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STATE OF CALIFORNIA
Energy Resources Conservation
and Development Commission

In the Matter of:) Docket No. 07-AFC-6
))
Application for Certification for the)
Carlsbad Energy Center Project)
))
_____)

**ENERGY COMMISSION STAFF
OPENING BRIEF**

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Table of Contents

	Page
I. INTRODUCTION	1
II. THE PROJECT DESCRIPTION IN STAFF'S FINAL ASSESSMENT IS ACCURATE AND SUFFICIENT.....	3
III. THE PROJECT COMPLIES WITH ALL APPLICABLE LAND USE PROVISIONS...	4
A. CECP is Compatible With Local Land Uses.	5
B. CECP Conforms With the South Carlsbad Coastal Redevelopment Plan..	6
C. CECP Conforms With the California Coastal Act.....	9
D. CECP Conforms With the Agua Hedionda Land Use Plan (AHLUP).....	17
E. CECP Conforms With Other Applicable Quasi-Legislative Land Use Provisions	18
F. Specific Plan 144 Is Effectively Used by the City as a Permit and Not as a Standard of General Application.	19
G. The City's Moratorium Is Self-Directed and Creates No LORS Inconsistency.	23
H. The Commission Should Require Dedication of a Site for the Coastal Rail Trail at a Location Mutually Agreed to With the City.	23
IV. AIR QUALITY AND PUBLIC HEALTH IMPACTS ARE, WITH MITIGATION, LESS THAN SIGNIFICANT	25
A. CECP Complies With All Applicable Air Quality LORS and Will Have No Significant Direct or Cumulative Impact.	26
B. Because CECP Will Not Result in an Increase in GHG Emissions, Its Impact on Global Warming Is Less Than Significant and, in Fact, Beneficial.	27
1. CECP's Future Use of LNG Is Entirely Speculative	29

2.	CEQA’s “Thresholds of Significance” and Mitigation Are Inapplicable for Projects That Do Not Result in Significant Adverse Impacts	30
3.	CECP Is Consistent With AB 32 Goals to Dramatically Reduce GHG Emissions.	32
4.	The Commission Decision Should Include Findings That CECP Is Consistent With the Criteria Specified in the Avenal Final Decision.	35
V.	CECP WILL NOT RESULT IN SIGNIFICANT IMPACTS TO VISUAL RESOURCES	35
VI.	THE ALTERNATIVES CONSIDERED ARE NOT ENVIRONMENTALLY PREFERABLE AND MAY NOT BE FEASIBLE	40
A.	CECP Does Not Result in a Significant Impact Requiring Analysis of a Project Alternative.....	40
B.	The FSA Includes a Reasonable Range of Alternatives, Including the Generation Alternatives and the Site Alternatives Proposed by the City.....	41
VII.	CECP MEETS ALL APPLICABLE STANDARDS FOR WORKER AND FIRE SAFETY	44
VIII.	CONCLUSION	50

utilizing existing industrial and electric infrastructure, including transmission lines, switchyards, natural gas lines, and the EPS industrial site.

Even with such obvious benefits, the CECP proposal is highly controversial. It is, after all, on a beautiful coastline, and many local residents consider EPS to be an industrial eyesore that should be removed and, if necessary, replaced by generation located elsewhere. The City of Carlsbad (City) envisions opportunities in redeveloping the property in ways that might benefit the local economy. It is easy to understand and sympathize with these misgivings about the CECP project proposal, as it will likely extend the existence of power plant use at the coastal site.

Energy Commission Staff (Staff) has acknowledged the concerns of the City and many of its residents who do not want a replacement power facility on the EPS properties. However, Staff's analysis of the project indicates that it should not result in significant environmental impacts that cannot be mitigated, and that it will satisfy all applicable laws, ordinances, regulations, and standards (LORS). In addition, it will further two of the state's policy goals for old power plants: shutting down electric generation facilities that use ocean water for cooling and replacing aging gas-fired generation with more efficient and flexible gas generation that will help integrate electric energy from increased reliance on renewable sources, such as wind and solar energy. This latter goal is also part of the state's policy to reduce emissions that contribute to global warming.

The CECP would be consistent with and further these very important goals. Staff has concluded that CECP will have no environmental impacts that cannot be mitigated, and no LORS conflicts, although the City and other intervenors strenuously disagree with such conclusions. Staff believes that, if the Energy Commission should agree with intervenors that there are significant effects that cannot be mitigated, or applicable LORS with which the project does not comply, then the Energy Commission should consider making "override findings" based on the overall project benefits mentioned above.

II. THE PROJECT DESCRIPTION IN STAFF'S FINAL ASSESSMENT IS ACCURATE AND SUFFICIENT

The Final Staff Assessment (FSA) describes the project in adequate detail and includes site maps and equipment description. The general description is provided under the heading "Project Description" near the front of the FSA document. Additional description is provided in various technical areas where more detailed description is pertinent to the topic. (See, e.g., Soil and Water pp. 4.9-3 to 7; Visual Resources pp. 4.12-9 to 23.)

At hearing and in testimony, some challenges were made to the adequacy of the project description. Intervenor Center for Biological Diversity (CBD) raised the issue that the FSA does not consider the use of liquefied natural gas (LNG) to fuel the project, implying that such use could result in higher emissions. (e.g., Exh. 647.) However, Staff provided testimony consistent with Energy Commission documents that indicate the use of LNG in power plants is highly speculative given the long-term availability of more than adequate domestic supplies. (2/3/10 RT p. 169.) LNG is not being imported into California in any significant quantities, and in the future it appears likely that domestic LNG terminals will be used for LNG *export*, not import.

The testimony indicates that there are currently no LNG imports into California. (2/2/10 RT p. 100.) The evidence, including discussion of LNG in the 2009 Integrated Energy Policy Report (2009 IEPR), is that California's natural gas consumption shows no significant increase in the future (2009 IEPR, p. 135), that three proposed pipeline projects could greatly increase the flow of natural gas to the state (*Id.*, at p. 140), and that "there is a new sense that the United States may not have to rely on LNG to make up previously projected supply deficits". (*Id.*, at p. 141.) After a flurry of LNG terminal proposals for the California coast, there is currently only one such proposal that survives with applications for building permits. (*Id.*, at p. 141) Whether the burning of LNG significantly increases greenhouse gas (GHG) emissions is itself a disputed matter. However, the notion that the possible use of LNG somehow changes the impact analysis of CECP is no more than speculation and "unsubstantiated opinion and

narrative” that does not meet the definition of “substantial evidence.” (Cal. Code Regs., tit. 14, § 15384.)

The other challenge to the adequacy of the project description occurred at the hearing, when the City contended that the project description did not include the possible changes to the project that might be required if the Caltrans freeway widening of I-5 intrudes on the project. (2/1/10 RT. pp. 59-63.) This challenge is misplaced.

Discussion of I-5 widening is considered a foreseeable cumulative impact to the project and thoroughly discussed in the FSA (e.g., FSA pp. 4.14-14 to 15), but this is not the project that the Applicant has proposed and that the FSA describes. Staff has analyzed the project *as proposed by the Applicant*; the FSA addresses the separate issue of how cumulative impacts, including the I-5 widening, may affect the CECP project and require additional mitigation.

In response to the Committee’s query in its Briefing Order, the shutdown of EPS units 4 and 5 is not part of the project and, therefore, is appropriately not evaluated as part of the project. Unlike the shutdown of Units 1-3, the shutdown of units 4 and 5 is not a consequence of this project. Units 4-5 must continue to operate until at least the end of May 2017 unless they are replaced or made unnecessary by additional resources, which presumably would be additional generation resources within the San Diego “load pocket.” Units 4-5 may continue to operate well beyond 2017 if they are refitted to greatly reduce their use of once-through-cooling water (or, alternatively, employ structural barriers to reduce entrainment and impingement of marine life by a similar amount) or if no new generation is built to supply adequate reliability in the “load pocket.” (State Water Board, *Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling*, May 4, 2010.)

III. THE PROJECT COMPLIES WITH ALL APPLICABLE LAND USE PROVISIONS

The City has adopted a complex array of land use controls that pertain, directly or indirectly, to the CECP project. Some of these controls are redundant, and some of

them are permit-like in nature. Although the labyrinthine complexity of the City's land use ordinances is nearly impenetrable, Staff believes that the project is consistent with such provisions to the extent that they are applicable. The City and other intervenors take strong issue with that conclusion, and the very complexity of the provisions makes the issue obscure.

Typically, Staff would seek the locality's help, with "due deference" to its interpretation of local land use controls. (Cal. Code Regs., tit. 20, § 1744(e).) However, here the City is a party to the proceeding strenuously opposing the project, making such impartial consultation impossible. "Due deference" does not mean that the Staff is required to accept uncritically local agency conclusions, particularly where the local agency is a party and adamantly opposes the project. Such would not be consistent with Staff's duty to provide an independent analysis that looks beyond purely local concerns. (See Cal. Code Regs., tit. 20, §§ 1712.5, 1723.5(b).) Staff has had much dialogue with the City, particularly before it became a party to the proceeding, and is well-versed on the City's viewpoint that CECP does not conform to its land use provisions. Staff respectfully disagrees with the City's conclusions, but acknowledges the complexity of the City's land use controls.

A. CECP is Compatible with Local Land Uses

Staff's analysis first considers the underlying CEQA issue of land use compatibility, including whether the project would adversely affect local land uses or divide an established community. The project is being located on the existing premises of the Encina Power Station (EPS), a 94-acre land parcel that has been used for power plant purposes since the 1950s. CECP would be built at the site of three very large oil storage tanks located on the EPS premises. Like the aging power plant units that it will replace, CECP will have air quality emissions, but three separate health risk assessments by Applicant, the air district, and Staff concluded that these emissions do not present a hazard to local populations. (Exh. 200, p. 4.7-13.) These studies included the analysis of cumulative risk presented from CECP emissions in combination

with other sources in the vicinity of the project, such as EPS units 4 and 5. (*Ibid.*) The project does not impose other significant project-related impacts on surrounding land uses. (*Id.*, at p. 4.5-34.)

CECP is to be located on the existing industrial/power plant site; therefore the project does not “divide an established community” (Exh. 200, p. 4.5-33), which is a cornerstone CEQA index for significance. (CEQA Guidelines Environmental Checklist Form [Appendix G], Section IX.) The project could create some issues regarding the location of other planned infrastructure; this is separately addressed below. CECP, combined with the cumulative project of I-5 widening, could result in a significant cumulative visual impact, although Staff believes that such impacts can be mitigated to a level that is less than significant. This issue is discussed separately in this brief under the discussion of impacts to Visual Resources, *infra*.

B. CECP Conforms With the South Carlsbad Coastal Redevelopment Plan

In the late 1990s, the City began to consider how it might reuse the industrial property in the vicinity of the EPS site. (Exh. 200, p. 4.5-3.) It thus designated the South Carlsbad Coastal Redevelopment Area, an area that includes the EPS, and created the South Carlsbad Coastal Redevelopment Project Area Plan (SCCRP, or “Plan”). The Plan’s intent is to encourage the redevelopment of the EPS site and the decommissioning of the existing EPS power plant. (*Ibid.*)

The Plan states:

The land uses permitted by this Plan *shall be those permitted by the General Plan and zoning ordinance . . . with the exception that new development which provides for one or more of the following specific uses may be permitted in the Project Area only after all of the following are satisfied: a) the Carlsbad Housing and Redevelopment Commission [CHRC] approves a finding that the land use serves an extraordinary public purpose, and b) a precise development plan or other appropriate planning permit or regulatory document is first approved by the [CHRC] which sets forth the standards for development of the project, and c) the*

[CHRC] has issued a Redevelopment Permit for the project . . . (Exh. 200, p. 4.5-28 [emphasis added].)

Thus, the plan has four main requirements. The first is compliance with the general plan and zoning. As discussed further below, CECP does comply with the City's general plan and zoning ordinance, which means that CECP complies with the first requirement. (See, e.g., 2/1/10 RT p. 162.) The second and third requirements—the precise development plan (PDP) and the Redevelopment Permit—are both permits that are subsumed in the Energy Commission's "in lieu" permit in accordance with Public Resources Code Section 25500. (Exh. 200, p. 4.5-26; 2/1/10 RT p. 165 [PDP "functions as a permit"].) The fourth and final Plan requirement is that new development within the redevelopment area must "serve an extraordinary public purpose." The City argues that CECP does not serve such a purpose.

The City's claim that there is no "extraordinary public purpose" is based on its view that Applicant has (1) provided no assurances that CECP electricity "would be used specifically for Carlsbad residents and/or local businesses/services"; (2) Applicant cannot "guarantee that the generation . . . would eliminate the risk of "blackouts"; (3) CECP would not necessarily "prevent electrical rate increases within the City"; (4) CECP provides "no assurances that the existing power plant will be decommissioned by a date certain"; and (5) "no other public benefit amenities were offered by NRG." (Exh. 200, pp. 4.5-30.) The City further states that the "extraordinary public benefit" should be very extraordinary "given the size and height" of the project. (*Id.*, at p. 4.5-31.)

The City's objections are unfortunately "City-centric," and even then are incorrect. The benefit provided by CECP is an important one to local, regional, and state beneficiaries, which is why Staff has recommended override findings should the Energy Commission be uncertain as to whether CECP conforms with all land use LORS. These benefits should be mentioned at least briefly here.

The record shows that CECP will replace aging and inefficient infrastructure—the once-through-cooling (OTC) boiler facilities of units 1-3 (which *will* be decommissioned

when CECP goes on line—contrary to the City’s claim) and, to some degree, the use of units 4-5 (which would remain for the time being). Units 1-3 were built in the 1950s and are quite inefficient. They must be kept running at a low level, burning gas and pumping ocean water, so they can be ramped up to provide emergency backup for the system on the few occasions for which they are needed. CECP will provide a newer, more efficient, fast-ramping facility that need not be kept running to be available on short notice. It will not use OTC, thus avoiding its attendant biological damage. It will generate energy more efficiently, with fewer emissions (of both criteria pollutants and greenhouse gases) per megawatt hour, making the electric generating system more efficient and less damaging to the environment. Its power will be consumed in accordance with the laws of physics, which means at the nearest load—the City of San Diego and such places as the City itself. It will increase electricity reliability for the City and the San Diego region as a whole. Its fast ramping capability will allow it to integrate renewable power from wind and solar sources much more effectively than the older units it replaces, a benefit to the environment consistent with state and federal energy policy. Ultimately, it would be part of the overall infrastructure necessary for the closure of the EPS facilities which rely on OTC. It would thereby facilitate the State Water Board’s newly adopted policy for such power plants, which can only be closed when modern replacement generation is ready. These benefits, detailed later in this brief, are very significant benefits not only to the City, but to the region and the State as a whole.

Finally, CECP conforms to the specific “goals and objectives” of the SCRRP, among which is “facilitating the redevelopment of the Encina Power Generation facility to a smaller, more efficient power generating plant.” (Exh. 407, Section 400 Goals and Objectives; 2/1/10 RT p. 85.) Even the site of CECP was approved by the Redevelopment Agency by a resolution adopted in 2002. (2/1/10 RT p. 92.)

Thus, CECP is in conformity with all of the SCRRP provisions.

A corollary argument made by the City is that the Redevelopment Permit must be issued by the local agency itself, as redevelopment agencies function “as an

administrative arm of the state.” (Exh. 433 [Kane, p. 3].) By this reasoning, the Energy Commission’s pre-emptive permit authority does not apply to those administrative agencies that serve a state function or purpose. Such a conclusion is clearly incorrect, as the Energy Commission’s permit is preemptive of all local and state permits—including such state agency “administrative arms” as the Coastal Commission, the Department of Fish and Game, and the regional water boards. All these state agencies, as well as local ones (such as the air districts), serve state functions, and are no less preempted than is the City itself. This preemptive authority is explicit in Public Resources Code Section 25500 and is clearly consistent with both the Legislature’s belief that electrical energy is a state interest and the declared state policy to consolidate permitting responsibility for such. (See, e.g., Pub. Resources Code, §§ 25001, 25006.)

C. CECP Conforms With the California Coastal Act

A key to understanding the issues regarding Coastal Act conformity is one that the City would obscure: Applicant operates the *existing* EPS, a coastal industrial facility whose existence precedes the enactment of the Coastal Act, and CECP is an expansion of that existing facility. If CECP is licensed and constructed, units 1-3 will be decommissioned, while units 4-5 will continue to operate until at least 2018 and presumably beyond if no other facility is built that can provide the necessary local system reliability that CECP can. (See, California State Water Board, “Statewide Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling,” May 4, 2010.)

The City would ignore the above; rather, it would prefer to imagine that there is no existing infrastructure, that the building of a new power plant at the proposed location is an entirely new facility proposed to be located in the coastal zone, and that therefore the project cannot conform to Coastal Act policies. This logic would lead the decision-maker to conclude that the project is inconsistent with the Coastal Act, and that it cannot be built without findings “overriding” that statute. But such a conclusion would be erroneous, as it is based on the underlying initial false premise.

As stated in the introduction, the City is certainly correct that no proposal to site a new power plant in the Coastal Zone, outside of an established industrial area, would likely conform to the Coastal Act. But the EPS existed before the Coastal Act was enacted. When it adopted the Coastal Act, the Legislature required the Coastal Commission to “designate the specific locations within the coastal zone where the location of a [transmission line or power plant jurisdictional to the Energy Commission] would prevent the achievement of the objectives of [the Coastal Act]; provided, however, *that specific locations that are presently used for such facilities and reasonable expansion thereof shall not be so designated.*” (Pub. Resources Code, § 30413(b) [emphasis added].) Accordingly, the site of the existing EPS energy infrastructure (including any “reasonable expansion” of the use) has not been designated as an area inconsistent with power plant development. CECP, which would be located on a portion of the 95-acre EPS parcel, is certainly a “reasonable expansion” of the use at the EPS site.

The Coastal Commission declined to provide any assessment of whether CECP would be consistent with the Coastal Act. However, in a letter stating that it would not provide such an assessment, the Coastal Commission noted that CECP would not be using OTC, the agency’s principal concern about the consistency of the project with the Coastal Act. (Exh. 200, p. 4.5-11.) In power plant cases in which the Coastal Commission has actively participated (e.g., Moss Landing, Morro Bay, and El Segundo), the primary concern of the Coastal Commission was with power plant OTC systems and the effect these systems have on the marine environment. That CECP does not use OTC may largely explain the Coastal Commission’s decision that it was not worth its time to participate in the Energy Commission licensing proceeding for CECP.

Since the Coastal Commission declined to assess CECP conformity with the Coastal Act, Staff did such an analysis, concluding that the project conforms. (Exh. 200, pp. 4.5-11 to 15; Exh. 203, p.11.) Central to this review are specifically applicable Coastal Act provisions, such as Public Resources Code section 30260, which provides in pertinent part:

Coastal-dependent industrial facilities shall be encouraged to locate or expand within existing sites and shall be permitted reasonable long-term growth where consistent with this division.

The EPS power plants are a “coastal-dependent” use, inasmuch as these units all rely on OTC for their operation.¹ As stated above, CECP is a “reasonable expansion” and “long term growth” of the existing facility, which, along with the new nearby Poseidon desalination facility, relies on an existing ocean water intake for operation. Like units 4 and 5, CECP will also be “coastal dependent,” inasmuch as the City has stated that it either cannot or will not supply recycled water to the CECP, forcing the project to rely on an ocean water purification system to provide water to meet process uses. (*Id.*, at p. 4.5-12.)

In addition, Staff also considered whether the project is consistent with the Coastal Act criteria listed in Public Resources Code section 30413(d) and concluded, based on the analyses in the various environmental technical areas (such as visual resources, air quality, and biological resources) that the project is consistent with those statutory criteria. (2/1/10 Tr., pp. 178-179; Exh. 203, p. 11.)

The City has raised numerous objections to Staff’s conclusion that CECP is in conformity with the Coastal Act. In many of its pre-evidentiary filings, the City argued that as a legal and procedural matter the Coastal Commission must provide a report evaluating the criteria in Public Resources Code section 30413 before the Energy Commission could find conformity with the Coastal Act. But this claim is incorrect.

The Energy Commission has always encouraged the participation of the Coastal Commission in all proceedings involving projects in the coastal zone. It has an interagency agreement that encourages such participation. In this proceeding the Staff directly contacted Coastal Commission staff to request the agency’s participation. But that does not mean that the Coastal Commission’s failure to timely participate obstructs

¹ The Coastal Act defines “coastal-dependent development or use” as “any development or use which requires a site on, or adjacent to, the sea to be able to function at all.” (Pub. Resources Code, § 30101.)

the Energy Commission's licensing process. In prior cases Staff has frequently advised the Coastal Commission that a Section 30413 report would be due by a given date (no later than before the issuance of the Final Staff Assessment or FSA) if it were to be timely and included for Energy Commission consideration. Absent such a timely report, Staff provides its own evaluation of such criteria. That has now occurred with regard to CECP.

Applicant contends that the Section 30413 report is not even applicable to AFC proceedings, that the report is directed by statute to be applicable to Notice of Intent (NOI) proceedings, and that the Coastal Act makes Coastal Commission participation in AFC proceedings entirely discretionary. Notably, Applicant's argument finds support not only from the Coastal Commission's abstinence from the AFC proceeding, but also from the Coastal Commission's legal interpretations of its statute that were filed by the City as an Appendix to the 1990 Notice of Intent Section 30413 report. (Exh. 418, App. A.)

The Appendix is a May 23, 1990, letter from Dorothy Dickey, at that time Deputy Chief Counsel to the Coastal Commission, to Coastal Commissioner David Malcolm, explaining the complex interactions of the Warren-Alquist Act and the Coastal Act and the Coastal Commission's duties under these statutes. The letter explains at length the Coastal Commission's duty to provide the Section 30413 report for Energy Commission NOI proceedings, but concludes that there is no such obligation for AFC proceedings:

The Coastal Commission's Role in the AFC Process. . . . The major difference [from the Coastal Commission role in the NOI proceeding] is that the Coastal Commission is not required to submit a [Section 30413 report] to the Energy Commission. The Coastal Commission is nevertheless "authorized, at its discretion, to participate fully" in the [AFC] proceeding pursuant to Section 30413. (Letter of Deputy Chief Counsel Dorothy Dickey to Commissioner David Malcolm (May 23, 1990), p. 4.)

Ms. Dickey's opinion letter is significant, as the City's witness on the Coastal Act (Ralph Faust, the former Chief Counsel to the Coastal Commission) stated that "Ms. Dickey was uniquely situated at the Coastal Commission, given her prior experience at the

Energy Commission, to be the lead person on matters relating to Energy Commission matters.” (2/1/10 RT p. 249.) He went on to say that he would have almost certainly reviewed that letter because of its importance, and that the letter expresses a view “held by a number of individuals.” (*Id.*, at p. 250.) Mr. Faust also stated that there had been no intervening interpretations of Section 30413 by regulation since the 1990 letter, and no litigation with regard to it. (*Id.*, at p. 250.) In other words, nothing has happened in the intervening 20 years that would render the Coastal Commission’s interpretation of its own statute any less valid now than it was when it was originally issued.

Even though Mr. Faust acknowledged his former agency’s legal opinion that Section 30413 reports are not required for AFCs, his testimony purports to provide one, and concludes that CECP does not comply with the Coastal Act. (Exh. 443, Faust pp. 5-10.) The problem with such “analysis,” if it can be called such, is that it calls on technical expertise that Mr. Faust clearly does not have. He was testifying as a legal expert on the Coastal Act, which is an area in which he has legitimate claim to expertise. But he has no qualifications that would make him an expert on air quality, marine biological impacts, visual impacts, water impacts, or impacts in any other technical area requiring expertise. Yet his Section 30413 report conformity conclusions require technical analysis of all of these technical matters. (*Id.*, pp. 5-15.) Instead of such expertise Mr. Faust has no more than unsubstantiated opinions. In fact, it is unclear what information these opinions rely on; the City provided no testimony addressing any of these technical areas apart from visual resource impacts. By contrast, in reaching her conclusions (that CECP conforms to the Section 30413 criteria), the Staff witness relied on the expert testimony of the Staff witnesses in the relevant technical areas. (2/1/10 RT p. 179.)

Staff testified that, based on the testimony in other technical areas, CECP would comply with Chapter 3 Coastal Act provisions. As Mr. Faust testified, if there is such conformity, it does not matter whether or not the project in question is a coastal-dependent use. (Exh. 443, Faust p. 9.) However, if CECP did not conform to the provisions in Chapter 3, it could still be licensed as an expansion of a “coastal dependent use” at the EPS site. (*Ibid.*) This is because “coastal-dependent

developments shall have priority over other developments on or near the shoreline.” (Pub. Resources Code, § 30255.)

Mr. Faust also testified that he did not believe that the EPS is a “coastal-dependent use,” as defined by the Coastal Act, *because it is today possible for power plants to be built without ocean cooling and outside the coastal zone.* (See Exh. 443, Faust pp. 9-10.) This ignores the fact that it has always been possible to build power plants outside the coastal zone. Moreover, neither the City nor any other party testified that EPS units 4 and 5, or the CECP itself, could feasibly function without the water that these facilities must get from the ocean.² The City has maintained for more than two years that it simply cannot provide recycled water for CECP, and there is no other water that is feasibly available other than the project’s purification facility. Thus, Faust’s testimony that CECP is not dependent on its coastal location is similar to his testimony that “without the existing facility, this is prime coastal land.” (Exh. 443, Faust, p. 16.) Yes, but wishful thinking cannot be the basis for the Commission’s conclusions here. The fact is the site is currently industrial, supporting a coastal-dependent use, and that use is now being expanded.

The City put into evidence the Coastal Commission’s 1990 NOI Section 30413 report to the Energy Commission (Exh. 418). The 1990 Report addressed alternative locations for an additional generation facility at South Bay or the EPS site. It concluded that the projects described in the 1990 NOI for either site would be inconsistent with the Coastal Act because of significant biological and visual impacts from the projects described in the 1990 NOI. (Exh. 418, p. 8.) The City contends that the 1990 Report regarding that

² Even if EPS units 4-5 were refitted with a closed loop cooling system reducing their OTC intake by more than 90 percent to meet the new Water Board policy, these units would still (like the air-cooled CECP) require water to function. Since the City has stated that no water is otherwise available, cooling water would presumably still come from the ocean (as is the case with CECP).

Without reference or explanation, Mr. Faust testified that CECP could use water “from other sources.” (Exh. 443, Faust, p. 15.) No party in this proceeding has presented any evidence of another feasible water resource, as the City has stated repeatedly that it has no recycled water available for the project. (Exh. 200, p. 4.9-14.)

different facility supports its contention that CECP would not be consistent with the Coastal Act. (See, e.g., Exh. 443 [Faust pp. 1-15].)

Such support from the 1990 Report is so slight as to be meaningless. It dealt with a different generation technology, a different project site, a different visual profile, and different impacts, as even a casual reading of the 1990 Report makes clear. The principal impact the Coastal Commission was concerned with in the 1990 Report was the fact that the NOI project (which would have used OTC) “would significantly increase the entrainment of species that use the lagoon as a nursery.” (Exh. 418, p. 2.) The Report found that feasible mitigation techniques were limited, and the entrainment impacts were “not fully mitigable.” (*Id.*, at p. 16.) In addition, the Coastal Commission was concerned with the increased size of the “thermal plume” of heated water that would be discharged into the ocean, affecting a much greater area because of the increased use of OTC. (*Id.*, at pp. 17-21.) Again, no mitigation was feasible for these effects. (*Id.*, at p. 20.) In addition, increased OTC use would have increased the need for dredging in the Agua Hedionda Lagoon, causing increased turbidity and sedimentation, and the Report concluded that impacts to marine biota in the Lagoon could not be reduced to less than significant. (*Id.*, at p. 24.) The NOI project’s OTC technology also would have had impacts on public access because of the need to expand the outfall structure. (*Id.*, at p. 29-30.) These impacts were critical to the 1990 Report conclusions. But they are irrelevant to CECP, which avoids all of such impacts because it does not use OTC.

The 1990 Report was also quite concerned with the possibility of devastating oil spills, because the NOI project would have burned oil rather than gas, required offloading of fuel oil from tankers 3000 feet offshore from the project, and therefore presented significant spill risk, with potential direct harm to the beaches and the marine environment, including Agua Hedionda Lagoon. (*Id.*, at p. 36-39.) CECP burns natural gas, not fuel oil, so this concern is likewise no longer relevant.

Finally, the 1990 Report was concerned with the visual impact of the NOI project, which would have been located on a “visually prominent” bluff overlooking the Lagoon west of the railroad tracks. (*Id.*, at pp. 33-34.) The project was described as having two 150-foot-high stacks, wedded to a 75,000 square foot building. Because of the visually prominent nature of the site, little visual screening could be applied, and the project would have been viewed from the beaches to the west as well as the lagoon. (*Id.*, at pp. 32-33.) This led the Coastal Commission to conclude that the project would conflict with Coastal Act provisions to “protect views to and along the ocean.” (Pub. Resources Code, § 30251.) The Report recommended requiring mitigation that would provide “landscape screening measures” and “lowering the height of structures.” (*Id.*, at p. 33.) The 1990 Energy Commission (staff) NOI visual analysis for the Encina project concluded that “mitigation measures would reduce many of these visual impacts to a moderate level,” but concluded that “significant residual cumulative impacts due to the stacks would remain.” (1990 South Bay NOI, p. Vis-14.) It recommended that project changes be considered that would reduce impacts further, including smaller structures (including stack height), “lowering the plant grade,” and landscaping. (1990 South Bay NOI, p. Vis. 22-23.)

Notably, CECP has employed all of these earlier proposed mitigating measures. The stacks are lowered, the surrounding structures are much less massive, and the project is located in an area below grade (30 feet) to reduce its overall height. (Exh. 203, p. 19.) Moreover, CECP would also be located in a less visually prominent spot east of the railroad tracks, relatively well-screened by existing landscaping. (2/1/20 RT p. 180, Exh. 203, p. 19.)

In short, the 1990 Coastal Commission NOI Report relied on so heavily by the City has little if any relevance to the CECP project. The principal concerns of the Report that drove the consistency determination are simply inapplicable because CECP does not use OTC and does not require oil offloading. The visual concern is simply different: CECP is a smaller project, in a less visually prominent site, built on a lower grade, with better landscape screening, further from the beach areas. (*Ibid.*) CECP’s impacts must

be evaluated, as they have been in the FSA, without regard to the 1990 Report's analysis of a different project at a different site.

Finally, the City's testimony that alternative non-coastal sites are readily available must be viewed with skepticism, as is further addressed under the Alternatives section below.

In sum, CECP is consistent with Chapter Three of the Coastal Act and is likewise consistent (whether or not they are applicable) with the criteria in Section 30413. A finding to that effect satisfies the LORS requirement concerning the Coastal Act. However, even if one were to agree with the City that CECP does not conform to all such requirements, CECP would nevertheless be consistent with the Coastal Act pursuant to Public Resources Code section 30260, which states a coastal-dependent use/expansion of use, even if otherwise not consistent with the Coastal Act, may still be permitted under the Coastal Act "if (1) alternative locations are infeasible or more environmentally damaging; (2) to do otherwise would adversely affect the public welfare; and (3) adverse environmental effects are mitigated to the maximum extent possible."

D. CECP Conforms With the Agua Hedionda Land Use Plan (AHLUP)

The AHLUP is the segment of the City's Local Coastal Program that applies to the Lagoon area, as well as a much broader region to the east of Interstate 5. (2/1/10 RT p. 164.) The AHLUP was certified by the Coastal Commission as part of the City's Local Coastal Program (LCP). (Exh. 200, p. 4.5-3.) It designates the CECP site as "U," meaning utility electric generation. (*Ibid.*) The AHLUP has not had substantial revisions for more than 25 years. (*Ibid.*) The 1990 Report concluded that the Encina NOI project was consistent with the LCP, noting that the area in question (like the CECP site) "is designated 'U' or 'utility' on the land use maps of the certified LUP." (Exh. 418, p. 34.) The Report goes on to say that the certified LUP "was created to provide for public utility uses," and that proposed expansion of the power plant appears to be consistent with the LUP and the Specific Plan. (*Id.*, at p. 35.)

The City testified that it questions whether what it termed a “merchant” power plant can meet the definition of a “public utility,” the use designated for the site in the AHLUP. (2/1/10 Tr. p. 199.) Such attempts at definitional hair-splitting cannot be justified on legal or policy grounds. The 1996 legislation forcing the investor-owned utilities to sell their power plants to third parties and buy back electricity on the open market did not change the utility nature of an electric power plant, which continues to provide the critical electricity needs of the public consumer. The City’s witnesses could reference no provision in City ordinances justifying such distinctions, and admitted during cross-examination that nothing in the City’s land use designations of “utility” would prevent the utility from being privately (rather than publicly) owned. (2/1/10 RT p. 226-227.)³ Notably, the City treated the Poseidon desalination facility as a “public utility” despite its private ownership (See 2/1/10 RT p. 229), and EPS has itself always been privately owned. Thus, the distinction is at best contrived, and finds no support in the City’s law.

E. CECP Conforms With Other Applicable Quasi-Legislative Land Use Provisions

CECP complies with Carlsbad General Plan provisions, which designate the proposed site as “U,” which expressly allows for the development of electric generating facilities. (Exh. 200, p. 4.5-21; 2/1/10 RT p. 162.) The project would also comply with the Carlsbad Zoning Ordinance (Chapter 21-36), as it would be within an area designated as a “PU” (public utilities) zone, a designation that allows for electrical generation facilities. (*Id.*, at p. 4.5-22; 2/1/10 RT p. 162-163.) Nothing in the general plan or zoning ordinance references the “form of ownership” for such public utility uses, thus offering no support for the City’s contention that “merchant” facilities may not be a public utility use. (2/1/10 RT p. 163.) CECP also conforms with provisions in the Subdivision Map Act regulating land divisions and parcel legality. (Exh. 200, p. 4.5-19.)

³ A City witness testified that the terms “public utility” and “quasi public utility” are defined in the zoning ordinance. (2/1/10 RT pp. 227-228.) This testimony was mistaken. While the Carlsbad zoning ordinance does define “public and quasi public office building and accessory utility buildings,” that definition is irrelevant to the question of what constitutes a “public utility” or “utility” use (Carlsbad Zoning Ordinance, Chap. 21, § 21.04.297), and makes no distinctions between such things as municipal utilities, investor-owned utilities, or power plants that sell power to investor-owned utilities.

The City also has a requirement for a “Precise Development Plan” in the zoning ordinance. Precise Development Plans (PDP) are applicable to various City areas, and include requirements for such things as parking and landscaping requirements, setbacks, and height standards. (Exh. 200, p. 4.5-26.) The PDP is required to “insure compatibility of the development with the general plan and surrounding developments. (*Ibid.*) It does this by describing existing conditions, giving guidance for building entitlements and building permit issuance, and otherwise providing linkage to other approvals. (*Ibid.*) The PDP is essentially a City permit, similar to a conditional use permit. (*Ibid.*; 2/1/10 RT p. 165; 2/2/10 RT pp. 41-43.) It is thus subsumed in the Energy Commission’s permit.

F. Specific Plan 144 Is Effectively Used by the City as a Permit and Not as a Standard of General Application

The Staff witness testified that the City’s web of land use controls for the project area is highly unusual and unlike anything she had encountered in all her many years of consulting and land use practice. (2/1/10 RT pp. 175, 177.) She termed the several overlapping land use provisions “the nesting dolls,” referring to those carved novelty devices which contain successively smaller versions of themselves, such that to open one merely brings one to another smaller version of the same doll. (*Id.*, at p. 176.)

One such unique device that the City identified as applicable to the CECP site is Specific Plan 144. Generally speaking, specific plans are a common land use regulation; the contents of such plans are set forth very generally by statute, but the over-arching purpose is to help implement the general plan. (See, e.g., Govt. Code, §§ 65450-65453.) Specific plans must conform to the general plan (Govt. Code, § 65454), and “must be prepared, adopted, and amended in the same manner as a general plan.” (Govt. Code, § 65453.) However, the City’s “specific plan” is highly unusual, and is effectively used by the City as a redundant permit.

In the City of Carlsbad, “specific plans” are used to set forth the existing land uses in the various regions of the City. (Exh. 200, p. 4.5-23.) New projects within the specific plan area may be required to provide a “comprehensive update” of such “specific plans,” or merely an amendment, depending on what the City decides for a given project. (2/1/2010 RT pp. 242-244, 251-252.) Whether a comprehensive update or an amendment, these “specific plans” are, in essence, a catalog of existing land uses within a regional boundary. At least for Specific Plan 144, the City states that it would require Applicant to itself initiate a “comprehensively updated” version of the plan, which would then require adoption by the City Council for the project. (Exh. 200, pp. 4.5-23 through 26; 2/1/10 RT p. 251.)

Specific Plan 144 includes all properties within a 680-acre boundary, including the project site. (*Ibid.*) It thus includes many properties north of the Hedionda Lagoon and east of the I-5 freeway, an area including industrial, agricultural, recreational, and open space land uses. Specific Plan 144(h), the most recent version of the particular specific plan, is essentially a cataloging of the existing uses within the 680-acre area with its various owners, although it incorporates various project conditions that are lifted from the PDP for various projects within the area, such as the Poseidon desalination facility. (2/1/2010 RT 242-244.)

As stated above, the Government Code requires that specific plans be consistent with the underlying general plan and help implement its provisions. CECP is consistent with general plan provisions, and there is no aspect of Specific Plan 144 with which CECP conflicts, other than the exogenous requirement that projects in the specific plan area initiate a “comprehensive update” of the specific plan, an update that must be approved by the City Council itself. In other words, there is no way an applicant can actually know what “standards of general application” an applicant must comply with in Specific Plan 144, as every project may trigger a requirement for a new “comprehensively updated” specific plan with unknown specifications that only the City can determine in some future decision it makes on the specific prospective project. Thus, Specific Plan 144, as implemented by the City, mirrors the PDP and has the function of a permit rather than a

set of previously adopted standards that can be applied to a project. (Exh. 200, p. 4.5-23 through 26; see 2/1/10 RT pp. 240-245.) The Staff witness concluded that Specific Plan 144 has “more permit-like characteristics” than it does legislative rules, although any substantive provisions it does contain are consistent with CECP. (2/1/10 RT p. 175.)

The Staff witness’ conclusion that Specific Plan 144 functions as a permit is supported by both statute and case law. The State Administrative Procedure Act defines “regulation” as “every rule, regulation, order, or standard of general application” (Govt. Code, § 11342.600), meaning that such requirements must be intended “to apply generally, rather than in a specific case.” (*Tidewater Marine Western, Inc. v. Bradshaw* (1996) 14 Cal.4th 557, 571.) By contrast, permit decisions are adjudicatory by nature, in that they determine the legal right, duty, or interest of *a particular person*. (See Govt. Code, § 11405.50(a).)

Similarly, the State Supreme Court has acknowledged and emphasized this distinction:

In so holding [in prior decisions], we distinguished “adjudicatory” matters in which “the government’s action affecting an individual [is] determined by facts peculiar to the individual case” from “legislative” decisions which involve the adoption of a “broad, generally applicable rule of conduct on the basis of general public policy.” [Para.] Subdivision approvals, like variances and conditional use permits, involve the application of general standards to specific parcels of real property. Such governmental conduct . . . is “determined by facts peculiar to the individual case” and are “adjudicatory” in nature.” (*Horn v. County of Ventura* (1979) 24 Cal.3d 605, 613-14.)

Here, the City’s use of Specific Plan 144 is clearly adjudicatory, and not a standard of general application, with all the hallmarks of a permit, despite the pretense to a legislative design. The “plan” does not put Applicant on notice of any general requirements for its project, nor can Applicant predict what the City will require for its comprehensive update of the plan. It is also quite unclear whether the “plan” would have any substantive requirements that did not actually come from a separate source,

such as the general plan, zoning, industrial permit, or precise development plan. It functions as a superfluous “overlay” permit required for any development with proximity to the EPS site.

In 2007, Applicant (apparently at the City’s prior direction) filed an application with the City for an “Amendment to the Precise Development Plan/Specific Plans.” (Exh. 7.) An examination of this application draft plan is instructive, as it illustrates that the specific plan is no more than an empty device asking, “Mother may I?”. The application, a draft updating the PDP and Specific Plan 144, shows that the “specific plan” is a redundancy. The actual permit requirements are in the draft PDP, and these refer to the largely irrelevant catalog of uses provided by Specific Plan 144, which formally designates CECP as “an allowed land use within [the PDP].” (Exh. 7, PDP Amendment, p. 18.) The amended Specific Plan 144 includes no more than a description of existing uses and the existing physical setting, a brief description of CECP, development standards elsewhere provided by (and located in) either the general plan or the proposed PDP permit, and “standards and requirements” from prior “Specific Plan Amendments 144(A-H)”. (Exh. 7, Specific Plan Amendment, pp. 2-15; see 2/1/10 RT p. 243-244.) The draft indicates that there is nothing new that is substantive to an updated Specific Plan 144.⁴ The “comprehensive update” of Specific Plan 144 is really nothing but a redundant and non-substantive permit that accompanies the more specific PDP permit. (2/1/10 RT 243-244.)

This raises yet an additional reason that “specific plan” is a misnomer for this particular device. The City normally (or at least frequently) requires that each project initiate a complete redrafting of Specific Plan 144, and that this complete redrafting include all private properties and uses in the specific plan area, including many that are far beyond the site or property boundaries of the project proposed. (2/1/10 RT p. 251.) The project proponent then must seek approval for this new “specific plan” from the City, even though it pertains to properties that may not be adjacent to the project. This highly

⁴ The City may protest that Exhibit 7 contains only the Applicant’s draft, and that the City might impose new substantive standards; however, such a complaint would merely emphasize the City’s use of Specific Plan 144 as a permit rather than as a set of generally applicable planning requirements.

unusual process has dubious conformity with the statutory requirement that specific plans “be prepared, adopted, and amended in the same manner as a general plan,” as required by Government Code section 65453. Nor does it add any general, broadly applicable requirements that would “systematically” implement the general plan, as required by Government Code section 65450. The City testified in response to cross-examination that it now intends to abandon this curious process, and begin to prepare its own specific plans in a more normal fashion, and perhaps with more consistency with the Government Code. (2/1/10 RT p. 251-252.)

Evidence in the record, thus, consistently shows that Specific Plan 144 functions as a local permit. As such it is preempted by the Energy Commission’s license.

G. The City’s Moratorium Is Self-Directed and Creates No LORS Inconsistency

In the fall of 2009, the City adopted an urgency measure by resolution authorizing its planning staff to study and gather information regarding appropriate locations for a thermal power plant within the City and placing a “moratorium” on the processing of any applications for power plants in the coastal zone. (2/1/10 TR pp.169, 239-240.) This measure was adopted with no underlying CEQA document: it was declared exempt under CEQA Guideline 15262 as a “project involving only feasibility and planning studies for future actions” by the City, indicating its internally directed, non-substantive effect. (*Id.*, at 239-240.) The City’s witness testified that this action “was not intended to apply to anybody other than the city and city actions.” (*Id.*, at p. 240.) Applicant’s land use witness testified in accord, that it creates no LORS consistency issue. (*Id.*, at pp. 170-171.)

H. The Commission Should Require Dedication of a Site for the Coastal Rail Trail at a Location Mutually Agreed to With the City

The Committee’s query as to whether the Warren-Alquist Act gives the Commission “authority to decide whether and where the Rail Trail can be built on the project site” is

the wrong question. Clearly the Energy Commission has authority to require, for projects in the coastal zone, “that an area be established for public use, as determined by the commission.” (Pub. Resources Code, § 25529.) “Lands within such area shall be acquired and maintained by the applicant and shall be available for public access and use, subject to restrictions required for security and public safety.” (*Ibid.*)

To implement this requirement, condition LAND-1 would require Applicant to “dedicate an easement for the Coastal Rail Trail within the boundaries of the overall [EPS] 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.” (Exh. 200, p. 4.5-37.)

The Coastal Rail Trail (CRT) has been proposed since the 1990s. (Exh. 200, p. 4.5-14.) The City is the lead for the cities where it will be located. (*Ibid.*) It was originally planned within the rail corridor, but the North County Transit District has opposed such because of safety and liability issues. After a discussion of alternative alignments on the EPS property, the City has recently proposed to place the CRT on the east side of the railroad tracks on CECP property. (*Id.*, at p. 4.5-15.) Staff (and Applicant as well) oppose such a location because of security concerns for the CECP project. (Exh. 200, p. 4.14-17.)

Staff’s proposed LAND-1 does not, as the Committee’s question implies, “decide whether and where the Rail Trail can be built on the project site.” It merely requires that the Applicant dedicate a right-of-way or easement for the CRT at a location that is mutually agreed to with the Applicant, such that it avoids the security concerns of placing a public access transit space on the CECP site, which could result in safety and security breaches. The condition provides that the CRT could be located anywhere within the Precise Development Plan area west of the rail corridor, which is a broad area that includes properties within the EPS and properties outside the EPS.

IV. AIR QUALITY AND PUBLIC HEALTH IMPACTS ARE, WITH MITIGATION, LESS THAN SIGNIFICANT

State and federal air quality law is implemented by regional air districts through air district regulations. The San Diego Air Pollution Control District (Air District) provided a Final Determination of Compliance (FDOC) to the Energy Commission, concluding that CECP will conform with all applicable LORS. (Exh. 201.) Staff agreed, and further concluded that CECP will not (with the conditions recommended by the Air District and Staff) result in significant direct or cumulative air quality impacts. (Exh. 200, p. 4.1-2, 4.1-58 to 59.) These conclusions are not contradicted by any record evidence.

Staff separately analyzed the effect that CECP would have on climate change by emitting GHG such as carbon dioxide. Natural gas is a carbon fuel and therefore emits carbon into the atmosphere when burned in gas-fired power plants. Staff calculated the GHG emissions from CECP; these emissions are considerable and would, in isolation, be above any threshold for significance commonly used to determine the significance of such a cumulative effect. However, because CECP is a much more efficient plant than those plants that it will replace (or displace in the electricity generation dispatch order), its actual effect will be to *reduce* GHG emissions from the current baseline for the electric system as a whole. This issue is addressed in more detail below. Accordingly, the project has no significant adverse cumulative impact with regard to GHG emissions. (Exh. 200, pp. 4.1-100 through 123.)

Staff (and the Air District) also analyzed the public health risk impact of CECP, using accepted and very conservative methods to determine impact. This included a “local cumulative” assessment modeling all major local emissions sources to determine the impact of CECP when combined with EPS units 4-5, as well as other foreseeable major emissions sources. (Exh. 200, pp. 4.1-48 to 51.) Three separate “health risk assessments” (measuring risk from toxic emissions) were conducted (by Applicant, the Air District, and Staff), and each concluded that CECP will have no impact on public health (2/2/10 RT p. 86; Exh. 200, p. 4.7-1). This conclusion is not contradicted by any record evidence.

These issues are addressed in more detail below.

A. CECP Complies With All Applicable Air Quality LORS and Will Have No Significant Direct or Cumulative Impact

The San Diego Air Basin is in attainment for all federal standards except the ozone 8-hour standard; it is in nonattainment for the state ozone 1-hour standard, as well as the state PM 10 and PM 2.5 standards. (Exh. 200, p. 4.1-7.) The general trend for ozone and PM 2.5 is downward, while PM 10 levels (which include high levels of dust, including entrained road dust) fluctuate with no clear direction. (*Id.*, at pp. 4.1-8 to 4.1-15.) Mitigation for emissions for “nonattainment” criteria pollutants is provided in the form of emission offsets for NO_x, VOCs, and PM 10. (*Id.*, at p. 4.1-42.) Applicant proposed elaborate mitigation to reduce fugitive dust and diesel equipment emissions during construction; these have been augmented by additional Staff-proposed requirements. (*Id.*, at pp. 4.1-33, 34.) These mitigation measures reduce both operation emission impacts and construction emission impacts to a less than significant level. (*Id.*, at p. 4.1-58.) There is no evidence challenging this conclusion.

Consistent with the above, the testimony confirmed that CECP will employ Best Available Control Technology (i.e., the lowest emitting feasible technology available for the described purpose); that CECP’s operation will not contribute to any air quality violations of existing standards; and that the project does not have significant cumulative impact on air quality in either a local or regional context. (2/3/10 RT pp. 65-66.) Again, no substantial evidence challenged these conclusions.

Finally, Staff has required offset mitigation (for particulate matter and volatile organic compounds) that goes beyond air district offset requirements (2/2/10 RT pp. 83-84), and has proposed construction mitigation (to reduce dust and diesel emissions) that include “the most restrictive conditions that any agency uses.” (*Id.*, at p. 79.) Staff considered the projected cumulative impacts of other projects, including the “I-5 widening project,” and concluded that such impacts would be less than significant. (Exh. 200, p. 4.1-50.)

B. Because CECP Will Not Result in an Increase in GHG Emissions, Its Impact on Global Warming Is Less Than Significant and, in Fact, Beneficial

The Energy Commission has been a leading agency in analyzing GHG reduction strategies, particularly as they apply to the electricity generation sector. It has produced several documents reflecting the attention that it has devoted to this work outside of power plant siting decisions, including an elaborate Siting Committee report on the issue (Exh. 204), Staff/consultant analysis of the issue (Exh. 212), and joint agency strategies (adopted jointly with the California Public Utilities Commission) describing how the electric system will change to meet AB 32 goals. (Exh. 213.)

Each of these documents has concluded that the electric generation system can greatly reduce carbon emissions while meeting system needs, and described how this can be achieved. One key method for reducing the “carbon intensity” of the system is by replacing aging, less efficient power plants with more efficient ones. Another is to shape the complex electric generation and transmission system in ways that allow it to integrate more renewable power into the system. Each of these critical strategies requires the licensing of new gas-fired generation that is both more efficient and more operationally flexible than the older facilities that will be replaced (or displaced).

CECP is completely consistent with this carbon-reduction strategy. It would replace the aging and inefficient boiler units (units 1-3) at the EPS site, replacing them with a “mid-merit” facility that can be flexibly dispatched to integrate fluctuating supplies of renewable solar and wind energy. (Exh. 200, p. 4.1-100.) In addition, it will displace other, less efficient, power plants (e.g., EPS units 4 and 5) in the dispatch order, making the electric generation system more efficient and reducing overall carbon emissions. (*Ibid.*) It will also replace the shares of out-of-state coal plants owned or under long-term contract in the portfolios of the California utilities; continued long-term investment in these resources is precluded by the State’s new Emission Performance Standard. (*Ibid.*) Such coal generation has much higher GHG emissions than natural gas for the same amount of electricity generated.

During the pendency of the CECP proceeding, the Energy Commission has adopted a precedent decision regarding power plants and GHG emission impacts. The Final Decision in the Avenal proceeding acknowledged the importance of new, more efficient gas-fired generation that will replace aging plants and integrate renewable energy. (Calif. Energy Comm., Avenal Final Decision (Docket No. 08-AFC-1, Dec. 2009), pp. 98-114.) The Avenal Final Decision provides that the Energy Commission will only license new power plants that 1) do not increase the “heat rate” (are more efficient than the) average of the electric generating system as a whole, 2) do not interfere with integrating new renewable energy, and 3) result in an overall reduction in GHG emissions. (*Id.*, at pp. 113-114.)

The testimony is clear that CECP meets, and in fact far exceeds, these precedent decision criteria. CECP is more efficient than the units it will replace (units 1-3), and will displace generation from any number of less efficient power plants that will remain on line for electric reliability response (e.g., units 4-5). (Exh. 200, p. 4.1-111.) It has a heat rate far lower than that of many south state generation facilities, and far below the system average. (*Ibid.*) Equally important, it is an efficient rapid response “mid-merit” power plant (essentially, a combined cycle unit that ramps quickly like a peaking unit, and is permitted to operate at an annual capacity between that of base-load and peaker facilities) that is ideally suited for integrating intermittent renewable generation. (*Id.*, at pp. 113-114.) It is superior to conventional peakers in that it is more efficient, yet is able to “fast start” and ramp quickly without damaging equipment—exactly what is currently needed for supporting intermittent renewable generation, as well as meet local generation needs with the least amount of generation. (2/3/10 RT pp. 216-219.) Thus, it satisfies the requirements of the Avenal precedent decision, and will reduce GHG emissions from electric generation rather than increase them.

The analysis performed for CECP (and for Avenal) is consistent with the recent revisions to the CEQA Guidelines for analyzing the impact of GHG emissions for projects. (Cal. Code Regs., tit. 14, § 15064.4.) CEQA focuses on whether a project will

result in a significant adverse effect by analyzing how it will affect the “baseline,” or existing conditions. The new CEQA Guideline provisions for GHG analysis continues with this concept: when considering the significance of an impact, a lead agency may consider “the extent to which the project may increase or reduce greenhouse gas emissions as compared with the existing environmental setting.” (*Ibid.*) In this context, a lead agency has broad discretion to determine that any impact from the project is not “cumulatively considerable,” and not a significant impact. (*Ibid.*; see also § 15064(h).)

Intervenor Center for Biological Diversity (CBD) contends, in essence, that the FSA analysis was insufficient because it: (1) failed to consider or quantify the effect that the use of liquefied natural gas (LNG) will have on GHG emissions; (2) failed to identify or consider a “threshold of significance” for GHG; (3) failed to provide mitigation or alternatives for CECP’s emissions of GHG; (4) and failed to adequately analyze how CECP is consistent with the State’s AB 32 goals for reducing GHG by 33 percent by 2020 and 80 percent by 2050. (CBD Opening Testimony, Preliminary Identification of Contested Issues (January 6, 2010) pp. 2-3.) In addition, CBD challenged the need for the addition of a new gas-fired facility, and filed testimony challenging the California Independent System Operator (CAISO) on that issue. (Exh. 645.) CBD is incorrect, and apparently fails to understand the Staff testimony it challenges.

1. CECP’s Future Use of LNG Is Entirely Speculative

CBD’s contention that CECP will result in a significant effect on global warming because it will likely be fueled in part by LNG is wrong for two reasons. First, it has become increasingly apparent over the past two years that domestic natural gas supplies will be plentiful (due to an exponential increase in supplies of shale gas) over the longer term, and that it is not likely that much LNG will be imported or used in California. Three years ago, applications for a half-dozen LNG import terminals were pending for California; today only one remains, and it is treading water. (2/3/10 RT p. 169; see 2009 Integrated Energy Policy Report [IEPR], pp. 134-135.) Additional natural gas pipeline capacity is planned for California. (2/3/10 RT p. 170.) No LNG commercial

deliveries have been made, and it is “unclear what impact Costa Azul [the only LNG terminal serving California] will have on supply and price.” (2009 IEPR, p. 133; 2/2/10 RT p. 100.)⁵ Thus, it would be both speculative and unrealistic to assume that CECP will be fueled by LNG.

Second, even if CBD were right that LNG will become the predominant fuel source, it is illogical to believe that the use of a higher carbon fuel would make CECP’s impact significantly adverse. As Staff’s analysis explains, *the effect of CECP is to reduce overall fuel use by the electricity sector to generate electricity*. This reduction reduces the GHG emissions that cause global warming, regardless of whether this is conventional natural gas or LNG. In fact, if one assumes that LNG has a higher “carbon content,” and that it will ultimately be the fuel to fire California’s gas-fired power plants, then the value of more efficient power plants like CECP, which would displace less efficient LNG-fueled power plants and thereby reduce their impacts, would become even greater. (2/3/10 RT p. 170.)

2. CEQA’s “Thresholds of Significance” and Mitigation Are Inapplicable for Projects That Do Not Result in Significant Adverse Impacts

Each of CBD’s contentions illustrate that it does not understand Staff’s analysis or the Avenal precedent decision. CBD assumes that the emissions of any new power plant are simply additive to all the other emissions that currently occur from electric generation. But as the Staff testimony describes with great elaboration, any new power plant in California will either replace or displace less efficient generation, thereby reducing the carbon emissions associated with electricity generation. (Exh. 200, p. 4.1-108 through 117.) This is because the California Independent System Operator (CAISO) and the public utilities both use “economic dispatch” for the order of deploying generation: that is, power plants are deployed in the order of lowest cost to greatest cost, which (because fuel use is the primary cost driver) in turn means that plants are

⁵ To his credit, the CBD witness on LNG (Mr. Cox) correctly acknowledged that no commercial shipments of LNG have yet been made to San Diego from the Costa Azul terminal, and that there is currently no market for LNG imports. (2/3/10 RT pp. 130, 132.)

deployed according to their fuel efficiency. (2/3/10 RT pp. 173-285.) As the 2009 IEPR put it:

When one resource is added to the system, all else being held equal, another resource will generate less power. If the new resource has a lower cost or fewer emissions than the existing resource mix, the aggregate system characteristics will change to reflect the cheaper power and lower GHG emissions rate. (2009 IEPR, p. 23.)

CECP will operate *only* when it is displacing less efficient generation, such as legacy boiler plants and simple cycle peakers. (2/3/10 Tr. pp. 118-120.) Moreover, it is intended to provide reliability backup for extreme conditions, such as outages of other facilities (either power plants or transmission lines) by providing local capacity support in a transmission constrained load pocket. (2/3/10 RT pp. 119, 173-174, 198.) This reliability service is one that can only be feasibly satisfied by dispatchable gas-fired generation. (2/3/10 RT pp. 151-152.)

Like the Avenal decision, the last several IEPRs have pointedly emphasized that efficient new natural gas facilities are an important part of reducing the state's GHG emissions. The 2007 IEPR stated:

New natural gas-fueled electricity generation technologies offer efficiency, environmental, and other benefits to California, specifically by reducing the amount of natural gas use—and with less natural gas burned, fewer greenhouse gas emissions. Older combustion and steam turbines use outdated technology that makes them less fuel and cost-efficient than newer, cleaner plants . . . The 2003 and 2005 IEPRs noted that the state could help reduce natural gas consumption for electric generation by taking steps to retire older, less efficient natural gas power plants and replace or repower them with new, more efficient power plants. (2007 IEPR, p. 184.)

CBD alleges, as if it were relevant, that the Energy Commission should adopt CEQA thresholds of significance for power plant projects, apparently based on gross stack emissions, and implies that mitigation for power plant emissions must be required. Again, CBD does not understand the Staff analysis, which concludes that the impact of

a new, much more efficient power plant is a positive impact to global warming because it inevitably results in lower GHG emissions from the electricity sector, a critical AB 32 goal.

Thresholds of significance are useful for determining when a detrimental cumulative impact becomes “cumulatively considerable.” Such thresholds make sense for analyzing the cumulative effects of projects that add some measurable adverse factor (e.g., increased emissions, increased water use, increased noise) compared to existing conditions, or “baseline.” However, such thresholds are irrelevant to projects that actually reduce impacts (e.g., reduce noise levels, reduce emission levels, reduce water use) and have no significant adverse effect. Nor is mitigation required for project effects that are not significantly adverse. (Cal. Code Regs., tit. 14, §15126.4(a)(3).) By CBD’s logic, one who replaces his Hummer with a Prius should be penalized for doing so, even if he reduces his carbon footprint by half. This is not what CEQA requires.

3. CECP Is Consistent With AB 32 Goals to Dramatically Reduce GHG Emissions

CECP is not only more efficient than the facilities it replaces or displaces; it also will increase the electricity system’s ability to integrate renewable resources. (Exh. 200, pp. 4.1-113 through 115.) Renewables (predominantly wind and solar power) are intermittent by nature (when the sun shines and the wind blows), and must be backed up by dispatchable resources to meet reliability standards. Because the contribution of renewables can fluctuate widely over short time periods, it is necessary to have generation with “fast start” ability, which can also “ramp” up and down quickly to meet fluctuating needs. (2/3/10 RT pp. 163-167.)⁶

⁶ This testimony was also addressed by Mr. McIntosh, the CAISO director of grid operations, who is also the CAISO director of renewable resource grid integration and grid architecture. Mr. McIntosh emphasized the need for dispatchable gas-fired generation to support and integrate intermittent renewables. (2/3/10 RT pp. 160-165.) Mr. McIntosh described CECP as “essential” for renewable integration, concluding: “This [CECP] and others like it will be needed. They are very efficient units and they meet that gap that occurs when the variable generation is moving around on a minute-to-minute basis.” (*Id.*, at p. 165.)

CECP meets these needs for generation flexibility. Unlike the aging and inefficient boiler facilities it will replace, it can start up very quickly and ramp up and down quickly. (Exh. 200, p. 4.1-114, 2/3/10 Tr. pp. 114-114.) Because gas-fired generation is at the bottom of the state's "loading order," it cannot displace renewable generation, and will in no way retard its growth. (2/3/10 RT. pp. 156, 250.) To the contrary, as renewables play a greater role in the electricity system, it is necessary to have gas-fired generation to back up and integrate such variable generation. (*Id.*, at pp. 151-160.) The construction and operation of CECP will not change the obligation of California utilities to procure energy equal to 33% of their retail sales from renewable resources, nor will energy from CECP "crowd out" wind and solar energy in the spot energy market. As the Renewable Portfolio Standard (RPS) is implemented, gas-fired generation *capacity* will remain as backup to renewable generation, even as the overall *energy* from gas-fired facilities declines. (*Id.*, at p. 4.1-115.)

In other words, CECP is not only consistent with AB 32 goals; projects such as CECP are necessary to realize such goals.

Currently, system reliability backup is provided by aging boiler facilities built more than 50 years ago. They are inefficient, rely on OTC, lack fast-start capability, and must be kept running at low levels to respond to emergencies. These "legacy" OTC facilities, which include the EPS and South Bay facilities in the San Diego area, are tentatively scheduled to be shut down over the next decade, as soon as new generating infrastructure can replace them. CECP is designed to provide such modern replacement and allow the shutdown of such facilities, increase electric system efficiency, and provide flexible generation that supports renewable generation integration.

Apart from CBD's testimony regarding LNG, the thrust of its testimony is to the effect that "more studies" and "more quantification" are needed before the Commission should license CECP and projects like it. (Exh. 645 [Hunter].) More studies are underway regarding the need for new generation in the LA Basin, and similar studies may

eventually inform the San Diego load pocket as well. However, the need to replace OTC facilities with efficient and reliable generation in the San Diego load pocket is very well-defined (2/3/10 RT p. 160-161), making additional studies for CECP superfluous. Moreover, the state's new OTC policy cannot actually be implemented without new replacement generation for the aging boiler facilities, such as EPS units 1-3 and 4-5.

CBD's charge that the amount of displacement of less efficient facilities has not been quantified is true, but immaterial. What is absolutely clear is that CECP would displace less efficient gas-fired facilities whenever it operates, thereby reducing carbon emissions in the electricity sector, but it is very difficult to quantify the amount of such reductions. This is because the system, which consists of the entire Western Interconnect and all of the power generation sources and transmission lines in it, fluctuates from minute to minute, as different sources are turned on and off or ramped up and down, to meet California's electricity demand. This fluctuation is constant, and also changes over time, as new generation sources and transmission are added to the system.

Thus, such quantification will never be more than an approximation, based on a particular point in time and assumptions that may change on an hourly basis. During one hour, CECP might be displacing one set of generation sources that are less efficient; during the next hour, a different set. In other words, only extremely elaborate modeling exercises can estimate the *amount* of GHG emissions that CECP may reduce. But this does not matter: the important point is that when CECP runs, it will be reducing GHG emissions that would otherwise be emitted. If, as assumed, the generation system becomes more efficient, and adds more renewable resources, CECP will run less, but that does not mean that it is not needed for its capacity, nor that it does not displace less efficient and more polluting generation when it does run.

The testimony in the proceeding makes the following abundantly clear: CECP meets the Avenal Decision criteria, in that it reduces GHG emissions from the electricity sector, enables the integration of renewables, and is entirely consistent with the goals of AB 32.

4. The Commission Decision Should Include Findings That CECP Is Consistent With the Criteria Specified in the Avenal Final Decision

These findings would, at minimum, include the following:

1. CECP will reduce the “heat rate” (improve the efficiency) average of the electric generating system as a whole.
2. CECP will not interfere with, but will instead complement, the integration of renewable generation into the electricity system.
3. CECP will result in an overall reduction in the emission of GHG from the electricity system.

These findings lead to the logical **conclusion**, which the Commission should also make: CECP does not cause or contribute to a significant cumulative impact generally described as “climate change.”

Finally (responding to the Committee’s query), Staff does not believe that the status of power purchase contracts is relevant to the evaluation of the AFC. Staff is simply unaware of any legal basis for providing a different kind of project analysis based on the status of contracts for the purchase of power. Moreover, such contract status often can change abruptly during the pendency of the application, as recently occurred in the Marsh Landing AFC proceeding.

V. CECP WILL NOT RESULT IN SIGNIFICANT IMPACTS TO VISUAL RESOURCES

CECP would be built within the City of Carlsbad and in the coastal zone. Scenic quality in the area is “comparatively high,” and the project site viewshed includes views of the Agua Hedionda Lagoon, agricultural open space, and nearby residential areas. (Exh. 200, pp. 4.12-4 to 5.) The project site itself is on the EPS property, which also includes the 200-foot-tall main building enclosure, as well as the 400-foot-tall exhaust stack used by units 1-5. (*Id.* at p. 4.12-5.) There is also a large switchyard west of the main EPS

building. (*Ibid.*) The CECP project site is currently occupied by three large oil storage tanks roughly 40 feet in height, but which barely rise above surrounding grade, because the project site is more than 24 feet below grade. (*Ibid.*) An earthen berm, eucalyptus trees, and other vegetation screen the tanks, such that there are virtually no views of the tanks from offsite. (*Ibid.*)

Staff used a standard “Key Observation Point” (KOP) analysis, which uses representative, fixed vantage points to present the current visual conditions, which are then compared to similar fixed point depictions that simulate the project. (Exh. 200, p. 4.12-7.) To structure its visual analysis, Staff used the CEQA Guidelines Checklist questions. These include consideration of whether the project would have a substantial adverse effect on a “scenic vista;” whether it would substantially damage “scenic resources;” and whether it would substantially degrade visual quality of the site and its surroundings. (*Id.*, at pp. 4-12-8 to 9.) For each KOP, the analysis considered both “visual sensitivity” of viewers and “visual change,” meaning the degree of change that the project would impose on the existing visual environment.

Ultimately, Staff concluded that, although visual sensitivity at some KOPs is high, the degree of visual change imposed by the project is too low to constitute a significant impact. The visual change is depicted in photos and simulations (Exh. 200, Figs. 4a and b through 17a and b), and generally indicates a moderate or low level of visual change.⁷ With standard prescribed mitigation such as structure surface treatment (Condition of Certification VIS-1), additional landscape screening (VIS-2), construction site screening (VIS-3), and shading of exterior lighting (VIS-4), the proposed project will have no significant visual impact. (Exh. 200, p. 4-12-38.) Staff also concluded that the project is consistent with applicable LORS, which are comprised of the City’s general

⁷ An exception is the view from KOP 9 (depicted in Figs. 12a and 12b), which is the KOP immediately west of the project site, from the Santa Fe rail corridor. Rail passengers might be expected to have this view. Visual sensitivity from this view is “moderate, reflecting the modest existing visual quality and very brief viewer exposure.” (Exh. 200, p. 4.12-21.) Although visual change would be “dominant in view for a few seconds,” the brief exposure results in moderate visual change. (*Id.*, at p. 4.12-22.) KOP 9 is in the rail corridor that bisects the EPS property, which is an industrial site that includes both EPS facilities and the Poseidon Desalination project.

plan policies and elements (previously discussed under Land Use), as well as the California Coastal Act. (*Id.*, at pp. 4.12-32 to 34.)

The City and other intervenors did not agree with the Staff analysis, and would call the impact from the project significant given its location in the City and the coastal zone. However, the real controversy over the impact of the project focused on the *cumulative impact* of the project when considered with other foreseeable projects. Such projects include the recently licensed Poseidon Desalination plant, the Coastal Rail Trail, redevelopment of the EPS site, the City's Sewer Interceptor and Lift Station projects, rail corridor improvements (including double-tracking next to the CECP site) with the acronym "LOSSAN," and the widening of Interstate 5 ("I-5 Widening Project") next to the CECP site. Of these separate but foreseeable projects that were considered in the cumulative impact analysis, it is the I-5 Widening Project that the City contends will result in a significant cumulative visual impact.

The freeway (Interstate 5, or "I-5") borders on the eastern side of the EPS property. The I-5 widening project is proposed by the California Department of Transportation (Caltrans), and is a 28-mile widening project (with High Occupancy Vehicle lanes) currently undergoing environmental review. Construction is expected from the southern terminus of the project, and the widening in the City of Carlsbad is not expected for as much as 10 years following project approval. (Exh. 200, p. 4.12-26.) Although the CEQA document has not yet been published, Energy Commission Staff worked with Caltrans staff to examine the alternatives that agency is considering, their potential routing, and how such routes might combine with CECP to increase project impacts. (*Ibid.*) The alternatives presented are not final, and Caltrans will be required to consider a range of alternatives (and mitigation) when it approves the project. However, Staff made a strong effort to determine impacts based on the information available from Caltrans.

As discussed above, the CECP site is below grade and is screened to the east by an earthen berm and landscaping vegetation. Although the stacks would be roughly 100

feet above grade in height, they would be largely screened by the berm and vegetation and would not result in a significant visual impact. The four alternatives provided by Caltrans staff would each “require complete removal of the earthen berm and associated tall tree landscaping” at the eastern boundary of the project site. (Exh. 200, p. 4.12-26.) This would make the power plant stacks much more exposed to viewers on I-5, as well as from viewpoints north and east of the project site. (*Ibid.*) Moreover, existing buildings on the EPS site, including the generation building and stack, transmission poles, and switchyard, would become more visible from several KOPs. (*Ibid.*) The impact of the I-5 widening project is thus “potentially severe,” (*id.*, at p. 4.12-27), and would be so even were the CECP project not part of the potential impact. Without additional mitigation, this would clearly result in a significant visual effect. (*Id.*, at p. 4.12-27.)

To consider this impact, and the possibility for effective mitigation, Staff met with Caltrans personnel on the site in June 2009 for an on-site survey to measure the dimensions of the remaining “buffer zone” in relation to the I-5 widening project. Staff determined that, even for the “worst case” Caltrans widening alternative, there would be room for a 75 foot buffer zone at the narrowest point (near unit 6) between the widened freeway and the lower access road on the CECP project site. (Exh. 200, p. 4.12-28.) This remaining buffer would be 90 feet near unit 7. (*Ibid.*) By comparison, the width of the existing visual buffer, consisting of the berm and landscaping, is 45 to 75 feet in width (narrowest point to widest point). (*Ibid.*)

These in-field measurements indicate that there is sufficient space for a visual buffer zone even if one assumes the future presence of a “worst case” I-5 widening. (*Ibid.*) Thus, there is sufficient space for a new landscaped berm within the CECP site, which could be similar or greater in size than the existing berm, but located outside of the new projected Caltrans right of way. (*Ibid.*) Applicant provided testimony in accord, with visual simulations depicting buffer space and “fast-growing evergreen trees” with an

“understory of shrubs” for landscaping, screening the site. (2/2/10 RT pp. 251-257.) No evidence was presented that contradicted these conclusions.⁸

The Staff analysis therefore proposes a condition of certification (VIS-5) that anticipates the I-5 widening and requires a new landscaped berm with vegetation to maximize growing time for trees that will replace those currently screening the project site. (Exh. 200, p. 4.12-29.) This would give the new screening trees at least five to ten years growth before the widening project is in place. (*Ibid.*) With the implementation of the VIS-5 mitigation, the project should be screened such that the visual impact will be less than cumulatively significant. (Exh. 200, p. 4.12-38.)

Much of the City’s contention that impacts from CECP would be significant was based on the 1990 Coastal Commission report previously discussed under Land Use and the discredited “visualization” that depicts exaggerated impacts and no mitigation. (Exh. 433 [Nue pp. 7-10].) As already discussed, the 1990 report described a different project at a different and more prominent location, with higher stacks and without good visual screening. It thus has little relevance to the analysis of CECP impacts.

The Staff’s cumulative impact assessment for Carlsbad is unusual, inasmuch as the I-5 widening project does not yet have an EIR, and must itself be subject to agency and public review and comment, alternatives analysis, and appropriate mitigation—all future activities. It is unusual for lead agencies to be prescribing mitigation not for the project it licenses, but instead for a future project that will itself cause the environmental impact that requires mitigation. Staff has coordinated with Caltrans staff to assess the cumulative impact of CECP with the I-5 widening, and believes that such mitigation is feasible and can be effective.

⁸ The City did introduce into evidence a video, which the sponsoring witness depicted as a “visualization” (“not a simulation”). (2/2/10 RT p. 233-235.) Applicant’s and Staff witnesses testified regarding the video’s inaccuracies, exaggerated representations, and the fact that it did not depict any of the proposed mitigation. (2/2/10 RT pp. 259-260; 2/3/10 RT pp. 17-18.) The City’s testimony regarding impact assumed the validity of this propagandistic video (Exh. 433 [Nue p. 11]), with exaggerated impacts and no mitigation depicted, and thus provides no evidence of whether the impact of the project would be significant *with* proposed mitigation.

VI. THE ALTERNATIVES CONSIDERED ARE NOT ENVIRONMENTALLY PREFERABLE AND MAY NOT BE FEASIBLE

A. CECP Does Not Result in a Significant Impact Requiring Analysis of a Project Alternative

The focus of the CEQA alternatives analysis is to find reasonable alternatives that attain most of the basic project objectives, “but would avoid or substantially lessen any of the significant effects of a project.” (Cal. Code Regs., tit. 14, § 15126.6(a).) Staff concluded that CECP would not have any significant environmental effects with Staff’s recommended mitigation. Even so, Staff considered a range of reasonable alternatives that would “foster informed decision-making and public participation.” (*Ibid.*) This analysis considered a number of site alternatives proposed by the City.

As with the Land Use discussion, the project alternatives discussion occurs in the context of the large *existing* EPS power plant facility, a portion of which would be replaced by CECP. In today’s world, with the greater concern for the environment and for coastal land uses, a project proponent would probably never consider proposing to locate a power plant in the coastal zone. Here, the “current condition” for CEQA analysis is that a power plant use already exists in the coastal zone, with all the infrastructure that goes with it, and CECP is merely a replacement or expansion of that existing use.

The City and other intervenors posit that their site alternatives are superior locations to a coastal location because they are inland. If one were merely picking a new site for a power plant, such would be sensible. However, there is already a large power plant operating at the EPS site and no significant impacts would result from adding the modern CECP facility. In this context, the City’s site alternatives would not avoid significant CECP-caused impacts or LORS inconsistencies because none are expected. Moreover, when looked at more closely, the City’s alternatives are neither environmentally preferable nor necessarily feasible.

B. The FSA Includes a Reasonable Range of Alternatives, Including the Generation Alternatives and the Site Alternatives Proposed by the City

Consistent with CEQA precepts, the range of alternatives was determined by the “basic objectives of the project.” (Cal. Code Regs., tit. 14, § 15126.6(c).) Staff stated these objectives in Exhibit 200, pages 6-3 and 6-4, as follows:

1. “Meets the expanding need for new, highly efficient, reliable electrical generating resources that are dispatchable by the CAISO, and are located in the “load pocket” of the San Diego region;”
2. “Improves San Diego regional electric system reliability through fast start generating technology, creating a rapid responding resource for peak demand situations, and providing a dependable resource to backup intermittent renewable resources like wind generation and solar;”
3. “Allows retirement of EPS Units 1, 2, and 3, and assists in the retirement of the South Bay power plant and the eventual retirement of existing EPS units 4 and 5;”
4. “Modernize[s] existing aging electrical generation system infrastructure in north coastal San Diego County, which includes the retirement of aging once-through cooling (OTC) facilities. Retiring the use of OTC is an objective shared by the energy and environmental agencies in California, including the [CEC, CPUC, CAISO], and publicly owned utilities;”
5. “Utilize[s] existing infrastructure to accommodate replacement generation and reduce environmental impacts and costs;”
6. “Meets the commercial qualifications for long-term power contract opportunities”

Staff looked at different generation technologies, including wind, solar, and other renewables as a source for meeting these objectives, and found that such technologies do not meet project objectives or are infeasible. (Exh. 200, pp. 6-15 to 6-18.) As several witnesses had previously explained in testimony regarding GHG emissions, the renewable generation alternatives are mostly not in the San Diego reliability area (or “load pocket”) and, thus, do not provide the “capacity” necessary to provide system

reliability. (*Ibid.*) Within the San Diego reliability area, the CPUC has thus far signed contracts that will likely result in no more than 10 MW of capacity from renewables. (2/3/10 TR pp. 416-419.) Wind and solar generation are not “dispatchable,” and, thus, cannot easily be relied upon to provide capacity for system reliability, a critical project objective. (Exh. 200, pp. 6-16 to 6-18.) Thus, even if one is the most “bullish” renewable enthusiast, new renewables in the load basin cannot be expected to provide reliability in the reliability area, and CECP or projects like it will be required to back up and integrate the fluctuating generation provided by renewables as their share of generated energy increases over time. (*Id.*, at p. 6-16; 2/3/10 RT pp. 399-400.)

CBD in its cross-examination referred to the hearsay testimony of Bill Powers and others that CBD had entered as exhibits. Such testimony fails to consider the San Diego reliability area needs, nor the paucity of renewables that are seeking to satisfy RPS requirements in that critical area. This situation could change in the future, but the timing for such a change is at best uncertain because the economics of the solar PV that Bill Powers refers to is still significantly more expensive than CECP generation. (Exh. 200, p. 6-17.) Even when one assumes falling prices, government subsidies, and growing PV penetration, projects like CECP remain essential. (*Id.*, at pp. 6-17 to 18.)

Staff also considered the “no project” alternative. (Exh. 200, pp. 6-18 to 6-19.) That alternative would assume the existing, old, inefficient, OTC facilities at EPS continue operating into the indefinite future, until some other power plant similar to CECP can be constructed in the San Diego reliability area. (*Ibid.*) This would likely delay the implementation of state policy to close the OTC facilities in order to reduce marine biology impacts. Continuing to rely on less-efficient facilities would also mean that there will be higher GHG emissions from the electric generating system, as well as higher fuel costs. No project would also mean that the state would continue to need the fast-start, fast ramping capability that CECP provides to integrate a higher proportion of renewable generation in the future, and the plant would likely need to be built elsewhere.

The City proposed several site alternatives for the Staff to consider. Staff looked at these alternatives and found them to be no better than, and often worse than, CECP from an overall environmental perspective. (Exh. 200, pp. 6-5 to 6-14.) Moreover, some of the alternatives have doubtful feasibility. The site alternatives are “greenfield” projects that result in impacts from converting low intensity uses to industrial ones, with potential impacts that do not result from CECP, which is located in an industrial site. In addition, because they would be new sites, the City’s site alternatives require new linear infrastructure to connect these sites to gas supplies, water supplies, and (most importantly), the electricity grid. (Exh. 200, p. 6-11.) For instance, the distances to the nearest 230 kV line from the alternative sites are 16,000+ feet (Maerkle Alternative), 14,000+ feet (Carlsbad Oaks North Alternative), and 12,000+ feet (CATO Alternative). (*ibid.*) These distances would require new transmission lines. Such linear facilities can themselves impose significant impacts, apart from the project itself. By contrast, CECP needs only a 150’ tapline to interconnect with the grid. (*ibid.*)

The three principle alternative sites analyzed by Staff are the Maerkle, Carlsbad Oaks North, and CATO alternatives. These alternative sites would involve a panoply of environmental (and LORS) objections and obstacles. All three would result in a new industrial use within 2500 feet of residential dwellings, would require zoning and general plan amendments to be compatible with LORS, have greater noise, biological, and visual impacts, and would require considerably greater new infrastructure for water and transmission connections. (Exh. 200, pp. 6-11 to 6-14.) The FSA compares them environmentally and concludes: “As shown and discussed in the analysis presented above, the alternatives do not achieve the CEQA requirement that the alternative avoid or substantially lessen environmental impacts when compared to the proposed CECP . . . Staff concludes that the proposed CECP is the environmentally superior alternative.” (*Id.*, at p. 6-12.)

VII. CECP MEETS ALL APPLICABLE STANDARDS FOR WORKER AND FIRE SAFETY

The FSA concludes that CECP would have adequate levels of industrial safety and comply with all applicable LORS for worker and fire safety with the mitigation proposed by Staff. (Exh. 200, p. 4.14-1.) The proposed mitigation (conditions of certification) includes one that requires a minimum of two workers always be present at the CECP site, even though the facility may be remotely operated. (*Ibid.*) The Energy Commission has experience with remotely operated facilities, which to this date have been peakers. (*Id.*, at p. 4.14-16.) With peakers, the control room is typically close by, whereas CECP will be on the other side of the railroad tracks from the control room, more than 1000 feet away. (*Id.*, at pp. 4.14-16 to 17.) This creates the potential for small problems to become much greater before being detected; hence the requirement (Worker Safety-8) that at least two workers be present on the CECP site most or all of the time. Applicant agreed to a requirement that workers be present in a revised condition, Worker Safety –8. (2/4/10 TR pp. 29-31.)

Staff assessed the response capability of the City of Carlsbad Fire Department (Fire Department) by reviewing Applicant's Fire Needs Assessment, the Fire Department's comments on the project, and past records showing need for response. (Exh. 200, pp. 4.14-1, 4.14-17 to 18.) Records of response needs since NRG took over the aging EPS facility in 1999 show no responses for fires, no responses for hazardous materials spills, no responses for accidents, and roughly one response for emergency medical service (for heart attacks, heat strokes, and so forth) "every 2 to 3 years." (*Id.*, at p. 4.14-18.) Such low emergency response needs are typical of gas-fired power plants in California; such facilities typically have a very infrequent number of "incidents" that require emergency response, and such responses generally "represent an insignificant impact on local fire departments." (Exh. 203, p. 24.) The City's testimony was largely in accord when describing the history of serving the EPS facility. (2/4/10 RT p. 107.)

As with the Visual Resources topic discussed above, the principle controversy regarding Fire Safety centered on the *cumulative impact that could occur with the I-5 widening*

project. As with the previous discussion, this assessment of impacts was based on the assumption that the I-5 widening project will be approved and built, that construction would occur five to ten years in the future, that Caltrans will either acquire or take by eminent domain part of the CECP boundary area near the freeway, that one of the tentative alternative routes that Caltrans has provided to the Staff will in fact be the final project, and that Caltrans will not itself provide alternatives or mitigation that would lessen the impact to the Applicant's CECP site. With this unusual number of tenuous assumptions regarding a future project that lacks even an EIR, Staff attempted to assess the City's claim that fire safety will be compromised if both CECP and the I-5 widening project are built.

The City's contention is that the CECP site, because it is below grade in a "bowl," offers constrained access for emergency responders, and that access for fire fighting and other emergencies will be perilously limited if the I-5 project cuts into and narrows the buffer on the east side of the CECP site. (Exhibit 433, [Crawford pp. 3-5] [Heiser pp. 4-5] [Weigand pp. 2-7].) The City's contentions on this matter are serious, and are more difficult to fully assess given the City's overarching goal of preventing the licensing of CECP. Staff has thus had to assess the validity of these contentions based on its familiarity with power plant operations and hazards, the fire safety LORS applicable to such industrial facilities, and comparison to other power plant facilities with similarly constrained emergency access. Using these criteria, Staff respectfully disagreed with the City, and testified that even with the cumulative impact assumptions listed above, the project will provide reasonable industrial safety for workers and emergency responders, and comply with all applicable fire safety LORS. (Exh. 200, p. 4.14-18 to 19.)

The City contended that (1) it did not get the information it needed to assess CECP; (2) the upper "rim road" is needed for emergency response to severe incidents; (3) water supply for fighting fires is inadequate; (4) the emergency access road is too narrow; and (5) response times for emergencies will be longer than described in the FSA. (Exh. 433 [Crawford, Heiser, Weigand].) These contentions are addressed below.

The first claim, regarding the level of information provided the fire department, is without merit. Staff testified that the City received the same level of information from Applicant that is typical in power plant siting cases—information that has been found acceptable by at least 50 other fire departments, and that the City’s requests for information (which included a diorama model with “to scale” miniature vehicles) were extraordinary. (Exh. 203, p. 22.) Moreover, the City is a party and could have made data requests for reasonable additional information, but did not.

The second concern regarding the upper “rim road” occurs not in the context of the project itself, but as a projected cumulative consequence of the I-5 widening, which will purportedly squeeze the buffer zone between I-5 and CECP. The City states that this will result in the loss of the “rim road,” and that such is needed for potential emergency response, as in firefighting. (Exh. 433 [Weigand p. 4].) Here the City is simply mistaken. In fact, the testimony is that the rim road will continue to exist as it does today on the north, south, and west sides, and that it will only be narrowed for a small part of its length on the east side, where the buffer could be narrowed by the widening project. (2/4/10 RT p. 48.) Thus, the rim road remains usable for emergency purposes, even though no LORS requires such access (*id.*, at p. 47) and even though it has limited utility in that the fires that may typically occur at CECP would be more effectively fought at grade level. (2/4/10 RT p. 24.) Finally, because this is the potential effect of a different and future project, it is not definite to what extent this impact will occur, or what mitigation might be proposed by Caltrans if it does occur.

The third concern regarding the availability of water was addressed by Applicant’s witnesses, who stated that the water system is “self-contained” and that it consists of “a fire water storage tank, redundant fire pumps, a looped yard main with hydrants strategically located around the site.” (2/4/10 RT pp. 17-18.) The tank will contain 240,000 gallons of water, is reliable, is backed up by a connection to the municipal water supply, and is consistent with all fire codes. (*Id.*, at p. 19; Exh. 152, p. 3.) Staff testified in accord. (Exh. 203, p. 25.)

The City's fourth contention is that the requirement for a 28-foot fire access road is not adequate, and that a 50-foot width would be appropriate. Uncontroverted, however, is testimony that the "standard design" applicable to power plants, and required by LORS, is a 20-foot access road (2/4/10 RT p. 22), and that this is the express requirement of the California Fire Code. (Exh. 203, p. 22.) The City (through its Department, in a letter from March 2009), prior to filing its rebuttal testimony, had previously indicated that it wanted the access road to be at least 24 feet in width. (2/4/10 RT p. 37.) Just prior to hearing, the City filed testimony (from the Department) stating that a 50-foot width should be required because of the constrained circumstances of the CECP site. (Exh. 433.)

Staff agrees with the City that CECP is a "constrained space," but testified that the site is no more constrained than many other power plants that have been licensed by the Energy Commission. (*Id.*, at pp. 37-38.) Some of the similarly constrained sites have fire access lanes narrower than the 28-foot width that CECP would have. (*Ibid.*) The Energy Commission has licensed many similarly constrained power plants, including Magnolia (Burbank), El Segundo (Los Angeles), Pico (Santa Clara), Malburg (Vernon), Crockett (Crockett) and Palomar (Escondido), to name but a few. Like the CECP site, many of these sites included both rail lines and power lines, and in some cases nearby freeways and residential areas. (2/4/10 RT p. 40.) From a fire safety perspective, none of these sites has shown itself to be problematic, nor have the local fire departments requested access roads that are beyond those required by the code.

The City, despite a more modest requirement in the California Fire Code, does request an unusually wide fire access road. Where the California Fire Code requires 20 feet, and the CECP design provides 28 feet, the City, beginning in January 2010, has decided that it wants 50 feet. Staff believes that there is no logical explanation to justify the requested width other than the City's opposition to the project. A comparable site situation is presented by the Palomar power plant, which is built in a "scooped out bowl", with nearly vertical walls on the east and west sides, and a very high wall on the

north end; access from the flatter south end is restricted by cooling towers. (Exh. 203, pp. 23-24.) The walls surrounding the site are both higher and steeper, and there is no rim road. (*Ibid.*) Despite the restricted access, the fire access road at Palomar is 20 feet in width. (2/4/10 RT p. 42.)

The City argued that Palomar is not really all that bad compared to CECP; it contends that there are open areas that are not part of the fire road itself, and that this makes the 20-foot access road more maneuverable. Staff disagreed, pointing out that, whenever Staff gives short notice for inspections of power plants, it finds that the fire access road is the only clear access that can be counted on, and that various equipment and vehicles get parked in places at or near the margins of the fire access road. (2/4/10 TR pp. 131-132.) In addition, Dr. Greenberg testified that parts of the fire access road at Palomar are actually *physically* constrained to a maximum of no more than 20 to 25 feet. (2/4/10 RT 132.) In other words, the Palomar site is at least as constrained as that for CECP, and it is only the width of Palomar's 20 foot access road that can be relied upon.

As evidence that its concern on the matter is real, rather than part of an anti-CECP agenda, the City testified that it had required a 42-foot-wide access for the nearby and recently approved Poseidon desalination facility. (2/4/10 RT p. 97.) But it appears that the City is confused on this matter. On cross-examination of the City witnesses, Applicant produced Exhibit 197, a Carlsbad Planning Commission resolution indicating that Poseidon was actually approved with a 25-foot access road, and that the 42-foot number pertains to turning radii. (Exh. 197.) This was later confirmed by a check of the Poseidon facility planning documents. Contrary to the City's testimony, it appears from the record that the City's "code+" fire access road proposal for CECP is unique and extraordinary, and that Poseidon merely illustrates that fact.

The City's fifth contention is that response times for emergencies will be slower than the times set forth in the FSA, for various reasons. The response times in the FSA were earlier provided by the Fire Department itself; even so, the revised times provided by

the Fire Department may be correct, and it is risky to second guess the City's estimates of such. However, the record indicates that CECP will have elaborate fire prevention design, including very limited fuel packets that can result in combustible fire, and that there will be elaborate and extensive use of automatic fire suppression devices. (2/4/10 TR pp. 14-19.) The only major combustible source at the site is the natural gas that fuels the power plant. Natural gas is not stored onsite, and conflagrations of this type are controlled by shut-off valves and allowed to burn out with whatever isolated fuel is there. (*Ibid.*) The only other combustible sources are oil in transformers and compressors, which are subject to automatic fire suppression. Applicant's witness Collins, who served on the National Fire Protection Association panel for power plant design, stated that the very purpose of the design is to avoid the need for fire department response even when there is a fire, and that any response from the fire department to the CECP site would be for "property only," as very few personnel will be on site. (*Id.*, at pp. 12-18.)

Thus, the need for fire response at CECP has a low probability, and would normally be to "mop up" any fire that had occurred. Staff's witness, Dr. Greenberg, testified that in more than 30 years there have been no major fires at Energy-Commission-licensed gas-fired power plants; the one fire that did occur was a hydraulic fluid fire in the combustion turbine building that was suppressed by the automatic fire suppression system, leaving the local fire department with only the duty of removing smoldering insulation. (2/4/10 RT pp. 133-134.) In other words, the need for a fire suppression response at a modern gas-fired power plant is a very low-probability event. Notably, as Dr. Greenberg observed, fire departments tend to evaluate worst-case possibilities rather than probabilities, but both components are necessary to sensibly evaluate risk. (*Id.*, at pp. 132-135.)

Similarly, there is very low probability of the need for "hazmat" or "chemical based" emergencies. The only hazardous material that will be stored in any quantity at the CECP site is ammonia used for the air pollution catalysts. (Exh. 200, p. 4.4-9.) The ammonia will be aqueous ammonia (liquid form), at a 19 percent concentration, which is

a far lower risk than ammonia storage in gas form. Even though the storage tanks are robust, and have been shown to survive earthquakes intact, the tanks are backed up by a secondary containment system that would greatly reduce any vapor emissions from the result of tank rupture. (*Id.*, at pp. 4.4-9 to 12.) These measures make it virtually impossible for an ammonia spill to have any offsite consequences and greatly reduce the need for a response from the fire department. In fact, Applicant has contracted with a third party for hazmat response, making it even more unlikely that the fire department would ever have to respond. (2/4/10 RT pp. 12-13.)

The City contends that the location of CECP adjacent to a major freeway is also a potential problem, inasmuch as any emergency at the site could trigger traffic jams on the freeway. Dr. Greenberg testified that this is no different from the situation with a great many power plants, as well as other major industrial facilities with far greater capacity for major fire or chemical spill events (e.g., refineries and water treatment plants) that are situated near freeways, but have not resulted in notable problems. (*Id.*, at p. 135.) The location of industrial uses near freeways is neither unusual nor a significant problem for freeway traffic.

CECP would provide high levels of industrial safety, comply with all fire safety and worker safety LORS, and would be very unlikely to pose a substantial burden on the services of the local fire department. Like the existing EPS (which has been serviced by the Department for 50 years), it is likely to result in occasional response calls for medical emergencies; historically the need for such response has occurred “every two to three years.” (Exh. 200, p. 4.14-18.) Fire department responses would be expected to be “few and far between” for minor events (2/4/10 RT 133), and like EPS would not be of “dramatic significance” to the Department. (*Id.*, at p. 107.)

VIII. CONCLUSION

CECP is a new facility that would be built in an existing power plant complex. It has relatively low environmental impacts, and such impacts can be mitigated to levels that

are less than significant. This is true even if one assumes the future construction of the I-5 widening project. In addition, CECP would be consistent with all LORS, including the City's complex web of land use controls for the site.

The local, regional, and statewide benefits the project would confer have been extensively discussed and need not be restated. These benefits are of such order that, were the Commission to disagree with Staff and find that one or more impacts are significant, or the project would not comply with one or more LORS, Staff would recommend override findings for such. However, Staff believes that such override findings are unnecessary for CECP with the imposition of Staff's recommended mitigation.

The City may wish the power plant use would go away, but the City's wishful thinking ignores the reality of needing new generation to buttress the region's electricity reliability needs. CECP would satisfy that need. Moreover, as the Committee well knows, it is very difficult to find sites for power plants that are not controversial, and the infrastructure needs (for transmission and gas lines) that accompany them often generate as much public opposition as the power plant itself. CECP would be on an industrial site already used for power generation, and the requisite infrastructure is already in place. The project should be licensed.

DATED: August 18, 2010

Respectfully submitted,


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APPLICATION FOR CERTIFICATION
FOR THE **CARLSBAD ENERGY
CENTER PROJECT**

Docket No. 07-AFC-6
PROOF OF SERVICE
(Revised 7/14/2010)

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DECLARATION OF SERVICE

I, Lynn Tien-Tran, declare that on August 18, 2010, I served and filed copies of the attached **Energy Commission Staff Opening Brief**. The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at: [<http://www.energy.ca.gov/sitingcases/carlsbad/index.html>]. The document has been sent to both the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit, in the following manner:

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I declare under penalty of perjury that the foregoing is true and correct, that I am employed in the county where this mailing occurred, and that I am over the age of 18 years and not a party to the proceeding.

Original signed by:

Lynn Tien-Tran