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

Petition to Amend

The Carlsbad Energy Center

Docket Number 07-AFC-06C

ROBERT SARVEY'S OPENING BRIEF

TABLE OF CONTENTS

TABLE OF CONTENTS..... 2

POINTS AND AUTHORITES..... 3

INTRODUCTION 4

ALTERNATIVES..... 6

REDUCED CAPACITY ALTERNATIVE..... 6

NO PROJECT ALTERNATIVE LICENSED CECP..... 8

THE LICENSED CECP IS MORE EFFICIENT THAN THE AMENDED CECP IN ALL
OPERATING MODES..... 12

THE LICENSED CECP AIR PERMIT ALLOWS 4 STARTS A DAY AND HAS MORE
STARTS ALLOWED THAN THE AMENDED CECP..... 144

THE AMENDED CARLSBAD ENERGY CENTER WILL BE 500 MW OR LESS. 166

THE CITY OF CARLSBAD CHANGED ITS LORS TO MAKE THE LICENSED CECP
INCOMPATIBLE..... 166

THE LICENSED CECP IS THE ENVIRONMENTALLY SUPERIOR ALTERNATIVE
BECAUSE IT EMITS SUBSTANTIALLY LESS CRITERIA POLLUTANT EMISSIONS
THAN THE AMENDED CECP..... 17

THE LICENSED CECP IS THE ENVIRONMENTALLY SUPERIOR ALTERNATIVE
BECAUSE WILL EMIT SUBSTANTIALLY LESS GHG EMISSIONS THAN THE
AMENDED CECP..... 17

THE LICENSED CECP IS MUCH MORE COST EFFECTIVE THAN THE AMNEDED CECP
AN ENORMOUS PUBLIC BENEFIT. 18

THE CPUC DID NOT PROVIDE ANY PREFERENCE BETWEEN A COMBINED CYCLE
AND SIMPLE CYCLE..... 19

THERE IS CURRENTLY AMPLE FLEXIBILITY IN THE CAISO SYSTEM. 20

ENERGY EFFICIENCY 211

COASTAL DEPENDENCY 222

FINANCIAL ASSURANCES FOR POST CLOSURE SITE REMEDIATION..... 222

IT IS NECESSARY TO FIND A SIGNIFICANT VISUAL IMPACT REGARDING THE
WIDENING OF I-5 WHERE CALTRANS CAN AND SHOULD PROVIDE MITIGATION
BUT WHETHER CALTRANS WILL DO SO IS UNCERTAIN 24

OVERRIDE 25

POLICY ISSUES..... 26

CONCLUSION..... 29

TABLE OF AUTHORITES

Decision (D.) 14-03-0045,8

Energy Commission 2012 Final Decision on the licensed CECP.....4,13,17

California Code of Regulations, title 14, §15126.4[a][1].....21

Public Resources Code §30604(a).....22

Public Resources Code Section 21082.28

Public Resources Code §30101.....22

Pub. Resources Code §§ 25525.....25

Pub Resources Code Section 25523.....26

Coastal Act Section 30251.....22

CEQA Guidelines 15091(a)(2).....25

AB 32.....18

Introduction

On September 14, 2007 Carlsbad Energy proposed a fast start combined cycle project which utilized the revolutionary and ground breaking¹ R2C2 technology. The project was bitterly opposed by the City of Carlsbad and others and the proceeding lasted 5 years and cost ratepayers substantial amounts of money.² The applicant,³ the CEC Staff,⁴ and even CAISO⁵ all agreed that the new R2C2 technology was superior to the LMS-100 technology because it was more efficient, less polluting and it had the fast start up time of a peaker. The Final Commission Decision issued by the CEC in 2012 agreed and found that the licensed, “CECP is environmentally preferable to other alternatives, including the “PPA Alternatives.”

The PPA alternatives included the Pio Pico project which utilized the LMS-100 units.⁶ The 2012 decision found that the licensed CECP with its R2C2 technology was environmentally superior to the LMS-100 technology utilized by Pio Pico and the amended CECP because the LMS -100 technology is, “less efficient than CECP, and would have higher criteria pollutant emissions and GHG emissions per MW/hr than CECP.”⁷ There is no evidence in this proceeding

¹ Exhibit 253 TN # 203954 [Official Notice Document: 2010 CECP Evidentiary Hearing, Day 3](#) RT Page 120 of 502 Lines 3-11 Witness Gary Rubenstein

“What is revolutionary and ground breaking is the integration of these components and a plant control system that is able to decouple the start up and warm up time of the combustion turbine from the time required to heat the heat recovery steam generator and the steam turbine. This enables the plant to generate 150 megawatts of power, electrical output from each independent train within ten minutes of pushing the start button; something that no combined cycle plant in California can do today.”

² Exhibit 6011 and 6012 Applicant paid license fee of \$281,903.76 CEC Consultant Fees alone were \$543,175.60

³ Exhibit 253 TN # 203954 [Official Notice Document: 2010 CECP Evidentiary Hearing, Day 3](#) Page 120 of 502 Lines 18-21 Witness Gary Rubenstein “Advanced simple-cycle gas turbines, such as the LM6000 and LMS100, again, turbines that this Commission is quite familiar with, are significantly less efficient than CECP.”

⁴ Exhibit 252 TN # 203953 [Official Notice Document: 2010 CECP Evidentiary Hearing, Day 2](#) Page 93 of 409 Lines 23-25 and Page 94 of 409 Lines 1-10 STAFF Witness William Walters “in comparing this plant the other types of plants that would need essentially the roles of this plant, which is either peak or mid-merit plant, other designs could be LM6000 peaking turbines or the more efficient LM100 peaking turbines. And their efficiencies are 10,930 respectively, again quite a bit higher than 7200 BTU per kilowatt hour”

⁵ Exhibit 253 TN # 203954 [Official Notice Document: 2010 CECP Evidentiary Hearing, Day 3](#) Page 225 of 502 Lines 11-23 Witness McIntosh CAISO

11 HEARING OFFICER KRAMER: One more quick

12 follow-up.

13 In your eyes, as the system operator, is this

14 turbine machine and equipment equivalent, as far as

15 performance goes, with the older LM6000s and LS100s?

16 MR. McINTOSH: No. It's a superior machine to

17 those.

18 HEARING OFFICER KRAMER: In which ways?

19 MR. McINTOSH: Its fast-start capability, its

20 ramping capability. And I'm not sure about the heat

21 rates, but this is a very efficient unit; and all the new

22 combined cycles and the gas turbines have much better heat

23 rates than the old LM6000 machines.

⁶ Exhibit 2012 CEC [Final Commission Decision](#) Licensed CECP page 51 of 582 FOF #12

⁷ Exhibit 3002 TN # 203721 [May 31, 2012 Commission Decision approving the Carlsbad Energy Center Application for Certification](#) page 51 of 582 FOF #10⁷ Exhibit 253 TN # 203954 [Official Notice Document: 2010 CECP Evidentiary Hearing, Day 3](#) Page 120 of 502 Lines 3-11 Witness Gary Rubenstein

“What is revolutionary and ground breaking is the integration of these components and a plant control system that is able to decouple the start up and warm up time of the combustion turbine from the time required to heat the heat

outside of speculation on the licensed projects operational profile by staff and applicant which would refute the testimony of the witnesses in the 2012 proceeding or the findings of fact 10 and 12 in the alternatives section of the 2012 decision.

Sometime after the approval of the licensed CECP the San Onofre Nuclear Generation Station (SONGS) began experiencing safety problems which required the nuclear project to cease operations. The CPUC in response to the reliability issues that resulted from the closure of SONGS imitated Track 4 of the 2012 LTPP process to determine the amount of LCR needs in the San Diego and SCE service territories. The Track 4 proceeding resulted in Decision (D.) 14-03-004 which authorized San Diego Gas & Electric Company (SDG&E) to procure between 500 and 800 megawatts (MW) of new resources by 2022 to meet the local capacity reliability (LCR) needs caused by the retirement of the San Onofre Nuclear Generating Station (SONGS). The Track 4 decision required SDG&E to procure at least 200 MW, and up to 100 percent of its procurement authority from preferred resources.⁸ Instead of executing a contract with Carlsbad Energy for the licensed CECP SDG&E executed a PPTA with Carlsbad Energy for the 633 MW amended CECP to fill the LCR need in SDG&E's service territory. On March 6, 2015 the ALJ assigned to A. 14-07-009 issued a proposed decision which required the amended Carlsbad PPTA to be compared with other preferred resource and storage offers from SDG&E's 2014 RFO. In comments on the proposed decision Carlsbad Energy proposed that the size of the amended CECP be reduced to 500 MW.⁹ SDG&E the counterparty to the PPTA stated that, "*is not opposed to the reduction in size of the project from 600 MW to 500 MW, assuming the*

recovery steam generator and the steam turbine. This enables the plant to generate 150 megawatts of power, electrical output from each independent train within ten minutes of pushing the start button; something that no combined cycle plant in California can do today."

⁷ Exhibit 6011 and 6012 Applicant paid license fee of \$281,903.76 CEC Consultant Fees alone were \$543,175.60

⁷ Exhibit 253 TN # 203954 [Official Notice Document: 2010 CECP Evidentiary Hearing, Day 3](#) Page 120 of 502 Lines 18-21 Witness Gary Rubenstein "Advanced simple-cycle gas turbines, such as the LM6000 and LMS100, again, turbines that this Commission is quite familiar with, are significantly less efficient than CECP."

⁷ Exhibit 252 TN # 203953 [Official Notice Document: 2010 CECP Evidentiary Hearing, Day 2](#) Page 93 of 409 Lines 23-25 and Page 94 of 409 Lines 1-10 STAFF Witness William Walters

"in comparing this plant the other types of plants that would need essentially the roles of this plant, which is either peak or mid-merit plant, other designs could be LM6000 peaking turbines or the more efficient LM100 peaking turbines. And their efficiencies are 10,930 respectively, again quite a bit higher than 7200 BTU per kilowatt hour"

⁷ Exhibit 253 TN # 203954 [Official Notice Document: 2010 CECP Evidentiary Hearing, Day 3](#) Page 225 of 502 Lines 11-23 Witness McIntosh CAISO

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21 rates, but this is a very efficient unit; and all the new

22 combined cycles and the gas turbines have much better heat

23 rates than the old LM6000 machines.

⁷ Exhibit 2012 [Final Commission Decision](#). page 51 of 582 FOF #12

⁸ Exhibit 4007 [PROPOSED DECISION OF Administrative Law Judge YACKNIN](#) Page 5 of 38

⁹ Exhibit 6008 [Opening Comments of Carlsbad Energy Center LLC On The Proposed Decision of Administrative Law Judge Yacknin](#) Page 6 of 31

capacity rate is unchanged, which is SDG&E's understanding. With respect to the proposal for an option for a sixth unit, in the future, SDG&E would be willing to consider negotiating an amendment for the additional quantity or negotiating the terms of an option if the right to exercise the option were at SDG&E's sole discretion (subject of course to the Commission's subsequent review and approval of the terms and conditions), though SDG&E's hope is to meet the need for the additional 100 MW with preferred resources or energy storage."¹⁰ After heavy lobbying by Carlsbad Energy, the City of Carlsbad and others¹¹ CPUC President Michael Picker caved in like the energy agencies always do and issued an alternative decision which reduces the project size to 500 MW and requires the additional 100 MW from the downsizing of the amended CECP to be procured from preferred resources exclusively.¹²

Alternatives

Reduced Capacity Alternative

The reduced capacity alternative is now the project and not an alternative. Proposed decisions currently pending before the CPUC will reduce the project size of the amended CECP to 500 MW or less.¹³ The record demonstrates that there are preferred resources and energy storage that are available that can meet the LCR needs in the SDG&E service territory.¹⁴ These preferred resources which are being proposed for a portion of the SDG&E's LCR requirements provide environmental benefits and operational benefits that can reduce impacts and in some cases eliminate significant impacts from the amended CECP. SCE recently concluded its 2013 RFO which demonstrates that there is large amounts of preferred resources and storage in Southern California to meet LCR needs from the loss of San Onofre. SCE presented to the CPUC for approval signed contracts for over 500 MW of preferred resources.¹⁵ The contracts included 124 MW of energy efficiency with 102.5 MW of energy efficiency coming from the applicant in this proceeding NRG. SCE also signed contracts for 75 MW of demand response all with NRG. SCE signed contracts for 263 MW of energy storage and 44 MW of behind the meter renewable energy for over 500 MW of preferred resources and energy storage all designed to meet SCE's LCR needs due to the SONG retirement.

¹⁰ [Opening Comments of San Diego Gas & Electric Company \(U 902 E\) on the Proposed Decision Denying Without Prejudice SDG&E's](#) Exhibit 6010 Page 6 of 18

¹¹ Exhibit 6104 [Notice of Ex Parte Communication of Cities of Carlsbad, Escondido, Oceanside, San Marcos & Vista](#), 6015 [Notice of Ex Parte Communication of Poseidon Channelside](#), 6016 [Notice of Ex Parte Communication of San Diego Regional Chamber of Commerce](#), and 6017 [Notice of Ex Parte Communication of Orange County Business Council, The San Diego Regional Economic Development Corp. and](#)

¹² <http://docs.cpuc.ca.gov/SearchRes.aspx?DocFormat=ALL&DocID=150379054>

¹³ Exhibit 4007 TN # 203789 [PROPOSED DECISION OF Administrative Law Judge YACKNIN](#) And TN 204066 [Public Utilities Commission Application 14-07-009, Proposed Alternate Decision of President Picker](#)

¹⁴ Exhibit 4007 [PROPOSED DECISION OF Administrative Law Judge YACKNIN](#) Page 22 of 38 "SDG&E's RFO has produced a robust number of offers for preferred resources and energy storage which could potentially meet some, if not all, of the 300 MW to 600 MW of SDG&E's LCR need that may be procured from any source. (Ex. 20.)" see also Exhibit 6002 [Alternatives-Rebuttal Testimony of Robert Sarvey](#) Page 4 Of 14, see also Exhibit 6007 [Public Version of San Diego Gas & Electric Company:](#),

¹⁵ Exhibit 6002 [Alternatives-Rebuttal Testimony of Robert Sarvey](#) and Exhibit 6005 [Robert Sarvey's Submittal of Southern California Edison Company's \(U 338-E\) Application for Approval of the Results](#) A14-11-012 Southern California Edison Company's Application for approval of the results of its 2013 Local Capacity Requirements Request for offers for the Western Los Angeles Basin.

SDG&E's recent all source RFO produced so many preferred resource offers that the ALJ presiding over the approval of the amended CECP PPTA issued a proposed decision which stated "Furthermore, SDG&E's RFO has produced a robust number of offers for preferred resources and energy storage which could potentially meet some, if not all, of the 300 MW to 600 MW of SDG&E's LCR need that may be procured from any source."¹⁶ SDG&E's 2014 All Source RFO¹⁷ and SCE's application before the CPUC¹⁸ demonstrate that large amounts of preferred resources are currently available in the SONGS service area.¹⁹

Staff's testimony in the FSA states that, "Over time, the development of demand-side and storage technologies that can cost-effectively substitute for dispatchable generation as providers of regulation, load-following, and multi-hour ramping services may obviate the need for gas-fired generation, **but this is not expected to occur soon enough to eliminate the need for gas-fired generation to replace a share of the capacity retired at San Onofre.**"²⁰ CEC Staffs alternatives testimony in the evidentiary hearing expressed a different view in response to the evidence, "Energy storage, as Mr. Sarvey points out, is a very good resource for providing a -- resource for providing a lot of those services and, in fact, solving some of the problems that variable generation creates. I think -- and he very well may be right that it will ultimately prove to supplant the need for Carlsbad to meet that very specific procurement authorization."²¹

Utilization of preferred resources for a portion of the capacity of the amended CECP would provide reductions in GHG emissions and also comply with the states loading order. CEC Staff agrees that the reduced capacity alternative of 400 MW in conjunction with preferred resources would lead to a reduction in GHG emissions.²² The reduced capacity alternative would comply with the State's loading order which approval of the 632 MW amended Carlsbad Project would not in the presence of available preferred resources to meet SDG&E's LCR needs.

The amended CECP would create significant adverse impacts on energy resources if alternatives could reduce the project's use of fuel.²³ CEC staff did not conclude that there was a significant impact to energy resources in the FSA because the staff concluded that alternative resources were not available to meet the LCR needs in SDG&E's service territory.²⁴ The evidence demonstrates that there are significant amounts of alternative resources available through SDG&E's 2014 RFO.²⁵ The reduced capacity alternative in conjunction with preferred

¹⁶ Exhibit 4007 TN # 203789 [PROPOSED DECISION OF Administrative Law Judge YACKNIN](#) A. 14-07-009 Finding of Fact Number 7 page 35 of 37

¹⁷ Exhibit 6007 [Public Version of San Diego Gas & Electric Company:](#)

¹⁸ Exhibit 6005 TN # 203877 [Robert Sarvey's Submittal of Southern California Edison Company's \(U 338-E\) Application for Approval of the Results](#) Page 5 of 16

¹⁹ Exhibit 6002 [Alternatives-Rebuttal Testimony of Robert Sarvey](#) and Exhibit 6005 A14-11-012 Southern California Edison Company's Application for approval of the results of its 2013 Local Capacity Requirements Request for offers for the Western Los Angeles Basin. Exhibit 6007 [Public Version of San Diego Gas & Electric Company:](#),

²⁰ Exhibit 2000 [CECP Amendment, Final Staff Assessment](#) Page 167 of 1111

²¹ [Transcript of April 2, 2015 Evidentiary Hearing Page 172 Lines 8 -14](#)

²² [Transcript of April 2, 2015 Evidentiary Hearing](#) Page 113 of 283 Lines 19-22 "So basically if this were a smaller project, say, this was 400 megawatts and then the other 200 was renewables, wouldn't that be less GHGs? MR. VIDAVER: Yes"

²³ Exhibit 2000 [CECP Amendment, Final Staff Assessment](#) Page 764 of 1111

²⁴ Exhibit 2000 [CECP Amendment, Final Staff Assessment](#) Page 765 of 1111

²⁵ Exhibit 4007 [PROPOSED DECISION OF Administrative Law Judge YACKNIN](#) Page 22 of 38 "SDG&E's RFO has produced a robust number of offers for preferred resources and energy storage which could potentially meet some, if not all, of the 300 MW to 600 MW of SDG&E's LCR need that may be procured from any source.

resources would eliminate a significant impact to energy resources as natural gas consumption would be reduced significantly by the use of preferred resources for a portion of SDG&E's LCR needs from the retirement of SONGS.

The reduced capacity alternative would also, “*reduce the visual impact of the site.*”²⁶ Depending on the number of turbines eliminated the reduced capacity alternative could eliminate the cumulative impact of the amended CECP altogether.

The reduced capacity alternative reduces the States overreliance on natural gas which is abundant and cheap right now but natural gas costs are highly volatile. Renewable energy and storage that is available right now can reduce the price volatility of the electricity supply and lower harmful emission of criteria pollutants and GHG emissions.

The reduced capacity alternative is the environmentally superior alternative as it eliminates significant impacts to energy resources, reduces visual resource impacts and is compliant with the states preeminent energy law the “loading order”. The reduced capacity alternative is not only the environmentally superior alternative it is now the project as recent decisions at the CPUC on SDG&E's procurement all point to a smaller amended CECP.

No Project Alternative Licensed CECP

The CPUC in response to the reliability issues that resulted from the closure of SONGS imitated Track 4 of the 2012 LTPP process to determine the amount of LCR needs in the San Diego and SCE service territories. The Track 4 proceeding resulted in Decision (D.) 14-03-004 which authorized San Diego Gas & Electric Company to procure between 500 and 800 megawatts (MW) of new resources by 2022. SONGS was a baseload nuclear power plant that ran at an annual capacity factor of 60 – 90 % and produced no GHG emissions. Why SDG&E chose the amended CECP a peaking facility with annual operating limitation of 2,700 hours to replace a baseload power plant is a mystery to most people. As CEC Chairman Robert Weisenmiller stated at the Pio Pico adoption hearing:

8 Now, certainly, San Onofre's outage amplifies
9 this although, frankly, San Onofre doesn't cycle at all. I
10 mean it's not -- it's a different type of product and we
11 would not build peakers to replace San Onofre, you know, at
12 all. This is not -- it is total apples and oranges.²⁷

CEC staff considered the licensed CECP in the no project alternative. CEC staff eliminated the licensed CECP as the preferred alternative based on the applicants BACT analysis which concluded that, “The use of a combined-cycle turbine instead of the proposed simple-cycle turbines would be technically infeasible for the project.”²⁸ The applicant's analysis listed three reasons why the licensed CECP would be infeasible:

(Ex. 20.)” see also Exhibit 6002 [Alternatives-Rebuttal Testimony of Robert Sarvey](#) Page 4 Of 14, see also Exhibit 6007 [Public Version of San Diego Gas & Electric Company](#) ,

²⁶ [Transcript of April 2, 2015 Evidentiary Hearing](#) Page 147 Of 283 Lines 9-16

²⁷ Chairman Weisenmiller Wednesday September 12, 2012 Business Meeting Transcript of the Page 58 Of 127 Lines 8-12 www.energy.ca.gov/business_meetings/2012_transcripts/2012-09-12_transcript.pdf

²⁸ TN # 202287-3 [PT 2 Petition to Amend Carlsbad Energy Center](#) Page 263 of 397

- 1) While advanced combined-cycle turbines can start relatively quickly (within approximately 12 minutes to reach 100% rated capacity of the gas turbine generator), they may need as much as 2 hours to reach full combined cycle output (combined output of gas turbine and steam turbine generators).
- 2) While operating in simple cycle mode (while waiting for the steam system to warm up), fast-start combined cycle units will have efficiencies that are no better than, and are likely worse than, those achieved with advanced simple cycle turbines such as the LMS100.
- 3) such units cannot perform up to four starts per day – as required for this project – without substantially shortening the life of the unit. Therefore, combined-cycle turbines are eliminated because they do not meet the basic project requirements.²⁹

The applicant's conclusion that the licensed CECP is technically infeasible for the project is merely a statement by the applicant. The applicant fails to provide substantial evidence that the licensed CECP would not be feasible for this project. Public Resources Code Section 21082.2 provides that substantial evidence shall include "facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts." The statute further provides that "argument, speculation, unsubstantiated opinion or narrative, evidence which is clearly inaccurate or erroneous, or evidence of social or economic impacts which do not contribute to, or are not caused by, physical impacts on the environment, is not substantial evidence." There is substantial evidence already in the proceeding that the licensed CECP can in fact start fast, ramp fast, and is more efficient in all operating modes than the amended CECP. The applicant provides absolutely no evidence that the licensed CECP would be required to start 4 times a day. The applicant, CEC Staff, CAISO, and the 2012 final commission decision on the licensed CECP raved about efficiency and the fast starting capabilities of the licensed CECP for 5 years. The applicant's testimony is incompatible with their testimony in the licensed CEC proceeding: Gary Rubenstein the applicants witness testified,

*“CECP's efficient design is combined with the efficiency benefits comparable to a conventional combined-cycle power plant and combines that efficiency with **quick-start performance of simple-cycle plants** resulting in the ability to provide daily cycling if necessary without the need to run overnight.”*³⁰

Carlsbad Energy's alternatives witness Gary Rubenstein was adamant about the licensed CECP fast start capabilities in the 2017 proceeding, *“What is revolutionary and ground breaking is the integration of these components and a plant control system that is able to decouple the start up and warm up time of the combustion turbine from the time required to heat the heat recovery steam generator and the steam turbine. **This enables the plant to generate 150 megawatts of power, electrical output***

²⁹ TN # 202287-3 [PT 2 Petition to Amend Carlsbad Energy Center](#) Page 263 of 397

³⁰ Exhibit 253 [Official Notice Document: 2010 CECP Evidentiary Hearing, Day 3](#) Page 124 of 502 Line 24,25 and Page 125 Lines 1-5

from each independent train within ten minutes of pushing the start button.”³¹

Applicant witness Gary Rubenstein testified that the licensed CECP “*facilitates the addition of renewable resources to the California grid by providing **efficient quick-response backup generation capability***”.³²

The applicant’s alternatives testimony stated that the licensed CECP, “*Improves San Diego electrical system reliability through **fast starting generating technology, creating a rapid responding resource** for peak demand situations and providing a dependable resource to backup less reliable renewal resources like wind generation.*”³³

Applicant’s witness Gary Rubenstein testified that the licensed CECP’s, “*project design meets several criteria in the greenhouse gas framework report for California's future gas-fired generation. First, it provides intermittent generation support, meaning it provides support for intermittent renewable resources, such as wind and solar, **with fast-start and rapid-ramping capability.***”

Rubenstein further testified, “*The plant will provide grid operation support, in particular provide support for grid operations **through fast-start and rapid-ramping capability**, voltage regulation, spinning and non-spinning reserve.*”³⁴

Carlsbad Energy alternative witness Rubenstein testified that the licensed CECP “*will provide support for extreme load conditions, such as summer peaks and emergencies, again, **through its rapid-start capability***”³⁵

Carlsbad Energy also testified that, “*finally taking into account the first two factors, CECP will reduce system-wide greenhouse gas emissions and will support the goals and policies of AB 32, and it will do so through its efficient design and **quick-start capability.***”³⁶

³¹ Exhibit 253 TN # 203954 [Official Notice Document: 2010 CECP Evidentiary Hearing, Day 3](#) Page 120 of 502 Lines 3-11

³² Exhibit 253 TN # 203954 [Official Notice Document: 2010 CECP Evidentiary Hearing, Day 3](#) Page 121 of 502 Lines 17-24 Rubenstein

³³ Exhibit 214 [Licensed CECP Exhibit 214 -- Application for Certification, Alternatives Section, 9/11/2007](#)
Page 2 of 12

³⁴ Exhibit 253 [Official Notice Document: 2010 CECP Evidentiary Hearing, Day 3](#) Page 124 of 502 Lines 17-
21

³⁵ Exhibit 253 [Official Notice Document: 2010 CECP Evidentiary Hearing, Day 3](#) Page 124 of 502 Lines 22-
24

³⁶ Exhibit 253 [Official Notice Document: 2010 CECP Evidentiary Hearing, Day 3](#) Page 126 Lines 12-16

Applicant witness Theaker stated that the licensed CECP could meet ISO's projected substantial deficiency in flexible ramping capacity; He even testified that the slow ramping slow starting Sutter Energy Center could meet the flexibility needs.³⁷

The project description for the licensed CECP states, "This unprecedented balancing of two typically opposed needs, peaking power versus combined-cycle efficiency, makes CECP an invaluable and important contribution to power generation in California."³⁸

The applicants testimony that the licensed CECP doesn't start fast enough for grid reliability and renewable integration is not very credible after reviewing its previous testimony in the licensed CECP proceeding. The question is why the applicant is now stating that the licensed CECP does not start fast enough to provide renewable integration and ancillary services. The answer is very simple. Carlsbad Energy could not negotiate a contract for the licensed CECP. In the licensed CECP proceeding CAISO was asked directly by the hearing officer Mr. Kramer to compare the licensed CECP technology to the LMS-100 the technology proposed for the amended CECP.

Mr. Macintosh of CAISO stated when asked by Mr. Kramer, "*In your eyes, as the system operator is this turbine machine and equipment equivalent, as far as performance goes, with the older LM6000s and LS100s?*" MR. McINTOSH replied: "***No. It's a superior machine to those. Its fast-start capability, its ramping capability.***"³⁹

CAISO's Mr. Peters confirmed that the licensed CECP has the generating characteristics to balance the Grid in the presence of 33 % renewables "*First, consistent with the testimony presented in this proceeding last January by the ISO witness Jim McIntosh on behalf of the CEC staff, the electric generating characteristics of the proposed Carlsbad Energy Center will help the ISO balance the grid as the State of California works to meet its 33 percent renewables portfolio standard.*"⁴⁰

³⁷ 07-AFC-06 Transcript of 12-12-2011 Evidentiary hearing Page 85 of 350 Lines 14-17 Witness Theaker www.energy.ca.gov/sitingcases/carlsbad/documents/2011-12-12_Transcript.pdf

14 Yeah. The significance is that
15 the -- the ISO projects a substantial deficiency of flexible
16 ramping capability. CECP could meet it. These peakers
17 could meet it. Sutter could --

³⁸ 2007 AFC Project description page 1 of 51

www.energy.ca.gov/sitingcases/carlsbad/documents/applicant/afc/CECP_Volume%201/CECP_002_ProjDesc.pdf

³⁹ Exhibit 253 TN # 203954 [Official Notice Document: 2010 CECP Evidentiary Hearing, Day 3](#) Page 225 of 502 Lines 11-23

⁴⁰ 07-AFC-06 Committee Conference and Evidentiary Hearing Transcript 5-19-2011 Page 30 of 324 Lines 3-9 www.energy.ca.gov/sitingcases/carlsbad/documents/2011-05-19_Transcript.pdf

Mr. Peters of CAISO also stated that the grid needs facilities like the licensed CECP to maintain a balance between supply and load *“The Presiding Member's Proposed Decision correctly acknowledges that intermittent resources like wind and solar create large system ramps and dispatchable resources that can compensate for renewable intermittency will help the ISO maintain a balance between supply and load. To achieve its renewable goals, California will need electric generating facilities such as the Carlsbad Energy Center.”*⁴¹

Mr. Peters of CAISO also stated *“Finally, as the Presiding Member's Proposed Decision recognizes, the greater San Diego area requires a certain amount of local generation resources. The ISO assesses how much local generation is needed pursuant to the federal reliability standards under which we must plan our system operations. The proposed Carlsbad Energy Center would help ensure more reliable electric system in the San Diego area.”*⁴²

CEC Staff also testified in the 2007 licensing that the R2C2 technology was superior compared to the to the LMS-100 turbines proposed for the amended CECP:

Staff witness Walters agreed with CAISO that the R2C2 technology would be superior to the LMS-100 stating “in comparing this plant the other types of plants that would need essentially the roles of this plant, which is either peak or mid-merit plant, other designs could be LM6000 peaking turbines or the more efficient LM100 peaking turbines. And their efficiencies are 10,930 respectively, again quite a bit higher than 7200 BTU per kilowatt hour.”⁴³

CEC Staff witness Mr. Khoshnashrab testified that the Siemens R2C2 technology “has the speed of the traditional peaker with higher capacity and greater efficiency.”⁴⁴

Dr. Moore of the SDAPCD stated that the licensed CECP, “*Based on the number of hours of operation, it has certain features that are similar to peaking units that can start very rapidly as opposed to most baseload combined cycle turbines.*”⁴⁵

The 2012 Final Commission Decision on the licensed CECP based solely on the evidence in the record was in agreement with the testimony cited above:

⁴¹ 07-AFC-06 Committee Conference and Evidentiary Hearing Transcript 5-19-2011 Page 30 of 324 Lines 10-17 www.energy.ca.gov/sitingcases/carlsbad/documents/2011-05-19_Transcript.pdf

⁴² 07-AFC-06 Committee Conference and Evidentiary Hearing Transcript 5-19-2011 Page 31 of 324 Lines 6-13 www.energy.ca.gov/sitingcases/carlsbad/documents/2011-05-19_Transcript.pdf

⁴³ Exhibit 252 TN # 203953 [Official Notice Document: 2010 CECP Evidentiary Hearing, Day 2](#) Page 93 of 409 Lines 23-25 and Page 94 of 409 Lines 1-10 Walters

⁴⁴ Exhibit 252 [Official Notice Document: 2010 CECP Evidentiary Hearing, Day 2](#) Page 226 of 409 Lines 20-24

⁴⁵ Exhibit 252 [Official Notice Document: 2010 CECP Evidentiary Hearing, Day 2](#) Page 128 of 409

The 2012 Final Decision states the “*CECP is an intermediate or “mid-merit” facility that would provide flexible, dispatchable, and fast start power. (Ex. 222, p. 4.1-101.)*”⁴⁶

The 2012 decision also states that, “*The Siemens SCC6-5000F turbine generators employ Rapid Response Combined Cycle technology (R2C2 technology), which combines the fast start capability of simple cycle gas turbine technology and the efficiency of combined cycle technology.*”⁴⁷

Further the 2012 Decision states, “*Power-plants with the operational flexibility of and offering the ancillary services provided by the CECP are needed by California to meet its renewable energy policy goals.*”⁴⁸

The 2012 Decision also provides “*The project will benefit the state’s electrical system by providing peaking power and base load services in the most efficient manner practicable.*”⁴⁹

The 2012 decision on the licensed CECP states “*According to Applicant and Staff, the quick ramp-up and base load capability of the CECP will allow it to compete favorably, run at high capacity, and replace less efficient power plants.*”⁵⁰

Now because the applicant cannot get a contract for the licensed CECP the applicant and staff are asking the committee to contract amnesia and forget that the technology of the licensed CECP is fast starting, fast ramping, and more efficient than the LMS-100.

The licensed CECP is more efficient than the amended CECP in all operating modes.

Next both the applicant and Staff claim that, “*While operating in simple cycle mode (while waiting for the steam system to warm up), fast-start combined cycle units will have efficiencies that are no better than, and are likely worse than, those achieved with advanced simple cycle turbines such as the LMS100.*” The evidence in the record simply does not support these claims. The licensed CECP would only operate in simple cycle mode during startup. According to the 2009 CEC Staff FSA, “*The licensed CECP generating system is designed to start and ramp up to 150 MW in ten minutes and operate at an average of 37 percent efficiency during this period.*”⁵¹ The information in the Application for Certification shows that the LMS-100 from start up to 100 MW a period of ten minutes would have a heat rate of 20,598 Btu/kW-

⁴⁶ 2012 Licensed CECP Final Decision [Final Commission Decision](#). Page 143 of 582

⁴⁷ 2012 Licensed CECP Final Decision [Final Commission Decision](#). Page 98 of 582

⁴⁸ 2012 Licensed CECP Final Decision [Final Commission Decision](#). Page 148 of 582

⁴⁹ 2012 Licensed CECP Final Decision [Final Commission Decision](#). Page 98 of 582

⁵⁰ 2012 Licensed CECP Final Decision [Final Commission Decision](#). Page 97 of 582

⁵¹ [Licensed CECP Exhibit 200 -- Commission Staff Final Staff Assessment, docketed 11/12/09](#) Page 681 of 838

hr for an efficiency rating of around 17%.⁵² During start up the licensed CECP is twice as efficient as the LMS-100. At minimum load of 25 MW the LMS-100 has a heat rate of 12,334 Btu/kW-hr for an efficiency rating of 27% which is higher than the average start up heat rate for the licensed CECP.⁵³ In any comparison of startup or low load operation the record demonstrates that the efficiency of the licensed CECP is decidedly superior by a large margin.

Not only is the licensed CECP more efficient in startup and low load operations it is expected to be significantly more efficient in its annual performance. The 2007 FSA states that the licensed, “CECP would have a net heat rate as low as 7,147 Btu/kWh and an estimated annual GHG performance factor of 0.405 MTCO₂/MWh.⁵⁴ Staff’s FSA testimony for the amended CECP predicts that the net heat rate for the entire year for the amended CECP is expected to be 9,473 Btu/kWh with an annual GHG performance factor of .503 MTCO₂/MWh.⁵⁵ Actual performance of near identical units now in service in Southern California confirm Staff’s performance expectations. NRG’s Walnut Creek Energy Center utilizes 5 LMS-100 turbines in simple cycle mode an almost identical plant to the amended CECP. For 2013 the average heat rate for the Walnut Creek Energy Center was 9.6735 MM/Btu approximately 36 percent efficiency.⁵⁶ NRG also owns and operates the new El Segundo Project which utilizes the R2C2 technology (Siemens Rapid Response Combined Cycle technology) proposed for the licensed CECP. The average heat rate for the El Segundo facility for 2013 was 8.2119 MM/Btu. The El Segundo Plant achieved an average heat rate approximately 17 % better than the Walnut Creek Energy Center in actual operation.⁵⁷

The testimony from the licensed CECP also does not support any contentions that the LMS-100 turbines are as efficient as the R2C2 technology in any operating mode. In 2012 CEC Staff witness Walters testified that, “*The new plant (Licensed CECP) will be somewhere around 7200 BTUs for kilowatt hour in the hierarchy value basis. Also in comparing this plant the other types of plants that would need essentially the roles of this plant, which is peak or mid-merit plant, other designs could be LM6000 peaking turbines or the more efficient LM100 peaking turbines. And their efficiencies are 10,930 respectively, again quite a bit higher than 7200 BTU per kilowatt hour.*”⁵⁸ In the licensed CECP preceding the applicants witness Rubenstein testified that, “*Advanced simple-cycle gas turbines, such as the LM6000 and LMS100, again, turbines that this Commission is quite familiar with, are significantly less efficient than CECP.*”⁵⁹

The licensed CECP air permit allows 4 starts a day and has more starts allowed than the amended CECP.

⁵² Exhibit 1001 [PT 2 Petition to Amend Carlsbad Energy Center](#) Page 227 of 327

⁵³ Exhibit 1001 [PT 2 Petition to Amend Carlsbad Energy Center](#) Page 221 of 327

⁵⁴ Exhibit 200 [Licensed CECP Exhibit 200 -- Commission Staff Final Staff Assessment, docketed 11/12/09](#) Page 141 of 839

⁵⁵ Exhibit 2000 [CECP Amendment, Final Staff Assessment](#) Page 173 of 111

⁵⁶ Exhibit 6002 [Alternatives-Rebuttal Testimony of Robert Sarvey](#) Page 6

http://www.energymalmanac.ca.gov/electricity/web_qfer/Heat_Rates.php 2013 CEC QFER heat rates.

⁵⁷ Exhibit 6002 [Alternatives-Rebuttal Testimony of Robert Sarvey](#) Page 6

http://www.energymalmanac.ca.gov/electricity/web_qfer/Heat_Rates.php

⁵⁸ Exhibit 252 [Official Notice Document: 2010 CECP Evidentiary Hearing, Day 2](#) Page 93 of 409 Lines 23-25 and Page 94 of 409 Lines 1-10 Walters

⁵⁹ Exhibit 253 [Official Notice Document: 2010 CECP Evidentiary Hearing, Day 3](#) Page 120 of 502 Lines 18-21 Rubenstein

Finally the applicant claims that the licensed CECP cannot perform up to four starts per day – as required for this project – without substantially shortening the life of the unit. Therefore, combined-cycle turbines are eliminated because they do not meet the basic project requirements.⁶⁰ Because of its operating restrictions in its PPTA the amended Carlsbad Project [REDACTED].⁶¹ The record demonstrates that the licensed CECP’s air permit (FDOC) allows for more starts per day or annually for the licensed CECP than the amended CECP. The licensed CECP is permitted for 1,460 startup periods per year per turbine which is an average of 4 starts a day per turbine and a total of 2,920 starts per year for the project.⁶² In comparison the amended CECP has a limit of 400 starts per turbine per year for an average of 1.10 starts per day per turbine a day and a total of 2,400 starts per year for the project. The licensed CECP has more daily and annual starts provided in its air permit.

Outside of the licensed CECP having more flexibility to start in its air permit it is highly unlikely that the licensed CECP would be started four times a day. The most likely operational scenario for the licensed CECP is a 6X16 scenario. The CEC 2012 Decision and the Staff FSA both anticipate the licensed CECP to operate in a 6X16 scenario as the CECP will, “*operate in daily cycling duty (plant shutdown 8 hours). In this mode, the CECP will be able to reach full load and operate at a combined cycle efficiency of approximately 48 percent in about 45 minutes for a hot start and about 125 minutes for a cold start.*”⁶³ The 2007 Application for Certification confirms that, “*CECP will be primarily operated as an intermediate duty unit, on daily cycles especially during summer months, of higher system demands. There may be off-peak periods when the CECP will be shutdown due to lack of dispatch.*”⁶⁴ The 2007 AFC estimates that the, “*number of startup and shutdown cycles is expected to range between zero and 300 per year per CTG.*”⁶⁵ The 2009 FDOC for the licensed CECP states, “*The Applicant estimates that there will be 300 typical startups per turbine per year and 300 typical shutdowns per turbine per year.*”⁶⁶ The evidence from the 2007 licensing proceeding indicates that the licensed CECP would start less than 300 times per year.

In this proceeding the applicant and Staff witness would not offer an estimate of the number of starts for the licensed CECP. The only witness who evaluated the licensed CECP’s estimated number of starts was Dr. Moore. Dr. Moore of the SDAPCD estimated 160 starts per year for the licensed CECP based on his review of the startups for the El Segundo Project⁶⁷ which employs the R2C2 technology. Dr. Moore stated that the El Segundo Project which employs the exact same configuration as the licensed CECP performed only 160 starts last year.

⁶⁰ TN # 202287-3 [PT 2 Petition to Amend Carlsbad Energy Center](#) Page 263 of 397

⁶¹ A,14-07-009 Exhibit 1 C Confidential testimony of Daniel Berman IE Report Page 30 of 328 appendix C “Maximum number of Daily Starts. This information is confidential but can be accessed by filing a non disclosure agreement with SDG&E.

⁶² Exhibit 201 Page 106 of 119 “Condition 47. For each combustion turbine, the number of startup periods occurring in each calendar year shall not exceed 1460. [Rules 1200 and 21]”

⁶³ 2012 licensed CEC Final Decision [Final Commission Decision](#). Page 96 of 582

⁶⁴ 2007 AFC CECP Project description Section Page 33 of 51

www.energy.ca.gov/sitingcases/carlsbad/documents/applicant/afc/CECP_Volume%201/CECP_002_ProjDesc.pdf

⁶⁵ 2007 AFC CECP Project description Section Page 33 of 51

www.energy.ca.gov/sitingcases/carlsbad/documents/applicant/afc/CECP_Volume%201/CECP_002_ProjDesc.pdf

⁶⁶ Exhibit TN # 204017 [Licensed CECP Exhibit 201 -- SDAPCD's Final Determination of Compliance \(FDOC\), posted 8/4/09](#) 201 Page 11 of 119

⁶⁷ [Transcript of April 2, 2015 Evidentiary Hearing](#) Page 75 of 283 Lines 15-17

The applicant and staff provided no production simulation that would indicate that the licensed CECP would start four times a day.⁶⁸ There is a production simulation in the record by CAISO that simulates how the licensed CECP would perform in the absence of the Encina Units.⁶⁹ The production simulation is called “**A Case of Local Capacity to Replace OTC Resources**” which simulates the operation of a flexible 373 MW CCGT in SDG&E’s service territory in the absence of Encina with SONGS still in operation.⁷⁰ The simulation estimated that the flexible 373 MW CCGT would have a capacity factor of 57.1%⁷¹ and would perform an annual average of 19 starts.⁷²

Exhibit 6009 also provides a production simulation which is based on systems operations in Southern California the absence of SONGS.⁷³ The simulation for SDG&E’s service territory assumes operation of a 520 MW combined cycle plant in SDG&E’s territory and four 100 MW combustion turbines similar to the Pio Pico project.⁷⁴ The new 520 MW combined cycle has an estimated capacity factor of 62.4% but no estimates of startup are provided. At a 62.4% capacity factor the new CCGT would spend a considerable time in baseload operation which would preclude multiple starts and stops a day.

The 2009 FDOC states, “The Applicant estimates that there will be 300 typical startups per turbine per year and 300 typical shutdowns per turbine per year.⁷⁵ CEC Staffs expert Mr. Walters testified during the December 12, 2011 evidentiary hearing on the licensed CECP, “Well, again, I think I answered this question earlier. Number one, this project would – would be dispatched first, and therefore it would be -- the other projects would be dispatched with -- with -- with a different kind of frequency and probably have more short term operation, which would influence their efficiencies in -- in a more adverse way than this project.”⁷⁶

The Amended Carlsbad Energy Center will be 500 MW or less.

Staff’s alternatives testimony in the 2015 FSA testimony states, “*If the amended CECP is not approved and built, the region would not benefit from the relatively efficient source of 92 MWs of new generation that the amended CECP (632 MWs) would provide over the licensed CECP (540 MWs) alternative.*” The amended CECP is no longer going to be a 632 MW project as the CPUC is going to limit the project to 500 MW or less.⁷⁷

The City of Carlsbad changed its LORS to make the licensed CECP incompatible.

CEC staff states in its alternatives testimony states that the amended CECP, “*would include many improvements over the licensed CECP, including the elimination of all but one of*

⁶⁸ [Transcript of April 2, 2015 Evidentiary Hearing](#) Page 70 of 283 Lines 17-23

⁶⁹ Exhibit 6009 TN # 203985 [Appendix F California ISO Renewable Integration Study](#)

⁷⁰ Exhibit 6009 TN # 203985 [Appendix F California ISO Renewable Integration Study](#) Pages 9-14 of 19

⁷¹ Exhibit 6009 TN # 203985 [Appendix F California ISO Renewable Integration Study](#) Page 10 of 19

⁷² Exhibit 6009 TN # 203985 [Appendix F California ISO Renewable Integration Study](#) Page 13 of 19

⁷³ Exhibit 6009 TN # 203985 [Appendix F California ISO Renewable Integration Study](#) Pages 16-19 of 20

⁷⁴ Exhibit 6009 TN # 203985 [Appendix F California ISO Renewable Integration Study](#) Page 16 of 20

⁷⁵ Exhibit 201 TN # 204017 [Licensed CECP Exhibit 201 -- SDAPCD's Final Determination of Compliance \(FDOC\), posted 8/4/09](#) Page 11 of 119

⁷⁶ 07-AFC-06 Transcript of 12-12-2011 Evidentiary hearing Page 176 of 350 Lines 8-14 Witness Walters www.energy.ca.gov/sitingcases/carlsbad/documents/2011-12-12_Transcript.pdf

⁷⁷ Exhibit 4007 [PROPOSED DECISION OF Administrative Law Judge YACKNIN and TN 104208 Attachment - CPUC Alternate Decision in Carlsbad PPTA](#)

*the overrides in the area of Land Use.*⁷⁸ In the original proceeding the licensed CECP was compatible with the city of Carlsbad's Land Use LORS up until the City of Carlsbad modified its LORS and created some inconsistencies for the licensed CECP.⁷⁹ The 2012 Final Decision on the licensed CECP states, *"The project's inconsistencies with City of Carlsbad LORS described above, with the exception of the failure to provide "extraordinary purpose" under the Redevelopment Area Plan, result from recent amendments to the City's plans and ordinances, enacted at least in part to prevent approval of the CECP. Until those amendments were enacted, the CECP was consistent with the City's plans and ordinances."*⁸⁰

The City of Carlsbad has subsequently changed many of its Land Use LORS to eliminate the earlier inconsistencies and accommodate the amended CECP.⁸¹

The licensed CECP is the environmentally superior alternative because it emits substantially less criteria pollutant emissions than the amended CECP.

The applicant's 2007 alternatives analysis for the licensed CECP eliminated simple cycle turbines because, "Simple-cycle turbines with 10-minute start features are less fuel efficient than the proposed combine-cycle configuration and, therefore, have higher air emissions per unit of power generated."⁸² The testimony in this proceeding confirms the applicants 2007 determination that simple cycle turbines like the LMS-100 are less fuel efficient and have higher emissions than the licensed CECP. The amended CECP will emit 34% more NOx emissions per MWh than the licensed CECP.⁸³ The amended CECP also will emit 43% more VOC emissions than the licensed CECP.⁸⁴ In the 2007 proceeding CEC Staff witness Will Walters compared the emission from the licensed CECP project to three proposed peaking projects with PPA's. One of the peaking projects was the Pio Pico Project which utilized identical turbines to the amended Carlsbad proposal. Mr. Walters stated, *"Yes. I compared the emissions of the CECP project and the three PPA projects, both on a pound per megawatt-hour basis and a permitted basis and found that the PPA projects would admit more criteria pollutants per megawatt hour with the exception of carbon monoxide for all of the PPA projects, and that the permitted basis for the PPA projects had higher annual emissions than CECP. Also the greenhouse gas emissions for CECP are lower, due to the fact that it's more efficient use of natural gas than the other three projects."*⁸⁵

The licensed CECP is the environmentally superior alternative because will emit substantially less GHG emissions than the amended CECP.

⁷⁸ Exhibit 2000 [CECP Amendment, Final Staff Assessment](#) Page 214 of 1111

⁷⁹ 07-AFC-06 Transcript of 12-12-2011 Evidentiary hearing Page 78 of 350 Lines 18-20 CEC Staff Testimony *"Land use has always been a problem, but we found that there was consistency. I know the city has taken action subsequent to draw that into question."* www.energy.ca.gov/sitingcases/carlsbad/documents/2011-12-12_Transcript.pdf

⁸⁰ 2012 CEC [Final Commission Decision](#) Licensed CECP Page 4 of 582

⁸¹ Exhibit 105 [Table of City of Carlsbad Land Use Actions Related to the Amended Carlsbad Energy Center Project](#)

⁸² Exhibit 214 [Licensed CECP Exhibit 214 -- Application for Certification, Alternatives Section, 9/11/2007](#) Page 9 of 12

⁸³ Exhibit 2000 [CECP Amendment, Final Staff Assessment](#) Page 137 of 1111

⁸⁵ 07-AFC-06 RT 12-12-2011 Page 24 of 350 Lines 12-21

The licensed CECP will emit substantially less GHG emissions per MWh than the amended CECP furthering the goals and policies of AB 32. The evidence in the proceeding shows that the amended CECP is estimated to emit .503 MTCO₂/MWh.⁸⁶ The licensed CECP is estimated to emit an .405 MTCO₂/MWh which is 25% fewer GHG emission per MWh.⁸⁷ These are just estimates of what the projects will emit. There is information available on the actual average heat rates for similar units that are currently operating in Southern California. NRG's Walnut Creek Energy Center utilizes 5 LMS-100 turbines in simple cycle mode an almost identical plant to the amended CECP. For 2013 the average heat rate for the Walnut Creek Energy Center was 9.6735 MM/Btu approximately 36 percent efficiency.⁸⁸ NRG also owns and operates the new El Segundo Project which utilizes the R2C2 technology (Siemens Rapid Response Combined Cycle technology) proposed for the licensed CECP. The average heat rate for the El Segundo facility for 2013 was 8.2119 MM/Btu. The El Segundo Plant achieved an average heat rate approximately 17 % better than the Walnut Creek Energy Center in actual operation.⁸⁹ The applicants witness in the licensed CECP proceeding agreed, *"In short, I believe that CECP's ground-breaking design provides significant greenhouse gas benefits furthering the goals and policies of AB 32 to reduce greenhouse gas emissions in California."*⁹⁰ CEC Staff witness Walters also testified that the licensed CECP would have lower GHG emissions than Pio Pico or Quail Brush, *"But as I noted before, this plant is going to be operated, not so far away from its high-end efficiency, it's going to be operated in a manner in which it's -- it's still reasonably efficient. But the difference in its efficiency versus those of the other projects, in all expectation it would have a lower GHG emission rate per megawatt hour of generation."*⁹¹

The licensed CECP is much more cost effective than the amended CECP an enormous public benefit.

Exhibit 217 is the 2009 California Energy Commission, Comparative Costs of CA Central Station Electricity Generation report. The report provides estimates of the average levelized cost for both advanced simple cycle plants and advanced combined cycle gas plants. The report estimated the levelized cost of GE LMS-100 gas turbine for an in-service date of 2018 which coincides with the in service date of the amended CECP. The per MWh cost of the LMS-100 was estimated to be \$431.66 MW/h. The 2009 report estimates the per MW/h cost of an advanced combined cycle plant to be \$158.99 MW/h. In May of 2014 the CEC issued an updated report of the Estimated Cost of New Renewable and Fossil Generation in California. The more recent report estimates that an advanced simple cycle plant specifically the LMS-100 would have a levelized cost of \$460.38 MW/h and an advanced combined cycle would have a

⁸⁶ Exhibit 2000 [CECP Amendment, Final Staff Assessment](#) Exhibit 2000 Page 173 of 1111

⁸⁷ 2012 [Final Commission Decision](#) Licensed CECP Page 140 of 582

⁸⁸ Exhibit 6002 Page 6 http://www.energyalmanac.ca.gov/electricity/web_qfer/Heat_Rates.php 2013 CEC QFER heat rates.

⁸⁹ Exhibit 6002 Page 6 http://www.energyalmanac.ca.gov/electricity/web_qfer/Heat_Rates.php

⁹⁰ Exhibit 253 [Official Notice Document: 2010 CECP Evidentiary Hearing, Day 3](#) Transcript February 3 Page 129 of 502 Lines 17-20 Rubenstein

⁹¹ 07-AFC-06 Transcript of 12-12-2011 Evidentiary hearing Page 170 of 350 Lines 20-25 Page 171 lines 1,2 CEC Staff Witness Walters www.energy.ca.gov/sitingcases/carlsbad/documents/2011-12-12_Transcript.pdf

levelized cost or \$147.74 MW/h.⁹² Clearly the combined cycle licensed project will provide ratepayer benefits that far outweigh any of the socioeconomic benefits of the amended CECP.

Staff testified at the evidentiary hearing that if, “we build something like a combined cycle and then we run it at six percent capacity factor of a peaker we have basically spent a whole lot of money on a plant will never use”⁹³ That statement adequately describes the current situation for the amended CECP. The FSA estimates the capital cost of the amended CECP at 650-850 million dollars while the capital cost of the licensed CECP is estimated at 350-450 million dollars.⁹⁴ By staffs estimates the amended CECP costs almost twice as much as the amended CECP and is estimated to operate only 6% of the year. Staff estimates that the amended CECP will operate at an approximate 6% capacity factor⁹⁵ and the licensed CECP was analyzed on a capacity factor of 40%.⁹⁶ By staffs estimates the amended CECP costs almost twice as much as the amended CECP and is estimated to operate only 6% of the year. Staff is right that’s a lot of money for the amended CECP to run only 6% of the year.

The PPTA capital cost for the amended CECP is an astounding 2.6 billion dollars.⁹⁷ 2.6 billion dollars is a lot of money for a plant that will only run 6% of the time and is also available only 18 hours a day.

Staff further makes a statement that, “there really is no relationship between a plant's efficiency and its impact on system cost.”⁹⁸ This is contradicted by Staff testimony at the same hearing. When hearing officer Kramer asked, “And if it's less efficient, that means more money for the ratepayers? Staff witness Walters answered, “Well, it means higher rates, you know, higher impacts”.⁹⁹ The efficiency of the licensed CECP will lower the natural gas costs by 17% or more so staffs previous statement that there is no relationship between a plant's efficiency and its impact on system cost does not reflect reality.

The CPUC did not provide any preference between a combined cycle and simple cycle.

Staff in the evidentiary hearing stated that, “*One other thing I'd like to note is the notion that combined cycle is a plant that is needed, first of all, if that were the case, I think the CPUC would have worked towards a -- indicated that it wanted a contract or procurement of combined cycle capacity.*” Parties in A. 14-07-009 advocated for a combined cycle as the best fit for replacement of the SONGS generation.¹⁰⁰ The reasons were obvious. The amended CECP is expected to have a very low capacity factor and SONGS supplied a lot of energy with its 60-90 capacity factor. As Chairman Weisemiller stated, “*we would not build peakers to replace San Onofre, you know, at all. This is not -- it is total apples and oranges.*”¹⁰¹

⁹² Exhibit 6002 [Alternatives-Rebuttal Testimony of Robert Sarvey](#) Page 8,9 of 14
<http://www.energy.ca.gov/2014publications/CEC-200-2014-003/CEC-200-2014-003-SD.pdf> Page 145 mid case merchant plant

⁹³ [Transcript of April 2, 2015 Evidentiary Hearing](#) Page 193 of 283 Lines 6-12

⁹⁴ Exhibit 2000 [CECP Amendment, Final Staff Assessment](#) Page 513 of 1111

⁹⁵ Exhibit 2000 [CECP Amendment, Final Staff Assessment](#) Page 175 of 1111

⁹⁶ Exhibit 200 [Licensed CECP Exhibit 200 -- Commission Staff Final Staff Assessment, docketed 11/12/09](#) Page 416 of 839

⁹⁷ Exhibit 6002 [Alternatives-Rebuttal Testimony of Robert Sarvey](#) Page 8 of 14 Footnote 26

⁹⁸ Exhibit 2000 [CECP Amendment, Final Staff Assessment](#) Page 193 of 1111 Lines 11,12

⁹⁹ [Transcript of April 2, 2015 Evidentiary Hearing](#) Page 190 of 283 Lines 2-5

¹⁰⁰ [PROPOSED DECISION OF Administrative Law Judge YACKNIN](#) Exhibit 4007 page 20

¹⁰¹ Chairman Weisemiller Wednesday September 12, 2012 Business Meeting Transcript of the Page 58 Of 127 Lines 8-12 www.energy.ca.gov/business_meetings/2012_transcripts/2012-09-12_transcript.pdf

Staff estimates that the amended CECP would have a 6% capacity factor¹⁰² meaning it would be online approximately 6 % of the year. Because the amended CECP would not be online very often it would be limited in supplying some very important ancillary services. One of most important ancillary services is regulation down. Staff admitted that in order to supply downward regulation the project would need to be online.¹⁰³ The amended CECP with its 6% capacity factor would be not be online 94% of the time to provide downward regulation. Another important service is VAR support and as staff admits the amended CECP would have to be online to provide VAR support.¹⁰⁴ So 94% of the time the amended CECP would not provide this important ancillary service. The amended CECP is very limited in supplying system inertia because as staff admits the project would have to be online to provide system inertia.¹⁰⁵ The parties in A. 14-07-009 also opposed the amended CECP because it is not available between midnight and six AM to provide energy for electrical vehicle charging an important future need.

Despite the parties well founded opposition the proposed decision in A. 14-07-009 expresses no preference for combined cycle or simple cycle configurations. Both the proposed decision of ALJ Yaknin and the alternate proposed decision of President Picker state, “*While the Commission has considerable discretion over whether to approve a power purchase contract, it does not have power to approve or deny the underlying generation project.*”¹⁰⁶ That is the CEC’s job.

There is currently ample flexibility in the CAISO system.

The applicant and staff infer that the licensed CECP is not flexible enough and the amended CECP is needed because it can provide all of its output in 10 minutes. Certainly flexible generation should be sited to replace OTC units. The question becomes must we sacrifice efficiency for flexibility. As Staff testified, “*The need for flexible generation in the CA ISO balancing authority area was addressed in the CPUC’s 2012 LTPP proceeding. While the CPUC found that (1) there was no need to authorize new dispatchable, flexible capacity in the 2012 proceeding as a sufficient amount was available through 2020, it was agreed that (2) an assessment of the need for such capacity for 2021 – 2026 could be held over to the 2014 proceeding, when methodological issues related to the analysis could be discussed and resolved. The 2014 LTPP is ongoing.*”¹⁰⁷ It’s clear that the CPUC has found no flexible capacity need through 2020. The record shows that the PUC found in its current LTPP Proceeding that the largest flexible capacity need in the CAISO system was in December 2015, and that was 11,212 megawatts.¹⁰⁸ The most recent CAISO study on flexible capacity determined that the system had 32,180 megawatts of flexible capacity at the current time, so they had three times as much flexible capacity now as they need.¹⁰⁹ Applicant witness Theaker has already testified that the licensed CECP could meet this flexible capacity need. Applicant witness Theaker stated that the licensed CECP could meet ISO’s projected substantial deficiency in flexible ramping capacity.

¹⁰² Exhibit 2000 [CECP Amendment, Final Staff Assessment](#) Page 175 of 1111

¹⁰³ [Transcript of April 2, 2015 Evidentiary Hearing](#) Page 196 Lines 1-13

¹⁰⁴ [Transcript of April 2, 2015 Evidentiary Hearing](#) Page 196 Lines 14-20

¹⁰⁵ [Transcript of April 2, 2015 Evidentiary Hearing](#) Page 195 Lines 20-25

¹⁰⁶ Exhibit 4007 Page 33 of 38 [PROPOSED DECISION OF Administrative Law Judge YACKNIN](#)

¹⁰⁷ [CECP Amendment, Final Staff Assessment](#) FSA Page AQ1-32 (179 of 1111)

¹⁰⁸ [Transcript of April 2, 2015 Evidentiary Hearing](#) Page 187 of 283 Lines 19-25 and Page 188 Line 1

¹⁰⁹ [Transcript of April 2, 2015 Evidentiary Hearing](#) Page 188 of 283 Lines 3-6

He even testified that the slow ramping slow starting Sutter Energy Center could meet the flexibility needs.¹¹⁰

Energy Efficiency

“The amended CECP could create significant adverse impacts on energy resources if alternatives could reduce the project’s use of fuel.”¹¹¹ CEC Staff’s FSA analysis eliminated preferred resources as an alternative for a portion or all of the amended CECP because, “due to the limitations on the availability of these energy resources in the project area and/or their unavailability all hours of the day.” Staff’s FSA energy efficiency analysis never considered energy storage which can effectively be used to store over generation from wind or other preferred resources. CEQA guidelines state that the environmental analysis “...shall describe feasible measures which could minimize significant adverse impacts, including where relevant, inefficient and unnecessary consumption of energy” (California Code of Regulations, title 14, §15126.4[a][1]). Staff’s FSA analysis does not comply with that CEQA requirement.

The record shows that there are preferred resources and energy storage available in SDG&E’s service territory that can meet some of the LCR needs in the SDG&E’s service territory.¹¹² After reviewing the testimony and exhibits in the record CEC Staffs alternatives testimony in the evidentiary hearing expressed a different view than the FSA, “*Energy storage, as Mr. Sarvey points out, is a very good resource for providing a -- resource for providing a lot of those services and, in fact, solving some of the problems that variable generation creates. I think -- and he very well may be right that it will ultimately prove to supplant the need for Carlsbad to meet that very specific procurement authorization.*”¹¹³

As Staff’s testimony states, “The amount of new natural gas-fired capacity needed to provide reliable service to the customers of the state’s investor-owned utilities, direct access providers, and community choice aggregators, over a ten-year planning horizon is determined in the California Public Utilities Commission’s (CPUC’s) Long-term Procurement Planning (LTPP) proceeding.¹¹⁴ Because of two proposed CPUC decisions on the Carlsbad PPTA the amended CECP will be less than 632 MW and whatever that shortfall in LCR needs that is created by downsizing of the amended CECP will be made up with energy storage or preferred resources.¹¹⁵ The amended Carlsbad project would cause a significant impact to energy resources because preferred resources can and will be substituted for a portion of the amended Carlsbad Energy Center. With the availability of preferred resources to meet LCR needs the amended CECP would not comply with the state’s main policy on energy procurement the Loading Order. “The ‘Loading Order’ established that the state, in meeting its energy needs,

¹¹⁰ 07-AFC-06 Transcript of 12-12-2011 Evidentiary hearing Page 85 of 350 Lines 14-17 Witness Theaker www.energy.ca.gov/sitingcases/carlsbad/documents/2011-12-12_Transcript.pdf

¹¹¹ Exhibit 2000 [CECP Amendment, Final Staff Assessment](#) Page 764 of 1111

¹¹² Exhibit 4007 [PROPOSED DECISION OF Administrative Law Judge YACKNIN](#) Page 22 of 38 “SDG&E’s RFO has produced a robust number of offers for preferred resources and energy storage which could potentially meet some, if not all, of the 300 MW to 600 MW of SDG&E’s LCR need that may be procured from any source. (Ex. 20.)” see also Exhibit 6002 [Alternatives-Rebuttal Testimony of Robert Sarvey](#) Page 4 Of 14, see also Exhibit 6007 [Public Version of San Diego Gas & Electric Company:](#) ,

¹¹³ [Transcript of April 2, 2015 Evidentiary Hearing Page 172 Lines 8 -14](#)

¹¹⁴ Exhibit 2000 [CECP Amendment, Final Staff Assessment](#) GHG Section Page 162 of 1111

¹¹⁵ Exhibit 4007 TN # 203789 [PROPOSED DECISION OF Administrative Law Judge YACKNIN](#) see also TN 204066 [Public Utilities Commission Application 14-07-009, Proposed Alternate Decision of President Picker](#)

would invest first in energy efficiency and demand-side resources, followed by renewable resources, and only then in **clean conventional electricity supply**.

Coastal Dependency

The amended CECP is gas-fired and does not need ocean water for cooling or any other purpose. It does not need ocean water to function at all. It does not need to be adjacent to the sea to function at all. It simply does not meet the definition of a coastal dependent facility (Public Resources Code §30101). CEC Staff agrees that the amended CECP is not coastal dependent.¹¹⁶ CEC Staff considers the project a non-coastal dependent facility but since it is in compliance with chapter 3 policies of the coastal act it is permitted use.¹¹⁷ CEC Staff argues that, “*A project does not need to be “coastal dependent” to be consistent with the Coastal Act. A project only needs to be consistent with the other provisions of the Coastal Act.*”

Under the Coastal Act, development proposed to be located within the coastal zone must be found to be "in conformity with (the policies of) Chapter 3 (commencing with Section 30200)" of the Coastal Act (Public Resources Code §30604(a).) CEC Staff and the city of Carlsbad conclude that the amended CECP would not be consistent With AHLUP's 35-foot height limitation. Protection of the scenic resources of the coastal zone is a central part of local coastal programs. Section 30251 of the Coastal Act requires in part that the scenic and visual qualities of coastal areas be considered and protected as a resource of public importance. The amended CECP's nonconformance with the AHLUP's 35 foot height limitation is a violation of Section 30251 of the Coastal Act and renders the amended CECP in nonconformance of Chapter 3 of the coastal act. Staff has also identified a significant visual impact of the project due to the widening of I-5 and the potential for adequate visual mitigation not being provided. This is another violation of Section 30251 of the Coastal Act.

The project is inconsistent with the Coastal Act but the Commission can override such inconsistencies as they did with the licensed CECP.

Financial assurances for post closure site remediation.

This proceeding is a primary example of why the Commission needs to require some form of financial assurance for demolition and remediation of the amended CECP at the end of its useful life. In the original proceeding in 2007 the applicant first claimed that, “*At the time we purchased the existing station, and I think it's referenced in testimony elsewhere that the owner knew of the obligation, there is no existing obligation to demolish the -- demolish the plant or remediate the site today as it stands.*”¹¹⁸ So all a developer has to do is sell the site to a related entity or some other dummy corporation or go bankrupt and no one has an obligation to demolish and remediate the site.

According to Carlsbad Energy testimony in 2011 NRG was the owner of the Encina Project and not Carlsbad Energy so they had no control over demolition of the Encina Plant or

¹¹⁶ [Transcript of April 2, 2015 Evidentiary Hearing](#) Page 29 of 283 Lines 24,25 and Page 30 Line 1

¹¹⁷ [Transcript of April 2, 2015 Evidentiary Hearing](#) Page 30 Lines 16-23

¹¹⁸ 07-AFC-06 Evidentiary Hearing 12-12-11 Transcript Page 245 of 350 Lines 21-25 Witness Valentino www.energy.ca.gov/sitingcases/carlsbad/documents/2011-12-12_Transcript.pdf

financial obligations because they did not own it.¹¹⁹ Next Carlsbad Energy claimed they could not get a PPA if there was a 100 million dollar liability related to the demolition of the Encina Plant attached to the contract.¹²⁰ Despite that claim they did get a PPTA for the amended Carlsbad project with the agreement with the city and SDG&E that included the demolition of the Encina Power Plant.¹²¹ Then the applicant claimed that it would need partners or would need to sell the Encina Project to achieve redevelopment.¹²² In the 2007 proceeding Carlsbad Energy first claimed it had no responsibility to demolish the EPS. Then Carlsbad energy claimed they had no authority to demolish the EPS because it was owned by NRG. Finally they claimed they couldn't get a PPA if they were required to demolish the EPS. We know now that all those claims are unfounded. We know that because now Carlsbad Energy has agreed to demolish the EPS in exchange for the City of Carlsbad's support for the amended CECP. We know now that Carlsbad Energy did get a PPA and demolition of the EPS is an integral part of the agreement with SDG&E and the City of Carlsbad.

There have been some claims at the evidentiary hearing that the EPS is not a CEC approved power plant and this problem would not have arisen if this were a CEC approved plant.¹²³ There is no record to evaluate that claim because the Energy Commission has yet to have a plant they certified cease operations. But the commission has experience with siting natural gas power plants on properties that have existing power plants on them. One such example is the Morro Bay Power Plant. The Morro Bay Power Plant is an OTC plant much like the Encina Power Plant that degrades California's beautiful coastline. The Morro Bay power plant offers a prime example of why the Commission should require some sort of funding set aside or bond to guarantee the demolition of the Encina Plant. The Morro Bay power plant much like Encina has changed owners several times. The plant was built in 1955 by PG&E. Pacific Gas & Electric sold the plant to Duke Energy as part of restructuring following the California energy crisis. Then Duke sold to LS Power in 2006. And finally, LS sold the plant to Dynegy, a Houston-based power company with a portfolio of gas and coal-burning plants nationwide. Dynegy declared chapter 11 bankruptcy in 2012 and there is no plan in place to demolish the giant eyesore.

Despite the fact that no CEC certified natural gas power plant has retired the Commission has experience and has set precedent in the past requiring financial assurances for closure and demolition of renewable energy projects. The Bottle rock geothermal plant was required to provide financial assurances for closure and remediation of \$2,698,750 and also a 10 million

¹¹⁹ 07-AFC-06 Evidentiary Hearing 12-12-11 Transcript Page 246of 350 Lines 9-14 Witness Valentino www.energy.ca.gov/sitingcases/carlsbad/documents/2011-12-12_Transcript.pdf MR. VALENTINO: 9 No. The CECP has nothing to do

10 with the decision or these financial burdens that are being
11 placed on EPS. That's part -- that's the exact reason why
12 we're saying the financial burden should not be borne by
13 EPS -- by -- by CECP. It's not related to this repower
14 project.

¹²⁰ 07-AFC-06 Evidentiary Hearing 12-12-11 Transcript Page 242, 243 of 350 Witness Valentino www.energy.ca.gov/sitingcases/carlsbad/documents/2011-12-12_Transcript.pdf

¹²¹ Exhibit 4007 **PROPOSED DECISION OF Administrative Law Judge YACKNIN** Page 27 of 38

¹²² 07-AFC-06 Evidentiary Hearing 12-12-11 Transcript Page 242, 243 of 350 Witness Valentino www.energy.ca.gov/sitingcases/carlsbad/documents/2011-12-12_Transcript.pdf

¹²³ **Transcript of April 2, 2015 Evidentiary Hearing** Page 214 of 283

dollar environmental impairment insurance requirement.¹²⁴ Providing financial closure assurance is not a new or novel concept¹²⁵ and should be a requirement in all CEC siting cases considering the difficulty in demolishing and remediating existing plants which litter the California country side.¹²⁶

It was also expressed at the evidentiary hearing that, “*This is a repower situation where you've got a project proponent coming in and agreeing to tackle the demolition of an existing facility into a few facility, so there is a real policy question about whether it makes sense to tag onto that the cost of demolishing the new facility as well, which might, you know, make it even less likely that some of these old facilities get redeveloped in an area where land prices are very high, and the potential value of land uses typically can justify people coming in and making new use of a site.*”¹²⁷ If that is the case is the Commission stating that if the applicant has to tear down the old facility he owns is he now not required to demolish the new one when it reaches the end of its useful life. Just like any business in California the applicant must clean up his mess at the end of operations.

The evidence is conclusive that construction of the amended CECP will be a LORS violation of the 35 foot maximum height limitation of the Agua Hedionda Local Coastal Program Land Use Implementation Plan, adopted in 1982. Staff’s analysis also states that there will be a significant cumulative environmental effect requiring changes or alterations of the project within the responsibility or jurisdiction of another public agency (Cal Trans) which can and should provide such mitigation.¹²⁸ Cal Trans has stated they have no room on their property to complete the visual mitigation.¹²⁹ Once the amended CECP is no longer in operation it will no longer be needed for the public convenience and necessity but the inconsistency of the amended CECP with the 35 foot height limitation of the Agua Hedionda Land Use Plan and the visual impact will still remain. The findings of public convenience and necessity for override of this land use inconsistency will no longer be relevant when the project ceases operation.¹³⁰ The Commission must require a set aside of funding for demolition of the amended CECP to eliminate the land use inconsistency and significant visual and energy resource impacts at the end of the useful life of the amended CECP as the project will no longer be needed for the public convenience and necessity.

It is necessary to find a significant visual impact regarding the widening of I-5 where Caltrans can and should provide mitigation but whether Caltrans will do so is uncertain

¹²⁴ doCKETPUBLIC.ENERGY.CA.GOV/PublicDocuments/79-AFC04C/TN201441_20131216T110418_Commission_Decision_on_the_Petition_to_Amend_the_Conditions_of.pdf
Page 7 of 93

¹²⁵ [Transcript of April 2, 2015 Evidentiary Hearing](#) Page 216 of 283 Lines 16-18

“ but on the other hand, we did change some things in our practice in this area, at least for some of the renewable facilities.”

¹²⁶ See Exhibit 6001 [Direct Testimony Of Robert Sarvey On Compliance and Closure](#)

¹²⁷ [Transcript of April 2, 2015 Evidentiary Hearing](#) Page 215 of 283 Lines 16-25

¹²⁸ [CECP Amendment, Final Staff Assessment](#) Page 678 of 1111

¹²⁹ TN 203790 [Power of Vision conversation with CalTrans for I-5 Widening](#)

¹³⁰ 1. The CECP facility is required for public convenience and necessity. There are not more prudent and feasible means of achieving public convenience and necessity

2. The CECP benefits outweigh the significant direct and cumulative impacts identified above. (CEC final Decision Carlsbad Energy center page 506 of 582)

Staff has concluded that, “Because the final mitigation plan cannot be specifically defined or implemented until negotiations between Caltrans and the project owner for right-of-way acquisition are conducted, staff recommends a finding of (potential) significant cumulative environmental effect requiring changes or alterations of the project within the responsibility or jurisdiction of another public agency (CEQA Guidelines 15091(a)(2)).”¹³¹ Cal Trans has stated they have no room on their property to complete the visual mitigation.¹³²

Pursuant To CEQA mitigation measures must be specific, feasible actions that will actually improve adverse environmental conditions. Mitigation measures should be measurable to all monitoring their implementation. Mitigation measures consisting only of consultation with regulatory agencies that are not tied to a specific action plan are not be adequate.

In this case mitigation measures for significant visual impacts are speculative because they rely on another agency to provide them. It has been reported that Cal Trans has stated they have no room on their property to complete the visual mitigation.¹³³ The mitigation measures also cannot be defined at this time because the 20 foot required buffer zone may not be available.

Override

In cases where the Commission must consider whether to override instances of LORS inconsistency or significant unmitigated CEQA impacts, need is one of the factors to be considered. It informs both the LORS override question of 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” and the CEQA balancing of “specific overriding economic, legal, social, technological, or other benefits of the project” against its “significant effects on the environment.” (Pub. Resources Code §§ 25525, 21081.)

Need is not determined by the Energy Commission but is analyzed at the CPUC in its long term procurement decisions. In the 2012 LTPP (R. 12-03-014) it was determined that SDG&E has an LCR need of 500-800 MW due to the retirement of SONGS.¹³⁴ That need authorization required SDG&E to procure at least 200 MW of preferred resources and energy storage and stipulated that the entire 800 MW could be filled with preferred resources.¹³⁵

To fill that need SDG&E filed application A. 14-07-009 which requested authorization to enter into a 632 MW PPTA with Carlsbad Energy for the amended CECP. The ALJ in that proceeding denied the application without prejudice. The proposed decision stated, “Furthermore, SDG&E’s RFO has produced a robust number of offers for preferred resources and energy storage which could potentially meet some, if not all, of the 300 MW to 600 MW of SDG&E’s LCR need that may be procured from any source.”¹³⁶ The ALJ denied the application due to the fact that preferred resources and energy storage will provide an alternative to the amended Carlsbad project. CPUC President Michael Picker issued an alternative decision to the ALJ Yaknin decision which reduces the project size to 500 MW and requires the additional 100

¹³¹ [CECP Amendment, Final Staff Assessment](#) Page 668 of 1111

¹³² TN 203790 [Power of Vision conversation with CalTrans for I-5 Widening](#)

¹³³ TN 203790 [Power of Vision conversation with CalTrans for I-5 Widening](#)

¹³⁴ Exhibit 6006 [Decision Authorizing Long-Term Procurement for Local Capacity Requirements Due to Permanent Retirement of the:](#) Page 136 of 174 Finding of Fact Number 81

¹³⁵ Exhibit 6006 [Decision Authorizing Long-Term Procurement for Local Capacity Requirements Due to Permanent Retirement of the:](#) Page 137 of 174 Finding of Fact Number 87

¹³⁶ Exhibit 4007 [PROPOSED DECISION OF Administrative Law Judge YACKNIN](#) A. 14-07-009 Finding of Fact Number 7 page 35 of 37

MW from the downsizing of the amended CECP to be procured from preferred resources exclusively.¹³⁷

There clearly exists an alternative to the amended CECP that includes preferred resources to meet all or a portion of the amended CECP. The reduced capacity alternative is superior alternative which prevents the Commission from overriding the LORS and environmental impact inconsistencies of the amended CECP.

The already licensed CECP also presents an environmentally superior alternative as the record demonstrates. The licensed CECP emits less criteria pollutants and GHG emissions per MWh. The licensed CECP has the efficiency of a combined cycle project combined with the fast start and fast ramping features of a peaking plant. The licensed CECP also provides substantial consumer benefits when compared to the amended CECP. Advanced simple cycle plants specifically the LMS-100 would have a levelized cost of \$460.38 MW/h and an advanced combined cycle would have a levelized cost or \$147.74 MW/h.¹³⁸ The amended CECP has ratepayer impacts of 2.6 billion dollars over 20 years and is expected to operate at only a 6% capacity factor.

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.

Policy Issues

Following its review of the PSA, the Committee directed staff to discuss, “*demand-side management (DSM) and distributed generation (DG) alternatives, we direct that the discussion of those alternatives be expanded to include current information about the barriers to more extensive use of those resources, timing issues, and the efforts that are being made to overcome those barriers.*” At the hearing I attempted to provide an abbreviated discussion of the barriers to more extensive usage of preferred resources and storage which include demand side management and distributed generation. As I stated at the evidentiary hearing the biggest obstacle to higher penetration of preferred resources and storage was first the utilities and then the regulators. The amended CECP is a prime example of how this happens. In D. 14-03-004 SDG&E was granted authorization to procure 500-800 MW. The decision required SDG&E to procure at a minimum 200 MW of preferred resources and specified that the entire 800 MW could be preferred resources. SDG&E immediately signed a bilateral contract with Carlsbad Energy for the natural gas fired 633 MW amended CECP before it even issued an RFO to test the market.

In D. 14-07-009 the ALJ in the proceeding weighed the evidence and viewed the preferred resources and storage offers from SDG&E’s 2014 RFO. As the ALJ’s proposed decision states “*SDG&E’s RFO has produced a robust number of offers for preferred resources*

¹³⁷ <http://docs.cpuc.ca.gov/SearchRes.aspx?DocFormat=ALL&DocID=150379054>

¹³⁸ Exhibit 6002 [Alternatives-Rebuttal Testimony of Robert Sarvey](#) Page 8,9 of 14
<http://www.energy.ca.gov/2014publications/CEC-200-2014-003/CEC-200-2014-003-SD.pdf> Page 145 mid case merchant plant

and energy storage which could potentially meet some, if not all, of the 600 MW of SDG&E's LCR need that may be procured from any source."¹³⁹ It appeared for a brief moment as though preferred resources would compete for the LCR needs in SDG&E's Service territory. But as expected President Picker proposed an alternate decision which if approved would eliminate any head to head competition of preferred resources and the Carlsbad Energy Center. The proposed alternate does reduce the capacity from the Carlsbad Energy Center to 500 MW. Here at the CEC the CEC Staff continues to hold the position that preferred resources and energy storage are not available to meet LCR need in SDG&E's service territory despite the evidence in the proceeding that preferred resources and storage are available. While energy regulators from the CPUC, CEC, and CAISO continually recite the mantra of the loading order in practice they just keep promoting and licensing natural gas projects without head to head competition with preferred resources. Naturally with only so much ratepayer money to go around preferred resources continue to be crowded out by natural gas projects.

A similar situation occurred in the Pio Pico proceeding the previous natural gas fired application at the CPUC in A.11-05-023. In that proceeding parties were pushing for Pio Pico to be submitted to an RFO with preferred resources included so head to head competition would occur. The proposed decision denied the Pio Pico PPTA. Commissioner Peevey looking for support for an alternate proposed decision solicited CEC Chairman Bob Weisenmiller to write a letter requesting an alternate decision saying Pio Pico was needed right away because of the SONGS retirement and renewable integration issues. Chairman Weisenmiller agreed and contacted Kevin Barker and told him he didn't like Commissioner Ferrons decision and Peevey wanted a letter from him supporting approval of the Pio Pico PPTA. Chairman Weisenmiller email says, "DON'T MENTION THIS OUTSIDE PEEVEY'S OFFICE." The emails are presented below:

¹³⁹[PROPOSED DECISION OF Administrative Law Judge YACKNIN](#) Exhibit 4007 Page 36 of 38 Finding of Fact #7, see also Exhibit 6003 Page 1

From: Weisenmiller, Robert@Energy
Sent: Thursday, December 06,2012 3:36 PM
To: Barker, Kevin@Energy
Subject: Re: Quick factoids

I told mark I had problems with his decision in terms of pio pico. We did not have a detailed discussion. Certainly fair to tell colvin I have problems. Trying to accelerate pio pico in songs context.

Tell carol and audrey I talked to peevey about it. I will do letter. He would hold and do an alternative pd next year. (**Don't mention outside peevey office.**)

Following Chairman Weisenmillers orders Kevin Barker then sent the following email to Dick Ratliff, Mike Jaske, and Jeffery Ogata:

From: Barker, Kevin@Energy **Sent:** Thursday, December 06,2012 3:48 PM **To:** Ratliff, Dick@Energy; Jaske, Mike@Energy **Cc:** Ogata, Jeffery@Energy **Subject:** Letter of support for Pia Pico PPA

Hi Team,

Bob was asked by Peevey today to support Pio Pico's PD and Quail Brush's. Since Quail Brush is still before the Commission, Bob will not do that one. However, he wanted to write a letter of support for Pio Pico and how it is needed for SONGS outages and Renewable Integration. He wanted me to pull you guys in to help prepare the letter. I will track down the PDs and send them to you. Also, we will have to go through the strange formal process we did for the Siberia letter, hence I have cc:ed Jeff since he had the pleasure of working through that last time.

Let me know when would be a good time to get together. I'm available all afternoon today and via telephone tomorrow.

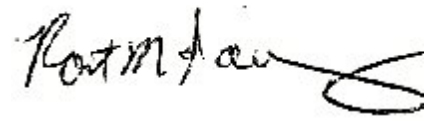
Thanks,
Kevin¹⁴⁰

¹⁴⁰ Exhibit 2000 [CECP Amendment, Final Staff Assessment](#) Page 426 of 1111

Conclusion

The record demonstrates that there are superior alternatives to the amended CECP. The reduced capacity alternative is clearly the environmentally superior alternative and with the proposed decisions at the CPUC it will be the project and not the alternative. The licensed CECP is far superior to the amended CECP as it is fast starting, fast ramping and much more efficient than the amended CECP. The commission cannot override the LORS violation and significant environmental impacts when environmentally superior alternatives exist.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Robert M. Sarvey", written over a horizontal line.

Robert M. Sarvey