

State of California
Energy Resources Conservation and
Development Commission

In the Matter of:)	Docket No.
The Application for Certification of the)	07-AFC-6
Carlsbad Energy Center Project)	
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Briefing Comments from Intervener Terramar Regarding the Carlsbad Energy Center Project Issues discussed in the December 12, 2011 Carlsbad Hearing.

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Combined Briefing Topics-

A. Grid reliability issues raised by CAISO comments.

B. Electric Power Purchase Agreement projects - effect on cumulative impacts and alternatives analysis.

C. Override of significant environmental impacts and/or LORS.

Terramar supports and agrees with the California Independent System Operator (CAISO) that grid reliability is critical; it is so critical that the Warren Alquist Act § 25525 gives the California Energy Commission (CEC) the power to override a state, regional or local Law, Ordinance, Regulation or Standard (LORS) if **the facility is required for public convenience and necessity and that there are not more prudent and feasible means of achieving public convenience and necessity.**

*§ 25525. Conformance with standards, ordinances and laws; exception
The commission may not certify a facility contained in the application when it finds, pursuant to subdivision (d) of Section 25523, that the facility does not conform with any applicable state, local, or regional standards, ordinances, or laws, unless the commission determines that **the facility is required for public convenience and necessity and that there are not more prudent and feasible means of achieving public convenience and necessity.** In making the determination, the commission shall consider the entire record of the proceeding, including, but not limited to, the impacts of the facility on the environment, consumer benefits, and electric system reliability.*

Regarding the Carlsbad Energy Center Project (CECP), Terramar believes and will demonstrate that no evidence has been provided by the CEC staff, CAISO, the Applicant or any other agent that would establish **the facility is required for public convenience and necessity and that there are not more prudent and feasible means of achieving public convenience and necessity.** Therefore grid reliability is not a valid reason for an override of LORS and/or significant environmental impacts regarding the CECP.

Terramar understands that CAISO frequently provides information in CEC applications on the subject of grid reliability. CAISO has taken part in hearings, testimony and meetings for the Carlsbad Energy Center Project (CECP) regarding grid reliability issues including the replacement of Encina due to the scheduled shut down of once through-cooling, and the integration of renewables. Mr. Sparks and Mr. Di Capo from CAISO were in attendance at the December 12 Carlsbad Hearing. Additionally, Mr. Sparks submitted written testimony as part of CEC Exhibit 229 (entitled Energy Commission and CAISO Staff Rebuttal Testimony).

On page 1 of Mr. Sparks' testimony (Exhibit 229) he referred to a draft document from a preliminary study conducted by CAISO and included the draft document as part of his testimony. Exhibit 229, page 1 of Mr. Sparks written testimony states;

“The results of these studies are posted on the ISO’s Web site and also attached to this testimony:

http://www.aiso.com/Documents/Presentation%20-%2020112012%20Transmission%20Planning%20ProcessDec8_2011.pdf

The draft document consists of a 296 slide presentation. Mr. Sparks (CAISO) included 11 slides in his written testimony and the Applicant introduced two more at the Dec. 12, 2011 hearing. These slides referred to projected San Diego renewables, transmission violation issues and OTC retirement needs.

On December 28, 2011 the California Public Utilities Commission (CPUC) posted 12 pages of comments including clarifications, concerns, and discrepancies found in the CAISO preliminary draft document. This CPUC document was docketed by the City of Carlsbad on the CEC website January 9, 2012. As it was not available until after the conclusion of the December 12 hearing, Terramar wishes to include references to it in our brief. The CPUC document was posted December 28, 2011 on the CAISO website:

http://www.aiso.com/Documents/Presentation%20-%2020112012%20Transmission%20Planning%20ProcessDec8_2011.pdf

There were six major areas of clarifications, concerns and noted discrepancies regarding the CAISO preliminary report that CPUC noted on Page 2 of their response:

The areas addressed by CPUC Staff comments are as follows:

- 1. There should be a fuller description of base case transmission and its status.*
 - 2. Reliability study assumptions should be clarified regarding generator dispatch and other aspects of “high stress” conditions.*
 - 3. Assumptions underlying RPS deliverability studies and the differences from reliability/powerflow studies need to be more fully explained.*
 - 4. Assumptions regarding wind and PV generator characteristics and implications of these assumptions should be more fully explained.*
 - 5. The OTC study methodology and results should be clarified, and the “Summer 2021 Supply and Demand Outlook” should be treated as separate from OTC studies and reconciled with state agency (including LTPP) planning assumptions.*
 - 6. The ISO should clarify certain implications of the economic studies.*
- Page 2, CPUC response to the CAISO preliminary draft report

Even with these six areas of major concern, the CPUC reserved the opportunity to submit further clarifications and comments beyond the CAISO deadline.

Four pages out of the CPUC twelve page document focused on Number 5 quoted below (from the above list of six major areas).

5. *The OTC study methodology and results should be clarified, and the “Summer 2021 Supply and Demand Outlook” should be treated as separate from OTC studies and reconciled with state agency (including LTPP) planning assumptions*

Regarding the OTC plant studies portion (slides 1-16) of the December 8 presentation “Once-Through Cooling & AB 1318 Study Results”, the ISO should clarify:

- whether “OTC Gen Needs” on slides 12 and 14 refers to generation calculated to be needed at existing OTC plant locations and/or electrically equivalent generation – including a description of the area assumed to be electrically equivalent;*
- whether this includes total generation at OTC sites, including any generation that has already been repowered or replaced at those sites;*
- whether OTC need was calculated via peak and off-peak power flow studies in which existing OTC generation was assumed to still be in place, but then was progressively turned down or off and replaced by increased imports until violations occurred, or if not, what other study approach was used;*
- whether the important “bottom line” results regarding OTC plant (or electrically equivalent generation) need are represented by the MW ranges in the rows labeled “LA Basin-OTC Range (slide 12) and “Western LA OTC Range” (slide 14);*
- whether these ranges are based on the characteristics of the present generators at OTC sites rather than of new replacement generation, and how use of the latter would influence results;*
- what are the corresponding OTC need ranges for the other areas identified in slide 12 (Big Creek/Ventura, Western LA as a subset of LA Basin, and San Diego);*
- the magnitude of “OTC need” in the Ellis substation area under the sensitivity assessment , and whether this specifically requires generation at the Huntington Beach power plant site, or where else needed generation could be located;*
- how retaining OTC generation, despite retirement dates established by the State Water Resources Control board, is in compliance with the state’s OTC policy, or if OTC units were used as a proxy for new generation then how the OTC unit characteristics compare with both Combined and Simple Cycle Gas Turbines;*
- for slide 13, what amount of additional CHP was assumed under the sensitivity case versus the ISO’s base case OTC studies; and*
- how much demand response was assumed to be located in the different OTC areas studied, under the base and sensitivity OTC*

study cases.

Pages 8-9, CPUC response to the CAISO preliminary draft document as docketed by the City of Carlsbad, January 9, 2012

Beyond the above, CPUC Staff have several concerns regarding the “Preliminary Summer 2012 Supply & Demand Outlook” tables included as slides 17-20 in the OTC/AB 1318 Study Results portion of the ISO’s December 8 presentation. First, these tables and the issues they represent are separate from OTC and AB 1318 studies and issues, and this should be made clear. Second, the CAISO should clarify why the report tables are based on the Trajectory and Time Constrained cases (RPS portfolios), especially since the Transmission Planning Process (TPP) base resource case (based on the CPUC’s Cost-Constrained RPS case) and Environmentally Constrained case represent the most prominent and contrasting cases for purposes of the Casio’s overall TPP studies utilizing CPUC-provided RPS resource cases. Third, CPUC Staff have several concerns with the divergence of assumptions underlying the Supply and Demand tables (slides 17-20) from resource planning assumptions developed in state agency (CPUC and CEC) processes including the LTPP process.

Retirements

OTC units totaling 12079 MW were assumed retired in the 2010 LTPP, approximately 3000 MW more than the “potential retirements” shown in the ISO’s December 8 presentation. An additional 1300 MW of non-OTC retirements were identified in the 2010 LTPP.

Fossil Additions

Fossil additions totaling 7555 MW are identified in the 2010 LTPP, whereas slide has 6056 MW. CPUC Staff are aware that there have been some project changes, and limited double counting of a few resources, but there is a discrepancy of nearly 1500 MW between the LTPP additions and those identified in the ISO’s presentation. The CAISO should clearly identify the changes made and the justifications for the changes including MW for each facility.

Net Interchange

CPUC Staff notes that ISO-wide and NP26 historical net interchange levels shown in the ISO’s tables are substantially lower than the RA values shown in the tables, whereas for SP26 the ISO’s table values are substantially higher than the RA values. These discrepancies require further explanation.

DR & Interruptible Programs

The ISO presentation identifies 2,581 MW of demand response and interruptible programs. The 2010 LTPP planning assumptions give 5,145 MW. This reflects a 50% decrease in the values associated with demand response programs, relative to the LTPP values. Unlike some of the above-noted discrepancies that may reflect evolution of events and information since the 2010 LTPP, this derating of demand response and interruptible programs reflects a significant departure from the 2010 LTPP assumptions.

Demand Forecasts

The Demand Forecasts presented are correct in that they reflect the 2010-2020 California Energy Demand forecasts for 1-in-10 and 1-in-2 load (ISO slides 17 and 18 respectively). However, they do not include many demand side reductions included for

LTPP and other purposes, such as energy efficiency programs in the uncommitted period or incremental demand-side combined heat and power (CHP). This totals an increase in demand of 6506 MW, i.e., 819 from the CHP forecast in the 2010 LTPP and 5687 MW from energy efficiency. However, CPUC Staff does note that the forecast discrepancy appears to be only approximately 4000 MW, not the full 6500 MW.

Summary

Collectively the above differences call into question the ISO December 8 presentation's assertion on slide 21 that the entire ISO BAA is in need of additional new generation under 1-in-10 stressed conditions. The 2010 LTPP identified a CAISO-wide reserve margin that was 40% in excess of a 17% planning reserve margin in 2020. This resource capacity remains above the 17% planning reserve margin even with 4000 MW higher load under a 1-in-10 demand forecast. While CPUC Staff is aware that a 1-in-10, N-1, G-1 criterion is utilized for local area reliability, the application of a 1-in-10 combined with the 15-17% PRM, without including any incremental demand-side load reduction measures presents an overly conservative assessment of conditions in California. Pages 9-11, CPUC response to CAISO preliminary draft document, docketed on the CEC website by the City of Carlsbad on January 9, 2012

The substantial concerns and discrepancies noted in the CPUC response confirm the CAISO preliminary draft document is not yet a reliable document. CPUC found numerous issues that need resolution, including the 2021 Encina OTC retirement needs, before any clear conclusions can be drawn from the CAISO preliminary draft report. CEC staff have confirmed in oral and written testimony that the Encina plant has operated less than 10% of the time for many years. Terramar concludes that before CEC can rely on the CASIO preliminary report (including Exhibit 199U) CPUC concerns must be fully resolved and forecasts adjusted.

Dr. Jaske (CEC) offered insight when he stated that this was the first time the CAISO had ever completed any 10 year assessment:

I think it's important to understand that the LCR analysis that the ISO has undertaken now in the 2011-2012 TPP process and the particular results for the San Diego area shown here in Exhibit 199U are the first time the ISO has done an LCR assessment ten years forward for year 2021.

Dr. Jaske, Page 110 Testimony from Carlsbad Hearing December 12, 2011

Dr. Jaske continued with his observations regarding where CAISO and CEC are in their future planning progress:

We're -- we're just now at the beginning stage of really understanding what the suite of choices are to be satisfied and -- and -- and transmission options, which haven't yet been fully assessed and serviced to the public.

Dr. Jaske, Page 123-124 Testimony from Carlsbad Hearing December 12, 2011

As this is the first time CAISO has performed 10 year projections, it is not surprising that there are discrepancies and clarifications that need to be addressed. Terramar appreciates planning efforts begun by CAISO and CEC; though certainly this document must not be

relied upon to base overrides regarding whether *the facility is required for public convenience and necessity and that there are not more prudent and feasible means of achieving public convenience and necessity.*

Aside from CEC, CAISO and CPUC there is another important stakeholder involved in supporting grid reliability and that is San Diego Gas and Electric (SDG&E), our local utility. Mr. Therkelsen offered the San Diego Gas & Electric viewpoint of future system need regarding the Encina retirement:

MR. THERKELSEN: Well, basically they said they believed that the PPA projects were sufficient to allow for the retirement of the entire Encina Power Station, and to be able to meet their system needs.

Mr. Therkelsen, Page 141 Testimony from Dec. 12, Carlsbad Hearing

Mr. Therkelsen refers to 3 PPA projects (Escondido, Quail Brush and Pio Pico) in his testimony.

SDG&E assumes the retirement of Encina units 1, 2 and 3, representing a total of 320 MW by 2013, with the remaining capacity to be retired in 2017.

Page 10, SDG&E Testimony submitted to CPUC regarding the 3 PPA's, City of Carlsbad Exhibit 453

SDG&E testified to the CPUC that the 3 PPA's will satisfy the system needs and allow Encina Power Station to retire.

Mr. Sparks did address a 20 MW need in the Encina sub area with shutdown of Encina plant. Mr. Therkelsen clarified that SDG&E was aware of this issue and in their testimony to the CPUC regarding the 3 PPA's, they had a transmission plan to address this 20 MW need.

MR. THERKELSEN: Excuse me. Excuse me. This is Bob Therkelsen. One thing that I would like to add on that is the City of Carlsbad specifically sent questions in the CPUC proceeding and asked the question about that 20 megawatt deficiency and how they would respond to that. And in our exhibit, I think it's 455, responses from SDG&E, they indicated they felt that the can be corrected by \$1 million transmission system upgrade. So they had identified a transmission fix for that. That just was their response.

Mr. Therkelsen, Pages 84-85 Testimony from Dec. 12, Carlsbad Hearing

Dr. Jaske also addresses a 30 MW need for the Poseidon Desalination Plant in the Encina sub area. This was resolved by Mr. Garuba of the City of Carlsbad.

I would like to follow up on that. In the city discussions with San Diego Gas and Electric we have talked with them about if there's a long term need for local reliability sub-50 megawatts, that would be within the city's purview. We would absolutely consider putting in a peaker plant to help support that. We recognize the energy demands of the desalination plant. And so we're not unwilling to help be part of the solution, but it was in the context of a sub-50 megawatt and not a 500 megawatt plant.

Mr. Garuba testimony, Dec. 12 Hearing, page 92

Terramar notes that no data has been presented by CAISO or any other party regarding the CECP that substantiates the need for an override of LORS or CEQA to maintain grid reliability.

Terramar also notes that during the December 12 Hearing, CEC staff admitted they did not prepare a “No Project” alternatives analysis using the 3 PPA” and a “No Project” alternatives analysis using the “50 MW alternative scenario”.

As the CECP is located in the coastal zone and based on the Coastal Act a “no project” alternatives analysis is required:

The California Coastal Act (Coastal Act) also requires consideration of alternative locations. Section 30260 requires new or expanded coastal dependent industrial facilities to evaluate whether alternative locations are feasible and less environmentally damaging. (Pub. Res. Code § 30260.) Section 30264 requires consideration of the relative merit of available alternative sites for an applicant’s service area. (Pub. Res. Code § 30264.)

Page 36,INTERVENOR CITY OF CARLSBAD AND CARLSBAD
REDEVELOPMENT AGENCY’S OPENING BRIEF IN OPPOSITION TO CECP AND
ON REQUESTED BRIEFING TOPICS

In addition to CEQA’s requirements, the nature and location of the CECP require compliance with other statutory requirements. Because it proposes to locate in the coastal zone, the CECP is subject to section 30264 of the Coastal Act, which requires the Commission to determine whether the proposed site would have “greater relative merit pursuant to the provisions of Section 25516.1 than available alternative sites and related facilities for an applicant’s service area which have been determined to be acceptable pursuant to the provisions of Section 25516.” (Emphasis added.) (Pub. Res. Code § 30264.) Part of the Warren-Alquist Act (Act), section 25516.1 provides that, where a proposed site is located in the coastal zone, “no application for certification may be filed pursuant to Section 25519 unless the commission has determined, pursuant to Section 25514, that such site and related facility have greater relative merit than available alternative sites and related facilities for an applicant’s service area which have been determined to be acceptable by the commission pursuant to Section 25516.” (Emphasis added.) (Pub. Res. Code § 25516.1.)

Page 37,INTERVENOR CITY OF CARLSBAD AND CARLSBAD
REDEVELOPMENT AGENCY’S OPENING BRIEF IN OPPOSITION TO CECP AND
ON REQUESTED BRIEFING TOPICS

Mr. Jaske confirmed in his testimony that staff never considered a “No Project Alternative” using the “50 MW alternative scenario

MR ROSTOVMy -- my next question is so did the staff consider project alternatives that was for 50 megawatts?

DR. JASKE: I think it’s been established earlierby Mr. Monasmith that we didn’t do a full analysis.

Testimony from the December 12 Hearing, Page 142

Terramar and other interveners have provided CEC sufficient substantiation to conclude that:

- 1) There is no evidence to prove that CECP is necessary for public convenience and necessity to support grid reliability. Therefore, an override is not necessary.
- 2) Per SDG&E testimony to the CPUC, the 3 PPA's are sufficient to retire OTC at Encina Power Station and support the area needs.
- 3) CEC staff has not yet performed required alternatives analyses. Per the Coastal Act, they were required to perform "No Project" alternatives analyses:
 - a. Using the 3 PPA's
 - b. Using the 50 MW Encina area location solutions.
 - i. 20 MW as a transmission fix as suggested by SDG&E.
 - ii. 30 MW to support Poseidon Desalination Plant with the City's offer of solution as testified by Mr. Garuba.

Terramar would also like to state that in order for CEC to approve CECP there are LORS and CEQA violations that must be addressed:

1. The CECP is taller than the 35 foot height restriction from the Agua Hedion Land Use Plan.
2. The 50 ft. fire lane deemed necessary by the Carlsbad Fire Department and the Carlsbad Fire Chief, the Fire Code Official must be required for CECP.
3. The CECP is an air cooled power plant requesting to be located in the Coastal Zone; CECP can be placed anywhere and is in no way coastally dependent.
4. The CECP desalination unit has no waste water permit when Encina is retired (a probable future event) making this a violation of CEQA.
5. There is no "extraordinary" public benefit provided by CECP as required by Carlsbad Redevelopment Agency.
6. The CECP violates the Carlsbad General Plan
7. With the tear down of Encina, the CECP would be the tallest structure in the city of Carlsbad. CEC staff has yet to evaluate this "probable future event" as a CEQA violation.

If these LORS, Coastal Act and CEQA violations are properly addressed, then the CEC will be compelled to deny the CECP application.

D. Federal PDS Permit

Terramar provided an email from Shaheerah Kelly Air Division, US EPA, and Region 9. (Exhibit 395) According to Ms. Kelly, the EPA has received no communication from NRG regarding the CECP.

Per testimony from Mr. Rubenstein, if PSD is required by the EPA for the CECP it could take up to two years or more to complete the process. There is no guarantee that CECP will be granted PSD as each application is processed on a case by case basis. Until the Applicant communicates with the EPA, there is no way to know if PSD will be required, approved or denied.

Terramar wonders why no attempts have been made by the Applicant to begin the EPA process. It has now been six months since CECP lost its EPA determination. Terramar wonders if this is an indication that NRG is not serious about constructing CECP but instead is just interested in obtaining the license. A CEC approval could give NRG value in future negotiations with the City of Carlsbad regarding the Encina property and its future. This could make the CEC approval process a profitable negotiation tool for private enterprise.

E. Conditions Land-2 and Land-3

Increasing, intensifying and/or furthering blight is contrary to public health and safety as explained in the California Health and Safety Code sections: § 33030 (a), § 33035 (a), (b) (c), (d), (e), and § 33037(a).

The CEC is joined to safeguard public health and safety in the Warren Alquist Act sections: § 25216.3(a), § 25511, and § 25523(a).

Thus the CEC is precluded from furthering, intensifying or increasing blight to safeguard public health and safety. Encina Power Station has been declared **blight** by the South Carlsbad Coastal Redevelopment Plan (SCCRP). If CECP were approved then Encina Units 1-3 must be shut down. The shut down of Encina Units 1-3 furthers blight and intensifies a situation contrary to public health and safety. Demolition and removal of Encina is the only viable solution available to protect public health and safety. As public health and safety must remain paramount in CEC decisions, Land Use 2 and Land Use 3 (demolition and removal of Encina) must be required unless an override is made. (Please refer to Terramar's combined briefing topics A, B, and C regarding overrides.)

Since CECP is located in the SCCRPs there is a requirement of extraordinary public purpose. As of yet, Terramar has not observed the Applicant offering the community any benefit. In fact, the one benefit the community has been looking forward to enjoying, the Coastal Rail Trail, is now in limbo due to the CECP application.

Terramar is aware of the recent Supreme Court decision regarding Redevelopment Agencies. Terramar refers to City of Carlsbad's brief to explain the successor agency that was set up by the Carlsbad City Council upon adoption of Ordinance # CS-138, April 26, 2011 declaring itself to be the "successor agency" to the Redevelopment Agency and its requirements, including extraordinary public purpose.

F. City land use LORS amendments (Resolution 2011-230, Ordinance CS-158)

Resolution Number 2011-230 (General Plan Amendment 11-06 and Local Coastal Plan Amendment 11-06): Staff believes that the general plan amendment, though confusingly worded, restricts "public utilities" use to areas outside the coastal zone. This revision would make CECP inconsistent with provisions in the City's general plan

If Staff is correct regarding the inconsistency of the LORS specified above with the CECP project, the Commission will be required to make the findings specified in Public Resources Code Section 25525 if it is to license the project.
Energy Commission Staff Response to Committee Order Pages 6-7

*Based on the official determinations by both the City of Carlsbad City Council and the Carlsbad Housing and Redevelopment Commission, the CECP does not conform to all applicable land use regulations. Most recently, the Carlsbad City Council, on Sept. 27, 2011, unanimously passed Resolution 2011-230, which amended the General Plan's Public Utilities Land Use designation, and simultaneously passed Ordinance CS-158, which amended the Public Utilities Zone to further define permitted uses. This action makes it clear that power production over 50 MW is only an acceptable land use outside **the Coastal Zone**.*
Page 10, City of Carlsbad and Carlsbad Redevelopment Agency Supplemental Testimony, Exhibits, Witness List and Time Estimates

The CECP violates LORS as acknowledged by CEC staff, City of Carlsbad, POV, Terramar and Earth Justice. Terramar is asking the CEC to amend its prior preliminary decision and deny the CECP on the basis of LORS violations and CEQA violations as noted in combined Sections A-C, as there is no compelling basis for an override for any reason including grid reliability.

G. Conclusion

Terramar would like to thank the California Energy Commission Members, Hearing Officer and Staff for all of the hard work done over the many years that this process has taken. We also want to remind the Commission that Terramar has lived quietly next to an enormous power station that needed the coastal waters for over 50 years. New technology has changed that need.

We would like to compliment the Public Advisors office, especially Ms. Jennings, who has done an exemplary job. We wish Commission Boyd well in his retirement.

We would like to see the CECP denied and the coastline used for appropriate tourist-serving purposes for the citizens of Carlsbad and all those who come to visit the ocean for relaxation and revitalization. There are only a limited number of miles of coastline available for this purpose. We would like to see the Applicant and the City of Carlsbad work together to make the best decisions for the community and at the same time support the "bottom line" for the NRG shareholders.

This concludes Terramar's ten-page brief plus cover page.