or redirection of construction shall remain in effect until the CRS has visited the Discovery, and all of the following have occurred:

1. the CRS has notified the project owner, and the CPM has been notified within 24 hours of the discovery, or by Monday morning if the cultural resources discovery occurs between 8:00 a.m. on Friday and 8:00 a.m. on Sunday morning, including a description of the discovery (or changes in character or attributes), the action taken (i.e. work stoppage or redirection), a recommendation of eligibility, and recommendations for mitigation of any cultural resources discoveries, whether or not a determination of significance has been made.
2. the CRS has completed field notes, measurements, and photography for a DPR 523 primary form. The "Description" entry of the 523 form shall include a recommendation on the significance of the find. The project owner shall submit completed forms to the CPM.
3. the CRS, the project owner, and the CPM have conferred, and the CPM has concurred with the recommended eligibility of the discovery and approved the CRS's proposed data recovery, if any, including the curation of the artifacts, or other appropriate mitigation; and any necessary data recovery and mitigation have been completed.

**Verification:**

1. At least 30 days prior to the start of ground disturbance, including tank demolition, the project owner shall provide the CPM and CRS with a letter confirming that the CRS, alternate CRS, and CRMs have the authority to halt construction activities in the vicinity of a cultural resources discovery, and that the project owner shall ensure that the CRS notifies the CPM within 24 hours of a discovery, or by Monday morning if the cultural resources discovery occurs between 8:00 a.m. on Friday and 8:00 a.m. on Sunday morning.
2. Completed DPR form 523s shall be submitted to the CPM for review and approval no later than 24 hours following the notification of the CPM, or 48 hours following the completion of data recordation/recovery, whichever is more appropriate for the subject cultural resource, as determined by the CRS.

**CUL-8** If fill soils must be acquired from a non-commercial borrow site or disposed of to a non-commercial disposal site, unless less-than-five-year-old surveys of these sites for archaeological resources are documented to and approved by the CPM, the CRS shall survey the borrow and/or disposal site(s) for cultural resources and record on DPR 523 forms any that are identified. When the survey is completed, the CRS shall convey the results and recommendations for further action to the project owner and the CPM, who will determine what, if any, further action is required. If the CPM determines that significant archaeological resources that cannot be avoided are present at the borrow site, all these conditions of certification shall apply. The CRS shall report on the methods and results of these surveys in the CRR.

**Verification:** As soon as the project owner knows that a non-commercial borrow site and/or disposal site will be used, he/she shall notify the CRS and CPM and provide documentation of previous archaeological survey, if any, dating within the past five years, for CPM approval.

In the absence of documentation of recent archaeological survey, at least 30 days prior to any soil borrow or disposal activities on the non-commercial borrow and/or disposal sites, the CRS shall survey the site/s for archaeological resources. The CRS shall notify the project owner and the CPM of the results of the cultural resources survey, with recommendations, if any, for further action.



## HAZARDOUS MATERIALS MANAGEMENT

The conditions of certification below include the approved conditions of certification from the licensed CECP and any modifications, additions or deletions required for the amended CECP. If compliance work has begun and no changes are required for the amended project, then the project owner need not duplicate those previous compliance activities. The compliance work already performed has been duly noted.

**HAZ-1** The project owner shall not use any hazardous materials not listed in **Attachment A**, below, or in greater quantities or strengths than those identified by chemical name in **Attachment A**, below, unless approved in advance by the compliance project manager (CPM).

**Verification:** No later than 60 days prior to the start of the removal of any above ground storage tanks or ancillary piping and berms, the project owner shall provide to the CPM and to the Carlsbad Fire Department a list of hazardous materials contained and used at the facility site. An updated list shall also be provided to the CPM and the Carlsbad Fire Department no later than 60 days prior to the start of construction, 60 days prior to the start of commissioning operations, and in the Annual Compliance Report.

**HAZ-2** The project owner shall concurrently provide a Business Plan and a Risk Management Plan (RMP) prepared pursuant to the California Accidental Release Program (CalARP) to the San Diego County Department of Environmental Health, Hazardous Materials Division (HMD), and the CPM for review. After receiving comments from the San Diego County DEH HMD and the CPM, the project owner shall reflect all recommendations in the final documents. Copies of the final Business Plan and RMP shall then be provided to the San Diego County DEH HMD and the Carlsbad Fire Department for information and to the CPM for approval.

**Verification:** At least 30 days prior to the initial receipt of any hazardous material on the site for tank demolition, commissioning, or operations, the project owner shall provide a copy of a final Business Plan or updated business plan to the CPM for approval and to the San Diego County DEH HMD and the Carlsbad Fire Department for information.

At least 30 days prior to delivery of aqueous ammonia to the site, the project owner shall provide the final RMP to the DEH HMD and the Carlsbad Fire Department for information and to the CPM for approval.

**HAZ-3** The project owner shall develop and implement a Safety Management Plan for delivery of aqueous ammonia and other liquid hazardous materials by tanker truck. The plan shall include procedures, protective equipment requirements, training, and a checklist. It shall also include a

section describing all measures to be implemented to prevent mixing of incompatible hazardous materials including provisions to maintain lockout control by a power plant employee not involved in the delivery or transfer operation. This plan shall be applicable during construction, commissioning, and operation of the power plant.

**Verification:** At least 30 days prior to the initial delivery of any liquid hazardous material to the facility for demolition, commissioning, or operations, the project owner shall provide a Safety Management Plan as described above to the City of Carlsbad Fire Department for review and comment and to the CPM for review and approval.

**HAZ-4** The aqueous ammonia storage facility shall be designed to either the ASME Pressure Vessel Code and ANSI K61.6 or to API 620. In either case, the storage tank shall be protected by a secondary containment basin capable of holding 125 percent of the storage volume or the storage volume plus the volume associated with 24 hours of rain assuming the 25-year storm. The final design drawings and specifications for the ammonia storage tank and secondary containment basins shall be submitted to the CPM.

**Verification:** At least 60 days prior to delivery of aqueous ammonia to the facility, the project owner shall submit final design drawings and specifications for the ammonia storage tank and secondary containment basin to the City of Carlsbad Fire Department for review and comment and to the CPM for review and approval.

**HAZ-5** The project owner shall direct all vendors delivering aqueous ammonia to the site to use only tanker truck transport vehicles which meet or exceed the specifications of DOT Code MC-307.

**Verification:** At least 30 days prior to receipt of aqueous ammonia on site, the project owner shall submit copies of the notification letter to supply vendors indicating the transport vehicle specifications to the CPM for review and approval.

**HAZ-6** The project owner shall direct all vendors delivering any hazardous material to the site to use only the route approved by the CPM (I-5 to Cannon Road to Avenida Encinas to the project site). The project owner shall obtain approval from the CPM if an alternate route is desired.

**Verification:** At least 60 days prior to receipt of any hazardous materials on site for tank demolition, construction, or operations, the project owner shall submit copies of the required transportation route limitation direction to the CPM for review and approval.

**HAZ-7** Prior to commencing tank demolition, a site-specific Demolition and Construction Site Security Plan for the tank demolition and construction

phases shall be prepared and made available to the CPM for review and approval. The Construction Security Plan shall include the following:

1. perimeter security consisting of fencing enclosing the demolition and construction areas;
2. security guards;
3. site access control consisting of a check-in procedure or tag system for demolition and construction personnel and visitors;
4. written standard procedures for employees, contractors, and vendors when encountering suspicious objects or packages on-site or off-site;
5. protocol for contacting law enforcement and the CPM in the event of suspicious activity or emergency; and
6. evacuation procedures.

**Verification:** At least 30 days prior to commencing tank demolition, the project owner shall notify the CPM and the Carlsbad Police Department that a site-specific Demolition and Construction Security Plan is available for review and comment. After receiving comments from the Carlsbad Police Department and the CPM, the project owner shall revise the Demolition and Construction Security Plan to reflect those comments and notify the CPM that the revised plan is available for review and approval.

**HAZ-8** The project owner shall also prepare a site-specific security plan for the commissioning and operational phases that will be available to the Carlsbad Police Department for review and comment and to the CPM for review and approval. The project owner shall implement site security measures that address physical site security and hazardous materials storage. The level of security to be implemented shall not be less than that described below (as per NERC 2002).

The Operation Security Plan shall include the following:

1. permanent full perimeter fence or wall, at least eight feet high and topped with barbed wire or the equivalent (and with slats or other methods to restrict visibility if a fence is selected);
2. main entrance security gate, either hand operated or motorized;
3. evacuation procedures;
4. protocol for contacting law enforcement and the CPM in the event of suspicious activity or emergency;

5. written standard procedures for employees, contractors, and vendors when encountering suspicious objects or packages on site or off site;
  - a) a statement (refer to sample, **Attachment B**), signed by the project owner certifying that background investigations have been conducted on all project personnel. Background investigations shall be restricted to determine the accuracy of employee identity and employment history and shall be conducted in accordance with state and federal laws regarding security and privacy;
  - b) a statement(s) (refer to sample, **Attachment C**), signed by the contractor or authorized representative(s) for any permanent contractors or other technical contractors (as determined by the CPM after consultation with the project owner), that are present at any time on the site to repair, maintain, investigate, or conduct any other technical duties involving critical components (as determined by the CPM after consultation with the project owner) certifying that background investigations have been conducted on contractors who visit the project site;
6. site access controls for employees, contractors, vendors, and visitors;
7. a statement(s) (refer to sample, **Attachment D**), signed by the owners or authorized representative of hazardous materials transport vendors, certifying that they have prepared and implemented security plans in compliance with 49 CFR 172.880, and that they have conducted employee background investigations in accordance with 49 CFR Part 1572, subparts A and B;
8. closed circuit TV (CCTV) monitoring system, recordable, and viewable in the power plant control room and security station (if separate from the control room) with cameras able to pan, tilt, and zoom, have low-light capability, and are able to view 100 percent of the perimeter fence, the ammonia storage tank, the outside entrance to the control room, and the front gate; and,
9. Additional measures to ensure adequate perimeter security consisting of either:
  - a) security guard(s) present 24 hours per day, seven days per week; or
  - b) power plant personnel on site 24 hours per day, seven days per week, and perimeter breach detectors or on-site motion detectors.

The project owner shall fully implement the security plans and obtain CPM approval of any substantive modifications to those security plans. The CPM may authorize modifications to these measures, or may require

additional measures such as protective barriers for critical power plant components—transformers, gas lines, and compressors—depending upon circumstances unique to the facility or in response to industry-related standards, security concerns, or additional guidance provided by the U.S. Department of Homeland Security, the U.S. Department of Energy, or the North American Electrical Reliability Council, after consultation with both appropriate law enforcement agencies and the project owner.

**Verification:** At least 30 days prior to the initial receipt of hazardous materials on site for commissioning or operations, the project owner shall notify the Carlsbad Police Department and the CPM that a site-specific Operations Site Security Plan is available for review. After receiving comments from the Carlsbad Police Department and the CPM, the project owner shall revise the Operations Site Security Plan to reflect those comments and notify the CPM that the revised plan is available for review and approval. In the annual compliance report, the project owner shall include a statement that all current project employee and appropriate contractor background investigations have been performed, and that updated certification statements have been appended to the operations security plan. In the annual compliance report, the project owner shall include a statement that the operations security plan includes all current hazardous materials transport vendor certifications for security plans and employee background investigations.

**HAZ-9** If the project owner dedicates an easement for the Coastal Rail Trail, it shall be located within the boundaries of the overall Encina Power Station Precise Development Plan area in a location mutually agreed upon with the city of Carlsbad and located west of the north/south AT&SF/North County Transit District Rail Corridor. In no event shall the project owner grant or dedicate an easement for the Coastal Rail Trail east of the Rail Corridor on the CECP site.

**Verification:** Not later than ten days after drafting an agreement, the project owner shall submit to the CPM for review and approval the instrument of easement dedication showing that the location mutually agreed upon with the city of Carlsbad is west of the north/south AT&SF/North County Transit District Rail Corridor.

**HAZ-10** The project owner shall not allow any fuel gas pipe cleaning activities on site at any power unit, either before placing the pipe into service or at any time during the lifetime of the facility, that involve “flammable gas blows” where natural (or flammable) gas is used to blow out debris from piping and then vented to the atmosphere. Instead, an inherently safer method involving a non-flammable gas (e.g. air, nitrogen, steam) or mechanical

pigging shall be used as per NFPA 56. A written procedure shall be developed and implemented as per NFPA 56, section 4.3.1

**Verification:** At least 30 days before any fuel gas pipe cleaning activities begin at any unit, the project owner shall submit a copy of the Fuel Gas Pipe Cleaning Work Plan (as described in NFPA 56, section 4.3.1) which shall indicate the method of cleaning to be used, what gas will be used, the source of pressurization, and whether a mechanical PIG will be used, to the CBO for information and to the CPM for review and approval.

## LAND USE

**LAND-1** The project owner shall dedicate an easement for the Coastal Rail Trail within the boundaries of the overall Encina Power Station Precise Development Plan area in a location mutually agreed upon with the city of Carlsbad located west of the north/south AT&SF/North County Transit District Rail Corridor.

**Verification:** The project owner shall provide proof to the compliance project manager of easement dedication to the city of Carlsbad prior to the start of construction. To meet this requirement, an indeterminate or blanket easement may be granted, containing provisions that it will be quitclaimed upon later dedication of a specific easement when specific redevelopment plans for the area are determined. Any easement granted to the city of Carlsbad must be subservient to and have inferior rights against later granted easements to the project owner for access or utility connections through the area west of the north/south AT&SF/North County Transit District Rail Corridor necessary for operation of the amended CECP. Within 30 days of recording the specific trail easement, the project owner shall provide a copy of the easement to the CPM.

## **NOISE & VIBRATION**

**NOISE-1** At least 15 days prior to the start of any demolition activities associated with the amended CECP, the project owner shall notify the city of Carlsbad and all residents within one mile of the site, by mail or other effective means, of the commencement of project demolition and construction. At the same time, the project owner shall establish a telephone number for use by the public to report any undesirable noise conditions associated with the demolition, construction, and operation of the amended CECP and include that telephone number in the above notice. If the telephone is not staffed 24 hours per day, the project owner shall include an automatic answering feature, with date and time stamp recording, to answer calls when the phone is unattended. This telephone number shall be posted at the project site during construction in a manner visible to passersby. This telephone number shall be maintained until the amended CECP has been operational for at least one year, and all subsequent demolition activities at the Encina Power Station have been completed.

**Verification:** Prior to the start of any demolition activities, the project owner shall transmit to the compliance project manager (CPM) a statement, signed by the project owner's project manager, stating that the above notification has been performed and describing the method of that notification, verifying that the telephone number has been established and posted at the site, and giving that telephone number.

### **Noise Complaint Process**

**NOISE-2** Throughout the demolition of above-ground fuel oil storage tanks 1, 2, 4, 5, 6, and 7 (ASTs 1, 2, 4, 5, 6, and 7), construction and operation of the amended CECP, and demolition of the Encina Power Station, the project owner shall document, investigate, evaluate, and attempt to resolve all project-related noise complaints. The project owner or authorized agent shall:

Use the Noise Complaint Resolution Form (below), or a functionally equivalent procedure acceptable to the CPM, to document and respond to each noise complaint;

- Attempt to contact the person(s) making the noise complaint within 24 hours (within 12 hours if the complaint is related to nighttime concrete pour);



- Conduct an investigation to determine the source of noise related to the complaint;
- Take all feasible measures to reduce the noise at its source if the noise is project related; and
- Submit a report documenting the complaint and the actions taken. The report shall include: a complaint summary, including final results of noise reduction efforts, and if obtainable, a signed statement by the complainant that states that the noise problem has been resolved to the complainant's satisfaction.

**Verification:** Within five days of receiving a noise complaint, the project owner shall file a copy of the Noise Complaint Resolution Form with the CPM, documenting the resolution of the complaint. If mitigation is required to resolve a complaint and the complaint is not resolved within a three-day period (within 24 hours for noise complaints related to nighttime concrete pour), the project owner shall submit an updated Noise Complaint Resolution Form when the mitigation is implemented.

**NOISE-3** The project owner shall submit to the CPM for review and approval a noise control program and a statement, signed by the project owner's project manager, verifying that the noise control program will be implemented throughout the demolition of ASTs 5, 6, and 7, and construction and demolition activities associated with the amended CECP. The noise control program shall be used to reduce employee exposure to high noise levels during demolition and construction in accordance with Title 8, California Code of Regulations, sections 5095-5099, and Title 29, Code of Federal Regulations, section 1910.95.

**Verification:** At least 30 days prior to the start of any demolition activities, the project owner shall submit to the CPM the noise control program and the project owner's project manager's signed statement. The project owner shall make the program available to OSHA and Cal/OSHA upon request.

### **Noise Restrictions**

**NOISE-4** There shall be no operation of the power plant between midnight and 6:00 a.m. except to the extent reasonably required for reliability-related purposes or as otherwise required by the ISO Tariff. The project design and implementation shall include appropriate noise mitigation measures adequate to ensure that operation of the project will not cause noise levels due solely to plant operation to exceed an average of 53 dBA  $L_{eq}$  measured at monitoring locations M2 and M7. No new pure-tone components shall be caused by the project. No single piece of equipment

shall be allowed to stand out as a source of noise that draws project-related noise complaints.

The measurement of power plant noise for the purposes of demonstrating compliance with this condition of certification may alternatively be made at a location, acceptable to the CPM, closer to the plant (e.g., 400 feet from the plant boundary) and this measured level then mathematically extrapolated to determine the plant noise contribution at the affected residence. The character of the plant noise shall be evaluated at the affected residential locations to determine the presence of pure tones or other dominant sources of plant noise.

- a) When the project first achieves a sustained output of 80 percent or greater of rated capacity, the project owner shall conduct a community noise survey at monitoring locations M2 and M7 or at closer locations acceptable to the CPM. These surveys shall be performed during power plant operation and shall also include measurement of one-third octave band sound pressure levels to determine whether new pure-tone noise components have been caused by the project.
- b) If the results from the noise survey indicate that the power plant average noise level (Leq) at M2 or M7 exceeds the above value, mitigation measures shall be implemented to reduce noise to a level of compliance with this limit.
- c) If the results from the noise survey indicate that pure tones are present, mitigation measures shall be implemented to eliminate the pure tones.

**Verification:** The survey shall take place within 30 days of the project first achieving a sustained output of 80 percent or greater of rated capacity with all turbine generators operating. Within 15 days after completing the survey, the project owner shall submit a summary report of the survey to the CPM. Included in the survey report shall be a description of any additional mitigation measures necessary to achieve compliance with the above-listed noise limit and a schedule, subject to CPM approval, for implementing these measures. When these measures are in place, the project owner shall repeat the noise survey(s).

Within 15 days of completion of the new survey(s), the project owner shall submit to the CPM a summary report of the new noise survey(s), performed as described above and showing compliance with this condition.

**NOISE-5** Following the project first achieving a sustained output of 80 percent or greater of rated capacity, the project owner shall conduct an occupational noise survey to identify the noise hazardous areas in the facility.

The survey shall be conducted by a qualified person in accordance with the provisions of Title 8, California Code of Regulations sections 5095–5099 and Title 29, Code of Federal Regulations section 1910.95. The survey results shall be used to determine the magnitude of employee noise exposure.

The project owner shall prepare a report of the survey results and, if necessary, identify proposed mitigation measures that will be employed to comply with the applicable California and federal regulations.

**Verification:** Within 30 days after completing the survey, the project owner shall submit the noise survey report to the CPM. The project owner shall make the report available to OSHA and Cal/OSHA upon request.

### **Construction Time Restrictions**

**NOISE-6** Noisy construction and demolition work relating to any project features shall be restricted to the times of day delineated below:

Weekdays                      7:00 a.m. to 6:00 p.m.

Saturdays                      8:00 a.m. to 6:00 p.m.

Haul trucks and other engine-powered equipment shall be equipped with mufflers that meet all applicable regulations. Haul trucks shall be operated in accordance with posted speed limits. Truck engine exhaust brake use shall be limited to emergencies.

For purposes of this condition, “noisy construction work” shall be defined as any project-related work that draws a noise complaint caused by the construction or demolition activities associated with the CECP, as opposed to another source as determined by the CPM, pursuant to **NOISE-2**.

**Verification:** Prior to the start of the demolition of ASTs 1, 2, and 4, the project owner shall transmit to the CPM a statement acknowledging that the above restrictions will be observed throughout the demolition of ASTs 1, 2, and 4, the construction of the amended CECP power plant, and the subsequent demolition of the Encina Power Station.

**NOISE-7**     **[Deleted]**

## **Pile Driving Management**

**NOISE-8** The project owner shall perform pile driving in a manner to reduce the potential for any project-related noise or vibration complaints. The project owner shall notify the city of Carlsbad and the residents in the vicinity of pile driving prior to start of this activity. Vibrations from pile driving shall be limited to a peak particle velocity of 0.2 inches per second at receptors M2, M5, and M7.

**Verification:** At least 15 days prior to first pile driving, the project owner shall submit to the CPM a description of the pile driving technique to be employed, including calculations showing its projected noise impacts at monitoring locations M2, M5 and M7.

At least ten days prior to first production pile driving, the project owner shall notify the city of Carlsbad and the residents within one mile of the pile driving. The notification may be in the form of letters, or other effective means, as approved by the CPM. In this notification, the project owner shall state the expected start date, times, and duration of this activity, and state that it will perform this activity in a manner to reduce the potential for any project-related noise and vibration complaints. The project owner shall submit a copy of this notification to the CPM prior to the start of pile driving.

## **Concrete Pour Noise Control**

**NOISE-9** When concrete work requires continuous pouring that may extend beyond the times specified in Condition of Certification NOISE-6, the project owner shall notify the city of Carlsbad and all residences in the vicinity of the project site of the commencement date and the duration of concrete pouring activities.

The average  $L_{eq}$  noise levels from these activities shall not exceed the hourly average nighttime ambient  $L_{eq}$  levels at M2, M5, and M7, by more than five dBA, or alternatively, this activity shall be performed in a manner to ensure excessive noise is prohibited and the potential for noise complaints is reduced to the extent feasible.

**Verification:** At least ten days prior to concrete pouring activities that are anticipated to extend beyond the times specified in Condition of Certification NOISE-6, the project owner shall submit a statement to the CPM, specifying the expected start date, the time of night and the number of nights for which activities will occur, the approximate distance of activities to receptor locations M2, M5, and M7, and the expected sound levels at these receptors, and requesting an exemption to perform these activities outside of the above timeframe.

In this statement, the project owner shall either indicate that the expected sound levels from this activity will not exceed the nighttime noise limits specified above, or state that it will perform this activity in a manner to ensure excessive noise is prohibited and the potential for noise complaints is reduced to the extent feasible. The project owner shall not perform this nighttime work until the CPM has granted the request for exemption. After the above exemption is granted by the CPM and before the start of this activity, the project owner shall notify the city of Carlsbad of this approval.

At least ten days prior to concrete pouring activities, the project owner shall notify the city of Carlsbad and the residents within one mile of this work. The notification may be in the form of letters, or other effective means as approved by the CPM. In this notification, the project owner shall state that it will perform this activity in a manner to ensure excessive noise is prohibited, and include a telephone number that will be staffed throughout this activity for use by the public to report any undesirable noise conditions associated with these activities. The project owner shall submit a copy of this notification to the CPM prior to the start of this work.

## **PUBLIC HEALTH**

No public health conditions of certification are proposed.

## **SOCIOECONOMICS**

**SOCIO-1** The project owner shall pay or reimburse the city of Carlsbad for costs incurred in accordance with actual services performed by the city that the city would normally receive for a power plant or similar industrial development.

**Verification:** The project owner shall provide to the compliance project manager (CPM), proof of payment prior to the start of commercial operation.

**SOCIO-2** The project owner shall pay the one-time statutory school facility development fees to the Carlsbad Unified School District as required by Education Code Section 17620.

**Verification:** At least 30 days prior to the start of project construction, the project owner shall provide to the CPM, proof of payment to the Carlsbad Unified School District of the statutory development fee.

## **SOIL & WATER RESOURCES**

**SOIL&WATER-1:** The project owner shall comply with the requirements of the San Diego County Municipal Storm Water Permit (Order No. R9-2013- 0001, NPDES No. CAS0109266) and city of Carlsbad (city) Municipal Code Title 15, Chapter 15.12. The project owner shall develop and implement a Tier 3 Construction Storm Water Pollution Prevention Plan (Construction SWPPP) for the construction of the CECP site, laydown and parking areas, and all linear facilities. The Tier 3 Construction SWPPP shall be submitted to the city for review and comment and to the CPM for approval and shall contain all of the elements required by the General Permit for Construction Activities (Order No. 2009-0009-DWQ and its updates), the Municipal Permit (Order No. R9-2013- 0001, NPDES No. CAS0109266), and the city's current Storm Water Standards Manual.

**Verification:** Prior to site mobilization, the project owner shall submit to the compliance project manager (CPM) a copy of the Tier 3 Construction SWPPP that has been reviewed by the city and retain a copy on site.

The project owner shall submit to the CPM all copies of correspondence between the project owner and the city regarding the Tier 3 Construction SWPPP within ten days of its receipt or submittal. This information shall include copies of the Notice of Intent and Notice of Termination submitted to the State Water Resources Control Board for enrollment under the NPDES General Permit for Construction Activities.

**SOIL&WATER-2:** Potable water shall not be used for any construction activity, including EPS demolition activities, that is suitable for non-potable water use if a non-potable water source is available at the project site. Prior to site mobilization, the project owner shall submit to the CPM a Non-Potable Construction Water Use Plan (plan) for the supply and use of non-potable water in construction activities. The plan shall consider the use of recycled water available at the site. The plan shall specify those construction activities that would use non-potable water and those construction activities that would use potable water.

Potable water use for EPS demolition activities that are suitable for non-potable water shall count toward the cumulative total limit, in accordance with **SOIL&WATER-6**.

**Verification:** Prior to site mobilization, the project owner shall submit to the CPM for review and approval the Non-Potable Construction Water Use Plan. Within the Monthly Compliance Report, the project owner shall report the volume of potable and non-potable water used and the construction activities for which each was used.



**SOIL&WATER-3:** The project owner shall comply with the requirements of the San Diego County Municipal Storm Water Permit and City of Carlsbad (city) Municipal Code Title 15, Chapter 15.12. The project owner shall develop and implement a Storm Water Pollution Prevention Plan (Industrial SWPPP) for the operation of CECP. The industrial SWPPP shall be submitted to the city for review and comment and to the CPM for review and approval and shall be prepared in accordance with the requirements of the NPDES General Permit for Industrial Activities (Order No. 2014-0057-DWQ) and the city's Storm Water Standards Manual.

**Verification:** Prior to commercial operation, the project owner shall submit to the CPM a copy of the Industrial SWPPP and retain a copy on site.

The project owner shall submit to the CPM all copies of all correspondence between the project owner and the city regarding the Industrial SWPPP within ten days of its receipt or submittal. This information shall include a copy of the Notice of Intent submitted to the State Water Resources Control Board for enrollment under the NPDES General Permit for Industrial Activity.

**SOIL&WATER-4:** The project owner shall submit to the San Diego Regional Water Quality Control Board (SDRWQCB) all information required by the SDRWQCB to obtain a Waste Discharge Requirements (WDR) Order for the discharge of EPS demolition wastewater to the Pacific Ocean in accordance with NPDES requirements. The project owner shall submit to the CPM all copies of correspondence between the project owner and the SDRWQCB regarding the WDR Order within ten days of its receipt or submittal.

**Verification:** At least two weeks prior to the start of EPS demolition activities, the project owner shall submit to the CPM a copy of the approved WDR Order for the discharge of EPS demolition wastewater to the Pacific Ocean.

The project owner shall submit to the CPM the annual water quality monitoring report required by the SDRWQCB in the annual compliance report. The project owner shall notify the CPM of all WDR Order violations, the actions taken or planned to bring the project back into compliance with the WDR Order, and the date compliance was reestablished.

**SOIL&WATER-5:** Prior to the use of potable water from the city of Carlsbad (city) for any purpose related to the construction or operation of the CECP, the project owner shall provide the CPM with copies of all permit(s) for the delivery and hookup of potable water. The project owner shall comply with the city's Municipal Code Title 14, Chapter 14.08 for the supply and use of

potable water. Potable water shall not be used for any construction or operation activity, including EPS demolition activities, that is suitable for non-potable water use, unless needed for fire protection or emergency backup supply to the recycled water service, in accordance with **SOIL&WATER-6**.

**Verification:** No later than 30 days prior to the connection to the city's potable water system, the project owner shall provide the CPM with copies of all permits for the delivery and hookup of potable water.

The project owner shall submit to the CPM any water quality monitoring reports required by the city in the annual compliance report. The project owner shall notify the CPM of any violations of the permit(s) and conditions, the actions taken or planned to bring the project back into compliance with the permit(s), and the date compliance was reestablished.

**SOIL&WATER-6:** During normal operation the project shall use no more than three acre-feet per year (AFY) of potable water for drinking, sanitary, and fire protection testing purposes. The project shall use recycled water for all industrial and landscape irrigation purposes during operation of the CECP, unless potable water is needed for emergency backup use. For the purpose of this condition, the term emergency shall mean the inability of the CECP to take, or for the city of Carlsbad to deliver, recycled water to the CECP in a quantity sufficient to meet CECP demand due to Acts of God, natural disaster, and other circumstances beyond the control of the project owner, including interruption of recycled water service and it is necessary for the CECP to prepare to or continue to operate to serve a peaking load. If more than 3 AFY of potable water is needed during operation for non-emergency uses, the owner shall be required to file a formal petition to amend the project. If the CECP requires potable water for EPS demolition and emergencies that will cumulatively exceed 300 acre-feet during the life of the project, the project owner shall file a petition to amend. All emergency water use shall be reported in annual compliance reports. Reported values shall include monthly use and cumulative lifetime use, in acre-feet.

Prior to the use of potable or recycled water during the operation of the CECP, the project owner shall install and maintain metering devices as part of the water supply and distribution system to monitor and record in gallons per day the volume of all water sources used by the CECP. The metering devices shall be operational for the life of the project, and an

annual summary of daily water use by the CECP, differentiating between potable, emergency backup, and recycled supplies, shall be submitted to the CPM in the annual compliance report.

**Verification:** At least 60 days prior to use of any water source for CECP operation, the project owner shall submit to the CPM evidence that metering devices have been installed and are operational on all water supply pipelines serving the project. The project owner shall provide a report on the servicing, testing, and calibration of the metering devices in the annual compliance report.

The project owner shall submit a water use summary report to the CPM in the annual compliance report for the life of the project. The annual summary report shall be based on and distinguish recorded daily use and emergency uses of potable and, recycled water. The report shall include calculated monthly range, monthly average, and annual use by the project in both gallons per minute and acre-feet. After the first year and for subsequent years, this information shall also include the yearly range and yearly average potable and recycled water used by the project.

The project owner shall submit a petition to amend within three months of exceeding the maximum allowable 300 acre-feet of potable water for operational uses.

**SOIL&WATER-7:** Prior to connection to the city of Carlsbad's (city) sanitary sewer system, the project owner shall submit to the city all information and documentation required to satisfy city of Carlsbad Municipal Code Title 13, Chapters 13.04, 13.10, and 13.16 for the discharge of sanitary wastewater to the city's sewer system. During CECP operation, any monitoring reports provided to the city shall also be provided to the CPM. The CPM shall be notified of any violations of discharge limits or amounts.

**Verification:** At least 60 days prior to commercial operation, the project owner shall submit the information and documentation required to satisfy Municipal Code Title 13, Chapters 13.04, 13.10, and 13.16 and provide the CPM a copy of the city permits for the discharge of sanitary wastewater to the city's sewer system.

During operations, the project owner shall submit to the CPM any wastewater quality monitoring reports required by the city in the annual compliance report. The project owner shall submit any notices of violation from the city to the CPM within ten days of receipt and fully explain the corrective actions taken in the annual compliance report.

**SOIL&WATER-8:** If the project owner relies on recycled water for CECP water supply, the project owner shall provide the CPM two copies of the executed Recycled Water Purchase Agreement (agreement) with the recycled water producer and the city of Carlsbad (city) for the supply and

delivery of tertiary treated recycled water to the CECP. The CECP shall not connect to the city's recycled water pipeline without the final agreement in place. The project owner shall comply with the requirements of Title 22 and Title 17 of the California Code of Regulations and section 13523 of the California Water Code.

**Verification:** No later than 180 days prior to the connection to the city's recycled water pipeline, the project owner shall submit two copies of the executed agreement for the long-term supply and delivery of tertiary treated recycled water to the CECP. The agreement shall specify a maximum delivery rate of 215 afy and shall specify all terms and costs for the delivery and use of recycled water by the CECP.

No later than 60 days prior to connection to the city's recycled water pipeline, the project owner shall submit to the CPM a copy of the Engineering Report and Cross Connection inspection and approval report from the California Department of Public Health and all water reuse requirements issued by the San Diego Regional Water Quality Control Board.

**SOIL&WATER-9:** Prior to transport and disposal of any facility construction or demolition-related wastewaters offsite, the project owner shall test and classify the stored wastewater to determine proper management and disposal requirements. The project owner shall provide evidence that wastewater is disposed of at an appropriately licensed facility. The project owner shall ensure that the wastewater is transported and disposed of in accordance with the wastewater's characteristics and classification and all applicable LORS (including any CCR Title 22 Hazardous Waste and Title 23 Waste Discharges to Land requirements).

Where discharge of wastewater must comply with the San Diego Regional Water Quality Control Board (SDRWQCB) and State Water Resources Control Board regulatory requirements, the project owner shall submit a Report of Waste Discharge (ROWD) to the compliance project manager (CPM) and SDRWQCB for determination of which regulatory waiver or permit applies to the proposed discharges. The project owner shall pay all necessary fees for filing and review of the ROWD and all other related fees. Checks for such fees shall be submitted to the SDRWQCB and shall be payable to the State Water Resources Control Board. The project owner shall ensure compliance with the provisions of the waiver or permit applicable to the discharge. Where the regulatory requirements are not applied pursuant to a National Pollutant Discharge Elimination System permit, it is the Commission's intent that the requirements of the applicable

waiver or permit be enforceable by both the Commission and the SDRWQCB. In furtherance of that objective, the Commission hereby delegates the enforcement of the waiver or permit requirements, and associated monitoring, inspection, and annual fee collection authority, to the SDRWQCB. The CPM and SDRWQCB shall confer with each other and coordinate, as needed, in the enforcement of the requirements.

**Verification:** The project owner shall submit to the CPM copies of all relevant correspondence between the project owner and the SWRCB or SDRWQCB about the EPS demolition wastewater discharge requirements within ten days of its receipt or submittal. This information shall include copies of the Notice of Intent and Notice of Termination for the project. A letter from the SWRCB or SDRWQCB indicating that there is no requirement for the discharge of EPS demolition wastewater would satisfy this condition.

Prior to transport and disposal of any facility construction-related wastewaters offsite, the project owner shall test and classify the stored wastewater to determine proper management and disposal requirements. The project owner shall ensure that the wastewater is transported and disposed of in accordance with the wastewater's characteristics and classification and complies with all applicable LORS (including any CCR Title 22 Hazardous Waste and Title 23 Waste Discharges to Land requirements). The project owner shall provide evidence to the CPM of proper wastewater disposal, via a licensed hauler to an appropriately licensed facility, in the monthly compliance report.

Where a ROWD is submitted to the SDRWQCB to obtain the appropriate waiver or permit, the appropriate waiver or permit must be obtained at least 30 days prior to the discharge.

The project owner shall submit a copy of any correspondence between the project owner and the SDRWQCB regarding the waiver or permit and all related reports to the CPM within ten days of correspondence receipt or submittal.

## **TRAFFIC & TRANSPORTATION**

**TRANS-1** The project owner shall consult with the city of Carlsbad and prepare and submit to the city of Carlsbad for review and comment and the Compliance Project Manager (CPM) for approval a construction/demolition traffic control plan. The plan shall be implemented during all phases of construction/demolition and shall address the following issues:

- Timing of truck trips, including heavy equipment and building materials deliveries, especially those that would cross the railroad tracks;
- Redirecting construction and demolition traffic with a flag person at a minimum for trucks traveling eastbound on Cannon Road from the SDG&E Service Gate to cross the railroad tracks;
- Signing, lighting, and traffic control device placement if required;
- Need for construction work hours and arrival/departure times outside and during peak traffic periods;
- Ensure access for emergency vehicles to the project site;
- Temporary closure of travel lanes;
- Access to adjacent residential and commercial property during the construction of all pipelines;
- Specify construction-related haul routes; and
- Identify safety procedures for exiting and entering the site access gate.

**Verification:** At least 30 days prior to tank demolition, the project owner shall provide the traffic control plan to the city of Carlsbad for review and comment and to the CPM for review and approval.

**TRANS-2** The project owner shall submit to the FAA Form 7460-1, Notice of Proposed Construction or Alteration, regarding any structures or objects exceeding 140 feet in height used during construction or operation of the Carlsbad Energy Center Project (CECP), or during any related activities, such as demolition of the Encina Power Station, and shall secure a Determination of No Hazard to Navigable Airspace for each structure or object. The structures or objects shall be marked and lit as required by the FAA so that they do not create a hazard to air navigation.

**Verification:** At least 30 days prior to the start of tank demolition, the project owner shall provide copies of the FAA Form 7460-1 and copies of the FAA Determination of No Hazard to Navigable Airspace to the CPM, the city of Carlsbad Planning Department, and the county of San Diego at McClellan-Palomar Airport. The project

owner shall also provide pictures of lit and marked structures or objects after the lighting and marking have been completed.

**TRANS-3** Prior to start-up and testing activities of the plant and all related facilities, the project owner shall work with the FAA and the county of San Diego at McClellan-Palomar Airport to notify all pilots using the McClellan-Palomar Airport and airspace above the CECP of potential air hazards. These activities would include, but not be limited to, the project owner working with the FAA in issuing a notice to airmen (NOTAM) of the identified air hazard and updating the Terminal Area Chart and all other FAA-approved airspace charts used by pilots that include the CECP site to indicate that pilots should avoid direct overflight.

**Verification:** At least 60 days prior to start of project operation, the project owner shall submit to the CPM for review and approval a letter from the FAA showing compliance with these measures.

**TRANS-4** During project construction/demolition, the project owner shall implement a rail crossing safety plan to address foot traffic as well as construction- and demolition-related vehicle crossing and the transport of heavy/oversize loads over the internal rail crossing.

**Verification:** At least 60 days prior to the start of tank demolition, the project owner shall submit the rail crossing safety plan to the CPM for review and approval.

**TRANS-5** During and following completion of project construction and demolition, the project owner shall repair any damage to roadways affected by construction/demolition activity to pre-project road conditions or better. Restoration of significant damage which could cause hazards (such as potholes, deterioration of pavement edges, or damaged signage) shall take place immediately after the damage has occurred. Prior to the start of demolition and construction, the project owner shall photograph or videotape all roadways that will be affected by pipeline construction and heavy truck traffic. The project owner shall provide the CPM and the city of Carlsbad with a copy of the images for the roadway segments under its jurisdiction. Also, prior to start of demolition and construction, the project owner shall notify the city about the schedule for project demolition/construction. The purpose of this notification is to allow the city the opportunity to postpone any planned roadway resurfacing and/or improvement projects until after the project demolition/construction has taken place and to coordinate demolition/construction-related activities associated with other projects.

**Verification:** If damage to public roads, easements, or rights-of-way occurs during demolition and construction, the project owner shall notify the CPM, and the city of Carlsbad if the damage occurs in their jurisdiction, to identify the sections to be repaired. At that time, the project owner and CPM shall establish a schedule for completion and approval of the repairs. The project owner shall provide monthly inspection reports of the condition of the roadways during the demolition and construction period, and roadway repairs undertaken during that period. Following completion of any repairs in the city of Carlsbad's jurisdiction, the project owner shall provide the CPM with letters signed by the city of Carlsbad stating their satisfaction with the repairs.

Within 30 days after completion of all project-related construction and demolition (completion of Phase IV), the project owner shall meet with the CPM and the city of Carlsbad to determine, receive approval for, and schedule the actions necessary to complete the repair of identified sections of public roadways to original condition or better or as near-original condition as possible. Following completion of any regional road improvements, the project owner shall provide to the CPM a letter from the city of Carlsbad if work occurred within its jurisdictional public right-of-way stating its satisfaction with the road improvements.

**TRANS-6** The project owner shall comply with Caltrans' and other relevant jurisdictions' limitations on vehicle sizes and weights. In addition, the project owner shall obtain necessary transportation permits from Caltrans and all relevant jurisdictions for roadway use.

**Verification:** In the Monthly Compliance Reports, the project owner shall submit copies of any permits received during that reporting period. In addition, the project owner shall retain copies of these permits and supporting documentation in its compliance file for at least six months after the start of commercial operation.

**TRANS-7** During project construction/demolition, the project owner shall implement a parking and staging plan for project construction and demolition to enforce a policy that all project-related parking occurs on site or in designated off-site parking areas.

**Verification:** At least 60 days prior to start of tank demolition, the project owner shall submit a parking and staging plan to the city of Carlsbad and other jurisdictions affected by site selection, such as the city and/or county of San Diego, for review and comment and to the CPM for review and approval.

**TRANS-8** The project owner shall comply with limitations for encroachment into public rights-of-way imposed by Caltrans and other relevant jurisdictions and shall



obtain necessary encroachment permits from Caltrans and all relevant jurisdictions.

**Verification:** In Monthly Compliance Reports, the project owner shall submit copies of permits received during the reporting period. In addition, the project owner shall retain copies of these permits and supporting documentation in its compliance file for at least six months after the start of commercial operation.

## **TRANSMISSION LINE SAFETY & NUISANCE**

**TLSN-1** The project owner shall ensure that the proposed 138-kV and 230-kV transmission lines are constructed according to the respective requirements of California Public Utility Commission's GO-95, GO-52, GO-131-D, GO-128, Title 8, and Group 2, High Voltage Electrical Safety Orders, Sections 2700 through 2974 of the California Code of Regulations, and San Diego Gas & Electric's EMF-reduction guidelines.

**Verification:** At least 30 days before starting construction of the transmission lines or related structures and facilities, the project owner shall submit to the compliance project manager (CPM) a letter signed by a California registered electrical engineer affirming that the lines will be constructed according to the requirements stated in the condition.

**TLSN-2** The project owner shall use a qualified individual to measure the strengths of the electric and magnetic fields from each transmission line at the points of maximum intensity along its route. The measurements shall be made after energization according to the American National Standard Institute/Institute of Electrical and Electronic Engineers (ANSI/IEEE) standard procedures. These measurements shall be completed no later than six months after the start of operations.

**Verification:** The project owner shall file copies of the post-energization measurements with the CPM within 60 days after completion of the measurements.

**TLSN-3** The project owner shall ensure that the rights-of-way of the proposed transmission lines are kept free of combustible material, as required under the provisions of section 4292 of the Public Resources Code and Section 1250 of Title 14 of the California Code of Regulations.

**Verification:** During the first five years of plant operation, the project owner shall provide a summary of inspection results and any fire prevention activities carried out along the right-of-way of each line and provide such summaries in the Annual Compliance Report.

**TLSN-4** The project owner shall ensure that all permanent metallic objects within the right-of-way of each of the two project-related transmission lines are grounded according to existing industry practices.

**Verification:** At least 30 days before the lines are energized, the project owner shall transmit to the CPM a letter confirming compliance with this condition.

## VISUAL RESOURCES

### Surface Treatment of Project Structures and Buildings

**VIS-1** The project owner shall treat the surfaces of all project structures and buildings visible to the public such that a) their colors minimize visual intrusion and contrast by blending with the landscape; b) their colors and finishes do not create excessive glare; and c) their colors and finishes are consistent with local policies and ordinances. The transmission line conductors shall be non-specular and non-reflective, and the insulators shall be non-reflective and non-refractive.

Surface color treatment shall include painting of turbine inlet filters, and other features in a dark color and value to match the surrounding tree canopy; and painting of exhaust stacks and transmission poles of a light color and value to blend with the sky.

The project owner shall submit for CPM review and approval, a specific surface treatment plan that will satisfy these requirements. The treatment plan shall include:

- a) A description of the overall rationale for the proposed surface treatment, including the selection of the proposed color(s) and finishes;
- b) A list of each major project structure, building, tank, pipe, and wall; the transmission line towers and/or poles; and fencing, specifying the color(s) and finish proposed for each. Colors must be identified by vendor, name, and number; or according to a universal designation system;
- c) One set of color brochures or color chips showing each proposed color and finish;
- d) One set of 11" x 17" color photo simulations at life size scale, of the treatment proposed for use on project structures, including structures treated during manufacture, from Key Observation Points 2 and 5 (locations shown on Visual Resources Figure 3 of the Staff Assessment);
- e) A specific schedule for completion of the treatment; and
- f) A procedure to ensure proper treatment maintenance for the life of the project.

The project owner shall not specify to the vendors the treatment of any buildings or structures treated during manufacture, or perform the final treatment on any buildings or structures treated in the field, until the project owner receives notification of approval of the treatment plan by the CPM. Subsequent modifications to the treatment plan are prohibited without CPM approval.

**Verification:**

1. At least 90 days prior to specifying to the vendor the colors and finishes of the first structures or buildings that are surface treated during manufacture, the project owner shall submit the proposed treatment plan to the CPM for review and approval and simultaneously to the city of Carlsbad for review and comment.
2. If the CPM determines that the plan requires revision, the project owner shall provide to the CPM a plan with the specified revision(s) for review and approval by the CPM before any treatment is applied. Any modifications to the treatment plan must be submitted to the CPM for review and approval.
3. Prior to the start of commercial operation, the project owner shall notify the CPM that surface treatment of all listed structures and buildings has been completed and they are ready for inspection and shall submit one set of electronic color photographs from the same key observation points identified in (d) above.
4. The project owner shall provide a status report regarding surface treatment maintenance in the Annual Compliance Report. The report shall specify a): the condition of the surfaces of all structures and buildings at the end of the reporting year; b) maintenance activities that occurred during the reporting year; and c) the schedule of maintenance activities for the next year.

**Additional Perimeter Landscape Screening**

**VIS-2** The project owner shall provide perimeter landscaping that reduces the visibility of the power plant structures in accordance with local policies and ordinances. Trees and other vegetation consisting of informal groupings of tall, fast-growing evergreen shrubs and trees shall be strategically placed along the eastern, western, and northern facility boundaries, consistent with transmission line safety requirements. The objective shall be to create landscape screening of sufficient density and height to screen the power plant structures to the greatest feasible extent in the shortest feasible time; and to provide timely replacement for aging or diseased tree specimens on site in order to avoid future loss of existing visual screening. The design approach shall include both fast-growing tall shrubs to provide

quick screening, and tall evergreen trees similar to those existing on site, to provide an ultimate overall canopy height comparable to that existing atop the CECP site earth berms. In order to compensate for recent tree losses in the berm along the I-5 frontage and enhance perimeter screening in the earliest feasible time-frame, implementation of VIS-2 shall begin at the earliest feasible time, in conjunction with Phase I construction. Also, in anticipation of future I-5 widening, planting under VIS-2 shall include supplemental tall tree planting in available areas outside of the anticipated I-5 right-of-way.

In addition, the project owner shall, in coordination with the city of Carlsbad, prepare and submit supplemental, modified landscape plans to provide for replacement tree planting as needed, to the greatest feasible extent, in the future event of loss of existing tree screening due to city of Carlsbad sewer and/or lift station projects. Such supplemental landscape plans shall also provide the plan components described in items a through d, below, and be subject to the same verification procedures.

The project owner shall submit to the CPM for review and approval, and simultaneously to the city of Carlsbad for review and comment, a landscaping plan whose proper implementation will satisfy these requirements. The plan shall include:

- a) A detailed landscape, grading, and irrigation plan, at a reasonable scale. The plan shall demonstrate how the requirements stated above shall be met. The plan shall provide a detailed installation schedule demonstrating installation of as much of the landscaping as early in the construction process as is feasible in coordination with project construction.
- b) A list (prepared by a qualified professional arborist familiar with local growing conditions) of proposed species, specifying installation sizes, growth rates, suitable native and non-invasive plant species, and local availability of proposed species. expected time to maturity, expected size at five years and at maturity, spacing, number, availability, and a discussion of the suitability of the plants for the site conditions and mitigation objectives, with the objective of providing the widest possible range of species from which to choose;
- c) Maintenance procedures, including any needed irrigation and a plan for routine annual or semi-annual debris removal for the life of the project;

- d) A procedure for monitoring for and replacement of unsuccessful plantings for the life of the project; and
- e) One set of 11"x17" color photo-simulations of the proposed landscaping at five years and 20 years after planting, as viewed from adjoining segments of I-5.

The plan shall not be implemented until the project owner receives final approval from the CPM.

**Verification:**

1. The landscaping plan shall be developed and submitted for review at the earliest feasible time during or prior to Phase I construction. The landscaping plan shall be submitted to the CPM for review and approval and simultaneously to the city of Carlsbad for review and comment at least 90 days prior to installation.
2. If the CPM determines that the plan requires revision, the project owner shall provide to the CPM and simultaneously to the city of Carlsbad a revised plan for review and approval by the CPM.
3. The planting must occur during the first optimal planting season following site mobilization. The project owner shall simultaneously notify the CPM and the city of Carlsbad within seven days after completing installation of the landscaping, that the landscaping is ready for inspection.
4. The project owner shall report landscape maintenance activities, including replacement of dead or dying vegetation, for the previous year of operation in each Annual Compliance Report. The city of Carlsbad, with the concurrence of the CPM, shall have authority to require replacement planting of dead or dying vegetation through the life of the project.

**Landscape Screening of Construction Staging Sites**

**VIS-3** The project owner shall provide a detailed plan of the northeast laydown area for review and approval. The project owner shall modify the footprint of the proposed northeast laydown site as needed to avoid perimeter berm or tree removal. The project owner shall provide supplemental landscaping during or prior to the construction phase that reduces the visibility of construction staging activities, equipment and materials, as needed. Where supplemental or replacement planting is needed to provide screening of staging activities, trees and other vegetation consisting of informal groupings of fast-growing evergreens shall be strategically placed along the northern, eastern and western boundaries of the staging sites, as appropriate, of sufficient density and height to provide

the greatest feasible screening within the shortest feasible time. Planting of the landscape screening shall be implemented as soon after start of project construction as feasible, in order to maximize growing time and screening of staging activities during the construction period.

If necessary to provide visual screening of staging activities, equipment and materials in the short term, the project owner shall provide temporary dark-colored, opaque fencing to provide visual screening until landscape screening described above has achieved sufficient maturity to provide visual screening. Existing opaque fencing shall be maintained along the Carlsbad Boulevard frontage of the EPS for the duration of construction and demolition.

The project owner shall submit to the CPM for review and approval, and simultaneously to the city of Carlsbad for review and comment, a landscaping plan whose proper implementation will satisfy these requirements. The plan shall include:

- a) A detailed landscape, grading, and irrigation plan, at a reasonable scale. The plan shall demonstrate how the requirements stated above shall be met. The plan shall provide a detailed installation schedule demonstrating installation of as much of the landscaping as early in the construction process as is feasible in coordination with project construction. The intent of the plan shall be to minimize loss of existing perimeter tree and shrub screening, particularly at the northeast laydown site; and to provide supplemental and replacement plantings as needed to screen staging sites.
- b) A list (prepared by a qualified professional arborist familiar with local growing conditions) of proposed species, specifying installation sizes, growth rates, expected time to maturity, expected size at five years and at maturity, spacing, number, availability, and a discussion of the suitability of the plants for the site conditions and mitigation objectives, with the objective of providing the widest possible range of species from which to choose;
- c) Maintenance procedures, including any needed irrigation and a plan for routine annual or semi-annual debris removal for the life of the project;
- d) A procedure for monitoring for and replacement of unsuccessful plantings for the life of the project; and
- e) One set of 11"x17" color photo-simulations of the proposed landscape condition at start of construction and at five years after

planting, as viewed from Key Observation Point 6 (location shown on Visual Resources Figure 3 of the Staff Assessment).

The plan shall not be implemented until the project owner receives final approval from the CPM.

**Verification:**

- 1) The landscaping plan shall be submitted to the CPM for review and approval, and simultaneously to the City of Carlsbad for review and comment, at least 90 days prior to start of construction.
- 2) If the CPM determines that the plan requires revision, the project owner shall provide to the CPM and simultaneously to the city of Carlsbad a revised plan for review and approval by the CPM.
- 3) The planting must occur during the first optimal planting season following site mobilization. The project owner shall simultaneously notify the CPM and the city of Carlsbad within seven days after completing installation of the landscaping, that the landscaping is ready for inspection.
- 4) The project owner shall report landscape maintenance activities, including replacement of dead or dying vegetation, for the previous year of operation in each Annual Compliance Report.

**Temporary and Permanent Exterior Lighting**

**VIS-4** To the extent feasible, consistent with safety and security considerations, the project owner shall design and install all permanent exterior lighting such that a) lamps and reflectors are not visible from beyond the project site, including any off-site security buffer areas; b) lighting does not cause excessive reflected glare; c) direct lighting does not illuminate the nighttime sky; d) illumination of the project and its immediate vicinity is minimized, and e) the lighting complies with local policies and ordinances.

The project owner shall submit to the CPM for review and approval, and simultaneously to the city of Carlsbad for review and comment, a lighting mitigation plan that includes the following:

- a) Location and direction of light fixtures shall take the lighting mitigation requirements into account;
- b) Lighting design shall consider setbacks of project features from the site boundary to aid in satisfying the lighting mitigation requirements;



- c) Lighting shall incorporate fixture hoods/shielding, with light directed downward or toward the area to be illuminated;
- d) Light fixtures that are visible from beyond the project boundary shall have cutoff angles that are sufficient to prevent lamps and reflectors from being visible beyond the project boundary, except where necessary for security;
- e) All lighting shall be of minimum necessary brightness consistent with operational safety and security; and
- f) Lights in high illumination areas not occupied on a continuous basis (such as maintenance platforms) shall have (in addition to hoods) switches, timer switches, or motion detectors so that the lights operate only when the area is occupied.
- g) In order to conform with Condition of Certification BIO-7, FAA-required exhaust stack lighting shall be white strobe-type lighting.

**Verification:**

- 1) At least 90 days prior to ordering any permanent exterior lighting, the project owner shall contact the CPM to discuss the documentation required in the lighting mitigation plan.
- 2) At least 60 days prior to ordering any permanent exterior lighting, the project owner shall submit to the CPM for review and approval, and simultaneously to the city of Carlsbad for review and comment, a lighting mitigation plan.
- 3) If the CPM determines that the plan requires revision, the project owner shall provide to the CPM a revised plan for review and approval by the CPM.
- 4) The project owner shall not order any exterior lighting until receiving CPM approval of the lighting mitigation plan.
- 5) Prior to commercial operation, the project owner shall notify the CPM that the lighting has been completed and is ready for inspection. If after inspection the CPM notifies the project owner that modifications to the lighting are needed, within 30 days of receiving that notification the project owner shall implement the modifications and notify the CPM that the modifications have been completed and are ready for inspection.
- 6) Within 48 hours of receiving a lighting complaint, the project owner shall provide the CPM with a complaint resolution form report as specified in the Compliance Conditions including a proposal to resolve the complaint, and a schedule for implementation. The project owner shall notify the CPM within 48 hours after

completing implementation of the proposal. A copy of the complaint resolution form report shall be submitted to the CPM within 30 days.

### **Cumulative Impact Buffer Zone, Coordination with Caltrans, and Mitigation Plan**

**VIS-5** In order to address potential cumulative visual impacts resulting from I-5 widening, the project owner shall maintain a permanent buffer zone, including the existing vegetative visual screening, on the eastern portion of the CECP site, between the existing NRG fence line and storage tank perimeter road. This measure shall be coordinated with Conditions of Certification **LAND-1** and **HAZ-8**, requiring construction of a tall wall/safety barrier at the future right-of-way. The existing landscape screening within the buffer zone shall be maintained and enhanced per Condition of Certification **VIS-2** after start of project construction. The buffer zone shall be kept available to maintain existing visual screening, accommodate future possible I-5 widening to the extent necessary, and to accommodate both future hazard protection features and visual screening.

In addition, the project owner shall work with Caltrans to develop a Cumulative Impact Mitigation Plan for accommodating the widening project while maintaining visual screening of the CECP to acceptable levels over the long term following I-5 widening. This plan could include complete or partial avoidance of the CECP site, complete or partial berm retention or replacement, complete or partial retention of existing landscape screening, and replacement screening as needed. The objective of the plan shall be to accommodate the I-5 widening within the designated buffer zone to the extent that encroachment is unavoidable, while providing needed hazard protection and acceptable levels of visual screening of the power plant.

The Cumulative Impact Mitigation Plan shall include a landscape planting buffer zone along the entire CECP/I-5 boundary, to accommodate replacement tree canopy of sufficient height and density and to provide substantial visual screening of the tall amended CECP features, including exhaust stacks and transmission poles; and to substantially replace any existing tree canopy on the eastern CECP boundary lost to highway expansion. The landscape buffer may occupy portions of the CECP site, the Caltrans right-of-way, or both. Wherever feasible, the landscape buffer shall maintain a minimum 20 foot width. Where infeasible, exceptions shall be approved by the CPM. The solution developed under Condition of

Certification **VIS-5** shall not preclude relocation or undergrounding of transmission poles or other features, if necessary to provide the stipulated visual buffer or achieve adequate long-term project screening.

Landscaping of the buffer zone shall include installation of large-container (24-inch box or larger, as needed), fast-growing evergreen trees in sufficient density to provide comparable or better visual screening of the CECP site than currently exists, within the shortest feasible period. Trees shall be selected and located so as to achieve substantial screening within a period of five years from the time of planting.

The plan shall, at a minimum, include the following components:

- a) a record of discussions, meetings and planning activities conducted with Caltrans;
- b) the conclusions of these coordination activities;
- c) detailed plans, elevations, cross-sections or other details, including a detailed list of plants and container size, sufficient to fully convey how the objectives of effective visual screening of the CECP are to be achieved. To the extent possible, the plans shall comply with the city of Carlsbad Landscape Manual as applicable. The plan shall specifically address visual design of security barriers required under Condition of Certification **HAZ-8** to ensure their aesthetic quality and compatibility. To the extent feasible, the plans shall conform to the intent of the Caltrans Design Guidelines for the I-5 NCC Project, Coastal Mesa Theme Unit (Caltrans 2013); and
- d) a proposed construction schedule.

To the extent that it is necessary to plant or maintain vegetative screening on project lands transferred to Caltrans in furtherance of the widening project, the project owner shall be responsible for the costs of doing so, whether by reimbursement to Caltrans, performing the work itself under agreement with Caltrans or a third party (such as the City of Carlsbad) contracting with Caltrans, or some other means.

**Verification:**

At the earliest feasible time, the project owner shall coordinate with Caltrans to discuss specific hazard and visual mitigation strategies. The project owner shall work with Caltrans to devise a specific Cumulative Impact Mitigation Plan for accommodating hazard protection and visual screening, to be implemented at the time of I-5 widening.

Following coordination and plan development with Caltrans, the project owner shall submit a draft of the Cumulative Impact Mitigation Plan to the city of Carlsbad for review and comment, and to the CPM for review and approval, at least 180 days prior to completion by Caltrans of I-5 widening in the area of the CECP boundary. The project owner shall submit any required revisions within 30 days of notification by the CPM. The project owner shall not implement the plan until receiving approval from the CPM. After receiving approval, the project owner shall complete implementation of the mitigation plan at the earliest feasible opportunity, but not later than 180 days after plan approval. The project owner shall notify the CPM within seven days after implementing the approved plan that the plan is ready for inspection.

## FACILITY DESIGN

**GEN-1** The project owner shall design, construct, and inspect the project in accordance with the 2013 California Building Standards Code (CBSC), also known as Title 24, California Code of Regulations, which encompasses the California Building Code (CBC), California Administrative Code, California Electrical Code, California Mechanical Code, California Plumbing Code, California Energy Code, California Fire Code, California Code for Building Conservation, California Reference Standards Code, and all other applicable engineering laws, ordinances, regulations and standards (LORS) in effect at the time initial design plans are submitted to the chief building official (CBO) for review and approval (the CBSC in effect is the edition that has been adopted by the California Building Standards Commission and published at least 180 days previously). The project owner shall ensure that all the provisions of the above applicable codes are enforced during the construction, addition, alteration, moving, demolition, repair, or maintenance of the completed facility, including the demolition of above-ground fuel oil storage tanks 1, 2, and 4 (ASTs 1, 2, and 4), and the demolition of the Encina Power Station (EPS) (2013 CBC, Appendix Chapter 1, § 1.1.3, Scope). All transmission facilities (lines, switchyards, switching stations and substations) are covered in the conditions of certification in the **Transmission System Engineering** section of this document.

In the event that the initial engineering designs are submitted to the CBO when the successor to the 2013 CBSC is in effect, the 2013 CBSC provisions shall be replaced with the applicable successor provisions. Where, in any specific case, different sections of the code specify different materials, methods of construction or other requirements, the most restrictive shall govern. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall govern.

The project owner shall ensure that all contracts with contractors, subcontractors, and suppliers clearly specify that all work performed and materials supplied comply with the codes listed above.

**Verification:** At least 30 days prior to the demolition of ASTs 1, 2, and 4, the project owner shall contact the CBO to obtain the CBO's approval of the work. At least five days prior to the start of this demolition, the project owner shall notify the CPM of the CBO's approval of this work.

At least 30 days prior to the demolition of the EPS, the project owner shall contact the CBO to obtain the CBO's approval of the work. At least five days prior to the start of this demolition, the project owner shall notify the CPM of the CBO's approval of this work.

Within 30 days following receipt of the certificate of occupancy, the project owner shall submit to the compliance project manager (CPM) a statement of verification, signed by the responsible design engineer, attesting that all designs, construction, installation, and inspection requirements of the applicable LORS and the Energy Commission's decision have been met in the area of facility design. The project owner shall provide the CPM a copy of the certificate of occupancy within 30 days of receipt from the CBO (2013 CBC, Appendix Chapter 1, § 111, Certificate of Occupancy).

Once the certificate of occupancy has been issued, the project owner shall inform the CPM at least 30 days prior to any construction, addition, alteration, moving, demolition, repair, or maintenance to be performed on any portion(s) of the completed facility that requires CBO approval for compliance with the above codes. The CPM will then determine if the CBO needs to approve the work.

**GEN-2** Before submitting the initial engineering designs for CBO review, the project owner shall furnish the CPM and the CBO with a schedule of facility design submittals, master drawing and master specifications lists. The schedule shall contain a list of proposed submittal packages of designs, calculations, and specifications for major structures and equipment. To facilitate audits by Energy Commission staff, the project owner shall provide specific packages to the CPM upon request.

**Verification:** At least 60 days (or within a project owner- and CBO-approved alternative time frame) prior to the start of rough grading, the project owner shall submit to the CBO and to the CPM the schedule, the master drawing and master specifications lists of documents to be submitted to the CBO for review and approval. These documents shall be the pertinent design documents for the major structures and equipment listed in **Facility Design Table 2**, below. Major structures and equipment shall be added to or deleted from the table only with CPM approval. The project owner shall provide schedule updates in the monthly compliance report.

**Facility Design Table 2  
Major Structures and Equipment List**

Equipment/System	Quantity (Plant)
Combustion Gas Turbine (CGT) Foundation and Connections	6
Selective Catalytic Reduction Stack Foundations and Connections	6
CGT Generator Foundations and Connections	6
CGT Transformer Foundations and Connections	6
Auxiliary Transformer Foundations and Connections	6
Generator Circuit Breaker Foundations and Connections	6
Fin Fan Cooler Foundations and Connections	6
Balance of Plant PDC	1
CGT Lube Oil Cooler Foundations and Connections	2
CGT Inlet Filter Foundations and Connections	2
Air Compressor Building Structure, Foundations and Connections	1
Fuel Gas Compressors Building Structure, Foundations and Connections	1
Water Treatment Trailer Foundations and Connections	1
Continuous Emissions Monitoring System Foundations and Connections	3
Shell and Tube Heat Exchanger Foundations and Connections	6
Auxiliary Skid Foundations and Connections	6
Attemperation Blower Skid Foundations and Connections	6
CGT and Intercooler MCC	6
Warehouse and Maintenance Building Structure, Foundations and Connections	1
Control Room and Administration Building Structure, Foundations and Connections	1
<u>Emergency Diesel Generator Foundations and Connections</u>	1
<u>Storage Tanks Structure, Foundations and Connections</u>	4
<u>Fuel Gas Metering Foundations and Connections</u>	1
<u>Ammonia Prep Foundations and Connections</u>	1
<u>Raw/Fire Water Tank Foundation and Connections</u>	1
<u>Demineralized Water Storage Tank Foundation and Connections</u>	1
<u>Fire Water Pumps Building Foundations and Connections</u>	1
<u>Crane Maintenance Pad Foundations and Connections</u>	2

**GEN-3** The project owner shall make payments to the CBO for design review, plan checks, and construction inspections, based upon a reasonable fee schedule to be negotiated between the project owner and the CBO. These fees may be consistent with the fees listed in the 2013 CBC (2013 CBC, Appendix Chapter 1, § 109, Fees), adjusted for inflation and other appropriate adjustments; may be based on the value of the facilities reviewed; may be based on hourly rates; or may be otherwise agreed upon by the project owner and the CBO.

**Verification:** The project owner shall make the required payments to the CBO in accordance with the agreement between the project owner and the CBO. The project owner shall send a copy of the CBO's receipt of payment to the CPM in the next monthly compliance report indicating that applicable fees have been paid.

**GEN-4** Prior to the start of rough grading, the project owner shall assign a California- registered architect, structural engineer, or civil engineer, as the resident engineer in charge of the project (2013 California Administrative Code, § 4-209, Designation of Responsibilities). All transmission facilities (lines, switchyards, switching stations, and substations) are addressed in the conditions of certification in the **Transmission System Engineering** section of this document.

The resident engineer may delegate responsibility for portions of the project to other registered engineers. Registered mechanical and electrical engineers may be delegated responsibility for mechanical and electrical portions of the project, respectively. A project may be divided into parts, provided that each part is clearly defined as a distinct unit. Separate assignments of general responsibility may be made for each designated part.

The resident engineer shall:

1. Monitor progress of construction work requiring CBO design review and inspection to ensure compliance with LORS;
2. Ensure that construction of all facilities subject to CBO design review and inspection conforms in every material respect to applicable LORS, these conditions of certification, approved plans, and specifications;
3. Prepare documents to initiate changes in approved drawings and specifications when either directed by the project owner or as required by the conditions of the project;



4. Be responsible for providing project inspectors and testing agencies with complete and up-to-date sets of stamped drawings, plans, specifications, and any other required documents;
5. Be responsible for the timely submittal of construction progress reports to the CBO from the project inspectors, the contractor, and other engineers who have been delegated responsibility for portions of the project; and
6. Be responsible for notifying the CBO of corrective action or the disposition of items noted on laboratory reports or other tests when they do not conform to approved plans and specifications.

The resident engineer shall have the authority to halt construction and to require changes or remedial work if the work does not meet requirements.

If the resident engineer or the delegated engineers are reassigned or replaced, the project owner shall submit the name, qualifications and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer.

**Verification:** At least 30 days (or within a project owner- and CBO-approved alternative time frame) prior to the start of rough grading, the project owner shall submit to the CBO for review and approval, the resume and registration number of the resident engineer and any other delegated engineers assigned to the project. The project owner shall notify the CPM of the CBO's approvals of the resident engineer and other delegated engineer(s) within five days of the approval.

If the resident engineer or the delegated engineer(s) is subsequently reassigned or replaced, the project owner has five days to submit the resume and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer within five days of the approval.

**GEN-5** Prior to the start of rough grading, the project owner shall assign at least one of each of the following California registered engineers to the project: a civil engineer; a soils, geotechnical, or civil engineer experienced and knowledgeable in the practice of soils engineering; and an engineering geologist. Prior to the start of construction, the project owner shall assign at least one of each of the following California registered engineers to the project: a design engineer who is either a structural engineer or a civil engineer fully competent and proficient in the design of power plant structures and equipment supports; a mechanical engineer; and an electrical engineer. (California Business and Professions Code section

6704 et seq., and sections 6730, 6731 and 6736 require state registration to practice as a civil engineer or structural engineer in California) All transmission facilities (lines, switchyards, switching stations, and substations) are handled in the conditions of certification in the **Transmission System Engineering** section of this document.

The tasks performed by the civil, mechanical, electrical, or design engineers may be divided between two or more engineers, as long as each engineer is responsible for a particular segment of the project (for example, proposed earthwork, civil structures, power plant structures, equipment support). No segment of the project shall have more than one responsible engineer. The transmission line may be the responsibility of a separate California registered electrical engineer.

The project owner shall submit, to the CBO for review and approval, the names, qualifications, and registration numbers of all responsible engineers assigned to the project (2013 CBC, Appendix Chapter 1, § 104, Duties and Powers of Building Official).

If any one of the designated responsible engineers is subsequently reassigned or replaced, the project owner shall submit the name, qualifications and registration number of the newly assigned responsible engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer.

- A. The civil engineer shall:
1. Review the foundation investigations, geotechnical, or soils reports prepared by the soils engineer, the geotechnical engineer, or by a civil engineer experienced and knowledgeable in the practice of soils engineering;
  2. Design (or be responsible for the design of), stamp, and sign all plans, calculations, and specifications for proposed site work, civil works, and related facilities requiring design review and inspection by the CBO. At a minimum, these include: grading; site preparation; excavation; compaction; and construction of secondary containment, foundations, erosion and sedimentation control structures, drainage facilities, underground utilities, culverts, site access roads and sanitary sewer systems; and
  3. Provide consultation to the resident engineer during the construction phase of the project and recommend changes in the design of the civil works facilities and changes to the construction procedures.

- B. The soils engineer, geotechnical engineer, or civil engineer experienced and knowledgeable in the practice of soils engineering, shall:
1. Review all the engineering geology reports;
  2. Prepare the foundation investigations, geotechnical, or soils reports containing field exploration reports, laboratory tests, and engineering analysis detailing the nature and extent of the soils that could be susceptible to liquefaction, rapid settlement or collapse when saturated under load (2013 CBC, Chapter 18, § 1803, Soils Engineering Report)
  3. Be present, as required, during site grading and earthwork to provide consultation and monitor compliance with requirements set forth in the 2013 CBC, Chapter 17, § 1704, Special Inspection (depending on the site conditions, this may be the responsibility of either the soils engineer, the engineering geologist, or both); and
  4. Recommend field changes to the civil engineer and resident engineer.

This engineer shall be authorized to halt earthwork and to require changes if site conditions are unsafe or do not conform to the predicted conditions used as the basis for design of earthwork or foundations (2013 CBC, Appendix Chapter 1, § 115, Stop Work Orders).

- C. The engineering geologist shall:
1. Review all the engineering geology reports and prepare a final soils grading report; and
  2. Be present, as required, during site grading and earthwork to provide consultation and monitor compliance with the requirements set forth in the 2013 California Administrative Code, § 4-211, Observation and Inspection of Construction (depending on the site conditions, this may be the responsibility of either the soils engineer, the engineering geologist, or both).
- D. The design engineer shall:
1. Be directly responsible for the design of the proposed structures and equipment supports;
  2. Provide consultation to the resident engineer during design and construction of the project;
  3. Monitor construction progress to ensure compliance with engineering LORS;
  4. Evaluate and recommend necessary changes in design; and

5. Prepare and sign all major building plans, specifications, and calculations.
- E. The mechanical engineer shall be responsible for, and sign and stamp a statement with, each mechanical submittal to the CBO, stating that the proposed final design plans, specifications, and calculations conform to all of the mechanical engineering design requirements set forth in the Energy Commission's decision.
  - F. The electrical engineer shall:
    1. Be responsible for the electrical design of the project; and
    2. Sign and stamp electrical design drawings, plans, specifications, and calculations.

**Verification:** At least 30 days (or within a project owner- and CBO-approved alternative time frame) prior to the start of rough grading, the project owner shall submit to the CBO for review and approval, resumes and registration numbers of the responsible civil engineer, soils (geotechnical) engineer and engineering geologist assigned to the project.

At least 30 days (or within a project owner- and CBO-approved alternative time frame) prior to the start of construction, the project owner shall submit to the CBO for review and approval, resumes and registration numbers of the responsible design engineer, mechanical engineer, and electrical engineer assigned to the project.

The project owner shall notify the CPM of the CBO's approvals of the responsible engineers within five days of the approval.

If the designated responsible engineer is subsequently reassigned or replaced, the project owner has five days in which to submit the resume and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer within five days of the approval.

**GEN-6** Prior to the start of an activity requiring special inspection, the project owner shall assign to the project qualified and certified special inspector(s) who shall be responsible for the special inspections required by the 2013 CBC, Chapter 17, § 1704; Special Inspections, Chapter 17A, § 1704A, Special Inspections; and Appendix Chapter 1, § 110, Inspections. All transmission facilities (lines, switchyards, switching stations, and substations) are handled in conditions of certification in the **Transmission System Engineering** section of this document.

A certified weld inspector, certified by the American Welding Society (AWS), and/or American Society of Mechanical Engineers (ASME) as

applicable, shall inspect welding performed on site requiring special inspection (including structural, piping, tanks and pressure vessels).

The special inspector shall:

1. Be a qualified person who shall demonstrate competence, to the satisfaction of the CBO, for inspection of the particular type of construction requiring special or continuous inspection;
2. Observe the work assigned for conformance with the approved design drawings and specifications;
3. Furnish inspection reports to the CBO and resident engineer. All discrepancies shall be brought to the immediate attention of the resident engineer for correction, then, if uncorrected, to the CBO and the CPM for corrective action [2013 CBC, Chapter 17, Section 1704.2.4, Report Requirements]; and
4. Submit a final signed report to the resident engineer, CBO, and CPM, stating whether the work requiring special inspection was, to the best of the inspector's knowledge, in conformance with the approved plans, specifications, and other provisions of the applicable edition of the CBC.

**Verification:** At least 15 days (or within a project owner- and CBO-approved alternative time frame) prior to the start of an activity requiring special inspection, the project owner shall submit to the CBO for review and approval, with a copy to the CPM, the name(s) and qualifications of the certified weld inspector(s) or other certified special inspector(s) assigned to the project to perform one or more of the duties set forth above. The project owner shall also submit to the CPM a copy of the CBO's approval of the qualifications of all special inspectors in the next monthly compliance report.

If the special inspector is subsequently reassigned or replaced, the project owner has five days in which to submit the name and qualifications of the newly assigned special inspector to the CBO for approval. The project owner shall notify the CPM of the CBO's approval of the newly assigned inspector within five days of the approval.

**GEN-7** If any discrepancy in design and/or construction is discovered in any engineering work that has undergone CBO design review and approval, the project owner shall document the discrepancy and recommend required corrective actions (2013 CBC, Chapter 17, § 1704.2.4, Report Requirements). The discrepancy documentation shall be submitted to the CBO for review and approval. The discrepancy documentation shall

reference this condition of certification and, if appropriate, applicable sections of the CBC and/or other LORS.

**Verification:** The project owner shall transmit a copy of the CBO's approval of any corrective action taken to resolve a discrepancy to the CPM in the next monthly compliance report. If any corrective action is disapproved, the project owner shall advise the CPM, within five days, of the reason for disapproval and the revised corrective action to obtain CBO's approval.

**GEN-8** The project owner shall obtain the CBO's final approval of all completed work that has undergone CBO design review and approval. The project owner shall request the CBO to inspect the completed structure and review the submitted documents. The project owner shall notify the CPM after obtaining the CBO's final approval. The project owner shall retain one set of approved engineering plans, specifications, and calculations (including all approved changes) at the project site or at an alternative site approved by the CPM during the operating life of the project (2013 CBC, Appendix Chapter 1, § 110, Inspections). Electronic copies of the approved plans, specifications, calculations, and marked-up as-builts shall be provided to the CBO for retention by the CPM.

**Verification:** Within 15 days of the completion of any work, the project owner shall submit to the CBO, with a copy to the CPM, in the next monthly compliance report, (a) a written notice that the completed work is ready for final inspection, and (b) a signed statement that the work conforms to the final approved plans. After storing the final approved engineering plans, specifications, and calculations described above, the project owner shall submit to the CPM a letter stating both that the above documents have been stored and the storage location of those documents.

Within 90 days of the completion of construction, the project owner shall provide to the CBO three sets of electronic copies of the above documents at the project owner's expense. These are to be provided in the form of "read only" files (Adobe .pdf 6.0), with restricted (password-protected) printing privileges, on archive quality compact discs.

**CIVIL-1** The project owner shall submit to the CBO for review and approval the following:

1. Design of the proposed drainage structures and the grading plan;
2. An erosion and sedimentation control plan;
3. Related calculations and specifications, signed and stamped by the responsible civil engineer; and

4. Soils, geotechnical, or foundation investigations reports required by the 2013 CBC, Chapter 18, § 1803.6 Reporting, and § 1803, Geotechnical Investigation.

**Verification:** At least 15 days (or within a project owner- and CBO-approved alternative time frame) prior to the start of site grading the project owner shall submit the documents described above to the CBO for design review and approval. In the next monthly compliance report following the CBO's approval, the project owner shall submit a written statement certifying that the documents have been approved by the CBO.

**CIVIL-2** The resident engineer shall, if appropriate, stop all earthwork and construction in the affected areas when the responsible soils engineer, geotechnical engineer, or the civil engineer experienced and knowledgeable in the practice of soils engineering identifies unforeseen adverse soil or geologic conditions. The project owner shall submit modified plans, specifications, and calculations to the CBO based on these new conditions. The project owner shall obtain approval from the CBO before resuming earthwork and construction in the affected area (2013 CBC, § 115, Stop Work Orders).

**Verification:** The project owner shall notify the CPM within 24 hours when earthwork and construction is stopped as a result of unforeseen adverse geologic/soil conditions. Within 24 hours of the CBO's approval to resume earthwork and construction in the affected areas, the project owner shall provide to the CPM a copy of the CBO's approval.

**CIVIL-3** The project owner shall perform inspections in accordance with the 2013 CBC, Appendix Chapter 1, § 110, Inspections; and Chapter 17, § 1704, Special Inspections. All plant site-grading operations, for which a grading permit is required, shall be subject to inspection by the CBO.

If, in the course of inspection, it is discovered that the work is not being performed in accordance with the approved plans, the discrepancies shall be reported immediately to the resident engineer, the CBO, and the CPM (2013 CBC, Chapter 17, § 1704.2.4, Report Requirements). The project owner shall prepare a written report, with copies to the CBO and the CPM, detailing all discrepancies, non-compliance items, and the proposed corrective action.

**Verification:** Within five days of the discovery of any discrepancies, the resident engineer shall transmit to the CBO and the CPM a non-conformance report (NCR), and the proposed corrective action for review and approval. Within five days of resolution of the NCR, the project owner shall submit the details of the corrective action to the CBO

and the CPM. A list of NCRs, for the reporting month, shall also be included in the following monthly compliance report.

**CIVIL-4** After completion of finished grading and erosion and sedimentation control and drainage work, the project owner shall obtain the CBO's approval of the final grading plans (including final changes) for the erosion and sedimentation control work. The civil engineer shall state that the work within his/her area of responsibility was done in accordance with the final approved plans (2013 CBC, Chapter 17, §1703.2, Written Approval).

**Verification:** Within 30 days (or project owner- and CBO-approved alternative time frame) of the completion of the erosion and sediment control mitigation and drainage work, the project owner shall submit to the CBO, for review and approval, the final grading plans (including final changes) and the responsible civil engineer's signed statement that the installation of the facilities and all erosion control measures were completed in accordance with the final approved combined grading plans, and that the facilities are adequate for their intended purposes, along with a copy of the transmittal letter to the CPM. The project owner shall submit a copy of the CBO's approval to the CPM in the next monthly compliance report.

**STRUC-1** Prior to the start of any increment of construction of any major structure or component listed in **Facility Design Table 2** of Condition of Certification **GEN-2**, above, the project owner shall submit to the CBO for design review and approval the proposed lateral force procedures for project structures and the applicable designs, plans and drawings for project structures. Proposed lateral force procedures, designs, plans and drawings shall be those for the following items (from **Table 2**, above):

1. Major project structures;
2. Major foundations, equipment supports, and anchorage; and
3. Large field-fabricated tanks.

Construction of any structure or component shall not begin until the CBO has approved the lateral force procedures to be employed in designing that structure or component.

The project owner shall:

1. Obtain approval from the CBO of lateral force procedures proposed for project structures;
2. Obtain approval from the CBO for the final design plans, specifications, calculations, soils reports, and applicable quality control procedures. If there are conflicting requirements, the more



stringent shall govern (for example, highest loads, or lowest allowable stresses shall govern). All plans, calculations, and specifications for foundations that support structures shall be filed concurrently with the structure plans, calculations, and specifications (2013 CBC, Appendix Chapter 1, §104.1, Duties and Powers of Building Official, 105, Permits);

3. Submit to the CBO the required number of copies of the structural plans, specifications, calculations, and other required documents of the designated major structures prior to the start of on-site fabrication and installation of each structure, equipment support, or foundation (2013 CBC, Appendix Chapter 1, § 107.5 Retention of Construction Documents);
4. Ensure that the final plans, calculations, and specifications clearly reflect the inclusion of approved criteria, assumptions, and methods used to develop the design. The final designs, plans, calculations, and specifications shall be signed and stamped by the responsible design engineer (2013 CBC, Appendix Chapter 1, §107.3.4, Design Professional in Responsible Charge); and
5. Submit to the CBO the responsible design engineer's signed statement that the final design plans conform to applicable LORS (2013 CBC, Appendix Chapter 1, § 107.3.4, Design Professional in Responsible Charge).

**Verification:** At least 60 days (or within a project owner- and CBO-approved alternative time frame) prior to the start of any increment of construction of any structure or component listed in **Facility Design Table 2** of Condition of Certification **GEN-2**, above, the project owner shall submit to the CBO the above final design plans, specifications and calculations, with a copy of the transmittal letter to the CPM.

The project owner shall submit to the CPM, in the next monthly compliance report, a copy of a statement from the CBO that the proposed structural plans, specifications, and calculations have been approved and comply with the requirements set forth in applicable engineering LORS.

**STRUC-2** The project owner shall submit to the CBO the required number of sets of the following documents related to work that has undergone CBO design review and approval:

1. Concrete cylinder strength test reports (including date of testing, date sample taken, design concrete strength, tested cylinder strength, age of test, type and size of sample, location and quantity of concrete placement from which sample was taken, and mix design designation and parameters);

2. Concrete pour sign-off sheets;
3. Bolt torque inspection reports (including location of test, date, bolt size, and recorded torques);
4. Field weld inspection reports (including type of weld, location of weld, inspection of non-destructive testing procedure and results, welder qualifications, certifications, qualified procedure description or number (ref: AWS); and
5. Reports covering other structural activities requiring special inspections shall be in accordance with the 2013 CBC, Chapter 17, § 1704, Special Inspections, and Structural Observations.

**Verification:** If a discrepancy is discovered in any of the above data, the project owner shall, within five days, prepare and submit an NCR describing the nature of the discrepancies and the proposed corrective action to the CBO, with a copy of the transmittal letter to the CPM (2013 CBC, Chapter 17, § 1704.2.4, Report Requirements). The NCR shall reference the condition(s) of certification and the applicable CBC chapter and section. Within five days of resolution of the NCR, the project owner shall submit a copy of the corrective action to the CBO and the CPM.

The project owner shall transmit a copy of the CBO's approval or disapproval of the corrective action to the CPM within 15 days. If disapproved, the project owner shall advise the CPM, within five days, the reason for disapproval, and the revised corrective action necessary to obtain the CBO's approval.

**STRUC-3** The project owner shall submit to the CBO design changes to the final plans required by the 2013 CBC, including the revised drawings, specifications, calculations, and a complete description of, and supporting rationale for, the proposed changes, and shall give to the CBO prior notice of the intended filing (2013 CBC, Appendix Chapter 1, § 107, Submittal Documents; 2013 California Administrative Code, § 4-215, Changes in Approved Drawings and Specifications).

**Verification:** On a schedule suitable to the CBO, the project owner shall notify the CBO of the intended filing of design changes and shall submit the required number of sets of revised drawings and the required number of copies of the other above-mentioned documents to the CBO, with a copy of the transmittal letter to the CPM. The project owner shall notify the CPM, via the monthly compliance report, when the CBO has approved the revised plans.

**STRUC-4** Tanks and vessels containing quantities of toxic or hazardous materials exceeding amounts specified in the 2013 CBC shall, at a minimum, be designed to comply with H-2 Occupancy Category of the 2013 CBC.

**Verification:** At least 30 days (or within a project owner- and CBO-approved alternate time frame) prior to the start of installation of the tanks or vessels containing the above specified quantities of toxic or hazardous materials, the project owner shall submit to the CBO for design review and approval final design plans, specifications, and calculations, including a copy of the signed and stamped engineer's certification.

The project owner shall send copies of the CBO approvals of plan checks to the CPM in the following monthly compliance report. The project owner shall also transmit a copy of the CBO's inspection approvals to the CPM in the monthly compliance report following completion of any inspection.

**MECH-1** The project owner shall submit, for CBO design review and approval, the proposed final design, specifications and calculations for each plant major piping and plumbing system listed in **Facility Design Table 2**, Condition of Certification **GEN-2**, above. Physical layout drawings and drawings not related to code compliance and life safety need not be submitted. The submittal shall also include the applicable quality assurance and quality control procedures. Upon completion of construction of any such major piping or plumbing system, the project owner shall request the CBO's inspection approval of that construction (2013 CBC, Appendix Chapter 1, § 107, Submittal Documents; § 110, Inspections; § 105, Permits; 2013 California Plumbing Code, § 301, Materials).

The responsible mechanical engineer shall stamp and sign all plans, drawings, and calculations for the major piping and plumbing systems, subject to CBO design review and approval, and submit a signed statement to the CBO when the proposed piping and plumbing systems have been designed, fabricated, and installed in accordance with all of the applicable laws, ordinances, regulations and industry standards (2013 CBC, Appendix Chapter 1, § 107.3., Design Professional in Responsible Charge), which may include, but are not limited to:

- American National Standards Institute (ANSI) B31.1 (Power Piping Code);
- ANSI B31.2 (Fuel Gas Piping Code);
- ANSI B31.3 (Chemical Plant and Petroleum Refinery Piping Code);
- ANSI B31.8 (Gas Transmission and Distribution Piping Code);
- Title 24, California Code of Regulations, Part 5 (California Plumbing Code);

- Title 24, California Code of Regulations, Part 6 (California Energy Code, for building energy conservation systems and temperature control and ventilation systems);
- Title 24, California Code of Regulations, Part 2 (California Building Code); and
- City of Carlsbad Municipal Ordinance, Title 18, Building Codes and Standards.

The CBO may deputize inspectors to carry out the functions of the code enforcement agency (2013 CBC, Appendix Chapter 1, §103.3, Deputies).

**Verification:** At least 30 days (or within a project owner- and CBO-approved alternative time frame) prior to the start of any increment of major piping or plumbing construction listed in **Facility Design Table 2**, Condition of Certification **GEN-2**, above, the project owner shall submit to the CBO for design review and approval the final plans, specifications, and calculations, including a copy of the signed and stamped statement from the responsible mechanical engineer certifying compliance with applicable LORS, and shall send the CPM a copy of the transmittal letter in the next monthly compliance report.

The project owner shall transmit to the CPM, in the monthly compliance report following completion of any inspection, a copy of the transmittal letter conveying the CBO's inspection approvals.

**MECH-2** For all pressure vessels installed in the plant, the project owner shall submit to the CBO and California Occupational Safety and Health Administration (Cal-OSHA), prior to operation, the code certification papers and other documents required by applicable LORS. Upon completion of the installation of any pressure vessel, the project owner shall request the appropriate CBO and/or Cal-OSHA inspection of that installation (2013 CBC, Appendix Chapter 1, §110, Inspections).

The project owner shall:

1. Ensure that all boilers and fired and unfired pressure vessels are designed, fabricated, and installed in accordance with the appropriate section of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, or other applicable code. Vendor certification, with identification of applicable code, shall be submitted for prefabricated vessels and tanks; and
2. Have the responsible design engineer submit a statement to the CBO that the proposed final design plans, specifications, and calculations conform to all of the requirements set forth in the appropriate ASME Boiler and Pressure Vessel Code or other applicable codes.

**Verification:** At least 30 days (or within a project owner- and CBO-approved alternative time frame) prior to the start of on-site fabrication or installation of any pressure vessel, the project owner shall submit to the CBO for design review and approval, the above-listed documents, including a copy of the signed and stamped engineer's certification, with a copy of the transmittal letter to the CPM.

The project owner shall transmit to the CPM, in the monthly compliance report following completion of any inspection, a copy of the transmittal letter conveying the CBO's and/or Cal/OSHA inspection approvals.

**MECH-3** The project owner shall submit to the CBO for design review and approval the design plans, specifications, calculations, and quality control procedures for any heating, ventilating, air conditioning (HVAC), or refrigeration system. Packaged HVAC systems, where used, shall be identified with the appropriate manufacturer's data sheets.

The project owner shall design and install all HVAC and refrigeration systems within buildings and related structures in accordance with the CBC and other applicable codes. Upon completion of any increment of construction, the project owner shall request the CBO's inspection and approval of that construction. The final plans, specifications and calculations shall include approved criteria, assumptions, and methods used to develop the design. In addition, the responsible mechanical engineer shall sign and stamp all plans, drawings and calculations and submit a signed statement to the CBO that the proposed final design plans, specifications and calculations conform with the applicable LORS (2013 CBC, Appendix Chapter 1, § 110.3.7, Energy Efficiency Inspections; § 107.3., Design Professionals in Responsible Charge).

**Verification:** At least 30 days (or within a project owner- and CBO-approved alternative time frame) prior to the start of construction of any HVAC or refrigeration system, the project owner shall submit to the CBO the required HVAC and refrigeration calculations, plans, and specifications, including a copy of the signed and stamped statement from the responsible mechanical engineer certifying compliance with the CBC and other applicable codes, with a copy of the transmittal letter to the CPM.

**ELEC-1** Prior to the start of any increment of electrical construction for all electrical equipment and systems 120 Volts or higher (see a representative list, below), with the exception of underground duct work and any physical layout drawings and drawings not related to code compliance and life safety, the project owner shall submit, for CBO design review and approval, the proposed final design, specifications, and calculations (2013

CBC, Appendix Chapter 1, § 107, Submittal Documents). Upon approval, the above listed plans, together with design changes and design change notices, shall remain on the site or at another accessible location for the operating life of the project. The project owner shall request that the CBO inspect the installation to ensure compliance with the requirements of applicable LORS (2013 CBC, Appendix Chapter 1, § 105, Permits; § 110, Inspections). All transmission facilities (lines, switchyards, switching stations, and substations) are handled in conditions of certification in the **Transmission System Engineering** section of this document.

A. Final plant design plans shall include:

1. one-line diagrams for the 13.8 kV, 4.16 kV and 120/480 V systems; and
2. system grounding drawings.

B. Final plant calculations must establish:

1. short-circuit ratings of plant equipment;
2. ampacity of feeder cables;
3. voltage drop in feeder cables;
4. system grounding requirements;
5. coordination study calculations for fuses, circuit breakers and protective relay settings for the 13.8 kV, 4.16 kV and 120/480 V systems; and
6. lighting energy calculations.

C. The following activities shall be reported to the CPM in the monthly compliance report:

1. receipt or delay of major electrical equipment;
2. testing or energization of major electrical equipment; and
3. a signed statement by the registered electrical engineer certifying that the proposed final design plans and specifications conform to requirements set forth in the Energy Commission decision.

**Verification:** At least 30 days (or within a project owner- and CBO-approved alternative time frame) prior to the start of each increment of electrical construction, the project owner shall submit to the CBO for design review and approval the above-listed

documents. The project owner shall include in this submittal a copy of the signed and stamped statement from the responsible electrical engineer attesting compliance with the applicable LORS, and shall send the CPM a copy of the transmittal letter in the next monthly compliance report.

## **GEOLOGY & PALEONTOLOGY**

**GEO-1** A Soils Engineering Report as required by Section 1803 of the California Building Code (CBC 2013), or its successor in effect at the time construction of the project were to commence, shall specifically include laboratory test data, associated geotechnical engineering analyses, and a thorough discussion of seismicity; liquefaction; dynamic compaction; compressible soils; corrosive soils; and tsunami. In accordance with CBC 2013, the report should also include recommendations for ground improvement and/or foundation systems necessary to mitigate these potential geologic hazards, if present.

**Verification:** The project owner shall include in the application for a grading permit a copy of the Soils Engineering Report which addresses the potential for strong seismic shaking; liquefaction; dynamic compaction; settlement due to compressible soils; corrosive soils, and tsunami, and a summary of how the results of the analyses were incorporated into the project foundation and grading plan design for review and comment by the delegate chief building official (CBO). A copy of the Soils Engineering Report, application for grading permit and any comments by the CBO are to be provided to the CPM at least 30 days prior to grading.

**PAL-1** The project owner shall provide the compliance project manager (CPM) with the resume and qualifications of its paleontological resource specialist (PRS) for review and approval. If the approved PRS is replaced prior to completion of project mitigation and submittal of the paleontological resources report (PRR), the project owner shall obtain CPM approval of the replacement PRS.

The PRS resume shall include the names and phone numbers of references. The resume shall also demonstrate to the satisfaction of the CPM the appropriate education and experience to accomplish the required paleontological resource tasks.

As determined by the CPM, the PRS shall meet the minimum qualifications for a qualified professional paleontologist as defined in the Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources by the Society of Vertebrate Paleontology (SVP 2010). The experience of the PRS shall include the following:

1. Institutional affiliations, appropriate credentials, and college degree;
2. Ability to recognize and collect fossils in the field;



3. Local geological and biostratigraphic expertise;
4. Proficiency in identifying vertebrate and invertebrate fossils; and
5. At least three years of paleontological resource mitigation and field experience in California and at least one year of experience leading paleontological resource mitigation and field activities.

The project owner shall ensure that the PRS obtains qualified paleontological resource monitors (PRMs) to monitor as he or she deems necessary on the project.

PRMs shall have the equivalent or combination of the following qualifications approved by the CPM:

- BS or BA degree in geology or paleontology, and one year of experience monitoring in California; or
- AS or AA in geology, paleontology, or biology, and four years' experience monitoring in California; or
- Enrollment in upper division classes pursuing a degree in the fields of geology or paleontology and two years of monitoring experience in California.

The project owner shall keep resumes on file for qualified paleontological resources monitors (PRMs). If a PRM is replaced, the resume of the replacement PRM shall also be provided to the CPM for review and approval.

**Verification:**

1. At least 60 days prior to the start of ground disturbance, the project owner shall submit a resume and statement of availability of its designated PRS for on-site work to the CPM for approval.
2. At least 20 days prior to ground disturbance, the PRS or project owner shall provide a letter with resumes naming anticipated PRMs for the project. The letter shall state that the identified PRMs meet the minimum qualifications for paleontological resource monitoring as required by this condition of certification. If additional PRMs are obtained during the project, the PRS shall provide additional letters and resumes to the CPM. The letter shall be provided to the CPM for approval no later than one week prior to the monitor's beginning on-site duties.
3. Prior to any change of the PRS, the project owner shall submit the resume of the proposed new PRS to the CPM for review and approval.

**PAL-2**

The project owner shall provide to the PRS and the CPM, for approval, maps and drawings showing the footprint of the power plant, construction lay down areas, and all related facilities. Maps shall identify all areas of the project where ground disturbance is anticipated. If the PRS requests enlargements or strip maps for linear facility routes, the project owner shall provide copies to the PRS and CPM. The site grading plan and the plan and profile drawings for the utility lines would be acceptable for this purpose. The plan drawings should show the location, depth, and extent of all ground disturbances and be at a scale between 1 inch = 40 feet and 1 inch = 100 feet. If the footprint of the project or its linear facilities change, the project owner shall provide maps and drawings reflecting those changes to the PRS and CPM.

If construction of the project proceeds in phases, maps and drawings may be submitted prior to the start of each phase. A letter identifying the proposed schedule of each project phase shall be provided to the PRS and CPM. Before work commences on affected phases, the project owner shall notify the PRS and CPM of any construction phase scheduling changes.

At a minimum, the project owner shall ensure that the PRS or PRM consults weekly with the project superintendent or construction field manager to confirm area(s) to be worked the following week until ground disturbance is completed.

**Verification:**

1. At least 30 days prior to the start of ground disturbance, the project owner shall provide the maps and drawings to the PRS and CPM.
2. If there are changes to the footprint of the project, revised maps and drawings shall be provided to the PRS and CPM at least 15 days prior to the start of ground disturbance.
3. If there are changes to the scheduling of the construction phases, the project owner shall submit a letter to the CPM within five days of identifying the changes.

**PAL-3**

The project owner shall ensure that the PRS prepares a Paleontological Resources Monitoring and Mitigation Plan (PRMMP) and submits the PRMMP to the CPM for review and approval. Approval of the PRMMP by the CPM shall occur prior to any ground disturbance. The PRMMP shall function as the formal guide for monitoring, collecting, and sampling activities, and may be modified with CPM approval. The PRMMP shall be

used as the basis of discussion when on-site decisions or changes are proposed. Copies of the PRMMP shall include all updates and reside with the PRS, each PRM, the project owner's on-site manager, and the CPM.

The PRMMP shall be developed in accordance with the guidelines of the Society of Vertebrate Paleontology (SVP 2010) and shall include, but not be limited, to the following:

1. Assurance that the performance and sequence of project-related tasks, such as any literature searches, pre-construction surveys, worker environmental training, fieldwork, flagging or staking, construction monitoring, mapping and data recovery, fossil preparation and collection, identification and inventory, preparation of final reports, and transmittal of materials for curation will be performed according to PRMMP procedures;
2. Identification of the person(s) expected to assist with each of the tasks identified within the PRMMP and these conditions of certification;
3. A thorough discussion of the anticipated geologic units expected to be encountered, the location and depth of the units relative to the project when known, and the known sensitivity of those units based on the occurrence of fossils either in that unit or in correlative units;
4. An explanation of why sampling is needed, a description of the sampling methodology, and how much sampling is expected to take place in which geologic units. Include descriptions of different sampling procedures that shall be used for fine-grained and coarse-grained units;
5. A discussion of the locations where the monitoring of project construction activities is deemed necessary, and a proposed plan for monitoring and sampling at these locations;
6. A discussion of procedures to be followed: (a) in the event of a significant fossil discovery, (b) stopping construction, (c) resuming construction, and (d) how notifications will be performed;
7. A discussion of equipment and supplies necessary for collection of fossil materials and any specialized equipment needed to prepare, remove, load, transport, and analyze large-sized fossils or extensive fossil deposits;
8. Procedures for inventory, preparation, and delivery for curation into a retrievable storage collection in a public repository or museum, which

meet the Society of Vertebrate Paleontology's standards and requirements for the curation of paleontological resources;

9. Identification of the institution that has agreed to receive data and fossil materials collected, requirements or specifications for materials delivered for curation, and how they will be met, and the name and phone number of the contact person at the institution; and
10. A copy of the paleontological resource conditions of certification.

**Verification:** At least 30 days prior to ground disturbance, the project owner shall provide a copy of the PRMMP to the CPM. Approval of the PRMMP by the CPM shall occur prior to any ground disturbance. The PRMMP shall include an affidavit of authorship by the PRS, and acceptance of the PRMMP by the project owner evidenced by a signature.

**PAL-4** Prior to ground disturbance the project owner and the PRS shall prepare a CPM-approved Worker Environmental Awareness Program (WEAP).

The WEAP shall address the possibility of encountering paleontological resources in the field, the sensitivity and importance of these resources, and legal obligations to preserve and protect those resources. The purpose of the WEAP is to train project workers to recognize paleontologic resources and identify procedures they should follow to ensure there are no impacts to sensitive paleontologic resources. The WEAP shall include:

1. A discussion of applicable laws and penalties under the law;
2. Good quality photographs or physical examples of vertebrate fossils for project sites containing units of high paleontologic sensitivity;
3. Information that the PRS or PRM has the authority to stop or redirect construction in the event of a discovery or unanticipated impact to a paleontological resource;
4. Instruction that employees are to stop or redirect work in the vicinity of a find and to contact their supervisor and the PRS or PRM;
5. An informational brochure that identifies reporting procedures in the event of a discovery;
6. A WEAP certification of completion form signed by each worker indicating that he/she has received the training; and

7. A sticker that shall be placed on hard hats indicating that environmental training has been completed.
8. The Project Owner shall also submit the training script and, if the project owner is planning to use a multimedia presentation for training, a copy of the training presentation with the set of reporting procedures for workers to follow that will be used to present the WEAP and qualify workers to conduct ground disturbing activities that could impact paleontologic resources.

**Verification:**

1. At least 30 days prior to ground disturbance, the project owner shall submit to the CPM for review and comment the draft WEAP, including the brochure and sticker. The submittal shall also include a draft training script and, if the project owner is planning to use a multimedia presentation for training, a copy of the training presentation with the set of reporting procedures for workers to follow.
2. At least 15 days prior to ground disturbance, the project owner shall submit to the CPM for approval the final WEAP and training script.

**PAL-5** No worker shall excavate or perform any ground disturbance activity prior to receiving CPM-approved WEAP training, prepared in accordance with the requirements of **PAL-4** unless specifically approved by the CPM.

Prior to site mobilization or any ground disturbance the following workers shall be WEAP trained by the PRS in-person: project managers, construction supervisors, foremen, and all general workers involved with or who operate ground-disturbing equipment or tools. Following this initial training, the WEAP certification of completion form shall be used to document who has received the required training. Workers subsequently receiving training may be trained using the materials and procedures required in **PAL-4**.

**Verification:**

In the Monthly Compliance Report (MCR), the project owner shall provide copies of the WEAP certification of the completion forms with the names of those trained and the trainer or type of training (in-person and/or video) offered that month. An example of a suitable WEAP certification of completion form is provided below. The MCR shall also include a running total of all persons who have completed the training to date.

**PAL-6** The project owner shall ensure that the PRS and PRM(s) monitor, consistent with the PRMMP, all construction-related grading, excavation, trenching, and augering in areas where potential fossil-bearing materials

have been identified, both at the site and along any constructed linear facilities associated with the project. In the event that the PRS determines full-time monitoring is not necessary in locations that were identified as potentially fossil-bearing in the PRMMP, the project owner shall notify and seek the concurrence of the CPM.

The project owner shall ensure that the PRS and PRM(s) have the authority to stop or redirect construction if paleontological resources are encountered. The project owner shall ensure that there is no interference with monitoring activities unless directed by the PRS. Monitoring activities shall be conducted as follows:

1. Any change of monitoring from the accepted schedule in the PRMMP shall be proposed in a letter or email from the PRS and the project owner to the CPM for review and approval prior to the change in monitoring. The letter or email shall include the justification for the change in monitoring and be submitted to the CPM for review and approval.
2. The project owner shall ensure that the PRM(s) keep a daily monitoring log of paleontological resource activities. The PRS may informally discuss paleontological resource monitoring and mitigation activities with the CPM at any time.
3. The project owner shall ensure that the PRS notifies the CPM within 24 hours of the occurrence of any incidents of non-compliance with any paleontological resources conditions of certification. The PRS shall recommend corrective action to resolve the issues or achieve compliance with the conditions of certification.
4. For any significant paleontological resources encountered, either the project owner or the PRS shall notify the CPM within 24 hours, or Monday morning in the case of a weekend event, when construction has been stopped because of a paleontological find.

The project owner shall ensure that the PRS prepares a summary of monitoring and other paleontological activities that will be included in each MCR. The summary will include the name(s) of PRS or PRM(s) active during the month, general descriptions of training and monitored construction activities, and general locations of excavations, grading, and other activities. A section of the report shall include the geologic units or subunits encountered, descriptions of samplings within each unit, and a list of identified fossils. A final section of the report will address any issues or concerns about the project relating to paleontologic monitoring,

including any incidents of non-compliance or any changes to the monitoring plan that have been approved by the CPM. If no monitoring took place during the month, the report shall include an explanation in the summary as to why monitoring was not conducted.

**Verification:** The project owner shall ensure that the PRS submits the summary of monitoring and paleontological activities in the MCR. When feasible, the CPM shall be notified ten days in advance of any proposed changes in monitoring different from that identified in the PRMMP. If there is any unforeseen change in monitoring, the notice shall be given as soon as possible prior to implementation of the change.

**PAL-7** The project owner shall ensure preparation of a Paleontological Resources Report (PRR) by the designated PRS. The PRR shall be prepared following completion of ground-disturbing activities. The PRR shall include an analysis of the collected fossil materials and related information, and shall be submitted to the CPM for approval.

The report shall include, but not limited to, a description and inventory of recovered fossil materials; a map showing the location of paleontological resources encountered; the PRS' description of sensitivity and significance of those resources and indicate if and how fossil material was curated in accordance with **PAL-8**.

**Verification:** Within 90 days after completion of ground-disturbing activities, including landscaping, the project owner shall submit the PRR under confidential cover to the CPM.

**PAL-8** The project owner, through the designated PRS, shall ensure that all components of the PRMMP are adequately performed, including collection of fossil material, preparation of fossil material for analysis, analysis of fossils, identification and inventory of fossils, preparation of fossils for curation, and delivery for curation of all significant paleontological resource materials encountered and collected during project construction. The project owner shall pay all curation fees charged by the museum for fossil material collected and curated as a result of paleontological mitigation. The project owner shall also provide the curator with documentation showing the project owner irrevocably and unconditionally donates, gives, and assigns permanent, absolute, and unconditional ownership of the fossil material.

**Verification:** Within 60 days after the submittal of the PRR, the project owner shall submit documentation to the CPM showing fees have been paid for curation and the owner relinquishes control and ownership of all fossil material.

CONDITIONS OF CERTIFICATION  
APPENDIX "A"



## TRANSMISSION SYSTEM ENGINEERING

**TSE-1** The project owner shall furnish to the CPM and to the CBO a schedule of transmission facility design submittals, a Master Drawing List, a Master Specifications List, and a Major Equipment and Structure List. The schedule shall contain a description and list of proposed submittal packages for design, calculations, and specifications for major structures and equipment. To facilitate audits by Energy Commission staff, the project owner shall provide designated packages to the CPM when requested.

**Verification:** At least 60 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of construction, the project owner shall submit the schedule, a Master Drawing List, and a Master Specifications List to the CBO and to the CPM. The schedule shall contain a description and list of proposed submittal packages for design, calculations, and specifications for major structures and equipment (see a list of major equipment in **Table 1: Major Equipment List** below). Additions and deletions shall be made to the table only with CPM and CBO approval. The project owner shall provide schedule updates in the Monthly Compliance Report.

<b>Table 1: Major Equipment List</b>
Breakers
Step-up Transformer
Switchyard
Busses
Surge Arrestors
Disconnects and Wave-traps
Take off facilities
Electrical Control Building
Switchyard Control Building
Transmission Pole/Tower
Insulators and Conductors
Grounding System

**TSE-2** For the power plant switchyard, outlet line and termination, the project owner shall not begin any increment of construction until plans for that increment have been approved by the CBO. These plans, together with design changes and design change notices, shall remain on the site for one year after completion of construction. The project owner shall request that the CBO inspect the installation to ensure compliance with the

requirements of applicable LORS. The following activities shall be reported in the Monthly Compliance Report:

- A. receipt or delay of major electrical equipment;
- B. testing or energization of major electrical equipment; and
- C. the number of electrical drawings approved, submitted for approval, and still to be submitted.

**Verification:** At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of each increment of construction, the project owner shall submit to the CBO for review and approval the final design plans, specifications, and calculations for equipment and systems of the power plant switchyard, outlet line and termination, including a copy of the signed and stamped statement from the responsible electrical engineer attesting to compliance with the applicable LORS, and send the CPM a copy of the transmittal letter in the next Monthly Compliance Report.

**TSE-3** The project owner shall ensure that the design, construction and operation of the proposed transmission facilities will conform to all applicable LORS, including the requirements listed below. The project owner shall submit the required number of copies of the design drawings and calculations to the CBO as determined by the CBO.

- a) The power plant switchyard and outlet line shall meet or exceed the electrical, mechanical, civil and structural requirements of CPUC General Order 95 or National Electric Safety Code (NESC), Title 8 of the California Code and Regulations (Title 8), Articles 35, 36, and 37 of the “High Voltage Electric Safety Orders”, California ISO standards, National Electric Code (NEC) and related industry standards.
- b) Breakers and busses in the power plant switchyard and other switchyards, where applicable, shall be sized to accommodate full output from the project and to comply with a short-circuit analysis.
- c) Outlet line crossings and line parallels with transmission and distribution facilities shall be coordinated with the transmission line owner and comply with the owner’s standards.
- d) The project conductors shall be sized to accommodate the full output from the project.
- e) Termination facilities shall comply with applicable SDG&E interconnection standards.

- f) The project owner shall provide the following for all 6 CECP units to the CPM:
  - i) The Special Protection System (SPS) sequencing and timing if applicable,
  - ii) The electrical one-line diagrams for the SDG&E Encina 230 kV switchyard with all updates of buses and circuit breakers with associated disconnect switches including their types and/or ampere ratings and leveled transmission outlets, considering decommissioning and disconnection of all existing Encina generator units
  - iii) A letter stating that the mitigation measures or projects selected by the transmission owners for each criteria violation are acceptable, if applicable,
  - iv) The operational study report based on 2017 in-service date or current commercial operation date (COD) system conditions from the California and/or SDG&E.
  - v) A copy of the executed LGIA signed by the California ISO and the project owner

**Verification:** At least 60 days prior to the start of construction of transmission facilities (or a lesser number of days mutually agreed to by the project owner and CBO), the project owner shall submit to the CBO for approval:

- a) Design drawings, specifications and calculations conforming with CPUC General Order 95 or NESC, Title 8, Articles 35, 36 and 37 of the “High Voltage Electric Safety Orders”, NEC, applicable interconnection standards and related industry standards, for the poles/towers, foundations, anchor bolts, conductors, grounding systems and major switchyard equipment.
- b) For each element of the transmission facilities identified above, the submittal package to the CBO shall contain the design criteria, a discussion of the calculation method(s), a sample calculation based on “worst case conditions”<sup>2</sup> and a statement signed and sealed by the registered engineer in responsible charge, or other acceptable alternative verification, that the transmission element(s) will conform with CPUC General Order 95 or NESC, Title 8, California Code of Regulations, Articles 35, 36 and 37 of the, “High Voltage Electric Safety Orders”, NEC, applicable interconnection standards, and related industry standards.
- c) Electrical one-line diagrams signed and sealed by the registered professional electrical engineer in responsible charge, a route map, and an engineering

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<sup>2</sup> Worst case conditions for the foundations would include for instance, a dead-end or angle pole.

description of equipment and the configurations covered by requirements **TSE-3** a) through f) above.

- d) The electrical one-line diagrams for the SDG&E Encina 230 kV switchyard with all updates of buses and circuit breakers with associated disconnect switches including their types and/or ampere ratings and leveled transmission outlets, considering decommissioning and disconnection of all existing Encina generator units
- e) The Special Protection Scheme (SPS) sequencing and timing if applicable shall be provided concurrently to the CPM.
- f) A letter stating that the mitigation measures or projects selected by the transmission owners for each criteria violation are acceptable, if applicable.
- g) The operational study report for the CECP units based on 2017 in-service date or current COD system conditions from the California ISO and/or SDG&E.
- h) A copy of the executed LGIA for the CECP signed by the California ISO and the project owner.

**TSE-4** The project owner shall inform the CPM and CBO of any impending changes that may not conform to requirements **TSE-3** a) through f), and have not received CPM and CBO approval, and request approval to implement such changes. A detailed description of the proposed change and complete engineering, environmental, and economic rationale for the change shall accompany the request. Construction involving changed equipment or substation configurations shall not begin without prior written approval of the changes by the CBO and the CPM.

**Verification:** At least 60 days prior to the construction of transmission facilities, the project owner shall inform the CBO and the CPM of any impending changes that may not conform to requirements of **TSE-3** and request approval to implement such changes.

**TSE-5** The project owner shall provide the following notice to the California ISO prior to synchronizing the facility with the California Transmission system:

- a) At least one week prior to synchronizing the facility with the grid for testing, provide the California ISO a letter stating the proposed date of synchronization; and
- b) At least one business day prior to synchronizing the facility with the grid for testing, provide telephone notification to the California ISO Outage Coordination Department.

**Verification:** The project owner shall provide copies of the California ISO letter to the CPM when it is sent to the California ISO one week prior to initial synchronization with the grid. The project owner shall contact the California ISO Outage Coordination Department, Monday through Friday, between the hours of 0700 and 1530 at (916) 351-2300 at least one business day prior to synchronizing the facility with the grid for testing. A report of conversation with the California ISO shall be provided electronically to the CPM one day before synchronizing the facility with the California transmission system for the first time.

**TSE-6** The project owner shall be responsible for the inspection of the transmission facilities during and after project construction, and any subsequent CPM and CBO approved changes thereto, to ensure conformance with CPUC GO-95 or NESC, Title 8, CCR, Articles 35, 36 and 37 of the, “High Voltage Electric Safety Orders”, applicable interconnection standards, NEC and related industry standards. In case of non-conformance, the project owner shall inform the CPM and CBO in writing, within ten days of discovering such non-conformance and describe the corrective actions to be taken.

**Verification:** Within 120 days after first synchronization of the project, the project owner shall transmit to the CPM and CBO:

- a) “As built” engineering description(s) and one-line drawings of the electrical portion of the facilities signed and sealed by the registered electrical engineer in responsible charge. A statement attesting to conformance with CPUC GO-95 or NESC, Title 8, California Code of Regulations, Articles 35, 36, and 37 of the “High Voltage Electric Safety Orders” and applicable interconnection standards, NEC, related industry standards, and these conditions shall be provided concurrently.
- b) An “as built” engineering description of the mechanical, structural, and civil portion of the transmission facilities signed and sealed by the registered engineer in responsible charge or acceptable alternative verification. “As built” drawings of the electrical, mechanical, structural, and civil portion of the transmission facilities shall be maintained at the power plant and made available, if requested, for CPM audit as set forth in the “Compliance Monitoring Plan”.
- c) A summary of inspections of the completed transmission facilities, and identification of any nonconforming work and corrective actions taken, signed and sealed by the registered engineer in charge.

## **WASTE MANAGEMENT**

**WASTE-1** The project owner shall ensure that the project site is properly characterized and remediated as necessary pursuant to the Corrective Action Plan reviewed and approved by the San Diego County Department of Environmental Health (SDCDEH). In no event shall project construction commence in areas requiring characterization and remediation until SDCDEH and the CPM have determined that all necessary remediation has been accomplished.

**Verification:** At least 30 days prior to remediation, the project owner shall submit to the CPM for review and approval copies of all pertinent correspondence, work plans, agreements, and authorizations between the project owner and SDCDEH regarding the Corrective Action Plan requirements and activities at the project site. At least 60 days prior to the start of site mobilization, the project owner shall provide to the CPM for review and approval written notice from SDCDEH that the site has been investigated and remediated as necessary in accordance with the Correction Action Plan.

**WASTE-2** Prior to removal of the aboveground storage tanks (ASTs), the project owner shall complete a SDCDEH Hazardous Waste Tank Certification form and obtain a permit from the city of Carlsbad Fire Department. Prior to demolition of the ASTs, SDCDEH and the Fire Department must acknowledge the form is complete, and provide written concurrence that the information presented is adequate to comply with permitting requirements for removal. This information and written concurrence must be submitted to the CPM for review and approval.

**Verification:** At least 60 days prior to commencement of site mobilization, the project owner shall provide the form and permits to remove the ASTs to the CPM for review and approval. The project owner shall inform the CPM via the monthly compliance report, of the date when all ASTs were removed from the site.

**WASTE-3** The project owner shall provide the résumé of an experienced and qualified professional engineer or professional geologist who shall be available for consultation during site characterization (if needed), demolition, excavation, and grading activities, to the CPM for review and approval. The résumé shall show experience in remedial investigation and feasibility studies.

The professional engineer or professional geologist shall be given full authority by the project owner to oversee any earth moving activities that have the potential to disturb contaminated soil.

**Verification:** At least 30 days prior to the start of site mobilization, the project owner shall submit the résumé to the CPM for review and approval.

**WASTE-4** If potentially contaminated soil is identified during site characterization, demolition, excavation, or grading at either the proposed site or linear facilities, as evidenced by discoloration, odor, detection by handheld instruments, or other signs, the professional engineer or professional geologist shall inspect the site, determine the need for sampling to confirm the nature and extent of contamination, and provide a written report to the project owner, authorized representatives of the SDCDEH, and the CPM stating the recommended course of action.

Depending on the nature and extent of contamination, the professional engineer or professional geologist shall have the authority to temporarily suspend construction activity at that location for the protection of workers or the public. If, in the opinion of the professional engineer or professional geologist, significant remediation may be required, the project owner shall contact the authorized representatives of the SDCDEH, and the CPM for guidance and possible oversight.

**Verification:** The project owner shall submit any final reports filed by the professional engineer or professional geologist to the authorized representatives of the SDCDEH, and the CPM for approval within five days of their receipt. The project owner shall notify the CPM within 24 hours of any orders issued to halt construction.

**WASTE-5** The project owner shall prepare a Demolition and Construction Waste Management Plan for all wastes generated during demolition and construction of the facility and shall submit the plan to the CPM for review and approval. The plan may be submitted in two sections: Demolition activities and Construction activities. Both sections of the plan shall contain, at a minimum, the following:

- a description of all demolition and construction waste streams, including projections of frequency, amounts generated, and hazard classifications;
- management methods to be used for each waste stream, including temporary on-site storage, housekeeping and best management practices to be employed, treatment methods and companies providing treatment services, waste testing methods to assure correct classification, methods of transportation, disposal requirements and sites, and recycling and waste minimization/source reduction plans.

- A reuse/recycling Debris Management Plan for demolition and construction materials that meets or exceeds the waste diversion goals established by the Integrated Waste Management Compliance Act (Pub. Resources Code, § 41780 et seq.) and CALGreen Title 24, California Code of Regulations, Part 11 sections 4.408, 5.408, 301.1.1 and 301.3.

**Verification:** The project owner shall submit the demolition section of the Demolition and Construction Waste Management Plan to the CPM for approval at least 30 days prior to the initiation of demolition activities at the site. The project owner shall submit to the CPM copies of the documentation required by CALGreen Title 24, California Code of Regulations, Part 11 section 5.408.1.4.

**WASTE-6** Prior to demolition of existing structures, the project owner shall complete and submit a copy of a San Diego County Air Pollution Control District (District) Asbestos Renovation and Demolition Notification Form to the CPM and the District for review. The project owner shall remove all asbestos-containing material (ACM) from the site prior to demolition.

**Verification:** At least ten days prior to commencement of structure demolition, the project owner shall provide the Asbestos Renovation and Demolition Notification Form to the CPM and to the District for review. The project owner shall inform the CPM via the monthly compliance report, of the date asbestos is removed.

**WASTE-7** The project owner shall obtain a hazardous waste generator identification number from the United States Environmental Protection Agency prior to generating any hazardous waste during construction and operations.

**Verification:** The project owner shall keep a copy of the identification number on file at the project site and provide the number to the CPM in the next Monthly Compliance Report.

**WASTE-8** Upon becoming aware of any impending waste management-related enforcement action by any local, state, or federal authority, the project owner shall notify the CPM of any such action taken or proposed to be taken against the project itself, or against any waste hauler or disposal facility or treatment operator with which the owner contracts.

**Verification:** The project owner shall notify the CPM in writing within ten days of becoming aware of an impending enforcement action. The CPM shall notify the project owner of any changes that will be required in the way project-related wastes are managed.

**WASTE-9** The project owner shall prepare an Operation Waste Management Plan for all wastes generated during operation of the facility and shall submit



the plan to the CPM for review and approval. The plan shall contain, at a minimum, the following:

- a detailed description of all operation and maintenance waste streams, including projections of amounts to be generated, frequency of generation, and waste hazard classifications;
- management methods to be used for each waste stream, including temporary on-site storage, housekeeping and best management practices to be employed, treatment methods and companies providing treatment services, waste testing methods to assure correct classification, methods of transportation, disposal requirements and sites, and recycling and waste minimization/source reduction plans;
- all information and reports of conversations with the local Certified Unified Program Agency and the Department of Toxic Substances Control regarding any waste management requirements necessary for project activities. Copies of all required waste management permits, notices, and/or authorizations shall be included in the plan and updated as necessary;
- a detailed description of how facility wastes will be managed and any contingency plans to be employed in the event of an unplanned closure or planned temporary facility closure; and
- a detailed description of how facility wastes will be managed and disposed upon closure of the facility.

**Verification:** The project owner shall submit the Operation Waste Management Plan to the CPM for approval at least 30 days prior to the start of project operation. The project owner shall submit any required revisions to the CPM within 20 days of notification from the CPM that revisions are necessary.

The project owner shall also document in each Annual Compliance Report the actual volume of wastes generated and the waste management methods used during the year; provide a comparison of the actual waste generation and management methods used to those proposed in the original Operation Waste Management Plan; and update the Operation Waste Management Plan as necessary to address current waste generation and management practices.

**WASTE-10 [Deleted]**

**WASTE-11** The project owner shall ensure that all spills or releases of hazardous substances, materials, or waste are reported, cleaned up, and remediated as necessary, in accordance with all applicable federal, state, and local requirements

**Verification:** The project owner shall document all unauthorized releases and spills of hazardous substances, materials, or wastes that occur on the project property or related pipeline and transmission corridors. The documentation shall include, at a minimum, the following information: location of release; date and time of release; reason for release; volume released; amount of contaminated soil/material generated; how release was managed and material cleaned up; if the release was reported; to whom the release was reported; release corrective action and cleanup requirements placed by regulating agencies; level of cleanup achieved and actions taken to prevent a similar release or spill; and disposition of any hazardous wastes and/or contaminated soils and materials that may have been generated by the release. Copies of the unauthorized spill documentation shall be provided to the CPM within 30 days of the date the release was discovered.

**WASTE-12** The project owner shall prepare and submit to the CPM and SDCDEH, a Soils Management Plan (SMP) prior to demolition of Tanks 1, 2, or 4. The SMP must be prepared by a California Professional Geologist, or a California Registered Civil Engineer with sufficient experience in hazardous waste management. The SMP shall be updated as needed to reflect changes in laws, regulations or site conditions. A SMP summary report, which includes all analytical data and other findings, must be submitted once the earthwork has been completed. Topics covered by the SMP shall include, but not be limited to:

- Land use history, including description and locations of known contamination.
- The nature and extent of previous investigations and remediation at the site.
- The nature and extent of unremediated areas at the site.
- A listing and description of institutional controls, such as the city's excavation ordinance and other local, state, and federal regulations and laws that will apply to the project.
- Names and positions of individuals involved with soils management and their specific role.
- An earthwork schedule.
- A description of protocols for the investigation and evaluation of previously unidentified contamination that may be potentially encountered, including any temporary and permanent controls that may be required to reduce exposure to onsite workers, visitors, and the public.

- Hazardous waste determination and disposal procedures for known and previously unidentified contamination.
- Requirements for site specific techniques at the site to minimize dust, manage stockpiles, run-on and run-off controls, waste disposal procedures, etc.
- Copies of relevant permits or closures from regulatory agencies.

The SMP may cite to Phase I Environmental Site Assessment (ESA) in lieu of the above requirements for the Encina Power Station where such information is contained in the Phase I Investigation.

**Verification:** At least 45 days prior to demolition of Tanks 1, 2 or 4 the project owner shall submit the applicable SMP to the CPM for review and approval. All demolition-associated earthworks at the site, approved subsequent to the Final Commission Decision authorizing this condition shall conform to the SMP. A SMP summary shall be submitted to CPM and SDCDEH within 25 days of completion of any demolition-associated earthwork.

## **WORKER SAFETY & FIRE PROTECTION**

**WORKER SAFETY-1** The project owner shall submit to the compliance project manager (CPM) a copy of the Project Demolition and Construction Safety and Health Program containing the following:

1. a Demolition and Construction Personal Protective Equipment Program;
2. a Demolition and Construction Exposure Monitoring Program;
3. a Demolition and Construction Injury and Illness Prevention Program;
4. a Demolition and Construction Emergency Action Plan;
5. a Demolition and Construction Fire Prevention Plan; and
6. an Encina Power Station Demolition Plan.

The Personal Protective Equipment Program, the Exposure Monitoring Program, and the Injury and Illness Prevention Program shall be submitted to the CPM for review and approval concerning compliance of the program with all applicable safety orders. The Demolition and Construction Emergency Action Plan, the Demolition and Construction Fire Prevention Plan, and an Encina Power Station Demolition Plan shall be submitted to the Carlsbad Fire Department for review and comment prior to submittal to the CPM for approval.

**Verification:** At least 30 days prior to the start of tank demolition, the project owner shall submit to the CPM for review and approval a copy of the Project Demolition and Construction Safety and Health Program. The project owner shall provide a copy of a letter to the CPM from the Carlsbad Fire Department stating the fire department's comments on the Demolition and Construction Fire Prevention Plan and Emergency Action Plan.

At least 30 days prior to the start of the demolition of the Encina Power Station, the project owner shall submit to the CPM for review and approval a copy of the Encina Power Station Demolition Plan. The project owner shall provide to the CPM a copy of a letter from the Carlsbad Fire Department (CDF) stating the fire department's comments on the Encina Power Station Demolition Plan.

**WORKER SAFETY-2** The project owner shall submit to the CPM a copy of the Project Operations and Maintenance Safety and Health Program containing the following:

- an Operation Injury and Illness Prevention Plan;

- an Emergency Action Plan;
- Hazardous Materials Management Program;
- Fire Prevention Plan (Cal Code Regs., tit. 8, § 3221); and
- Personal Protective Equipment Program (Cal Code Regs., tit. 8, §§ 3401—3411).

The Operation Injury and Illness Prevention Plan, Emergency Action Plan, and Personal Protective Equipment Program shall be submitted to the CPM for review and approval concerning compliance of the programs with all applicable safety orders. The Fire Prevention Plan and the Emergency Action Plan shall also be submitted to the Carlsbad Fire Department for review and comment.

**Verification:** At least 30 days prior to the start of first-fire or commissioning, the project owner shall submit to the CPM for approval a copy of the Project Operations and Maintenance Safety and Health Program. The project owner shall provide to the CPM a copy of a letter from the Carlsbad Fire Department stating the fire department's comments on the Operations Fire Prevention Plan and Emergency Action Plan.

**WORKER SAFETY-3** The project owner shall provide a site Demolition Safety Supervisor (DSS) and a Construction Safety Supervisor (CSS) who, by way of training and/or experience, are knowledgeable of tank demolition, power plant construction activities, and relevant laws, ordinances, regulations, and standards; are capable of identifying workplace hazards relating to the demolition and/or construction activities; and have authority to take appropriate action to assure compliance and mitigate hazards. The DSS or CSS shall:

1. have overall authority for coordination and implementation of all occupational safety and health practices, policies, and programs;
2. assure that the safety program for the project complies with Cal/OSHA and federal regulations related to power plant projects;
3. assure that all demolition, construction and commissioning workers and supervisors receive adequate safety training;
4. complete accident and safety-related incident investigations and emergency response reports for injuries and inform the CPM of safety-related incidents; and
5. assure that all the plans identified in Conditions of Certification Worker Safety-1 and 2 are implemented.

**Verification:** At least 30 days prior to the start of tank demolition, the project owner shall submit to the CPM the name and contact information for the Demolition Safety Supervisor (DSS) and the Construction Safety Supervisor (CSS). The contact information of any replacement DSS or CSS shall be submitted to the CPM within one business day.

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

1. record of all employees trained for that month (all records shall be kept on site for the duration of the project);
2. summary report of safety management actions and safety-related incidents that occurred during the month;
3. report of any continuing or unresolved situations and incidents that may pose danger to life or health; and
4. report of accidents and injuries that occurred during the month.

**WORKER SAFETY-4** The project owner shall make payments to the Chief Building Official (CBO) for the services of a Safety Monitor based upon a reasonable fee schedule to be negotiated between the project owner and the CBO. Those services shall be in addition to other work performed by the CBO. The Safety Monitor shall be selected by and report directly to the CBO and will be responsible for verifying that the Construction Safety Supervisor, as required in Condition of Certification **WORKER SAFETY-3**, implements all appropriate Cal/OSHA and Energy Commission safety requirements. The Safety Monitor shall conduct on-site (including linear facilities) safety inspections at intervals necessary to fulfill those responsibilities and shall do this during the period of tank demolition/removal, construction of the CECP, and demolition/removal of the EPS.

**Verification:** At least 30 days prior to the start of tank demolition, the project owner shall provide proof of its agreement to fund the Safety Monitor services to the CPM for review and approval.

**WORKER SAFETY-5** The project owner shall ensure that a portable automatic external defibrillator (AED) is located on site during tank demolition, construction and operations, and demolition/removal of the EPS and shall implement a program to ensure that workers are properly trained in its use and that the equipment is properly maintained and functioning at all times. During demolition of the tanks and the EPS, construction, and commissioning, the

following persons shall be trained in its use and shall be on site whenever the workers that they supervise are on site: the Demolition or Construction Project Manager or delegate, the Demolition or Construction Safety Supervisor or delegate, and all shift foremen. During operations, all power plant employees shall be trained in its use. The training program shall be submitted to the CPM for review and approval.

**Verification:** At least 30 days prior to the start of tank demolition, the project owner shall submit to the CPM a letter stating that a portable automatic external defibrillator (AED) exists on site and a copy of the training and maintenance program for review and approval.

**WORKER SAFETY-6** The project owner shall ensure that the below-grade site fire lanes, access points, and ramps are constructed so that at least two access points through the site perimeter and into the below-grade power plant site are available to the CFD and other emergency response providers. The access roads, below-grade perimeter road, and ramps shall be no less than 28 feet wide and with grades no greater than ten percent. The project owner shall guarantee that the two fire access ramps down into the project site, the upper rim-road, and the fire lane around the perimeter of the below-grade site, are free and clear of all vehicles, equipment, or any other object (mobile or stationary) at all times and that the boundaries or curbs of the ramps and lanes are painted red and contain signage to indicate that they are fire roads and lanes on which parking is not allowed. The final blueprints for the site shall be submitted at least 30 days prior to the start of CECP Construction to the Carlsbad Fire Department for review and comment and to the CPM for review and approval. Any requested changes in the fire lanes, upper rim road, ramps, and access points shall be made in writing to the CPM and the CBO for review and approval after obtaining comments from the CFD.

**Verification:** At least 30 days prior to the start of Phase II, CECP Construction, the project owner shall submit a copy of the final site blueprints to the Carlsbad Fire Department for review and comment and to the CPM for review and approval. The project owner shall also submit to the CPM a copy of the transmittal letter to the CFD.

At least 60 days prior to the start of commissioning or the arrival on-site of any liquid fuel, natural gas, or hazardous material, whichever occurs first, the project owner shall submit to the CBO for information, to the Carlsbad Fire Department for review and comment, and to the CPM for review and approval, a signed declaration along with photographic evidence that the access ramps and fire lanes are guaranteed to always

be clear and unobstructed and that signs and red paint have been placed in the appropriate locations.

**WORKER SAFETY-7** The project owner shall place a barrier of sufficient strength and height at the eastern fence line of the project at the widened I-5 Right-of-Way so as to prevent a runaway car or semi-trailer truck from piercing the barrier and going over the edge and down into the power plant site. This barrier shall also serve to prevent line-of-sight viewing of the power plant site from the shoulder of I-5. In designing this barrier, the project owner shall consult with Caltrans and then submit a final plan to the CPM for review and approval. The project owner may also negotiate cost sharing of this barrier with Caltrans and, if the project owner chooses to do so, the cost-sharing contract with Caltrans shall be submitted to the CPM for review and approval.

**Verification:** At least 60 days prior to the start of I-5 widening activities that encroach onto the project site, the project owner shall submit a copy of the final plans for the barrier and any cost-sharing contract to the CPM for review and approval.

**WORKER SAFETY-8** [Deleted]

**WORKER SAFETY-9** The project owner shall maintain the current dirt access road located on the western perimeter fence line in a sufficient state so as to serve as an emergency response road. In no event shall the project owner grant or dedicate an easement for the Coastal Rail Trail east of the Rail Corridor on the CECP site.

**Verification:** At least 30 days prior to the start of Phase II, CECP Construction, the project owner shall submit to the CPM for review and approval a copy of the final plans for maintaining this access road.

**WORKER SAFETY-10** The project owner shall prepare a Transformer Fire Protection Plan which shall evaluate any feasible methods that can be used to prevent, contain, and/or control a transformer fire, including the use of new dielectric fluids, pressure sensors with shut-down capability, dissolved gas analyzers, use of compressed-air-foam for fire suppression, on-site storage of suppressants, and sub-surface vaults to contain spilled/leaked dielectric fluids. The project owner shall submit this Plan to the CBO for information, to the Carlsbad Fire Department for review and comment, and to the CPM for review and approval.

**Verification:** At least 60 days before the arrival of a transformer on site, the project owner shall submit a copy of the Transformer Fire Protection Plan to the CBO for



information, to the Carlsbad Fire Department for review and comment, and to the CPM for review and approval.

Not later than 30 days after submitting the Plan for review, the project owner shall submit to the CPM for approval a final plan that incorporates comments and suggestions from the CPM and the CFD.

**WORKER SAFETY-11** The project owner shall ensure that the primary source of fire protection water is the city of Carlsbad water system and that the on-site raw water storage tank is the back-up supply.

**Verification:** At least 60 days before commencing commissioning, the project owner shall submit to the Carlsbad Fire Department for review and comment, and to the CPM for review and approval engineering drawings showing the source and piping of the primary and back-up fire protection water supplies and a statement that the primary supply is the city of Carlsbad water system.

**WORKER SAFETY-12** The owner shall ensure that the compressor building at the modified amended CECP will comply with NFPA requirements for compressor enclosures and that it will also comply with the requirement set forth in 40 CFR Sections 163 through 171 regarding fire and explosion protection systems.

**Verification:** At least 30 days prior to the start of construction mobilization, the project owner shall submit to the CPM and the CFD for review and for approval by the CPM, documentation of plans for the compressor enclosure at the modified amended CECP demonstrating compliance with the condition described above.

## COMPLIANCE CONDITIONS OF CERTIFICATION

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**COM-1: Unrestricted Access.** The project owner shall take all steps necessary to ensure that the CPM, responsible Energy Commission staff, and delegated agencies or consultants have unrestricted access to the facility site, related facilities, project-related staff, and the records maintained to facilitate audits, surveys, inspections, and general or closure-related site visits. Although the CPM shall normally schedule site visits on dates and times agreeable to the project owner, the CPM reserves the right to make unannounced visits at any time, whether such visits are by the CPM in person or through representatives from Energy Commission staff, delegated agencies, or consultants.

**COM-2: Compliance Record.** The project owner shall maintain electronic copies of all project files and submittals on-site, or at an alternative site approved by the CPM, for the operational life and closure of the project. The files shall also contain at least one hard copy of:

1. the facility's Application(s) for Certification;
2. all amendment petitions and Energy Commission orders;
3. all site-related environmental impact and survey documentation;
4. all appraisals, assessments, and studies for the project;
5. all finalized original and amended structural plans and "as-built" drawings for the entire project;
6. all citations, warnings, violations, or corrective actions applicable to the project; and
7. the most current versions of any plans, manuals and training documentation required by the conditions of certification or applicable LORS.

Energy Commission staff and delegate agencies shall, upon request to the project owner, be given unrestricted access to the files maintained pursuant to this condition.

**COM-3: Compliance Verification Submittals.** Verification lead times associated with the start of construction or closure may require the project owner to file submittals during the AFC process, particularly if construction is planned to commence shortly after certification. The verification procedures, unlike the conditions, may be modified as necessary by the CPM.

A cover letter from the project owner or an authorized agent is required for all compliance submittals and correspondence pertaining to compliance matters. The cover letter subject line shall identify the project by AFC number, cite the appropriate condition of certification number(s), and give a brief description of the subject of the submittal. When submitting supplementary or corrected information, the project owner shall reference the date of the previous submittal and the condition(s) of certification applicable.

All reports and plans required by the project's conditions of certification shall be submitted in a searchable electronic format (.pdf, MS Word, or Excel, etc.) and include standard formatting elements such as a table of contents, identifying by title and page number each section, table, graphic, exhibit, or addendum. All report and/or plan graphics and maps shall be adequately scaled and shall include a key with descriptive labels, directional headings, a bar scale, and the most recent revision date.

The project owner is responsible for the content and delivery of all verification submittals to the CPM, whether the actions required by the verification were satisfied by the project owner or an agent of the project owner. All submittals shall be accompanied by an electronic copy on an electronic storage medium, or by e-mail, as agreed upon by the CPM. If hard-copy submittals are required, please address as follows:

Compliance Project Manager  
Carlsbad Energy Center Project (07-AFC-06C)  
California Energy Commission  
1516 Ninth Street (MS-2000)  
Sacramento, CA 95814

**COM-4: Pre-Construction Matrix and Tasks Prior to Start of Construction.**

Prior to start of construction, the project owner shall submit to the CPM a compliance matrix including only those conditions that must be fulfilled before the start of construction. The matrix shall be included with the project owner's first compliance submittal or prior to the first pre-construction meeting, whichever comes first, and shall be submitted in a format similar to the description below.

Site mobilization and construction activities shall not start until all of the following occur: the project owner has submitted the pre-construction matrix and all submittals required by compliance verifications pertaining to all pre-construction conditions of certification, and the CPM has issued an

authorization-to-construct letter to the project owner. The deadlines for submitting various compliance verifications to the CPM allow sufficient staff time to review and comment on, and if necessary, allow the project owner to revise the submittal in a timely manner. These procedures help ensure that project construction proceeds according to schedule. Failure to submit required compliance documents by the specified deadlines may result in delayed authorizations to commence various stages of the project.

If the project owner anticipates site mobilization immediately following project certification, it may be necessary for the project owner to file compliance submittals prior to project certification. In these instances, compliance verifications can be submitted in advance of the required deadlines and the anticipated authorizations to start construction. The project owner must understand that submitting compliance verification requirements prior to these authorizations is at the owner's own risk. Any approval by Energy Commission staff prior to project certification is subject to change based upon the Commission Decision, or amendment thereto. Early staff compliance approvals do not imply that the Energy Commission will certify the project for actual construction and operation.

**COM-5: Compliance Matrix.** The project owner shall submit a compliance matrix to the CPM with each MCR and ACR. The compliance matrix provides the CPM with the status of all conditions of certification in a spreadsheet format. The compliance matrix shall identify:

1. the technical area (e.g., biological resources, facility design, etc.);
2. the condition number;
3. a brief description of the verification action or submittal required by the condition;
4. the date the submittal is required (e.g., sixty (60) days prior to construction, after final inspection, etc.);
5. the expected or actual submittal date;
6. the date a submittal or action was approved by the CBO, CPM, or delegate agency, if applicable;
7. the compliance status of each condition (e.g., "not started," "in progress," or "completed" (include the date); and
8. if the condition was amended, the updated language and the date the amendment was proposed or approved.

The CPM can provide a template for the compliance matrix upon request.

**COM-6: Monthly Compliance Reports and Key Events List.** The first MCR is due one month following the docketing of the project's Decision unless otherwise agreed to by the CPM. The first MCR shall include the AFC number and an initial list of dates for each of the events identified on the Key Events List. (The Key Events List form is found at the end of this Compliance Plan).

During project pre-construction, construction, or closure, the project owner or authorized agent shall submit an electronic searchable version of the MCR within ten business days after the end of each reporting month, unless otherwise specified by the CPM. MCRs shall be clearly identified for the month being reported. The searchable electronic copy may be filed on an electronic storage medium or by e-mail, subject to CPM approval. The compliance verification submittal condition provides guidance on report production standards, and the MCR shall contain, at a minimum:

1. a summary of the current project construction status, a revised/updated schedule if there are significant delays, and an explanation of any significant changes to the schedule;
2. documents required by specific conditions to be submitted along with the MCR; each of these items shall be identified in the transmittal letter, as well as the conditions they satisfy, and submitted as attachments to the MCR;
3. an initial, and thereafter updated, compliance matrix showing the status of all conditions of certification;
4. a list of conditions that have been satisfied during the reporting period, and a description or reference to the actions that satisfied the condition;
5. a list of any submittal deadlines that were missed, accompanied by an explanation and an estimate of when the information will be provided;
6. a cumulative listing of any approved changes to the conditions of certification;
7. a list of any filings submitted to, and permits issued by, other governmental agencies during the month;
8. a projection of project compliance activities scheduled during the next two months; the project owner shall notify the CPM as soon as any changes are made to the project construction schedule that would affect compliance with conditions of certification;
9. a list of the month's additions to the on-site compliance file; and

10. a listing of complaints, notices of violation, official warnings, and citations received during the month; a description of the actions taken to date to resolve the issues; and the status of any unresolved actions.

**COM-7: Annual Compliance Reports.** After construction is complete, the project owner must submit searchable electronic ACRs instead of MCRs. ACRs are due for each year of commercial operation and may be required for a specified period after decommissioning to monitor closure compliance, as specified by the CPM. The searchable electronic copies may be filed on an electronic storage medium or by e-mail, subject to CPM approval. Each ACR must include the AFC number, identify the reporting period, and contain the following:

1. an updated compliance matrix showing the status of all conditions of certification (fully satisfied conditions do not need to be included in the matrix after they have been reported as completed);
2. a summary of the current project operating status and an explanation of any significant changes to facility operations during the year;
3. documents required by specific conditions to be submitted along with the ACR; each of these items shall be identified in the transmittal letter with the condition it satisfies and submitted as an attachment to the ACR;
4. a cumulative list of all post-certification changes approved by the Energy Commission or the CPM;
5. an explanation for any submittal deadlines that were missed, accompanied by an estimate of when the information will be provided;
6. a list of filings submitted to, and permits issued by, other governmental agencies during the year;
7. a projection of project compliance activities scheduled during the next year;
8. a list of the year's additions to the on-site compliance file;
9. an evaluation of the Site Contingency Plan, including amendments and plan updates; and
10. a list of complaints, notices of violation, official warnings, and citations received during the year, a description of how the issues were resolved, and the status of any unresolved matters.

**COM-8: Confidential Information.** Any information that the project owner designates as confidential shall be submitted to the Energy Commission's Executive Director with an application for confidentiality, pursuant to Title

20, California Code of Regulations, section 2505 (a). Any information deemed confidential pursuant to the regulations shall remain undisclosed, as provided in Title 20,

**COM-9: Annual Energy Facility Compliance Fee.** Pursuant to the provisions of section 25806 (b) of the Public Resources Code, the project owner is required to pay an annually adjusted compliance fee. Current compliance fee information is available on the Energy Commission's website at [http://www.energy.ca.gov/siting/filing\\_fees.html](http://www.energy.ca.gov/siting/filing_fees.html). The project owner may also contact the CPM for the current fee information. The initial payment is due on the date the Energy Commission docket its final Decision. All subsequent payments are due by July 1 of each year in which the facility retains its certification.

**COM-10: Amendments, Staff-Approved Project Modifications, Ownership Changes, and Verification Changes.** The project owner shall petition the Energy Commission, pursuant to Title 20, California Code of Regulations, section 1769, to modify the design, operation, or performance requirements of the project or linear facilities, or to transfer ownership or operational control of the facility. The CPM will determine whether staff approval will be sufficient, or whether Commission approval will be necessary. It is the project owner's responsibility to contact the CPM to determine if a proposed project change triggers the requirements of section 1769. Section 1769 details the required contents for a Petition to Amend an Energy Commission Decision. The only change that can be requested by means of a letter to the CPM is a request to change the verification method of a condition of certification.

Implementation of a project modification without first securing Energy Commission, or Energy Commission staff, approval may result in an enforcement action, including civil penalties, in accordance with section 25534 of the Public Resources Code. If the Energy Commission's rules regarding amendments are revised, the rules in effect at the time the change is requested shall apply.

**COM-11: Reporting of Complaints, Notices, and Citations.** Prior to the start of construction or decommissioning, the project owner shall send a letter to property owners within one mile of the project, notifying them of a telephone number to contact project representatives with questions, complaints, or concerns. If the telephone is not staffed 24 hours per day, it shall include automatic answering with a date and time stamp recording.

The project owner shall respond to all complaints within 24 hours or the next business day. The project owner shall post the telephone number at the project site and make it easily visible to passersby during construction, operation, and closure. The project owner shall provide the contact information to the CPM who will post it on the Energy Commission's web page at <http://www.energy.ca.gov/sitingcases/carlsbad/>.

The project owner shall report any disruption to the contact system or telephone number change to the CPM promptly, to allow the CPM to update the Energy Commission's facility webpage accordingly.

In addition to including all complaints, notices, and citations with the MCRs and ACRs, within ten days of receipt, the project owner shall report, and provide copies to the CPM, of all complaints, including noise and lighting complaints, notices of violation, notices of fines, official warnings, and citations. Complaints shall be logged and numbered. Noise complaints shall be recorded on the form provided in the Noise and Vibration conditions of certification. All other complaints shall be recorded on the complaint form (Attachment A) at the end of this Compliance Plan.

**COM-12: Emergency Response Site Contingency Plan.** No less than 60 days prior to the start of commercial operation (or other date agreed to by the CPM), the project owner shall submit for CPM review and approval, an Emergency Response Site Contingency Plan (Contingency Plan). The Contingency Plan shall evidence a facility's coordinated emergency response and recovery preparedness for a series of reasonably foreseeable emergency events. The CPM may require the updating of the Contingency Plan over the life of the facility. Contingency Plan elements include, but are not limited to:

1. A site-specific list and direct contact information for persons, agencies, and responders to be notified for an unanticipated event;
2. A detailed and labeled facility map, including all fences and gates, the windsock location (if applicable), the on- and off-site assembly areas, and the main roads and highways near the site;



3. A detailed and labeled map of population centers, sensitive receptors, and the nearest emergency response facilities;
4. A description of the on-site, first response and backup emergency alert and communication systems, site-specific emergency response protocols, and procedures for maintaining the facility's contingency response capabilities, including a detailed map of interior and exterior evacuation routes, and the planned location(s) of all permanent safety equipment;
5. An organizational chart including the name, contact information, and first aid/emergency response certification(s) and renewal date(s) for all personnel regularly on-site;
6. A brief description of reasonably foreseeable, site-specific incidents and accident sequences (on- and off-site), including response procedures and protocols and site security measures to maintain twenty-four-hour site security;
7. Procedures for maintaining contingency response capabilities; and
8. The procedures and implementation sequence for the safe and secure shutdown of all non-critical equipment and removal of hazardous materials and waste (see also specific conditions of certification for the technical areas of **PUBLIC HEALTH, WASTE MANAGEMENT, HAZARDOUS MATERIALS MANAGEMENT, and WORKER SAFETY**).

**COM-13: Incident-Reporting Requirements.** Within one hour after it is safe and feasible, the project owner shall notify the CPM or compliance office manager, by telephone and e-mail, of any incident at the power plant or appurtenant facilities that results, or could result, in any of the following:

1. Health and safety impacts on the surrounding population;
2. Property damage off-site;
3. Response by off-site emergency response agencies;
4. Serious on-site injury;
5. Serious environmental damage; or
6. Emergency reporting to any federal, state, or local agency.

The notice shall describe the circumstances, status, and expected duration of the incident. If warranted, as soon as it is safe and feasible, the project owner shall implement the safe shutdown of any non-critical equipment and removal of any hazardous materials and waste that pose a threat to public health and safety and to environmental quality (also, see

specific conditions of certification for the technical areas of **HAZARDOUS MATERIALS MANAGEMENT** and **WASTE MANAGEMENT**).

Within one week of the incident, the project owner shall submit to the CPM a detailed incident report, which includes, as appropriate, the following information:

1. A brief description of the incident, including its date, time, and location;
2. A description of the cause of the incident, or likely causes if it is still under investigation;
3. The location of any off-site impacts;
4. Description of any resultant impacts;
5. A description of emergency response actions associated with the incident;
6. Identification of responding agencies;
7. Identification of emergency notifications made to federal, state, and/or local agencies;
8. Identification of any hazardous materials released and an estimate of the quantity released;
9. A description of any injuries, fatalities, or property damage that occurred as a result of the incident;
10. Fines or violations assessed or being processed by other agencies;
11. Name, phone number, and e-mail address of the appropriate facility contact person having knowledge of the event; and
12. Corrective actions to prevent a recurrence of the incident.

The project owner shall maintain all incident report records for the life of the project, including closure. After the submittal of the initial report for any incident, the project owner shall submit to the CPM copies of incident reports within 24 hours of a request.

**COM-14: Non-Operation.** If the facility ceases operation temporarily, either planned or unplanned, for longer than one week, but less than three months (or other CPM-approved date), the project owner shall notify the CPM (by

telephone and e-mail), interested agencies, and nearby property owners. Notice of planned non-operation shall be given at least two weeks prior to the scheduled date. Notice of unplanned non-operation shall be provided no later than one week after non-operation begins.

For any non-operation, a Repair/Restoration Plan for conducting the activities necessary to restore the facility to availability and reliable and/or improved performance shall be submitted to the CPM within one week after notice of non-operation is given. If non-operation is due to an unplanned incident, temporary repairs and/or corrective actions may be undertaken before the Repair/Restoration Plan is submitted. The Repair/Restoration Plan shall include:

1. Identification of operational and non-operational components of the plant;
2. A detailed description of the repair or restoration activities;
3. A proposed schedule for completing the repair or restoration activities;
4. An assessment of whether or not the proposed activities would require changing, adding, and/or deleting any conditions of certification, and/or would cause noncompliance with any applicable LORS; and
5. Planned activities during non-operation, including any measures to ensure continued compliance with all conditions of certification and LORS.

The CPM will determine if CBO oversight or compliance site monitoring is required.

Written updates to the CPM for non-operational periods, until operation resumes, shall include:

1. Progress relative to the schedule;
2. Developments that delayed or advanced progress or that may delay or advance future progress;
3. Any public, agency, or media comments or complaints; and
4. Projected date for the resumption of operation.

During non-operation, all applicable conditions of certification and reporting requirements remain in effect. If, after one year from the date of the project owner's last report of productive Repair/Restoration Plan work, the facility does not resume operation or does not provide a plan to

resume operation, the Executive Director may assign suspended status to the facility and recommend commencement of permanent closure activities. Within 90 days of the Executive Director's determination, the project owner shall do one of the following:

1. If the facility has a closure plan, the project owner shall update it and submit it for Energy Commission review and approval; and
2. If the facility does not have a closure plan, the project owner shall develop one consistent with the requirements in this Compliance Plan and submit it for Energy Commission review and approval.

**COM-15: Facility Closure Planning.** To ensure that a facility's eventual permanent closure and long-term maintenance do not pose a threat to public health and safety and/or to environmental quality, the project owner shall coordinate with the Energy Commission to plan and prepare for eventual permanent closure.

**A. Provisional Closure Plan and Estimate of Permanent Closure Costs**

To assure satisfactory long-term site maintenance and adequate closure for "the whole of a project," the project owner shall submit a Provisional Closure Plan and Cost Estimate for CPM review and approval within 60 days after the start of commercial operation. The Provisional Closure Plan and Cost Estimate shall consider applicable final closure plan requirements, and reflect the use of an independent third party to carry out the permanent closure.

The Provisional Closure Plan and Cost Estimate shall provide for a phased closure process and include but not be limited to:

1. Comprehensive scope of work and itemized budget;
2. Closure plan development costs;
3. Dismantling and demolition;
4. Recycling and site clean-up;
5. Mitigation and monitoring direct, indirect, and cumulative impacts;
6. Site remediation and/or restoration;
7. Interim and long term operation monitoring and maintenance, including long-term equipment replacement costs; and
8. Contingencies.

The project owner shall include an updated Provisional Closure Plan and Cost Estimate in every fifth-year ACR for CPM review and approval. Each updated Provisional Closure Plan and Cost Estimate shall reflect the most current regulatory standards, best management practices, and applicable LORS.

## **B. Final Closure Plan and Cost Estimate**

At least three years prior to initiating a permanent facility closure, the project owner shall submit for Energy Commission review and approval, a Final Closure Plan and Cost Estimate, which includes any long-term, post-closure site maintenance and monitoring. Final Closure Plan and Cost Estimate contents include, but are not limited to:

1. A statement of specific Final Closure Plan objectives;
2. A statement of qualifications and resumes of the technical experts proposed to conduct the closure activities, with detailed descriptions of previous power plant closure experience;
3. Identification of any facility-related installations not part of the Energy Commission certification, designation of who is responsible for these, and an explanation of what will be done with them after closure;
4. A comprehensive scope of work and itemized budget for permanent plant closure and site maintenance activities, with a description and explanation of methods to be used, broken down by phases, including, but not limited to:
  - a) Dismantling and demolition;
  - b) Recycling and site clean-up;
  - c) Impact mitigation and monitoring;
  - d) Site remediation and/or restoration and;
  - e) Any contingencies.
5. A revised/updated Final Cost Estimate for all closure activities, by phases, including site monitoring and maintenance costs, and long-term equipment replacement;
6. A schedule projecting all phases of closure activities for the power plant site and all appurtenances constructed as part of the Energy Commission-certified project;
7. An electronic submittal package of all relevant plans, drawings, risk assessments, and maintenance schedules and/or reports, including

- an above- and below-ground infrastructure inventory map and registered engineer's or delegate CBO's assessment of demolishing the facility; additionally, for any facility that permanently ceased operation prior to submitting a Final Closure Plan and Cost Estimate and for which only minimal or no maintenance has been done since, a comprehensive condition report focused on identifying potential hazards;
8. All information additionally required by the facility's conditions of certification applicable to plant closure;
  9. An equipment disposition plan, including:
    - a) recycling and disposal methods for equipment and materials; and
    - b) identification and justification for any equipment and materials that will remain on-site after closure;
  10. A site disposition plan, including but not limited to:
    - a) proposed rehabilitation, restoration, and/or remediation procedures, as required by the conditions of certification and applicable LORS; and
    - b) site maintenance activities.
  11. Identification and assessment of all potential direct, indirect, and cumulative impacts and proposal of mitigation measures to reduce significant adverse impacts to a less-than-significant level; potential impacts to be considered shall include, but not be limited to:
    - a) traffic
    - b) noise and vibration
    - c) soil erosion
    - d) air quality degradation
    - e) solid waste
    - f) hazardous materials
    - g) waste water discharges
    - h) contaminated soil
  12. Identification of all current conditions of certification, LORS, federal, state, regional, and local planning efforts applicable to the facility, and proposed strategies for achieving and maintaining compliance during closure;

13. Updated mailing list or listserv of all responsible agencies, potentially interested parties, and property owners within one mile of the facility;
14. Identification of alternatives to plant closure and assessment of the feasibility and environmental impacts of these; and
15. Description of and schedule for security measures and safe shutdown of all non-critical equipment and removal of hazardous materials and waste (see conditions of certification for **PUBLIC HEALTH, WASTE MANAGEMENT, HAZARDOUS MATERIALS MANAGEMENT, and WORKER SAFETY**).

If implementation of an Energy Commission-approved Final Closure Plan and Cost Estimate is not initiated within one year of its approval date, it shall be updated and re-submitted to the Commission for supplementary review and approval. If a project owner initiates but then suspends closure activities, and the suspension continues for longer than one year, or subsequently abandons the facility, the Final Closure Plan and Cost Estimate shall be resubmitted to the Commission for supplementary review and approval. The project owner remains liable for all costs of contingency planning and closure.

**COM-16: Previously Licensed Activities in Progress Prior to Approval of the Amended CECP.** Tank 5, 6, and 7 demolition activities that were authorized to start prior to the effective date of the Commission Decision approving the Amended CECP license shall not be required to be re-authorized because of changed requirements in the Amended CECP license. Such activities shall, however, comply with the active and ongoing requirements of all conditions that are in effect under the Amended CECP license.

Except as provided in the preceding paragraph, upon Energy Commission approval of the Amended CECP license, the license previously granted for the CECP in 2012 is superseded by the amended license and the project owner is no longer authorized to construct the project described in the 2012 license.



## Exhibit List

Docket: 07-AFC-06C

Project Title: Carlsbad Energy Center - Compliance

Generated On: 8/3/2015 12:41:24 PM

Exhibit Number	Document Title and Description	Disposition
101	TN # 203845 <b>City of Carlsbad Prepared Direct Testimony</b> Direct Testimony of Kirsten Plonka, Gary Barberio, and Mike Lopez	Offered by Committee (Carlsbad Amendments Committee); Official Notice taken on 4/2/2015.
102	TN # 203507 <b>Will Serve Letter - Water and Sewer Service</b> Statement of the City of Carlsbad's willingness to serve potable water, recycled water, and sewer service to the amended CECP	Offered by Committee (Carlsbad Amendments Committee); Official Notice taken on 4/2/2015.
103	TN # 203421 <b>Letter Regarding Water Supply Assessment</b> Letter responding to staff request	Offered by Committee (Carlsbad Amendments Committee); Official Notice taken on 4/2/2015.
104	TN # 203514 <b>Response to staff questions on water supply assessment (WSA) Supplement Letter</b>	Offered by Committee (Carlsbad Amendments Committee); Official Notice taken on 4/2/2015.
105	TN # 203544 <b>Table of City of Carlsbad Land Use Actions Related to the Amended Carlsbad Energy Center Project</b>	Offered by Committee (Carlsbad Amendments Committee); Official Notice taken on 4/2/2015.
200	TN # 204019 <b>Licensed CECP Exhibit 200 -- Commission Staff Final Staff Assessment, docketed 11/12/09</b> For Official Notice, Energy Commission Staff Final Staff Assessment, received into evidence on 2/1/2010	Offered by Committee (Carlsbad Amendments Committee); Official Notice taken on 4/2/2015.
201	TN # 204017 <b>Licensed CECP Exhibit 201 -- SDAPCD's Final Determination of Compliance (FDOC), posted 8/4/09</b> For Official Notice -- San Diego APCD FDOC	Offered by Committee (Carlsbad Amendments Committee); Official Notice taken on 4/2/2015.
203	TN # 204016 <b>Licensed CECP Exhibit 203, Staff Prehearing Conference (PHC) Statement, dated 1/14/2010</b> Includes Rebuttal Testimony. For Official Notice, Staff PHC Statement, received into evidence on 2/1/2010	Offered by Committee (Carlsbad Amendments Committee); Official Notice taken on 4/2/2015.
205	TN # 204015 <b>Licensed CECP Exhibit 205 -- AB 32 Scoping Plan, California Air Resources Board, December 2008</b> For Official Notice, ARB2008 AB 32 Scoping Plan, received into evidence 2/1/2010	Offered by Committee (Carlsbad Amendments Committee); Official Notice taken on 4/2/2015.
206	TN # 204014 <b>Licensed CECP Exhibit 206 -- Cal EPA Climate Action Team Report, March 2006</b> For Official Notice CalEPA 2006 (California Environmental Protection Agency). Climate Action Team Report to Governor	Offered by Committee (Carlsbad Amendments Committee); Official Notice taken on 4/2/2015.



Exhibit Number	Document Title and Description	Disposition
	Schwarzenegger and the Legislature. March, 2006; received into evidence on 2/1/2010	
207	TN # 204013 <b>Licensed CECP Exhibit 207 -- CAISO 2007 Integration of Renewable Resources</b> For Official Notice -- CAISO 2007 (California Independent System Operator). Integration of Renewable Resources, November 2007; received into evidence on 2/1/2010	Offered by Committee (Carlsbad Amendments Committee); Official Notice taken on 4/2/2015.
210	TN # 204012 <b>Licensed CECP Exhibit 210 -- Energy Commission Integrated Energy Policy Report, December 2003</b> For Official Notice	Offered by Committee (Carlsbad Amendments Committee); Official Notice taken on 4/2/2015.
212	TN # 204011 <b>Licensed CECP Exhibit 212 -- Framework for Evaluating Greenhouse Gas Implications, May 27, 2009</b> For Official Notice -- Framework for Evaluating Greenhouse Gas Implications of Natural Gas-Fired Power Plants in California, CEC-700-2009-009, MRW and Associates. May 27, 2009; received into evidence on 2/1/2010	Offered by Committee (Carlsbad Amendments Committee); Official Notice taken on 4/2/2015.
213	TN # 204009 <b>Licensed CECP Exhibit 213 -- California Public Utilities Commission, Draft Opinion Greenhouse Gas Regulatory Strategies, 9/12/08</b> For Official Notice -- CPUC 2008 (California Public Utilities Commission). Draft Final Opinion on Greenhouse Gas Regulatory Strategies, Joint Agency proposed final opinion, publication # CEC-100-2008-007-D. Posted: September 12, 2008; received into evidence on 2/1/2010	Offered by Committee (Carlsbad Amendments Committee); Official Notice taken on 4/2/2015.
214	TN # 204007 <b>Licensed CECP Exhibit 214 -- Application for Certification, Alternatives Section, 9/11/2007</b> CECP 2007a -- Carlsbad Energy Center Project/T. Hemig (tn: 42299). Application for Certification for the Carlsbad Energy Center Project. 09/11/2007. Duplicate of Exhibit 4 and therefore not received into evidence.	Offered by Committee (Carlsbad Amendments Committee); Official Notice taken on 4/2/2015.
216	TN # 204008 <b>Licensed CECP Exhibit 216 -- 2009 Integrated Energy Policy Report Demand Forecast 2010-2020</b> For Official Notice -- CEC 2009a -- California Energy Commission 2009 Integrated Energy Policy Report (IEPR) forecast demand for electricity in San Diego region, (Forms 1.4, 1.5); received into evidence on 2/1/2010	Offered by Committee (Carlsbad Amendments Committee); Official Notice taken on 4/2/2015.
217	TN # 204006 <b>Licensed CECP Exhibit 217 -- California Energy Commission, Comparative Costs of CA Central Station Elec Gen. staff report 8/09</b> For Official Notice -- CEC 2009b -- California Energy Commission, Comparative Costs of California Central Station Electricity Generation, draft staff report, August 2009. Staff draft report that has the levelized cost estimates and gas plant characterizations/cost drivers:	Offered by Committee (Carlsbad Amendments Committee); Official Notice taken on 4/2/2015.
233	TN # 204018 <b>Licensed CECP EXHIBIT 433 -- Testimony of the City of Carlsbad, dated 1/4/2010</b> FOR Official Notice, EXHIBIT 433 Testimony of the City of Carlsbad & the Carlsbad Housing and Redevelopment Agency regarding the 07-AFC-06, dated 1/6/2010. Received into evidence on 2/1/2010	Offered by Committee (Carlsbad Amendments Committee); WITHDRAWN on 4/2/2015.
251	TN # 203952 <b>Official Notice Document: 2010 CECP Evidentiary Hearing, Day 1</b> Transcript of February 1, 2010 Evidentiary Hearing for the licensed CECP Proceeding	Offered by Committee (Carlsbad Amendments Committee); Official Notice taken on 4/2/2015.

Exhibit Number	Document Title and Description	Disposition
252	TN # 203953 <b>Official Notice Document: 2010 CECP Evidentiary Hearing, Day 2</b> Transcript of February 2, 2010 Evidentiary Hearing for the licensed CECP proceeding	Offered by Committee (Carlsbad Amendments Committee); Official Notice taken on 4/2/2015.
253	TN # 203954 <b>Official Notice Document: 2010 CECP Evidentiary Hearing, Day 3</b> Transcript of February 3, 2010 Evidentiary Hearing for the licensed CECP Proceeding	Offered by Committee (Carlsbad Amendments Committee); Official Notice taken on 4/2/2015.
254	TN # 203955 <b>Official Notice Document: 2010 CECP Evidentiary Hearing, Day 4</b> Transcript of February 4, 2010 Evidentiary Hearing for the licensed CECP Proceeding	Offered by Committee (Carlsbad Amendments Committee); Official Notice taken on 4/2/2015.
500	TN # 203926 <b>National Archives and Records Administration Federal Register, Vol. 79, No. 117, Part II, Environmental Protection Agency</b> 40 CFR Part 60 - Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units; Proposed Rule	Offered by Committee (Carlsbad Amendments Committee); Official Notice taken on 4/2/2015.
501	TN # 204830 <b>CPUC Decision Conditionally Approving Power Purchase Tolling Agreement with SDG&amp;E</b> CPUC Decision 15-05-051, approved 5/21/2015, issued 5/29/2015	Offered by Committee (Carlsbad Amendments Committee); Official Notice taken on 6/9/2015.
1000	TN # 202287-2 <b>CECP Petition to Amend</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 4/2/2015.
1001	TN # 202287-3 <b>PT 2 Petition to Amend Carlsbad Energy Center</b> List of Property Owners Appendix 2A - Appendix 5.11A	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 4/2/2015.
1002	TN # 203441 <b>Preliminary Determination of Compliance, dated December 12, 2014</b> San Diego Air Pollution Control District	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 4/2/2015.
1004	TN # 203608 <b>Applicant's Analysis of Baseline Period Chosen for Amended CECP</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 4/2/2015.
1005	TN # 203058 <b>Responses to Power of Vision Data Request Set 1 (Nos. 1-5)</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 4/2/2015.
1006	TN # 203084 <b>Supplemental Responses to Data Requests in Set One (Nos. 28-30)</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 4/2/2015.
1007	TN # 203311 <b>Project Owner Response to Data Request Set 2 (No. 58)</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 4/2/2015.
1008	TN # 203300 <b>Project Owner Responses to Data Request Set 3 (Nos. 67-84)</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 4/2/2015.
1009	TN # 203313 <b>Project Owner Supplemental Response to Data Request Set 3 (No. 74)</b> (Revised Responses to Data Requests 74.e and 74.f)	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 4/2/2015.
1010	TN # 203363 <b>Project Owner's Responses to Data Requests Set 4 (Nos. 86-92)</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 4/2/2015.
1011		

<b>Exhibit Number</b>	<b>Document Title and Description</b>	<b>Disposition</b>
	TN # 202938 <b>Project Owner's Responses to Data Requests in Set One (Nos. 1-30)</b> 8/15/14	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 4/2/2015.
1012	TN # 203383 <b>Project Owner's Response to Power of Vision Petition for Order Directing Responses to Data Requests 8, 9, and 11-13</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 4/2/2015.
1013	TN # 203327 <b>Project Owner's Supplemental Response to Data Request Set 3 (No. 76)</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 4/2/2015.
1014	TN # 203512 <b>Project Owner's Response to Committee Order &amp; Supplemental Response to Data Request Set 3</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 4/2/2015.
1015	TN # 203967 <b>Excerpt Fig. 2.0-1 from TN202287-2 Showing SDG&amp;E Gate Exit and RR Crossing</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 4/2/2015.
1016	TN # 203968 <b>Figure DR58-1 Excerpt from TN203311</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 4/2/2015.
1017	TN # 203969 <b>Figure DR58-2 Excerpt from TN203311</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 4/2/2015.
1018	TN # 203970 <b>Figure DR58-6 Excerpt from TN203311</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 4/2/2015.
1019	TN # 203971 <b>Figure DR58-8 Excerpt from TN203311</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 4/2/2015.
1020	TN # 203972 <b>Figure DR POV 5-3 Revised Excerpt from TN203431</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 4/2/2015.
1021	TN # 203973 <b>Figure DR POV 5-2 Revised Excerpt from TN203431</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 4/2/2015.
1022	TN # 203974 <b>Figure DR74-1 Excerpt From TN203313</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 4/2/2015.
1023	TN # 203975 <b>Figure DR23-1R1 Excerpt from TN203300</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 4/2/2015.
1024	TN # 203094 <b>Responses to Data Request Set 2 (Nos. 40-57)</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 4/2/2015.
1025	TN # 203095 <b>Responses to Data Request Set 2A (Nos. 59-66)</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 4/2/2015.
1026	TN # 203105 <b>Supplemental Responses to Data Request Set 2 (Nos. 49 and 50)</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 4/2/2015.
1027	TN # 203143 <b>Response to Data Request Set 2A (No. 64)</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 4/2/2015.
1028	TN # 203211 <b>Project Owner's Data Request Responses and Request for Partial Extension</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 4/2/2015.
1029	TN # 203951 <b>Project Owner's Compliance Rebuttal Testimony</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 4/2/2015.
1030	TN # 202267 <b>Petition to Remove Obsolete Facilities to Support Construction of the Carlsbad Energy Center Project</b> removing certain aging, aboveground, fuel oil tanks in advance of construction.	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 4/2/2015.
1031		Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 4/2/2015.

Exhibit Number	Document Title and Description	Disposition
	TN # 204036 <b>Project Owner's Proposed Errata to Air Quality Conditions of Certification</b>	
1032	TN # 204341 <b>CalTrans FHWA I-5 Widening North Coast Corridor FEIS/FEIR Part 1</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 5/1/2015.
1033	TN # 204342 <b>CalTrans FHWA I-5 Widening North Coast Corridor FEIS/FEIR Part 2</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 5/1/2015.
1034	TN # 204343 <b>CalTrans FHWA I-5 Widening North Coast Corridor FEIS/FEIR Part 2 (2 of 3)</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 5/1/2015.
1035	TN # 204344 <b>CalTrans FHWA I-5 Widening North Coast Corridor FEIS/FEIR Appendix D</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 5/1/2015.
1036	TN # 204345 <b>CalTrans FHWA I-5 Widening North Coast Corridor FEIS/FEIR Part 2 (3 of 3)</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 5/1/2015.
1037	TN # 204347 <b>CalTrans FHWA I-5 Widening North Coast Corridor FEIS/FEIR Appendix L</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 5/1/2015.
1038	TN # 204348 <b>CalTrans FHWA I-5 Widening North Coast Corridor FEIS/FEIR Notice of Availability</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 5/1/2015.
1039	TN # 204368 <b>CalTrans FHWA I-5 Widening North Coast Corridor FEIS/FEIR - Part 4 (1 of 5)</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 5/1/2015.
1040	TN # 204369 <b>CalTrans FHWA I-5 Widening North Coast Corridor FEIS/FEIR - Part 4 (2 of 5)</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 5/1/2015.
1041	TN # 204370 <b>CalTrans FHWA I-5 Widening North Coast Corridor FEIS/FEIR - Part 4 (3 of 5)</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 5/1/2015.
1042	TN # 204371 <b>CalTrans FHWA I-5 Widening North Coast Corridor FEIS/FEIR - Part 4 (4 of 5)</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 5/1/2015.
1043	TN # 204372 <b>CalTrans FHWA I-5 Widening North Coast Corridor FEIS/FEIR - Part 4 (5 of 5)</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 5/1/2015.
1044	TN # 204375-1 <b>CalTrans FHWA I-5 Widening North Coast Corridor FEIS/FEIR Part 3 (1 of 8)</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 5/1/2015.
1045	TN # 204375-2 <b>CalTrans FHWA I-5 Widening North Coast Corridor FEIS/FEIR Part 3 (2 of 8)</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 5/1/2015.
1046	TN # 204375-3 <b>CalTrans FHWA I-5 Widening North Coast Corridor FEIS/FEIR Part 3 (3 of 8)</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 5/1/2015.
1047	TN # 204375-4 <b>CalTrans FHWA I-5 Widening North Coast Corridor FEIS/FEIR Part 3 (4 of 8)</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 5/1/2015.
1048	TN # 204375-5 <b>CalTrans FHWA I-5 Widening North Coast Corridor FEIS/FEIR Part 3 (5 of 8)</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 5/1/2015.
1049		Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 5/1/2015.

Exhibit Number	Document Title and Description	Disposition
	TN # 204375-6 <b>CalTrans FHWA I-5 Widening North Coast Corridor FEIS/FEIR Part 3 (6 of 8)</b>	
1050	TN # 204375-7 <b>CalTrans FHWA I-5 Widening North Coast Corridor FEIS/FEIR Part 3 (7 of 8)</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 5/1/2015.
1051	TN # 204375-8 <b>CalTrans FHWA I-5 Widening North Coast Corridor FEIS/FEIR Part 3 (8 of 8)</b>	Offered by Applicant (Carlsbad Energy Center, LLC); Admitted on 5/1/2015.
2000	TN # 203696 <b>CECP Amendment, Final Staff Assessment</b> Carlsbad Energy Center Project Amendment, Final Staff Assessment February 2015	Offered by Commission Staff (Staff); Admitted on 4/2/2015.
2001	TN # 203981 <b>Carlsbad Energy Center Project Amendment FSA Supplement and CEC Staff Rebuttal Testimony</b> Supplement and Rebuttal	Offered by Commission Staff (Staff); Admitted on 4/2/2015.
2002	TN # 203924 <b>San Diego Air Pollution Control District Final Determination of Compliance (FDOC)</b>	Offered by Commission Staff (Staff); Admitted on 4/2/2015.
2003	TN # 203558 <b>City of Carlsbad General Plan, Land Use Element</b> Land Use Element of the City of Carlsbad General Plan	Offered by Commission Staff (Staff); Admitted on 4/2/2015.
2004	TN # 203557 <b>City of Carlsbad Zoning Ordinance, P-U Zone</b> P-U Zone, City of Carlsbad Zoning Ordinance	Offered by Commission Staff (Staff); Admitted on 4/2/2015.
2005	TN # 203556 <b>City of Carlsbad Noise Standard</b> Noise Standard for the City of Carlsbad	Offered by Commission Staff (Staff); Admitted on 4/2/2015.
2006	TN # 203555 <b>City of Carlsbad Agua Hedionda Land Use Plan</b> Agua Hedionda Land Use Plan for the City of Carlsbad	Offered by Commission Staff (Staff); Admitted on 4/2/2015.
2007	TN # 203550 <b>Agenda Bill and Precise Development Plan 00-002(F)</b> City of Carlsbad Council Agenda Item Exhibit 9, 5/20/14	Offered by Commission Staff (Staff); Admitted on 4/2/2015.
2008	TN # 204038 <b>Visual Resources Presentation by Staff, Evidentiary Hearings, 4/1/15</b> Slides 1-9 from Exhibits 200, 4012, Officially Noticed Exhibit 433; Slides 11-19 from Staff Rebuttal Testimony, Exhibit 203	Offered by Commission Staff (Staff); Admitted on 4/2/2015.
2009	TN # 204003 <b>Witness Flores Testimony - Declaration and Credentials for David Flores – Traffic and Transportation</b> Testimony on Traffic and Transportation	Offered by Commission Staff (Staff); Admitted on 4/2/2015.
2010	TN # 204222 <b>Air Quality Errata and Complete Proposed Conditions of Certification</b> Air Quality Errata from CEC Staff and San Diego APCD; Proposed Conditions of Certification	Offered by Commission Staff (Staff); Admitted on 4/16/2015.
3000	TN # 203771 <b>Testimony of the City of Carlsbad and the Carlsbad Housing &amp; Redevelopment Agency Regarding Docket No. 07-AFC-06</b> Docketed No. 07-AFC-6 on 01/06/2010 for the CECP Hearings	Offered by Intervenor (Terramar Association); Admitted on 4/2/2015.
3001	TN # 203770 <b>City of Carlsbad Letter to U.S. Environmental Protection Agency</b>	Offered by Intervenor (Terramar Association); Admitted on 4/2/2015.

Exhibit Number	Document Title and Description	Disposition
	A letter submitted to the EPA from Carlsbad, Ca. June 12, 2009-Docketed June 12, 2009 in Docket 07-AFC-6	
3002	TN # 203721 <b>May 31, 2012 Commission Decision approving the Carlsbad Energy Center Application for Certification</b> Publication No. CEC-800-2011-004-CMF, Docketed in this (compliance) proceeding for convenient access	Offered by Intervenor (Terramar Association); Admitted on 4/2/2015.
3006	TN # 203590 <b>Sierra Club Comments: on California Energy Commission's Carlsbad Energy Center Project Amendment Preliminary Staff Assessment</b>	Offered by Intervenor (Terramar Association); Admitted on 4/2/2015.
3008	TN # 203788 <b>City of Carlsbad &amp; Redevelopment Agency's Opening Brief Opposing CECP</b> City of Carlsbad & Redevelopment Agency's Opening Brief in the original CECP licensing, Docket No. 07-AFC-6	Offered by Intervenor (Terramar Association); Admitted on 4/2/2015.
3011	TN # 203527 <b>COMMITTEE ORDER FOLLOWING THE PRELIMINARY STAFF ASSESSMENT</b>	Offered by Intervenor (Terramar Association); Admitted on 4/2/2015.
3012	TN # 203812 <b>Carlsbad Energy Center Project Emissions Baseline Calculations for the Existing Boiler Units Submitted to SDAPCD</b> Previously Submitted by Sierra Research To San Diego Air Pollution Control District under prior Docket 07-AFC-6 regarding the revised emissions baseline calculations for existing boiler Units 1, 2, and 3 at the Encina Power Station	Offered by Intervenor (Terramar Association); Admitted on 4/2/2015.
3013	TN # 203813 <b>Letter from Sierra Research to Dr. Moore regarding revised NOx Emissions Baseline Calculations for CECP</b> Previously submitted by Carlsbad Energy Center, LLC under Docket No. 07-AFC-6 without the Excel file.	Offered by Intervenor (Terramar Association); Admitted on 4/2/2015.
3014	TN # 203814 <b>U.S. Environmental Protection Agency Letter to NRG Energy, Inc. re: New PSD Applicability Determination Analysis</b> For the Carlsbad Energy Center Power Project previously docketed under 07-AFC-6.	Offered by Intervenor (Terramar Association); Admitted on 4/2/2015.
3015	TN # 203815 <b>Revised Emissions Baseline Calculations for Units 1-3 at Encina Power Station</b> Previously submitted in docket 07-AFC-6	Offered by Intervenor (Terramar Association); Admitted on 4/2/2015.
3016	TN # 203820 <b>Photo 1 South on I-5 Past the Project Site</b>	Offered by Intervenor (Terramar Association); Admitted on 4/2/2015.
3017	TN # 203821 <b>Photo 2 Southbound I-5 Past the Project Site</b>	Offered by Intervenor (Terramar Association); Admitted on 4/2/2015.
3018	TN # 203822 <b>Photo 3 Southbound I-5 Past the Project Site</b>	Offered by Intervenor (Terramar Association); Admitted on 4/2/2015.
3019	TN # 203823 <b>Photo 4 Southbound I-5 Past the Project Site</b>	Offered by Intervenor (Terramar Association); Admitted on 4/2/2015.
3020	TN # 203824 <b>Photo 5 Southbound I-5 Past the Project Site</b>	Offered by Intervenor (Terramar Association); Admitted on 4/2/2015.
3021	TN # 203825 <b>Photo 6-Southbound I-5 past project site</b> Photo 6-On Southbound I-5 past project site.	Offered by Intervenor (Terramar Association); Admitted on 4/2/2015.
3022	TN # 203826 <b>Photo7 -on Southbound I-5 past project site</b> Photo 7 on Southbound I-5 past the project site.	Offered by Intervenor (Terramar Association); Admitted on 4/2/2015.

<b>Exhibit Number</b>	<b>Document Title and Description</b>	<b>Disposition</b>
3023	TN # 203827 <b>Photo 8-Southbound I-5 past project site</b> Photo 8 on southbound I-5 past project site. Taken on 3/10/15	Offered by Intervenor (Terramar Association); Admitted on 4/2/2015.
3024	TN # 203828 <b>Photo 9-Southbound I-5 past project site</b> Photo 9-Southbound I-5 past project site	Offered by Intervenor (Terramar Association); Admitted on 4/2/2015.
3025	TN # 203829 <b>Photo 10-Southbound I-5 past project site</b> Photo 10-Southbound I-5 past project site	Offered by Intervenor (Terramar Association); Admitted on 4/2/2015.
3026	TN # 203830 <b>Photo 11-Southbound I-5 past project site</b> Photo 11-Southbound I-5 past project site	Offered by Intervenor (Terramar Association); Admitted on 4/2/2015.
3027	TN # 203831 <b>Photo 12-Southbound I-5 past project site</b> Photo 12-Southbound I-5 past project site	Offered by Intervenor (Terramar Association); Admitted on 4/2/2015.
3028	TN # 203832 <b>Photo 13-Southbound I-5 Past Project Site</b> Photo 13-Southbound I-5 past project site	Offered by Intervenor (Terramar Association); Admitted on 4/2/2015.
3029	TN # 203833 <b>Photo 14-Southbound I-5 Past Project Site</b> Photo 14-Southbound I-5 past project site	Offered by Intervenor (Terramar Association); Admitted on 4/2/2015.
3030	TN # 203834 <b>Photo 15-Southbound I-5 Past Project Site</b> Photo 15-Southbound I-5 past project site	Offered by Intervenor (Terramar Association); Admitted on 4/2/2015.
3031	TN # 203836 <b>Photo 16-Southbound I-5 Past Project Site</b> Photo 16-Southbound I-5 past project site	Offered by Intervenor (Terramar Association); Admitted on 4/2/2015.
3032	TN # 203837 <b>Photo 17-Southbound I-5 Past Project Site</b> Photo 17-Southbound I-5 past project site	Offered by Intervenor (Terramar Association); Admitted on 4/2/2015.
3033	TN # 203838 <b>Photo 18-Southbound I-5 Past Project Site</b> Photo 18-Southbound I-5 past project site	Offered by Intervenor (Terramar Association); Admitted on 4/2/2015.
3034	TN # 203839 <b>Photo 19-Southbound I-5 Past Project Site</b> Photo 19-Southbound I-5 past project site	Offered by Intervenor (Terramar Association); Admitted on 4/2/2015.
3035	TN # 203840 <b>Photo 20-Southbound I-5 Past Project Site</b> Photo 20-Southbound I-5 past project site	Offered by Intervenor (Terramar Association); Admitted on 4/2/2015.
3036	TN # 203841 <b>Photo 21-Southbound I-5 Past Project Site</b> Photo 21-Southbound I-5 past project site	Offered by Intervenor (Terramar Association); Admitted on 4/2/2015.
3037	TN # 203842 <b>Photo 22-Southbound I-5 Past Project Site</b> Photo 22-Southbound I-5 past project site exiting Cannon off ramp	Offered by Intervenor (Terramar Association); Admitted on 4/2/2015.
3038	TN # 202995 <b>Transcript of the August 7, 2014 Informational Hearing</b>	Offered by Intervenor (Terramar Association); Admitted on 4/2/2015.
3040	TN # 203858 <b>Staff's Prehearing Conference Statement</b>	Offered by Intervenor (Terramar Association); Admitted on 4/2/2015.
3041	TN # 203811 <b>Project Owner's Written Testimony</b>	Offered by Intervenor (Terramar Association); Admitted on 4/2/2015.
3042	TN # 203941 <b>Terramar Exhibit of Jessica Jones Email Confirming Transportation Incident</b>	Offered by Intervenor (Terramar Association); Admitted on 4/2/2015.

<b>Exhibit Number</b>	<b>Document Title and Description</b>	<b>Disposition</b>
	Terramar Exhibit of Jessica Jones/Poseidon Confirming Transportation Incident	
3043	TN # 203947 <b>Terramar Rebuttal Testimony &amp; Exhibits</b> Terramar Rebuttal Testimony & Rebuttal Exhibits	Offered by Intervenor (Terramar Association); Admitted on 4/2/2015.
3044	TN # 203976 <b>Terramar's Rebuttal Air Quality Testimony Submitted for the ACECP Hearing</b>	Offered by Intervenor (Terramar Association); Admitted on 4/2/2015.
3045	TN # 203851 <b>Terramar Testimony, Exhibit List</b> Terramar's Testimony and Exhibit List	Offered by Intervenor (Terramar Association); Admitted on 5/1/2015.
4000	TN # 203484 <b>Caltrans' Design for I-5 Widening near Carlsbad Site</b> This is Caltrans' ultimate design for I-5 widening in the area of the project site.	Offered by Intervenor (Power of Vision); Admitted on 4/2/2015.
4001	TN # 203791 <b>Hearing Exhibit 4001</b> Cross sections, photos, and plan views of Transmission line before and after I-5 widening	Offered by Intervenor (Power of Vision); Admitted on 4/2/2015.
4002	TN # 203474 <b>Details on Future I-5 Widening</b> This is a report of a conversation with Caltrans staff about the future widening of I-5.	Offered by Intervenor (Power of Vision); Admitted on 4/2/2015.
4003	TN # 203790 <b>Power of Vision conversation with CalTrans for I-5 Widening</b>	Offered by Intervenor (Power of Vision); Admitted on 4/2/2015.
4005	TN # 203546 <b>Response to Project Owners Supplemental Response to Data Request Set 3 (TN 203512)</b> letter	Offered by Intervenor (Power of Vision); Admitted on 4/2/2015.
4006	TN # 203802 <b>CPUC General Order No. 95</b> Electrical Transmission Line Clearances	Offered by Intervenor (Power of Vision); Admitted on 4/2/2015.
4007	TN # 203789 <b>PROPOSED DECISION OF Administrative Law Judge YACKNIN</b> DECISION DENYING WITHOUT PREJUDICE SAN DIEGO GAS & ELECTRIC COMPANY'S APPLICATION FOR AUTHORITY TO ENTER INTO PURCHASE POWER TOLLING AGREEMENT WITH CARLSBAD ENERGY CENTER, LLC	Offered by Intervenor (Power of Vision); Admitted on 4/2/2015.
4008	TN # 203506 <b>Agenda - January 12 &amp; 13, 2015, PSA Workshop</b> Agenda - January 12 & 13, 2015, PSA Workshop	Offered by Intervenor (Power of Vision); Admitted on 4/2/2015.
4009	TN # 203933 <b>I-5 Widening Impact of ACECP Screenshot</b>	Offered by Intervenor (Power of Vision); Admitted on 4/2/2015.
4010	TN # 203932 <b>I-5 EIR Page 2-114 Enlarged Screenshot</b>	Offered by Intervenor (Power of Vision); Admitted on 4/2/2015.
4011	TN # 203942 <b>Photo Update No 1</b>	Offered by Intervenor (Power of Vision); Admitted on 4/2/2015.
4012	TN # 203943 <b>Photo Update No 2</b>	Offered by Intervenor (Power of Vision); Admitted on 4/2/2015.
4013	TN # 203149 <b>Data Request Set 3 (Nos. 67-85) to Project Owner</b>	Offered by Intervenor (Power of Vision); Admitted on 4/2/2015.
4015	TN # 203962 <b>Power of Vision Revised Testimony</b> Testimony revised to update exhibits.	Offered by Intervenor (Power of Vision); Admitted on 4/2/2015.



<b>Exhibit Number</b>	<b>Document Title and Description</b>	<b>Disposition</b>
4016	TN # 203997 <b>Crossection from TN# 203313</b> Project owner's Figure CR74-3 showing location of transmission pole in the pit	Offered by Intervenor (Power of Vision); Admitted on 4/2/2015.
4017	TN # 203956 <b>Power of Vision Rebuttal Testimony</b>	Offered by Intervenor (Power of Vision); Admitted on 4/2/2015.
4018	TN # 203934 <b>Power of Vision's Supplement to Opening Testimony</b>	Offered by Intervenor (Power of Vision); Admitted on 4/2/2015.
4019	TN # 203944 <b>Further Supplement to Opening Testimony</b>	Offered by Intervenor (Power of Vision); Admitted on 4/2/2015.
6001	TN # 203859 <b>Direct Testimony Of Robert Sarvey On Compliance and Closure</b>	Offered by Intervenor (Robert Sarvey); Admitted on 4/2/2015.
6002	TN # 203987 <b>Alternatives-Rebuttal Testimony of Robert Sarvey</b>	Offered by Intervenor (Robert Sarvey); Admitted on 4/2/2015.
6003	TN # 203988 <b>Air Quality GHG Emissions - Rebuttal Testimony of Robert Sarvey</b>	Offered by Intervenor (Robert Sarvey); Admitted on 4/2/2015.
6005	TN # 203877 <b>Robert Sarvey's Submittal of Southern California Edison Company's (U 338-E) Application for Approval of the Results</b> Of Its 2013 Local Capacity Requirements Request for Offers for the Western Los Angeles Basin	Offered by Intervenor (Robert Sarvey); Admitted on 4/2/2015.
6006	TN # 203878 <b>Decision Authorizaing Long-Term Procurement for Local Capacity Requirements Due to Permanent Retirement of the:</b> San Onofre Nuclear Generations Stations - Decision 14-03-004 - CPUC Decision authorizing procurement for SONGS retirement	Offered by Intervenor (Robert Sarvey); Admitted on 4/2/2015.
6007	TN # 203879 <b>Public Version of San Diego Gas &amp; Electric Company:</b> Late-Filed Exhibit in the Matter of Application of San Diego Gas & Electric Company (U 902 E) for Authority to Partially Fill the Local Capacity Requirement Need Identified in D.14-03-004 and Enter into a Purchase Power Tolling Agreement with Carlsbad Energy Center, LLC	Offered by Intervenor (Robert Sarvey); Admitted on 4/2/2015.
6008	TN # 203986 <b>Opening Comments of Carlsbad Energy Center LLC On The Proposed Decision of Administrative Law Judge Yacknin</b>	Offered by Intervenor (Robert Sarvey); Admitted on 4/2/2015.
6009	TN # 203985 <b>Appendix F California ISO Renewable Integration Study</b> In Support of the California Air Resources Board for Meeting Assembly Bill (AB) 1318	Offered by Intervenor (Robert Sarvey); Admitted on 4/2/2015.
6010	TN # 203993 <b>Opening Comments of San Diego Gas &amp; Electric Company (U 902 E) on the Proposed Decision Denying Without Prejudice SDG&amp;E's</b> Application for Authority to Enter Into Purchase Power Tolling Agreement with Carlsbad Energy Center, LLC Submitted as an Exhibit by Robert Sarvey	Offered by Intervenor (Robert Sarvey); Admitted on 4/2/2015.
6011	TN # 203992 <b>Carlsbad Energy Receipt for AFC filing 2007</b> Submitted as an Exhibit by Robert Sarvey	Offered by Intervenor (Robert Sarvey); Admitted on 4/2/2015.
6012	TN # 203991 <b>California Energy Commission's Consultant Expenses for</b>	Offered by Intervenor (Robert Sarvey); Admitted on 4/2/2015.

Exhibit Number	Document Title and Description	Disposition
	<b>07-AFC-06</b> Exhibit 6011 - Excel Spreadsheet	
6013	TN # 204054 <b>3-10-2015 e-mail from Robert Sarvey to Steve Moore</b> Subject: 2014 QFER data. This is a scanned copy of a document Mr. Sarvey handed to the parties during the April 2, 2015 Evidentiary Hearing	Offered by Intervenor (Robert Sarvey); EXCLUDED on 4/2/2015.
6014	TN # 204059 <b>Notice of Ex Parte Communication of Cities of Carlsbad, Escondido, Oceanside, San Marcos &amp; Vista</b> City of Carlsbad Support for Carlsbad Energy 5 Turbine CECF Modification	Offered by Intervenor (Robert Sarvey); Admitted on 4/2/2015.
6015	TN # 204060 <b>Notice of Ex Parte Communication of Poseidon Channelside</b> Poseidon Desalination Support for Carlsbad Energy PPTA	Offered by Intervenor (Robert Sarvey); Admitted on 4/2/2015.
6016	TN # 204061 <b>Notice of Ex Parte Communication of San Diego Regional Chamber of Commerce</b> SAN DIEGO REGIONAL CHAMBER OF COMMERCE Support for Carlsbad Energy 5 Turbine Modification	Offered by Intervenor (Robert Sarvey); Admitted on 4/2/2015.
6017	TN # 204062 <b>Notice of Ex Parte Communication of Orange County Business Council, The San Diego Regional Economic Development Corp. and</b> The Los Angeles Area Chamber of Commerce. - San Diego Regional Chamber, Orange County Chamber and LA Chamber of Commerce Support for Carlsbad Energy 5 Turbine Modification	Offered by Intervenor (Robert Sarvey); Admitted on 4/2/2015.
6018	TN # 205298 <b>San Diego Gas &amp; Electric Opening Comments on CPUC D.15-05-051</b>	Offered by Intervenor (Robert Sarvey); EXCLUDED on 7/20/2015.
6019	TN # 205299 <b>San Diego Gas &amp; Electric Advice Letter 2757E</b>	Offered by Intervenor (Robert Sarvey); EXCLUDED on 7/20/2015.
6020	TN # 205300 <b>Protect our Communities Rehearing Request CPUC D.15-05-051</b>	Offered by Intervenor (Robert Sarvey); EXCLUDED on 7/20/2015.
6021	TN # 205301 <b>World Business Academy Rehearing Request CPUC D.15-05-051</b>	Offered by Intervenor (Robert Sarvey); EXCLUDED on 7/20/2015.
6022	TN # 205302 <b>Office of Ratepayer Advocates Rehearing request CPUC D.15-05-051</b>	Offered by Intervenor (Robert Sarvey); EXCLUDED on 7/20/2015.
6023	TN # 205303 <b>Californians for Renewable Energy Rehearing Request CPUC D.15-05-051</b>	Offered by Intervenor (Robert Sarvey); EXCLUDED on 7/20/2015.
6024	TN # 205304 <b>Sierra Club Rehearing Request CPUC D.15-05-051</b>	Offered by Intervenor (Robert Sarvey); EXCLUDED on 7/20/2015.
6025	TN # 205305 <b>Center for Biological Diversity Rehearing Request CPUC D.15-05-051</b>	Offered by Intervenor (Robert Sarvey); EXCLUDED on 7/20/2015.



## Proof of Service List

Docket: 07-AFC-06C

Project Title: Carlsbad Energy Center - Compliance

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## ACRONYMS AND ABBREVIATIONS

- 2012 Decision - the Energy Commission's May 31, 2012 Decision approving the CECP (below); found as Exhibit 3002 and at <https://efiling.energy.ca.gov/getdocument.aspx?tn=203721>
- ACECP - Amended Carlsbad Energy Center Project
- AFC - Application for Certification
- AFY - Acre-feet per year, a measure of a quantity of water
- ARB - Air Resources Board
- AST - above-ground storage tank
- BACT - Best Available Control Technology
- CAISO - California Independent System Operator
- CECP - Carlsbad Energy Center Project (combined-cycle power plant licensed in 2012)
- CEQA - California Environmental Quality Act (Statute: Public Resources Code § 21000 et seq., Guidelines: Title 14, California Code of Regulations, § 15000, et seq.)
- CPM - Compliance Project Manager
- CPUC - California Public Utilities Commission
- DG - distributed generation
- EPS - Encina Power Station. In the Air Quality arena, this can alternatively refer to the Emission Performance Standard set forth in Public Utilities Code § 8340 et seq.
- ERC - Emission Reduction Credit
- GHG - Greenhouse Gases
- I-5 – Interstate 5
- IOU - Investor Owned Utility
- KOP - Key Observation Point
- KV - 1,000 volts
- LCA - Local Capacity Area

- LCR – Local Capacity Requirement
- LORS - Laws, Ordinances, Regulations, and Standards
- LTPP – Long-Term Procurement Plan
- MW - Megawatt, a unit of measure of electrical power
- MWh - Megawatt hour
- PSD – Prevention of Significant Deterioration
- RPS - Renewable Portfolio Standard
- SDAPCD - San Diego Air Pollution Control District
- SDG&E - San Diego Gas and Electric, the local and regional utility
- SONGS - San Onofre Nuclear Generating Station
- USEPA - United States Environmental Protection Agency
- WSA – Water Supply Assessment