

# ELLISON, SCHNEIDER & HARRIS L.L.P.

CHRISTOPHER T. ELLISON  
ANNE J. SCHNEIDER  
JEFFERY D. HARRIS  
DOUGLAS K. KERNER  
ROBERT E. DONLAN  
ANDREW B. BROWN  
MARGARET G. LEAVITT, OF COUNSEL

ATTORNEYS AT LAW  
2015 H STREET  
SACRAMENTO, CALIFORNIA 95814-3109  
TELEPHONE (916) 447-2166 FAX (916) 447-3512

TRENTON M. DIEHL  
JEDEDIAH J. GIBSON  
LYNN M. HAUG  
PETER J. KIEL  
CHRISTOPHER M. SANDERS  
JONATHAN R. SCHUTZ  
GREGGORY L. WHEATLAND

May 9, 2006

Dwight E. Sanders  
California State Lands Commission  
100 Howe Avenue, Suite 100-South  
Sacramento, CA 95825

Re: Comments of Clearwater Port, LLC on the Revised Draft Environmental Impact Report for the Cabrillo Port Liquefied Natural Gas Deepwater Port (State Clearinghouse Number: 2004021107)

Dear Mr. Sanders:

Clearwater Port, LLC ("Clearwater Port" or "Clearwater"), a wholly owned subsidiary of NorthernStar Natural Gas Inc. submits the following comments on the Revised Draft Environmental Impact Report for the Cabrillo Port Liquefied Natural Gas Deepwater Port (the "DEIR") (State Clearinghouse Number: 2004021107). As you know, the Clearwater Port project will convert existing Platform Grace to a state of the art LNG receiving and regasification facility. Clearwater welcomes this opportunity to provide these comments on the DEIR.

## **INTRODUCTION AND SUMMARY**

In order to satisfy the requirements of CEQA, the DEIR must be revised and recirculated. Specifically, because the Revised DEIR did not correct substantive defects in the initial DEIR noted in the first round of public review in December of 2004, the DEIR must be further revised to properly respond to these issues and reissued for public review and comment.

Section 15088.5 of the CEQA Guidelines clearly articulates the standard for recirculation of an EIR.<sup>1</sup> As described in the comments below, significant information has been omitted from

---

<sup>1</sup> A lead agency is required to recirculate an EIR when significant new information is added to the EIR after public notice is given of the availability of the draft EIR for public review under Section 15087 but before certification. As used in this section, the term "information" can include changes in the project or environmental setting as well as additional data or other information. New information added to an EIR is not "significant" unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative) that the project's proponents have declined to implement. "Significant new information" requiring recirculation include, for example, a disclosure showing that:

- (1) A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.
- (2) A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.
- (3) A feasible project alternative or mitigation measure considerably different from others previously analyzed

the Revised DEIR, including, but not limited to, an accurate and consistent project description, the potential cumulative impacts of two or more LNG projects and other viable alternatives to the project and the project site:

- The DEIR's "Project Description," as that term of art is defined by CEQA, is incomplete and inaccurate. Specifically, the DEIR provides an ambiguous and contradictory description of the maximum output of the project. The contradictory characterizations of the project's maximum output fatally impair the analyses of the potentially significant impacts associated with the construction, operation, and maintenance of the project. (See Section I below.)
- The DEIR fails to analyze the potential cumulative impacts of the Long Beach project and the Clearwater project on the SoCalGas pipeline system as well as the resulting impacts on the environment. (See Section II below.)
- The DEIR uses storage, or the lack thereof, to reject a wide range of otherwise feasible alternatives. Such rejection is contrary to CEQA. Storage is not a basic project objective and thus not a valid basis for rejecting alternatives, including an existing platform-based terminal alternative. (See Section III below.)
- The DEIR improperly rejects for full consideration a reasonable range of feasible alternatives to the project and the project site. (See Section IV below.)

The omission of this information from the Revised DEIR has denied the public a meaningful opportunity to comment upon potentially significant adverse environmental effects of the project and feasible project alternatives. Recirculation is also required because the draft EIR is so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment has been precluded.

**I. THE PROJECT DESCRIPTION IS INCOMPLETE AND INACCURATE BECAUSE IT FAILS TO ACCURATELY DESCRIBE THE DIRECT, INDIRECT, AND CUMULATIVE IMPACTS ASSOCIATED WITH THE CABRILLO PORT PROJECT'S MAXIMUM POTENTIAL OUTPUT.**

CEQA requires the EIR and DEIR to contain an accurate, stable and finite project description. Specifically, under CEQA, the EIR must contain the following:

A statement of objectives sought by the proposed project. A clearly written statement of objectives will help the lead agency develop a

---

would clearly lessen the environmental impacts of the project, but the project's proponents decline to adopt it.  
(4) The draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded. (*Mountain Lion Coalition v. Fish and Game Com.* (1989) 214 Cal.App.3d 1043)

reasonable range of alternatives to evaluate in the EIR and will aid the decision makers in preparing findings or a statement of overriding considerations, if necessary. The statement of objectives should include the underlying purpose of the project. (14 CCR 15124(b).)

The DEIR must also contain “A general description of the project's technical, economic, and environmental characteristics, considering the principal engineering proposals if any and supporting public service facilities.” (14 CCR 15124(c).)

California courts have recognized the need for a complete and accurate project description:

A curtailed or distorted project description may stultify the objectives of the reporting process. Only through an accurate view of the project may affected outsiders and public decision-makers balance the proposal's benefit against its environmental cost, consider mitigation measures, assess the advantage of terminating the proposal . . . and weigh other alternatives in the balance. An accurate, stable and finite project description is the *sine qua non* of an informative and legally sufficient EIR.' [Citation.]" ([Sacramento Old City Assn. v. City Council \(1991\) 229 Cal. App. 3d 1011, 1023 \[280 Cal. Rptr. 478\]](#), original italics; [Stanislaus Natural Heritage Project v. County of Stanislaus \(1996\) 48 Cal. App. 4th 182, 201 \[55 Cal. Rptr. 2d 625\]](#).)

In this case, the DEIR for the BHP project fails to satisfy these fundamental CEQA requirements for a legally-sufficient project description and environmental analysis. Specifically, as discussed below, the DEIR fails to analyze the potential environmental impacts associated with the BHP Floating Storage and Regasification Unit's ("FSRU") potential maximum project output, focusing instead mainly on "daily average" or "annual average" output.

**A. The DEIR Provides an Ambiguous and Contradictory Project Description of the Maximum Output of the Project.**

As we describe below, one of the most fundamentally important technical characteristics of any energy supply project is the projected maximum output of the project. The Draft EIR fails to describe the maximum output of the project in an accurate, stable or finite manner.

Virtually all references to the output of the BHP FSRU project are to the annual average or daily average output. The Executive Summary states that the "Project would deliver an

annual average of 800 million cubic feet (22.7 million cubic meters [m3] per day).” (ES-33) Similarly, “Deliver an annual average of 800 MMcfd” is one of only three basic project objectives as defined by BHP. (P.1-13)

There are at least a dozen other references in the DEIR to an average annual or average daily output of 800 MMcfd.<sup>2</sup> In at least one instance, the DEIR refers to “the Project objective of supplying 800 MMcfd (22.7 million m3) of natural gas” without reference to an annual or daily average. (P. 1-1 to 1-2.)

While there are three references in the DEIR to a maximum daily output, these references are contradictory. At page 2-24 the DEIR states that “the maximum regassification capacity would be 1.5 billion cubic feet per day...” However, the “future/maximum design case” or “maximum capacity” of the plant is described as “1,200 MMscfd” at pages 4.7-51 and 4.7-61. Therefore, it is impossible to determine from the DEIR whether the maximum output of the FSRU will be 800 MMcfd, 1,200 MMcfd, 1,500 MMcfd or some other number. CEQA demands specificity and clarity in the project description.

This ambiguity in the DEIR is in marked contrast to other recently reviewed LNG projects. Each of these DEIS/EISs prepared for other LNG projects clearly -- and consistently -- identify the maximum output of the proposed projects:

SES Port of Long Beach LNG Project

The three stated objectives of SES’ proposal are to:

- provide *up to 1 billion cubic feet per day* (Bscfd) of natural gas to southern California” (P.1-2; emphasis added.)<sup>3</sup>

Creole Trail

The facilities proposed by Creole Trail would import, store, and vaporize LNG and distribute, on average, approximately 3.3 billion cubic feet per day (Bcfd) of natural gas to markets in the United States, *with a total plant capacity of 3.8 Bcfd.*” (P. 1-1; emphasis added.)<sup>4</sup>

Port Arthur

Sempra states that the purpose of the [Port Arthur] Project is to:

---

<sup>2</sup> See, for example, P. ES-33; P. 1-1 to 1-2.; P. 1-13; P. 2-24; P. 2-30; PP. 2-42 to 2-43; P. 3-10; P. 3-29; and PP. 3-39 to 3-40.

<sup>3</sup> Available at <http://www.ferc.gov/industries/lng/enviro/eis/10-07-05-eis.asp>

<sup>4</sup> Available at <http://www.ferc.gov/industries/lng/enviro/eis/12-16-05-eis.asp>

- allow access to LNG supplies and thus will provide a new, stable source of between 1.5 and 3.0 Bcf/d of natural gas to supplement the diminishing supplies while utilizing, to the extent practicable, the existing natural gas pipeline infrastructure within the Gulf of Mexico region of the U.S. (Page 1.3; emphasis added.)<sup>5</sup>

#### Compass Pass

The Proposed [Compass Pass] Deepwater Port facility would vaporize and send out, via a pipeline, *up to 1.2 Bcf/d* with an annual daily average of 1.0 Bcf/d.” (P. 2-36; emphasis added.)<sup>6</sup>

#### Weaver’s Cove

Weaver’s Cove Energy’s proposed facilities would transport *up to 800 million cubic feet per day (MMcfd)* of imported LNG to the United States market.” (P. ES-1; emphasis added.)<sup>7</sup>

Thus, in contrast to other LNG project descriptions that clearly articulate a single maximum output as the relevant yardstick for analyzing potential environmental impacts, it is impossible to determine from the Draft EIR for the BHP project whether the maximum output of the FSRU will be 800 MMcfd, 1,200 MMcfd, 1,500 MMcfd or some other number. The continual reference to average daily and average annual flows only serves to mask the potential peak environmental impacts and to compound the confusion for the reviewing public.

Without an accurate and consistent description of the maximum potential output of the project, it is impossible for the public, interested parties and public agencies to identify and analyze the significant environmental effects of the proposed project, consider appropriate mitigation measures, assess the advantages of terminating the proposal, analyze the cumulative impacts and properly weigh other alternatives. ( [City of Santee v. County of San Diego, supra, 214 Cal.App.3d at p. 1454.](#) )

### **B. The Contradictory Characterizations of the Project’s Maximum Output Fatally Impair the Analyses of the Potentially Significant Impacts Associated With The Construction, Operation, And Maintenance of the Project.**

For the purposes of analyzing the potentially significant impacts of the BHP project, the DEIR assumes an output capacity of 800 MMcfd. However, if the maximum output of the

---

<sup>5</sup> Available at <http://www.ferc.gov/industries/lng/enviro/eis/08-26-05-eis.asp>

<sup>6</sup> Available at [http://dmses.dot.gov/docimages/pdf91/316381\\_web.pdf](http://dmses.dot.gov/docimages/pdf91/316381_web.pdf)

<sup>7</sup> Available at <http://www.ferc.gov/industries/lng/enviro/eis/05-20-05-eis.asp>

Project will be greater than 800 MMcfd, the environmental analysis must be revised in order to accurately analyze the environmental impacts for send out capacity in excess of 800 MMcfd and recirculated for public review and comment.

Of greater significance, the confusion and ambiguity regarding the “average” facility output and the potential maximum output results in a significant under-estimation of the project’s potential impacts, in general, and the impacts associated with the construction of improvements and enhancements to the Southern California Gas Company (“SoCalGas”) natural gas pipeline system, in particular.

As for the potential impacts on the SoCalGas system, the DEIR relies on the testimony of David Bisi of SoCalGas in CPUC rulemaking R.04-01-025, filed in 2004. Specifically, the DEIR states that there are only two onshore pipelines and some improvements at Center Road are required for the SoCalGas system to accommodate 800 MMcfd:

Two new onshore pipelines, the Center Road Pipeline in Oxnard and the Line 225 Loop Pipeline in Santa Clarita, would be constructed. These pipelines, along with associated facilities such as a metering station for the Center Road Pipeline, a backup odorant injection system, and block valves on both pipelines, would be installed where existing pipelines are not large enough to accommodate the proposed additional supply. *According to SoCalGas, the two onshore pipelines and expansion of the valve stations are the only major upgrades needed to accommodate an average daily increase of 800 MMcfd (22.7 million m<sup>3</sup> per day) (Bisi 2004).* (DEIR, p. 2-24.)

The italicized statement above is untrue, resulting in a fatally flawed DEIR.

The Bisi testimony presents a table, Table 5, listing the system improvements required for new supply at Center Road Station and downstream for the SoCalGas system to accept new supplies of natural gas at Center Road. Specifically, Table 5 presents the required SoCalGas system improvements required to deliver additional increments of natural gas ranging from 40 MMcfd to 1,500 MMcfd as follows on both a displacement basis and an expansion basis:

(Reminder of this page intentionally left blank)

Table 5: System Improvements & Costs for New Supply at Center Road Station

Facility Improvement	Cost \$MM	Delivered volume (MMCF/D)									
		40	140	200	300	400	500	600	700	800	900
[1]** New pipeline to Center Road Station	72*	○●	○●	○●	○●	○●	○●	○●	○●	○●	○●
[2] Improvements at Center Road Station	3	○●	○●	○●	○●	○●	○●	○●	○●	○●	○●
[3] Loop Line 225, Saugus to Quigley	20 - 22		●	●	●	●	●	●	●	●	●
[4] Loop Line 324	105 - 173										○●
[5] Rebuild existing PLS/crossovers	6										○●
[6] Loop Line 225, Honor to Saugus	9										●
[7] Extend Line 3008	15 - 24										●
[8] New compression at Brea (10,000 HP)	39										●
[9] New compression at Shaver (300 HP)	2										●
[10] Modify Moreno compressor station	5										●

○ Displacement basis

● Expansion basis

\* Significant increase due to reclassification of terrain, extra mileage, and anticipated permit conditions.

\*\* Numbering in brackets added.

Table 5 (continued)

Facility Improvement	Cost \$MM	Delivered volume (MMCF/D)					
		1000	1100	1200	1300	1400	1500
[1]** New pipeline to Center Road Station	72*	○●	○●	○●	○●	○●	○●
[2] Improvements at Center Road Station	3	○●	○●	○●	○●	○●	○●
[3] Loop Line 225, Saugus to Quigley	20 - 22	●	●	○●	○●	○●	○●
[4] Loop Line 324	105 - 173	○●	○●	○●	○●	○●	○●
[5] Rebuild existing PLS/crossovers	6	○●	○●	○●	○●	○●	○●
[6] Loop Line 225, Honor to Saugus	9	●	●	○●	○●	○●	○●
[7] Extend Line 3008	15 - 24	●	●	○●	○●	○●	○●
[8] New compression at Brea (10,000 HP)	39	●	●	●	●	●	●
[9] New compression at Shaver (300 HP)	2	●	●	●	●	●	●
[10] Modify Moreno compressor station	5	●	●	●	●	●	●
[11] New compression at Wheeler Ridge (1,000 HP)	4				●	●	●

○ Displacement basis

● Expansion basis

\* Significant increase due to reclassification of terrain, extra mileage, and anticipated permit conditions.

\*\* Numbering in brackets added.

First, and foremost, Mr. Bisi's Table 5 testimony describes upgrades necessary to accommodate 800 MMcfd on a daily basis, not an annual average or daily average. Mr. Bisi's testimony clearly shows the MMcf/d in the header of Table 5: deliveries on a daily basis.

Significantly, because all volumetric references in Bisi's testimony are to daily volumes, not "daily average" or "annual average" volumes, the SoCalGas system improvements identified are the system improvements required to move daily flows of 800 MMcfd. *There is no averaging in Mr. Bisi's testimony.*

Table 5 of Mr. Bisi's testimony states unambiguously that the following upgrades to the SoCalGas system are required to flow 800 MMcfd on the expansion basis: [1] a new pipeline to Center Road Station, [2] improvements at center Road, and [3] loop Line 225 from Saugus to Quigley.

For flows above 800 MMcfd, additional significant improvements must be made to the SoCalGas system. For example, referring again to Table 5 of the Bisi testimony, to accommodate flow of just 900 MMcfd on a displacement basis the testimony indicates that [1] new pipeline to Center Road Station, [2] improvements at Center Road Station, [4] loop L324 and [5] rebuild existing PLS/crossovers are required. On an expansion basis at 900 MMcfd, the Bisi testimony indicates that in addition to [1] a new pipeline to Center Road Station, [2] improvements at Center Road, and [3] loop Line 225 from Saugus to Quigley, the SoCalGas system will also require item [4] the "Loop Line 324", item [5] rebuild existing PLS/crossovers, item [6] "Loop Line 225, Honor to Saugus, item [7] Extend Line 3008, item [8] new compression at Brea, item [9] new compression at Shaver, and item [10] modify Moreno Compressor Station.

Table 5 unambiguously states that for flows above a daily flow of 800 MMcfd the looping of Line 324 is required. More particularly, the looping of Line 324 is required on either an expansion or a displacement basis, i.e., under all circumstances, for flows above 800 MMcfd.

Line 324 is the "link" between Center Road to the west and Saugus to the east. This link is missing from the DEIR. Without the Line 324 upgrades, natural gas flows above 800 MMcfd are impossible. There are potentially significant environmental impacts that must be identified and analyzed in the DEIR for Line 324 and flows above 800 MMcfd. As the DEIR describes it, "Line 324 interconnects the Center Road Station with the Saugus Station in the Santa Clarita area." (DEIR, p. 2-42.) The Line 324 Loop would be approximately thirty-four miles of new pipeline, traveling from Center Road in Ventura County to Saugus in Los Angeles County.<sup>8</sup>

---

<sup>8</sup> Line 324 is approximately 34 miles in length. However, while it may be preferable to "twin" the Line 324 line by paralleling the existing line for its entire length, a Line 324 "loop" may be longer if existing geological conditions and other siting constraints force the loop to deviate from the existing Line 324 routing.

Looping Line 324 will require substantial new pipeline additions. In fact, the Line 324 looping alone will require more miles of new pipeline than (1) the offshore pipeline for the BHP project, (2) the landfall to Center Road pipeline, and (3) Line 225 Looping as studied in the DEIR: 30.47 miles of total pipeline length as studied in the DEIR versus approximately thirty-four miles of total pipeline length omitted from study by the DEIR for the looping of Line 324.<sup>9</sup> The Bisi testimony estimates that this new Line 324 loop would cost between \$105 and \$173 million dollars.

Looping Line 324 is a particularly significant direct impact associated with the BHP project, should it desire to deliver gas in excess of 800 MMcfd per day. Given that the DEIR describes an intention for the FSRU to flow at a daily or annual “average” of 800 MMcfd, it is clear that the project would have to flow 900 MMcfd or more at some times to establish an 800 MMcfd “average.” Accordingly, the BHP project will have to install the Line 324 Loop to meet its projected annual or daily average flows. However, the DEIR is completely silent on the Line 324 Loop and the environmental impacts associated with this new thirty-four mile pipeline.

For flows above 900 MMcfd, the Bisi testimony identifies a series of additional improvements to the SoCalGas system that are required. CEQA demands that the impacts of Line 324 Loop and other SoCalGas system improvements must be analyzed to the same degree of specificity as construction of the new pipeline to Center Road, the Center Road Improvements, and the Line 225 Loop from Saugus to Quigley. The DEIR completely fails to do so.

Inexplicably, although the DEIR states that the projected improvements are drawn from the Bisi testimony, the onshore pipeline system improvements included in the DEIR are different from the pipelines recommended in the Bisi testimony. Table 5 of the Bisi testimony indicates that only the first three improvements are required for daily flows of 800 MMcfd: [1] New pipeline to Center Road Station, [2] Improvements at Center Road Station, and [3] Loop Line 225, Saugus to Quigley on the expansion basis.

In contrast to the Bisi testimony, the DEIR includes an analysis of the following: items [1] New pipeline to Center Road Station, [2] Improvements at Center Road Station, [3] Loop Line 225, Saugus to Quigley and [6] Loop Line 225, Honor to Saugus. Items [3] and [6] taken together are what the DEIR refers to as the “Line 225 Loop Pipeline.”<sup>10</sup>

---

<sup>9</sup> The pipeline studies in the DEIR are described as follows: “The total length of the pipelines from the pipeline ending manifold at the FSRU to the onshore main line valve would be approximately 22.77 miles (36.64 km).” (P. ES-5) “The Line 225 Loop Pipeline would consist of approximately 7.7 miles (12.4 km) of new 30-inch (0.76 m) diameter pipeline, generally paralleling the existing Line 225 Pipeline.” (P. ES-6.)

<sup>10</sup> The Line 225 Loop is described as follows: “The proposed Line 225 Pipeline Loop would be 30 inches (0.76 m) in diameter, designed for an MAOP of 845 psi (594,100 kg/m<sup>2</sup>), and extend approximately 7.7 miles (12.4 km) between Quigley Valve Station and the Honor Rancho Storage Facility.” (P. 2-50.) See also Figure 2.4-2.

Item 6, the Loop Line 225, Honor to Saugus, is one of the items the Bisi testimony indicates is required for flows in excess of 800 MMcfd. The DEIR does not explain why the project incorporates only one of the upgrades for volumes in excess of 800 MMcfd and excludes all of the other upgrades that would be required for delivered volumes of 900 MMcfd or more. If, as the DEIR states, it is infeasible to construct the FSRU without the Line 225 Loop from Honor to Saugus (DEIR, p. 3-40), then it is similarly infeasible to construct the FSRU without the Line 324 Loop as well.

According to Table 5 of the Bisi testimony, in order to accommodate 1,200 MMcfd or 1,500 MMcfd on a displacement basis, the BHP project would require the following additional upgrades to the SoCalGas system:

- [1] New pipeline to Center Road Station;
- [2] Improvements at Center Road Station
- [3] Loop Line 225, Saugus to Quigley;
- [4] Loop Line 324;
- [5] Rebuild existing PLS/crossovers;
- [6] Loop Line 225, Honor to Saugus; and
- [7] Extend Line 3008

According to the Bisi testimony, all seven improvements to the SoCalGas system are required for flows of 1,200 MMcfd or 1,500 MMcfd. Again, CEQA demands that the impacts of all improvements to the SoCalGas system, items [1]-[7], must be analyzed to the same degree of specificity as construction of the new pipeline to Center Road. The DEIR completely fails to do so.

The serious misreading of Mr. Bisi's testimony creates numerous inadequacies in the DEIR's environmental analysis. CEQA demands a description of the facilities that will have to be constructed.<sup>11</sup> In this case, the DEIR similarly fails to include a full description of all of the

---

<sup>11</sup> In [Santiago County Water Dist. v. County of Orange, supra, 118 Cal.App.3d 818](#), the appellate court held that an EIR on a proposed mining operation was inadequate because it failed to include "a description of the facilities that will have to be constructed to deliver water to the mining operation, or facts from which to evaluate the pros and cons of supplying the amount of water that the mine will need." (At p. 829.) The court wrote:

"The construction of additional water delivery facilities is undoubtedly one of the significant environmental effects of the project. As such, a description of the necessary construction had to be included if the EIR was to serve its informational purpose. [Citations.] Because of this omission, some important ramifications of the proposed project remained hidden from view at the time the project was being discussed and approved. This frustrates one of the core goals of CEQA. 'Only through an accurate view of the project may affected outsiders and public decision-makers balance the proposal's benefit against its environmental cost, consider mitigation measures, assess the advantage of terminating the proposal ... and weigh other alternatives in the balance. An accurate, stable and finite project description is the *sine qua non* of an informative and legally sufficient EIR.'" ([118 Cal.App.3d at pp. 829-830](#), fn. omitted.)

onshore pipeline facilities that will have to be constructed to accommodate a maximum output of 1,200 or 1,500 MMcfd. The construction of these additional pipeline facilities is undoubtedly one of the significant environmental effects of the project. As such, a description of all necessary construction has to be included in the DEIR. Because of the omission of any principled explanations for accepting some, but not all of the SoCalGas pipeline improvements required by the Bisi testimony, some important impacts of the project are hidden from view.

The DEIR relies on the Bisi testimony to define the scope of the improvements required for the SoCalGas system to accept the BHP project's output. Mr. Bisi testified that Table 5 items [1], [2], [4] and [5], on the displacement basis, and that Table 5 items [1] thru [10], on the expansion basis are necessary to accommodate more than 800 MMcfd. The BHP FSRU project will deliver more than 800 MMcfd. Therefore, FSRU project outputs above 800 MMcfd are infeasible unless all of the improvements identified in the Bisi testimony as required for flows of either 1,200 MMcfd or 1,500 MMcfd are identified in the Project Description, and analyzed in the DEIR.

Accordingly, to cure these significant flaws, CSLC, MARAD, and USCG must revise and recirculate the DEIR to include the additional onshore improvements to the SoCalGas system, as set forth in the Bisi testimony for flows above 800 MMcfd up to the project's maximum output of 1,200 MMcfd, 1,500 MMcfd or some other number.

### **C. The Contradictory Characterization Of The Project's Maximum Output Fatally Impairs The Environmental Analysis Of Air Quality Impacts Of The Project.**

#### **1. The Project's Air Quality Analyses Appear to Assume a Maximum Output of 800 MMcfd.**

For the purpose of modeling air emissions, the Project appears to assume a send out capacity of 800 MMcfd. However, as with the rest of the project description, it is not clear from the DEIR whether the assumed 800 MMcfd output is an average daily output or is the maximum output. VCAPCD rules, as applied by US EPA, require the applicant to model the maximum output of the facility.

Several of the technical Appendices of the DEIR indicate that the FSRU's air quality analysis was based on 800 MMcfd alone:

- Table FSRU 1: SCV and ICE Fuel Usage, Notes: FSRU throughput 800 mmcf/day, 365 days/yr, 292 mmmcf/yr total (Appendix G2, Air Quality – Operating Emissions, p. 1.)
-

- Table FSRU 2: Equipment Controlled Emissions Summary: “Notes: FSRU throughput 800 mmcf/day, 365 days/yr, 292 mmmcf/yr total.” (Appendix G2, Air Quality – Operating Emissions, p. 2.)
- Table FSRU 3: Equipment Uncontrolled Emissions Summary, “Notes: FSRU throughput 800 mmcf/day, 365 days/yr, 292 mmmcf/yr total.” (Appendix G2, Air Quality – Operating Emissions, p. 3.)
- Table FSRU 9: SCV Controlled Emissions Summary: FSRU throughput 800 mmcf/day, 365 days/yr, 292 mmmcf/yr total; SCV sendout rate =200 mmscf/day (guarantee).” (Appendix G2, Air Quality – Operating Emissions, p. 9.)
- Table FSRU 10: SCV Uncontrolled Emissions Summary, (Appendix G2, Air Quality – Operating Emissions, p. 10.)
- FSRU HAP Emissions, FSRU throughput 800 mmcf/day, 365 days/yr, 292 mmmcf/yr total (Appendix G2, Air Quality – Operating Emissions, p. 39.)

It is undisputed that the project’s emissions would be higher during those times when the maximum sendout would be 1,200 MMcfd or 1,500 MMcfd. The emissions from power generation, the SCV’s, and all other emissions sources will be greater by design during maximum output. Limiting flows to 800 MMcfd as appears in the project’s technical appendices tends to hide the peak emissions associated with peak output.

It is not clear from the DEIR whether the air quality analysis looked at the potential peak emissions during those times when the project would supposedly have a peak output of either 1,200 MMcfd or 1,500 MMcfd. In particular, it is unclear whether the air quality analysis included consideration of the following emissions for the 1,200 MMcfd and the 1,500 MMcfd cases: maximum instantaneous emission; maximum hourly emissions; maximum three hour rolling average emissions; 8 hour rolling average emissions; daily or 24 hour emissions; maximum quarterly emission; and maximum annual emissions.

To cure this significant flaw, CSLC, MARAD, and USCG must revise and recirculate the DEIR to include an air quality analysis reflecting the project’s maximum potential output of either 1,200 MMcfd or 1,500 MMcfd.

## **2. The Description of the Operation of the Project’s SCVs Is Inconsistent.**

The DEIR is inconsistent in its description of the operating conditions for the project’s eight submerged combustion vaporizers. On the one hand, the text in Section 4.6 states, “No more than three 8,250-kW generators or [sic] *five* submerged combustion vaporizers would be operated simultaneously.” (P. 4.6-14; emphasis added.) On the other hand, the text of

Appendix G2, “Air Quality Operating Emissions,” states that the controlled emissions are based on “*Four* SCVs operating at 100% capacity factor for 8,760 hrs/yr, low-NOx burners.” (Appendix G2, Table FSRU 2, P. 2.) The DEIR should provide an explanation as to why up to five SCVs may be operating at any one time (presumably at 80% load), but the Appendix G2 analysis relies on 4 SCVs at 100% load.

Of greater significance, calculating potential emissions based on 100% load may significantly understate the maximum potential to emit. It is a well-settled principle for most combustion sources that lower load levels will result in higher emissions. If BHP proposes to operate five SCVs at 80% load as a base case, experience with other combustion sources suggests that the emissions for five SCVs at 80% load could be greater than the emission for four SCVs at 100% load. Accordingly, the DEIR must be revised in one of the following two ways. First, if SCVs are an exception to the general rule that lower loads result in higher emission, the DEIR should be revised to explain why the SCVs deviate from this general rule. Second, and in the alternative, if SCVs are subject to the general rule that lower loads result in higher emission, then the air quality analysis must be revised to analyze the potential impacts associated with 5 SCVs operating at 80% load.

Further, the DEIR does not explain why BHP would limit operations to five SCVs on stream at any one time, yet install eight SCVs total. Planning for some system redundancy is both prudent and permissible. However, in almost all applications, the engineering logic applied for system redundancy is “N+1” where N is the number of SCVs needed and the “+1” represents one installed spare. In the case of the FSRU, the N+1 numbers are either (a) five SCVs, if the N+1 analysis is based on Appendix G2 assumption of four SCVs operating at 100%, or (b) six SCVs, if the N+1 analysis is based on Section 4.6 statements that up to five SCVs would be operating. Notwithstanding the “N+1” numbers of either five or six SCVs, the DEIR fails to explain why eight SCVs are proposed.

The DEIR should explain the linkage between the number of SCVs in operation and the facility’s maximum potential output. The eight submerged combustion vaporizers would each have a maximum LNG vaporizing capacity of 198 tons (179,600 kg) per hour. (P. 2-24.) For reference, 1 Bcf of vaporized Oman LNG weighs 25,000 tons. At a regasification capacity of 198 tons, each SCV would have a vaporization capacity of 0.190 Bcfd at 100% load:

<b>BHP Vaporizer Capacity - Oman gas</b>	
25,000	tons/Bcf
198	tons/hr/SCV
0.008	Bcf/hr/SCV
0.190	Bcfd/SCV

As discussed above, the DEIR is inconsistent in its statements regarding how many SCVs would be operating at any one time. In some cases, “No more than ... *five*

submerged combustion vaporizers would be operated simultaneously.” (P. 4.6-14; emphasis added.) If five SCV are operating at 0.190 Bcfd at 100% load, then the SCVs are capable of producing 950 MMcfd. If five SCV are operating at 0.190 Bcfd at 80% load, then the SCVs are capable of producing 760 MMcfd.

In other cases, the DEIR indicates “Four SCVs operating at 100% capacity factor for 8,760 hrs/yr, low-NOx burners.” (Appendix G2, Table FSRU 2, P. 2; emphasis added.) If four SCV are operating at 0.190 Bcfd at 100% load, then the SCVs are capable of producing 760 MMcfd.

Further, the DEIR expressly rejects the possibility that all eight SCVs would operate simultaneously. However, if all eight SCVs were operating at 100% capacity at 0.190 Bcfd, the total vaporization capacity would be 1,520 MMcfd. This number is closest to the highest maximum output referenced in the DEIR of 1,500 MMcfd. It is important to note that the DEIR fails to analyze the potential impacts associated with the operation of all eight SCVs at once yet it appears that this is precisely what would be required for the project to have a maximum output of 1,500 MMcfd. This lack of analysis is a significant flaw in the DEIR that can only be cured by reanalysis and recirculation for public review and comment.

As discussed in detail in Section I above, it is unclear whether the FSRU’s maximum potential output is 1,200 MMcfd or 1,500 MMcfd. The FSRU’s maximum send out is a direct function of the operations of the SCVs. The DEIR’s contradictory statements regarding the FSRU’s maximum potential output are compounded by the DEIR’s contradictory statements regarding the number of SCVs that will operate at any given time. CEQA demands a clear and stable project description. The DEIR should be revised to explain the precise relationship between the FSRU’s maximum output and the operation of the project’s SCVs.

#### **D. The Contradictory Characterization Of The Project’s Maximum Output Fatally Impairs The Environmental Analysis Of Ballast Water Impacts Of The Project.**

As with the air quality analysis, the ballast water analysis performed used an average output of 800 MMcfd, not the peak output of either 1,200 MMcfd or 1,500 MMcfd as a basis for its environmental analysis:

- LNG Volume removed from FSRU because of LNG that is Regasified to NG and sent to shore via pipeline from FSRU @ 800MMscfd rate = ~ 35,000M3 LNG per day (Appendix D5, Ballast Water System Operations and Design Features, P. 5 of 17.)
- LNG Volume removed from FSRU because of LNG that is Regasified to NG and sent to shore via pipeline from FSRU @ 800MMscfd rate = ~ 35,000M3 LNG per day. (Appendix D5, Ballast Water System Operations and Design Features, P. 6 of 17.)

- LNGC cargo discharges to the FSRU are currently planned to occur on average 2.5 times per week, or 130 times per annum. This figure is based on the long term average gas delivery rate of 800MMscfd. (Appendix D5, Ballast Water System Operations and Design Features, P. 7 of 17.)
- Table 3 details the minimum flow velocities for the normal operation case when the FSRU is discharging regasified gas to the shore. A period of one day is selected based on the long term average NG delivery rate of 800MMscfd. (Appendix D5, Ballast Water System Operations and Design Features, P. 15 of 17.)
- Table 3: Based on 800MMscfd (Appendix D5, Ballast Water System Operations and Design Features, P. 16 of 17.)
- “At all times, except during LNG carrier loading into the FSRU, ballast water would be taken onto the FSRU at an average rate of 2,814 gallons per minute to compensate for the volume of natural gas being transported ashore via the subsea pipeline. This is based on a natural gas send out rate of 800 million standard cubic feet per day (MMscfd), which is the average daily amount of natural gas production. Table 1a provides estimated average volumes required per day, week, and year for the FSRU ballast water systems.” (Appendix H1, Cabrillo Port Ichthyoplankton Impact Analysis, p. 3.)

It is not clear from the DEIR whether the ballast water analysis looked at the potential impacts associated with a peak output of either 1,200 MMcfd or 1,500 MMcfd. To cure this significant flaw, CSLC, MARAD, and USCG must revise and recirculate the DEIR to include the additional analysis of ballast water impacts associated with a peak output of either 1,200 MMcfd or 1,500 MMcfd.

**E. In Light of the Contradictory Characterization of the Project’s Maximum Output, All Section 4 Environmental Disciplines Must Be Reexamined.**

Section 4 of the DEIR sets forth an “Environmental Analysis” for the project, encompassing nineteen specific disciplines. As discussed above, some sections of the DEIR appear to be based on 800 MMcfd as a maximum. The SoCalGas system improvements, the air quality analysis, and ballast water studies, as discussed above, all appear to have used an “average” of 800 MMcfd instead of the project’s maximum potential output of either 1,200 MMcfd or 1,500 MMcfd.

For other Section 4.0 disciplines, such as noise, environmental impacts seems to have been considered based on “average” send out of 800 MMcfd and a maximum send out of 1,200 MMcfd, but not 1,500 MMcfd. (P. 4.7-61.) For the purpose of modeling Cooling Water

Discharges (Marine Biological Resources, Section 4.7) and Noise (Section 4.14), the DEIR appears to assume that the maximum capacity of the project is 1,200 MMcfd. If the maximum output is actually 1,500 MMcfd, these analyses are incorrect, understating potential impacts, and will need to be revised and recirculated for review and comment. Other Section 4 disciplines do not clearly state whether the potential environmental impacts were measured against an assumption of 800 MMcfd or the peak proposed for the project of either 1,200 MMcfd or 1,500 MMcfd.

CEQA dictates a clear project description. Given the flaws in the basic project description related to the project's potential maximum output, each of these nineteen Sections should be reexamined to ensure that the potential significant environmental impacts associated with the project were measured against the maximum potential output of the facility (either 1,200 or 1,500 MMcfd, as the case may be), and not against an output of 800 MMcfd.

## **II. THE DEIR FAILS TO ANALYZE THE POTENTIAL CUMULATIVE IMPACTS OF THE LONG BEACH PROJECT AND THE CLEARWATER PROJECT ON THE SOCALGAS PIPELINE SYSTEM AS WELL AS THE RESULTING IMPACTS ON THE ENVIRONMENT.**

The DEIR is required to discuss the cumulative impacts of the FSRU. (14 CCR 15130(a).) CEQA defined cumulative impacts in pertinent part as follows: "The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects." (14 CCR 15355(b).)

It is axiomatic that if the DEIR failed to properly characterize and analyze the direct and indirect impacts of the proposed FSRU project, then the cumulative impacts analysis (Section 4.19) constructed on the flawed DEIR analysis is similarly flawed.

### **A. The DEIR Fails To Consider The Cumulative Impacts of the FSRU and the Long Beach LNG Project.**

The DEIR notes that Sound Energy Solutions has proposed constructing and operating an LNG terminal at the Port of Long Beach. However, the DEIR incorrectly states that the "only potential cumulative impact associated with this facility and the proposed Project would be a regional increase in vessel traffic" (DEIR 4.20-11)

Vessel traffic is not the only potential cumulative impact of these two projects. As noted in the Bisi testimony cited in the DEIR, "If two or more of these new [LNG] receipt points were established, the total improvements costs may be significantly more than the sum of the

individual receipt point expansion costs.” (Bisi, p. 10) Bisi stated that if receipt points were added at both Center Road and Salt Works, in addition to the upgrades required for the individual projects, SoCalGas would also need to provide additional looping on Line 765; additional looping on Line 225; partial looping on Line 324; and construction of a new pressure limiting station in the Los Angeles basin. (Id.) Each of these improvements will have environmental impacts. These impacts are not addressed in the DEIR.

In addition, the improvements identified in the Bisi testimony assume deliveries of 800 MMcfd at Center Road and Salt Works. If the actual output of the FSRU is in excess of 800 MMcfd, then further improvements may be required to accommodate both the FSRU and the Long Beach projects.

**B. The DEIR Fails To Consider The Cumulative Impacts of the FSRU and the Crystal LNG Project.**

The DEIR also notes that Crystal has proposed constructing and operating an offshore LNG terminal that would connect to the SoCalGas system at Center Road. However, the DEIR fails to mention, much less analyze, the combined impact on the SoCalGas pipeline system of two LNG projects connecting at Center Road. Assuming combined delivered volumes (on an expansion basis) of 800 MMcfd at Center Road from each of these projects, the combined effect would be to require, at a minimum, all of the improvements identified under the 1,500 MMcfd case on Table 5 of Bisi’s testimony.

In Section I.B. of our comments above, we argue that if the FSRU has a maximum output of 1,200 or 1,500 MMCFD, the DEIR must analyze the environmental impacts of all of the improvements listed in the Bisi testimony. Moreover, these improvements must also be analyzed in the DEIR because [Public Resources Code section 21083\(b\)](#) requires the cumulative effects of the FSRU and Crystal projects which are "individually limited but cumulatively considerable" to be addressed in the DEIR.

“Only through an accurate view of the project may the public and interested parties and public agencies balance the proposed project's benefits against its environmental cost, consider appropriate mitigation measures, assess the advantages of terminating the proposal and properly weigh other alternatives ....”  
[\(City of Santee v. County of San Diego, supra, 214 Cal.App.3d at p. 1454.\)](#)

Here, the failure to consider all of the “downstream” impacts on the SoCalGas pipeline system resulted in an inaccurate project description and incomplete identification and analysis of

the environmental effects of the development project.<sup>12</sup> That failure to provide a legally-sufficient project description calls into question the direct and indirect project impacts analyzed in Section 4.0 of the DEIR.

Thus, because the DEIR did not "adequately apprise all interested parties of the true scope of the project for intelligent weighing of the environmental consequences of the project," informed decisionmaking was precluded. ([City of Santee v. County of San Diego, supra, 214 Cal.App.3d at pp. 1454-1455.](#)) The FSRU DEIR is inadequate as a matter of law.

### **III. STORAGE IS NEITHER A BASIC PROJECT OBJECTIVE NOR AN OPERATIONAL REQUIREMENT FOR AN OFFSHORE LNG PROJECT.**

The DEIR uses storage, or the lack thereof to reject a wide range of otherwise feasible alternatives. Such rejection is contrary to CEQA.

#### **A. Storage Is Not a Basic Project Objective and Thus Not a Valid Basis For Rejecting An Existing Platform-Based Terminal Alternative.**

The FSRU would store LNG in three Moss tanks located along the length of the facility. The total storage capacity would be approximately 72 million gallons (273,000 m<sup>3</sup>). (P. 2-22.) The DEIR rejects further consideration of an offshore oil platform as an alternative to the project because a platform-based alternative would not have storage capacity. (P. 3-24.)

While it is true that an offshore oil platform may not have LNG storage on the platform, such storage is simply neither a basic project objective nor necessary to provide a consistent supply of natural gas that meets all SoCalGas operational standards. As discussed herein, BHP has defined three basic project objectives. (P. 1-13.) "Storage" is not one of those basic project objectives. Further, as discussed herein, meeting the basic project objective of delivering "an annual average of 800 MMcfd (22.7 million m<sup>3</sup>) of natural gas into the Southern California area via the existing SoCalGas natural gas transmission system" does not require Moss tank storage facilities.

---

<sup>12</sup> ([Santiago County Water Dist. v. County of Orange, supra, 118 Cal.App.3d at p. 829.](#)) As stated in [Citizens Assn. for Sensible Development of Bishop Area v. County of Inyo \(1985\) 172 Cal.App.3d 151, 166 \[217 Cal.Rptr. 893\]](#), "[t]he danger of filing separate environmental documents for the same project is that consideration of the cumulative impact on the environment of the two halves of the project may not occur. This danger was here realized."

**B. Storage Is Not Necessary to Meet the Operation Requirements of SoCalGas.**

Offshore storage is not necessary to meet the operational standards of SoCalGas. At facilities such as the FSRU, LNG storage is added as a project feature in order to minimize unloading time required for the tankers. LNG tankers typically unload at a peak rate of 12,000 to 14,000 cubic meters per hour, or approximately 6 plus Bcf/day. This peak ship unloading rate of up to 6 Bcf/day is a much higher rate than can be received by the SoCalGas system.

For purposes of these comments, “buffer storage” is LNG storage, dedicated and required to unload the LNG tanker at a high rate, which is typically much higher than the send out capacity of the terminal. Thus, storage at the FSRU is required to allow for expedited offloading of ships, completely unrelated to the facility’s “send out of gas” to SoCalGas system. Put another way, instead of offloading ships at up to 6 Bcf/day into Moss tanks, the FSRU could, instead, offload ships at a slower rate directly into the SoCalGas system, effectively using the LNG vessels themselves as storage.

The basic decision for constructing LNG storage is an economic one: the cost of constructing storage tanks versus the costs of having LNG tankers at the FSRU for the additional days for the tankers to unload at a rate the SoCalGas system can accept. The DEIR should explicitly address whether there are additional reasons for the FSRU to want to include storage, particularly in light of the fact that it is the presence of LNG storage tanks which defines the greatest consequence in the event of failure.. These concerns are not issues for Crystal’s Clearwater Port. Moreover, Crystal’s analysis demonstrates that for Clearwater Port, it is more cost effective to not construct buffer storage. Indeed, the construction of LNG storage on the FSRU is one reason the BHP project will not come on line for years. In marked contrast, it should be noted that the Clearwater Port approach of utilizing tankers in lieu of constructing buffer storage is currently operating effectively at Gulf Gateway Project in the Gulf of Mexico.

**C. The Storage on the FSRU is only slightly greater than the Storage capacity of the Largest LNG Tankers.**

The storage capacity of each LNG tank (90,800 cubic meters) is less than the storage capacity of a typical LNG tanker (138,000 to 210,000 cubic meters). (P. 2-21.) As such, there will need to be storage capacity available in two of the FSRU’s three Moss tanks before an LNG tanker can approach the FSRU and completely unload its cargo. The required buffer storage capacity to accept a complete tanker cargo must be emptied out prior to the next tanker berthing and unloading. Thus, the available storage capacity does not serve as “storage” in the conventional sense, i.e., it is not available for system balancing because it is constrained by its dedicated purpose to serve as buffer capacity.

Instead, storage at the FSRU is driven by economic consideration such as shipping schedules and perhaps the desire to avoid using land-based storage in the SoCalGas system, not

by send out to the SoCalGas system. The DEIR notes that typical ship capacities will range from 138,000 to 210,000 cubic meters (gross). (P. 2-21.) If the maximum delivered cargo is 210,000 cubic meters, the effective storage is only 62,400 cubic meters, less than half a tanker load. The FSRU has 3 tanks, each with a storage capacity of 90,800 cubic meters for a total of 272,400 cubic meters of LNG storage on board the FSRU. Assuming the maximum tanker capacity of 210,000 cubic meters, the “effective storage” of the FSRU is only 62,400 cubic meters:  $272,400 \text{ m}^3$  total FSRU capacity minus  $210,000 \text{ m}^3$  per tanker =  $62,400 \text{ m}^3$  effective storage on the FSRU above what is stored on a tanker.<sup>13</sup> It should also be noted that if for some reason, the FSRU storage could not be emptied to create sufficient storage space in the Moss tanks, a tanker would either be prevented from unloading cargo or required to unload at a rate equal to the send out capacity that can be received by SoCalGas, in which event the operation would be identical to Clearwater Port.

Thus, from a SoCalGas system *send out* perspective, the FSRU project essentially operates the same as Clearwater Port. The FSRU send out is drawn from the three Moss tanks while Clearwater Port’s send out is drawn from a single LNG vessel. Accordingly, from the perspective of “stability” of natural gas send out into the SoCalGas market, the DEIR should note that whether the supply to be sent out is drawn from a Moss tank or from the LNG ships acting as storage is completely immaterial.

**D. There is Sufficient Land-Based Storage in the SoCalGas System to Accommodate Regasified LNG and Maintain Operational Stability.**

There is sufficient storage available in the SoCalGas system and in California gas storage fields to maintain operational stability of the SoCalGas system at Center Road. In testimony filed with the California Public Utilities Commission in an ongoing Rulemaking proceeding (R.04-01-025, “Order Instituting Rulemaking to Establish Policies and Rules to Ensure Reliable, Long-Term Supplies of Natural Gas to California”) SoCalGas provided the following testimony confirming the availability of storage on the SoCalGas system:

SoCalGas operates four storage fields that interconnect with its transmission system. These storage fields – Aliso Canyon, Honor Rancho, La Goleta, and Playa del Rey – are located near the primary load centers of the SoCalGas system. Together they have a combined inventory capacity of 122.1 billion cubic feet (Bcf), a combined firm injection capacity of 850 MMcf/d, and a combined firm withdrawal capacity of 3,175 MMcf/d. (Prepared testimony of David M. Bisi, CPUC R. 04-01025.)

---

<sup>13</sup> Note that these numbers over-state the true send out capacities, since a certain volume of LNG must remain in the Moss tanks to keep them cold for operations purposes.

The SoCalGas storage system has a combined inventory capacity of 122.1 billion standard cubic feet (Bcf). The 62,400 cubic meters effective storage capacity of the FSRU project will increase this by only 1.37 billion standard cubic feet or less than 1.1% (1.37/122.1). Further this additional storage would not be accessible to the SoCalGas system if the FSRU were sending out at full capacity to meet typical operational obligations. For much of the time, this alleged storage is trapped behind facilities which are intended to be used for normal send out operations. Thus, the DEIR should note that the FSRU storage capacity will not be significant with regards to providing additional storage on the SoCalGas system.

The DEIR falsely states regarding the Clearwater Port, "Its intended purpose would be to meet only spot-market natural gas demand and it could not provide a consistent supply of natural gas." As, the discussion above shows, the Clearwater Port will be designed and operated to provide a supply of gas that is just as consistent as supplies from the FSRU. In addition, if onshore storage is desired by the independent parties who use the services of Clearwater Port as a tolling facility, these parties will have the option to either schedule deliveries for immediate consumption or for delivery to onshore storage facilities. In this respect, the Crystal facility will meet all SoCalGas operational standards. It is not necessary for any LNG facility to guarantee daily deliveries. Because constant deliveries are not a necessary operational characteristic, a project's ability to do so is not an advantage and inability to do so is not a disadvantage.

**IV. THE DEIR IMPROPERLY REJECTS FOR FULL CONSIDERATION A REASONABLE RANGE OF FEASIBLE ALTERNATIVES TO THE PROJECT AND THE PROJECT SITE (section 3, *passim*).**

The DEIR must consider a reasonable range of feasible alternatives to the project and the project site:

Alternatives to the Proposed Project. An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. (14 CCR §15126.6(a).)

As discussed below, the DEIR fails to give full consideration to this reasonable range of alternatives.

The purpose of the CEQA alternatives analysis is identifying alternatives that mitigate or avoid potentially significant effects of the project:

Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (Public Resources Code Section 21002.1), the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly. (14 CCR §15126.6(b).)

CEQA recognizes that alternatives to a proposed project may not be a perfect match to the applicant's stated project objectives: "The range of potential alternatives to the proposed project shall include those that could feasibly accomplish *most* of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects." (14 CCR §15126.6(c); emphasis added.) Thus, the reasonable range of alternatives does include, among other things, alternatives that may "impede" to some degree the project objectives and may be more costly than the project as proposed by the applicant.

CEQA also clearly sets forth the reasons that may be used to eliminate alternatives. Chief among these is the inability to meet the basic project objectives:

Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts. (14 CCR 15126.6(c).)

As discussed in detail below, the DEIR fails to use these basic CEQA requirements as a basis for eliminating alternatives.

**A. The DEIR Does Not Properly Analyze the Possible Use of an Existing Offshore Platform as an Alternative.**

The DEIR rejects the existing platform as an alternative because "it would not accomplish most of the purposes and objectives of the proposed project and would not provide storage capacity, and because sufficient information is not available to analyze it to the same level of detail as the proposed Project." (P. 3-24.) Each of these reasons are incorrect.

It is incorrect to state that an existing platform would not meet "most" of the objectives and purposes of the project. In fact, an LNG project utilizing an existing offshore platform could meet all of the "basic project objectives" as defined by BHP.

The DEIR summarizes the objectives of the project as follows:

BHPB was asked to define its Project objectives to assist the lead agencies' development and evaluation of Project alternatives. BHPB's objectives for the Cabrillo Port LNG Deepwater Port can be summarized from its Environmental Assessment (Entrix 2003) as follows:

- Address California's growing demand for clean-burning natural gas for electric power generation, industrial, residential, and commercial uses, thus furthering the national goal of energy sufficiency;
- Provide California consumers access to sources of natural gas from the Pacific Rim and provide greater flexibility and reliability in gas providers; and
- Deliver an annual average of 800 MMcfd (22.7 million m<sup>3</sup>) of natural gas into the Southern California area via the existing SoCalGas natural gas transmission system. (P. 1-13.)

An existing platform alternative could meet all three of these basic project objectives: (1) it could meet growing demand for LNG; (2) it could provide access to natural gas from the Pacific Rim and other sources; and (3) it could deliver an annual average of 800 MMcfd, especially where the existing platform configuration made use of a dual berthing system.

After clearly defining the three basic project objectives above in the Introduction (Section 1), Project Description (Section 2), and Executive Summary, the DEIR shifts its arguments in the Alternatives Section. In that Alternatives Section, the DEIR states that "one purpose of the Cabrillo Port Deepwater Port is to provide additional storage capacity of natural gas." (P. 3-24.) But the next sentence transforms "one purpose" into "the purpose" of the project:

Therefore, the type of LNG facility associated with an offshore oil platform would not meet the purpose of the proposed Project. The potential existing platform-based terminal alternative was eliminated as an alternative to the proposed Project because it would not accomplish most of the objectives and purposes of the proposed Project and does not provide storage capacity, and because sufficient information is not available to analyze it to the same level of detail as the proposed Project. (*Id.*)

However, the three basic project objectives set forth at page 1-13 do not include storage. Storage is mentioned as a benefit to the project during periods of inclement weather, but is not described as a primary objective. The DEIR overreaches when it characterizes storage as "the" purpose of the project. It further overreaches when it eliminates the existing platform alternative on the

basis that it does not meet “most” of the basic project objectives when, as noted above, the existing platform meets all three basic project objectives as defined by the applicant.

In addition, as discussed in Section III, storage is not an inherent advantage for an LNG terminal. Since storage is neither a basic project objective nor an inherent advantage to an offshore LNG terminal, CEQA dictates that an existing offshore platform cannot be dismissed as an alternative on those bases.

Further, it is contrary to CEQA alternative analysis principles to reject the fixed platform as an alternative simply because it could be operated simultaneously with the FSRU. The DEIR states, “Since [Clearwater Port] could be licensed and could operate simultaneously with Cabrillo Port, it is appropriate to evaluate its potential effects within the context of cumulative impacts (see Section 4.20, ‘Cumulative Impacts Analysis’).” (P. 3-25.) While it is a correct application of CEQA principles to require an analysis of Clearwater Port in the cumulative impacts analysis, CEQA does not allow for the dismissal of projects similar to Clearwater Port, existing offshore platforms, merely because a competing project has been proposed in this configuration. Indeed, the fact that Clearwater Port could be operated simultaneously with the BHP FSRU underscores the feasibility of the offshore platform configuration as an alternative to the FSRU.

CEQA places a premium on alternatives that avoid or substantially lessen any significant environmental impacts:

The range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would *avoid or substantially lessen* any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain *most* of the basic objectives of the project. The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision making. (14 CCR 15126.6(f).)

Reusing an existing offshore platform could minimize, and in some cases, completely avoid the new impacts associated with construction of the FSRU. As such, CEQA requires consideration of alternatives such as the reuse of an existing offshore platform that avoids or minimizes impacts associated with new facilities.

**B. The DEIR Does Not Properly Analyze the Possible Use of a Floating Regasification Unit (“FRU”) as an Alternative.**

As discussed in Section III above, storage is not one of Cabrillo Port’s basic project objectives, and there is no inherent advantage in storage of LNG offshore. Accordingly, BHP must consider as an alternative a project configuration that avoids the potentially significant impacts associated with storage of LNG.

A Floating Regasification Unit, or “FRU” would be, in essence, the BHP project as proposed, minus Moss storage tanks and ancillary facilities required for storage. A FRU could feasibly achieve all of the basic project objectives as defined by BHP. Specifically, an FRU project alternative could:

- “Address California’s growing demand for clean-burning natural gas for electric power generation, industrial, residential, and commercial uses, thus furthering the national goal of energy sufficiency” by providing a new supply of natural gas;
- “Provide California consumers access to sources of natural gas from the Pacific Rim and provide greater flexibility and reliability in gas providers,” again by providing a new and diversified supply of natural gas; and
- “Deliver an annual average of 800 MMcfd (22.7 million m<sup>3</sup>) of natural gas into the Southern California area via the existing SoCalGas natural gas transmission system”, particularly if an FRU was equipped with dual berths to allow for an uninterrupted regasification of LNG to natural gas by effectively using the LNG carriers as “storage” necessary to provide the stated project objective of an average daily send out of 800 MMcfd. (P. 1-13.)

In addition to satisfying all three of the project objectives as defined by the applicant, an FRU alternative would completely avoid the potentially significant environmental and public safety impacts associated with the construction and operation of the large Moss tanks proposed by the applicant. Specifically, the FRU alternative could completely avoid potentially significant impacts associated with the construction, operation and maintenance impacts of the Moss tanks:

- **Public Safety:** The FRU alternative avoids completely the construction, operation and maintenance impacts on public safety associated with the Moss tanks.
- **Marine Traffic:** The FRU alternative avoids completely the construction, operation and maintenance marine traffic impacts associated with the Moss tanks.
- **Aesthetics:** The FRU alternative avoids completely the construction, operation and maintenance visual and aesthetic impacts associated with the construction of the Moss tanks.

- Air Quality: The FRU alternative avoids completely the construction, operation and maintenance air quality impacts associated with the Moss tanks.
- Biological Resources – Marine: The FRU alternative avoids completely the construction, operation and maintenance impacts on marine biological resources associated with the Moss tanks.
- Hazardous Materials: The FRU alternative avoids completely the construction, operation and maintenance hazardous materials impacts associated with the Moss tanks.
- Noise and Vibration: The FRU alternative avoids completely the construction, operation and maintenance noise and vibration impacts associated with the Moss tanks.
- Recreation: The FRU alternative avoids completely the construction, operation and maintenance recreational impacts associated with the Moss tanks.
- Transportation: The FRU alternative avoids completely the construction, operation and maintenance transportation impacts associated with the Moss tanks.
- Water Quality and Sediments: The FRU alternative avoids completely the construction, operation and maintenance water quality and sediments impacts associated with the Moss tanks.
- Cumulative Impacts: The FRU alternative avoids completely the construction, operation and maintenance potential cumulative impacts associated with the Moss tanks.

An FRU alternative could completely avoid these potentially significant effects and satisfy all three of the project proponent's basic objectives as set forth at page 1-13 of the DEIR. This is more than CEQA requires, since CEQA dictates only that alternatives satisfy "most" of the basic project objectives. Further, CEQA requires consideration of alternatives that minimize or completely avoid the potentially significant impacts associated with the proposed project. As discussed above, the FRU alternative completely avoids the environmental impacts associated with the construction, operation, and maintenance of the proposed offshore Moss storage tanks.

The DEIR must be revised and recirculated to analyze the FRU alternative.

**C. The DEIR Improperly Rejects Full Consideration of Land-Based Alternative Projects, Section 3, *Passim*.**

The DEIR summarily discusses the possibility of a land-based LNG terminal as an alternative to the project, then rejects these alternatives without reference to their ability to satisfy the basic objectives of the project. This flaw must be corrected.

A land-based LNG terminal may be able to satisfy all of the basic project objectives as defined by BHP. Specifically, the DEIR should discuss whether a land-based LNG terminal could (1) address California's growing demand for clean-burning natural gas for electric power generation, industrial, residential, and commercial uses, thus furthering the national goal of energy sufficiency; (2) Provide California consumers access to sources of natural gas from the Pacific Rim and provide greater flexibility and reliability in gas providers; and (3) Deliver an annual average of 800 MMcfd (22.7 million m<sup>3</sup>) of natural gas into the Southern California area via the existing SoCalGas natural gas transmission system. (P. 1-13.)

It is true that alternatives need not be considered in the same level of detail as the project itself. However, in this case, the DEIR does not examine whether each of the land-based alternatives identified could meet most, if not all of the basic project objectives, whether the alternatives are feasible, and whether they can avoid potentially significant effects. The DEIR should be revised to explain the basis for eliminating all land-based objectives, given the project's defined objectives, or to include an analysis of land-based alternatives that satisfy the basic project objectives.

**D. The DEIR's Purported Reasons for Dismissing Fixed Offshore LNG Terminal Alternatives Are Fallacious, PP. 3-24 to 3-25.**

Section 3.3.8.1 of the DEIR attempts to explain why the "Fixed Offshore Liquefied Natural Gas Terminal Alternatives," in general, and an "Existing Platform-Based Alternative," in particular, were excluded from full consideration as alternatives to the proposed project. This section states that it includes "[d]escriptions of these [platform-based] alternatives and the *reasons for their elimination* from further consideration." (P. 3-24; emphasis added.) However, these reasons for elimination are inconsistent with the requirements of CEQA to consider a reasonable range of feasible alternatives to the project and the project site that satisfy most of the basic project objectives.

In Section 3.3.8.1, statements offered as "reasons" for elimination of this alternative project configuration are in many cases simply statements of facts, wholly disconnected from any analysis as to whether the alternative may satisfy the basic project objectives. As such, the alternatives analysis must be revised to consider whether the Fixed Offshore LNG terminal

alternatives can satisfy the project's basic objectives while avoiding or minimizing potentially significant impacts on the environment.

### **1. Review of Existing Platforms**

The DEIR notes that "there are 27 oil and gas production platforms operating in Federal or State waters in the Santa Barbara Channel, Santa Maria Basin, and offshore of Los Angeles/Long Beach." (*Id.*) The DEIR does not, however, provide any detail on the 27 platforms. The DEIR should be revised to identify the 27 platforms and to analyze whether any of those platforms are feasible alternatives to the proposed BHP project. The reasons for eliminating the platforms should be identified in the revised DEIR. (14 CCR 15126.6.)

### **2. Permitted Uses**

The DEIR states, "Offshore oil platforms can be used only for the intended use for which they were permitted." (P. 3-24.) While it is true that a facility can only be used for the use for which it is permitted, the statement ignores the fact that offshore platforms can be modified to new uses if they are properly permitted for those new uses. The logic of this statement is circular: "the only uses permitted are permitted uses." This statement should be deleted from the DEIR.

### **3. MMS Approval**

The DEIR states, "Altering or converting the function of an offshore oil platform for either exclusive use as an offshore LNG terminal or dual use as an offshore LNG terminal and oil and gas production facility requires a new Development and Production Plan for that platform, approved by the U.S. Department of the Interior, Minerals Management Service." (*Id.*) This statement is simply a statement of fact; it is not a reason for "elimination from further consideration." Further, the requirement to seek MMS approval is not an obstacle to a platform-based alternative. Instead, MMS approval is just one of several approvals required for such a use. Accordingly, this statement regarding MMS approval should be deleted from the DEIR.

### **4. Cost Considerations**

The DEIR states, "Converting an operating oil or gas platform to a different type of facility than originally permitted can be costly and time consuming." (*Id.*) Constructing an FSRU is also costly and time consuming. The purpose of analyzing alternatives is to weigh the relative costs and impacts. The mere fact that an alternative is costly is not a reason for elimination of the alternative. In fact, CEQA requires consideration of alternatives "even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly." (14 CCR §15126.6(b).) This subjective statement should be deleted.

## **5. Conversion of an Existing Platform and the FSRU**

In referring to the conversion of an existing offshore platform, the DEIR states, that, “[t]his process has never been successfully undertaken.” Again, this statement is not a reason for elimination of an alternative. The FSRU proposed by BHP “has never been successfully undertaken” anywhere in the world, and has certainly never been undertaken in U.S. waters. Further, the DEIR itself recognizes that the BHP “FSRU design represents a new combination of methods for the transfer and storage of LNG.” (P. 2-5.) Thus, like the criticism of the conversion of an existing offshore platform, the BHP FSRU is itself a process that “has never been successfully undertaken.” The DEIR’s Alternatives section must apply the same criteria to both the proposed BHP project and alternatives to the project and the project location. Accordingly, the statement that “[t]his process has never been successfully undertaken” should be deleted from the DEIR.

## **6. Platform Age Versus Certified As New**

The DEIR states, “Currently, most offshore oil platforms are more than 20 years old.” (P. 3-24.) Again, this is not a reason for elimination of an alternative. Offshore platforms that would be converted to a new use would either be relatively new or, significantly, re-certified as new, regardless of the original age of the platform. The DEIR statement is only relevant if one assumes that an LNG proponent would attempt to reuse an offshore platform with no re-certification of the platform as new. Accordingly, this statement should be deleted from the DEIR as a reason for elimination of this alternative.

## **7. Berthing Facilities Adjacent to, But Offset From, an Existing Platform**

The DEIR states, “These platforms were not built to berth LNG carriers or support ancillary equipment.” (*Id.*) This statement is true for platforms in their original, unimproved status; however, as proposed by Clearwater Port, the LNG carrier “berths” can be offset from the platform, thus the LNG carrier does not use the offshore platform as a berth. Instead, the LNG terminal would use the Satellite Service Platform (“SSP”) Floating docking system or some similar system installed adjacent to the platform to safely moor LNG vessels. LNG will be transferred from the vessel to the platform using cryogenic hose or an unloading arm system. The DEIR should be revised to delete the statement that offshore platforms are not built to berth LNG carriers because carriers would not need to be berthed next to the platform if such facilities are offset some distance from the platform.

## **8. Structural Analysis**

The DEIR states, “A comprehensive structural analysis would be needed in order to determine if a platform were sufficiently structurally sound to extend its lifespan and to support a deepwater port for LNG.” (*Id.*) While this is true, the need for further analysis is not a

reason for rejecting an Alternative. Comprehensive structural analyses are routinely performed on offshore structures. The statement should be deleted from the DEIR.

### **9. Visual Resources Aesthetics: Recognition of the Proper CEQA Baseline**

The DEIR states that “The addition of berthing capability to the platform would also create a larger object in the view shed and would extend the life of an existing, perceived adverse visual effect.” (*Id.*) Unlike the BHP FSRU, which would be a completely new feature in the visual setting, the offshore platform to be used would be an existing platform. As such, that existing platform is already in the existing environmental baseline.

CEQA demands that a project's potential impacts be measured from the existing environmental baseline. The fact that the visual impacts of an existing structure may be less significant than the proposed project is a reason why it should be considered as an alternative, rather than rejected from consideration.

An EIR must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, from both a local and regional perspective. This environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant. The description of the environmental setting shall be no longer than is necessary to an understanding of the significant effects of the proposed project and its alternatives. (14 CCR 15125(a).)

Thus, CEQA measures impacts against a baseline of the *status quo* (i.e., the current environment) including the existence of Platform Grace. This makes sense because CEQA seeks to inform the decision-maker of the environmental consequences of the change to the *status quo* represented by the proposed project.

In marked contrast to the well-settled CEQA requirement that environmental review be measured from the existing environmental baseline is the DEIR's reference to an extension of a “perceived adverse visual effect.” This pejorative reference to the existing environmental setting is contrary to the dictates of CEQA and NEPA that the proposed project and its alternatives be measured against the existing environmental baseline. As such, to be consistent with both CEQA and NEPA, the statement that an offshore alternative “would extend the life of an existing, perceived adverse visual effect” must be deleted.

Further, assuming regasification of the LNG to natural gas on the platform, as proposed by Clearwater Port, an offshore platform alternative would not create the new visual

impacts associated with a large FSRU and three or more large and tall Moss Tanks (184 feet in diameter and 164 feet above the waterline when ballasted), like those on the FSRU. Visual impacts associated with LNG carriers at berth for an offshore platform would be temporary, i.e., they would exist only during the times when an LNG carrier was offloading whereas the FSRU and its large Moss tanks would be a permanent, immutable visual impact. Accordingly, the DEIR's statement that the "addition of berthing capability to the platform would also create a larger object in the view shed" is not a true statement for a project that does not include large Moss Tanks like the BHP FSRU. Accordingly, this statement should be deleted because an offshore platform with two berths (the same number as possible for the BHP FSRU) and no large Moss tanks would avoid the potentially significant impacts associated with the Moss tanks.

**E. The DEIR Improperly Excludes From Full Consideration a New Platform Alternative at Locations Other Than BHP's Proposed FSRU Site, P. 3-25.**

The DEIR acknowledges that a new offshore platform is a feasible alternative, and then attempts to dismiss a new platform as infeasible at the BHP site only:

As discussed above, a platform-based terminal could be designed to receive and regasify LNG and send the natural gas to shore via a pipeline; however, it would be technically infeasible to consider placing a platform *at the same location as that of the proposed Project* because, to date, fixed platforms have not been installed at the ocean depth of the proposed DWP location (approximately 2,900 feet [884 m]). To date, fixed platforms have been installed to water depths of 1,353 feet (412 m). Compliant (flexible) pile and compliant or guyed platforms have been installed in water depths to 1,753 feet (534 m). Only floating facilities have been installed to greater depths (Offshore Magazine 2005). (P. 3-25; emphasis added.)

The DEIR's reasoning is appropriate for dismissing a new platform alternative at the proposed site of the BHP FSRU; however, as discussed in the comment immediately above, CEQA's alternatives analysis demands a more rigorous examination of alternatives. Specifically, CEQA demands that a project examine a reasonable range of feasible alternatives to the project and the project *site*. (14 CCR 15126.6(a)-(f).)

The DEIR fails to discuss whether an alternative meeting most of BHP's basic project's objectives could be constructed at a site other than BHP's preferred project's site, i.e., a site where the water is shallower. CEQA dictates that, "If the lead agency concludes that no feasible alternative locations exist, it must disclose the reasons for this conclusion, and should include the

reasons in the EIR.” (14 CCR 15126.6(f)(2)(B).) Limiting a project alternative to the same site as the proposed project without considering alternative project sites is contrary to CEQA.

As noted in the DEIR, fixed platforms have been installed to water depths of 1,353 feet (412 m) and compliant (flexible) pile and compliant or guyed platforms have been installed in water depths to 1,753 feet (534 m); however, the DEIR fails to examine whether a fixed platform in shallower water at another site could meet the project’s basic objectives. The DEIR should be revised to examine other offshore sites where existing platform technology allows for construction of such platforms.

**F. The DEIR Correctly Recognizes that a Platform-Based Alternative Is Feasible, P. 3-25.**

Although the DEIR attempts to dismiss existing offshore platforms as a feasible alternative, in reality, the DEIR confirms that an offshore platform alternative is feasible. The DEIR states unequivocally that a platform-based alternative is feasible: “As discussed above, a platform-based terminal could be designed to receive and regasify LNG and send the natural gas to shore via a pipeline....” (P. 3-25.) Thus, the DEIR correctly acknowledges the feasibility of a platform-based LNG terminal. The only reason proffered for rejecting a platform-based LNG terminal is the lack of storage on the platform. However, as discussed above, offshore storage tanks are neither one of the basic project objectives of the BHP project nor an inherent advantage for offshore LNG terminals.

**G. There is No Direct Correlation Between Distance to Shore and Water Depth, As Suggested by the DEIR, P. 3-25.**

The DEIR states, “A fixed platform-based LNG terminal would also have to be constructed closer to shore than the proposed Project location. If one were installed closer to shore within feasible water depths, the platform could create an additional navigational hazard in the Santa Barbara Channel, and the necessary exclusion zone would affect many maritime commercial and recreational activities because it would be in a high vessel-traffic area.” This analysis incorrectly assumes a direct correlation between (a) water depth and (b) distance to shore. This direct correlation simply does not exist.

Water depths vary greatly up and down the California coastline. Water depths can also vary greatly in relatively short distances. For example, the BHP project eliminated the possible landfall locations connecting the FSRU to “existing SoCalGas facilities at Ormond Beach” in part due to the difficulty of crossing Hueneme Canyon: “Given the depth and geologic instability in the vicinity of this canyon, the only viable route is south of the canyon. This route would require the pipeline to be located in or near coastal shipping lanes. Therefore, these routes connecting to Ormond Beach were not considered.” (P. 3-43.) As discussed immediately above,

the DEIR should be revised to examine other offshore sites where existing platform technology allows for construction of such platforms.

**H. The DEIR Should Discuss Seismic Activities Effects on the FSRU Mooring System and the Potential for Unmooring, P. 3-25.**

The DEIR states, “Given that a new platform would be fixed to the seafloor, the potential adverse effects of local seismic activity to the structure would be greater than the effects to a floating facility.” (P. 3-25.) However, this statement ignores the fact that the FSRU will also be “fixed to the seafloor.” The DEIR should be revised to examine the potential environmental effects if seismic activities affecting the seafloor result in the FSRU becoming unmoored, given that the FSRU is unpropelled.

**I. Potential Opposition to An Alternative Project, P. 3-25.**

The DEIR states, “Given the level of public opposition to the existing platforms in the Santa Barbara Channel, an equivalent or greater level of opposition to any new proposed platform would be anticipated.” (P. 3-25.) CEQA demands an examination of a reasonable range of feasible alternatives. The DEIR cannot eliminate a new platform alternative as infeasible based on potential public opposition without applying the same standard to the proposed BHP project. Just as the DEIR cannot recommend disapproval of the BHP project based on public opposition to BHP, the DEIR cannot eliminate an alternative based on a subjective estimate of potential opposition to an alternative. This statement should be deleted from the DEIR.

**J. The DEIR Should Include A Discussion of Ambient Air Vaporizers as an Alternative Vaporizer Technology, PP. 3-31 to 3-32.**

Although the DEIR discusses intermediate fluid vaporizers and open-rack vaporizers, the document fails to discuss ambient air vaporizers (“AAVs”). AAVs are particularly well-suited for offshore platform applications. AAVs are generally available in two basic styles, the Natural Draft and the Forced Draft or Fan Assisted designs. Both styles are especially favored where simplicity is desired or when high reliability is required with a minimum of operator attention.

AAVs are extensively used where cryogenic fluids must be heated quickly and efficiently, without the need for combustion of fossil fuels to generate heat for vaporization process. Because these vaporizers/ heaters utilize ambient air, the maximum discharge gas temperature is limited to some delta below the ambient air temperature. As an example, for the AAVs utilized at Clearwater Port, the design temperature of the natural gas is approximately 0°F and account for approximately 80% of the total heat duty to warm the gas to the delivery temperature required by SoCalGas.<sup>14</sup> If Clearwater were to use a vaporizer which generated all

---

<sup>14</sup> The AAVs to be used by Clearwater are made in California by Cryoquip: <http://www.cryoquip.com/>.

the heat required for vaporization by the combustion of natural gas, such as a SCV, Clearwater would need to burn 400% more fuel to generate the necessary heat, which would result in a 400% increase in CO<sub>2</sub> and other emissions.

AAVs require relatively stable, moderate ambient conditions to allow for greater design efficiency and to ensure adequate air flow for the required heat load. This air flow must be unobstructed, and there must be adequate disengagement space to allow the chilled air to be removed from the area. In this respect, an offshore platform in a moderate climate is an excellent location for AAV utilization due to the ambient air conditions being tempered by the mass of open water and the elevated structure providing unobstructed airflow and ample disengagement space.

Cooling humid ambient air condenses out fresh water. Because the LNG is directly vaporized against the air, water that is condensed on the external surface of the vaporizer surface freezes, forming predominantly a frost layer on the fins and tubes. As the frost layer builds, performance of the vaporizer is reduced. For this reason, the vaporizers must be regenerated by switching off the vaporizer to allow the built-up ice to melt off of the vaporizer. The normal operations cycle for AAVs includes a LNG vaporization mode for 75 percent of the time and a regeneration (thawing) mode for 25 percent of the time. There are a total of 64 individual AAVs at the Clearwater facility, such that at the design flow rate and conditions, 48 will be in the vaporization mode, and 16 will be in the regeneration mode at any given time.

The Fan Assisted Ambient Air Vaporizer is most effectively employed when space is limited. The fans increase the external heat transfer coefficient allowing greater capacity, decreasing the required number of units when weight and space are important design considerations, such as on an offshore platform. The forced draft air flow also helps to reduce the regeneration cycle time. The DEIR should be revised to discuss AAVs as an alternative vaporizer technology.

**K. The DEIR Should Include An Analysis To Support the Statements that the BHP FSRU Will Only be Visible from Shore “On Clear Nights If At All”, PP. 4.4-25, 4.20-27.**

The DEIR states, “However, because of its remote location, the lighting could be seen from shore or from the Channel Islands only on clear nights if at all. The required beacon light would be less visible than the lighting on offshore platforms in the Santa Barbara Channel.” (P. 4.4-25; see also P. 4.20-27.) However, the DEIR provides no supporting facts or analysis for the contention that the BHP FSRU lighting will be seen from shore or from the Channel Islands “only on a clear night.”

---

The photo simulations published in the DEIR confirm that the FSRU can be seen from shore in daylight:

- Figure 4.4-13, “Simulated View of FSRU from near Leo Carrillo State Beach under Clear Weather Conditions” shows the FSRU clearly visible during daylight hours.
- Figure 4.4-14, “Simulated View of FSRU from near Leo Carrillo State Beach under Typical Marine Weather Conditions” again clearly shows the FSRU will be visible from shore during daylight hours.
- Figure 4.4-16, “View of Proposed FSRU Location from Point Dume under Clear Sky Conditions (KOP 13),” again shows the FSRU visible from shore during daylight hours.
- Figure 4.4-17, Simulated View of the FSRU from Point Dume under Typical Marine Conditions, shows the FSRU visible under daylight conditions.
- The DEIR states, “The FSRU would be visible from viewpoints at higher elevations such as Encinal Canyon or at the Malibu Civic Center” and the “...FSRU may be visible from Summit Peak on Anacapa Island, which is 930 feet (283 m) above sea level, although this is a Natural Research Area not open to recreational hikers.” (P. 4.4-23.)

Notwithstanding the facts that the FSRU can be seen from shore and that the FSRU and the LNG carriers berthed at the FSRU must have sufficient night lighting to satisfy all navigational safety requirements, the DEIR concludes without citation to any supporting evidence that the FSRU’s night lighting will be seen from shore “only on clear nights, if at all.” The DEIR should be revised to delete the claim that the FSRU will be seen only on clear nights, and an appropriate visual analysis should be performed that includes lighting on the FSRU and the LNG carriers berthed at the FSRU that is consistent with USCG and all other applicable nighttime lighting safety and navigation requirements. Moreover, the references to “the required beacon lighting” suggests that only beacon lighting will be necessary. This statement should be deleted from the DEIR.

**L. The DEIR Incorrectly Analyzes Potential Impacts Associated With Onshore Power Sources, P. 3-33.**

The DEIR acknowledges that the use of a power cable extending from an existing onshore power plant is technically feasible, but dismisses this option as being less environmentally preferable. (P. 3-33.) The DEIR correctly recognizes that the applicant need not pursue any alternative power sources so long as power generation associated with the project does not result in any significant unmitigated impacts; however, this discussion fails to acknowledge that any emissions associated with onshore generation would have to be fully mitigated by the powerplant owner in order for the onshore powerplant to obtain a permit to operate. The DEIR should be revised to reflect that onshore powerplants must fully offset their potentially significant impacts and thus there are no new significant impacts associated with shore based power. The DEIR should also be revised to substantiate the claim of significant line losses associated with a shore based power cable.

**M. The DEIR Fails to Consider Potential Cumulative Air Quality Impacts of the BHP and Clearwater Port Projects, P. 4.20-23.**

Although Clearwater believes that there will be no significant cumulative air quality impacts associated with the BHP and Clearwater Port projects, the DEIR should include a cumulative impacts analysis.

To begin, the DEIR correctly finds that the Clearwater Port project is reasonably foreseeable and thus must be included in the cumulative impacts analysis for the BHP project:

“A proposal by Crystal Energy to construct an offshore LNG terminal at Platform Grace will be evaluated in a separate EIS/EIR. \* \* \* Since [the Clearwater Port] could be licensed and could operate simultaneously with Cabrillo Port, it is appropriate to evaluate its potential effects within the context of cumulative impacts (see Section 4.20, “Cumulative Impacts Analysis”).” (P. 3-25.)

Thus, the DEIR correctly finds and concludes that the Clearwater Port project should be included in the DEIR’s consideration of cumulative impacts for the BHP project.

Despite this express finding and conclusion, the DEIR nevertheless then fails to actually perform the required cumulative air quality analysis:

If Crystal Energy’s proposed Clearwater Port were approved, the facility would emit air pollutants during construction and normal operation. Since the quantity and locations of these emissions have not been quantified, it is not possible to fully characterize associated air quality impacts. Potentially significant cumulative regional air quality impacts due to the Clearwater Port facility and the Project can be expected; however, these cumulative impacts are difficult to determine because an air analysis comparable to that done for the proposed Project has not been performed for the Clearwater Port Project. (P. 4.20-23.)

The DEIR discussion above is legally deficient. To begin, cumulative impacts analysis requires an analysis of reasonably foreseeable projects, so the fact that “an air analysis comparable to that done for the proposed Project has not been performed for the Clearwater Port Project” is wholly irrelevant. The very essence of a cumulative impacts analysis is to analyze existing and reasonably foreseeable future projects. Taken literally, the DEIR argues that it is not obligated to perform a cumulative air quality impacts analysis because the Clearwater Port project is not an

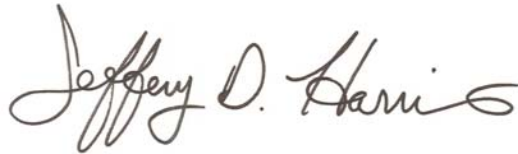
existing project. This logic fails to recognize that a cumulative impacts analysis requires consideration of future projects like Clearwater Port.

Having correctly determined that Clearwater Port is in the class of projects that must be considered in a sufficient cumulative air quality impacts analysis, the DEIR cannot simply dismiss away the cumulative impacts analysis because the analysis may be difficult. The DEIR is not free to pick and choose the disciplines it will subject to a proper cumulative impacts analysis and those it will ignore. Both CEQA and NEPA demand that the DEIR should be revised to include a legally sufficient cumulative air quality impacts analysis.

### **CONCLUSIONS**

Thank you for this opportunity to provide these comments on the DEIR. We look forward to revisions to the DEIR consistent with our comments herein.

Sincerely,

A handwritten signature in black ink that reads "Jeffery D. Harris". The signature is written in a cursive style with a large, prominent initial "J".

Jeffery D. Harris  
Greggory L. Wheatland  
Attorneys for Clearwater Port, LLC