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W16b

REVISED CONDITION COMPLIANCE FINDINGS

November 26, 2008

To: Commissioners and Interested Parties

From: Peter Douglas, Executive Director
 Alison Dettmer, Deputy Director
 Tom Luster, Staff Environmental Scientist

Regarding: **Condition Compliance for CDP No. E-06-013** – Poseidon Resources (Channelside), LLC; **Special Condition 10:** Submittal of a Energy Minimization and Greenhouse Gas Reduction Plan

Commissioners on Prevailing Side: Commissioners Achadjian, Blank, Burke, Hueso, Kram, Lowenthal, Neely, Potter, Reilly, and Chair Kruer

Exhibit 1: Carlsbad Seawater Desalination Project: August 2, 2008 cover letter and *Energy Minimization and Greenhouse Gas Reduction Plan*

Exhibit 2: Assembly Bill 32

Exhibit 3: Transcript of August 6, 2008 hearing

Click on the link at left to go to the exhibits.

STAFF NOTE

Staff prepared these recommended Revised Findings based on the Commission's August 6, 2008 decision approving an Energy Minimization and Greenhouse Gas Reduction Plan for Poseidon Resources. Recommended changes from the August 6th document are shown in ~~strike~~through and **bold underline** text.

Staff is aware of one area of disagreement with Poseidon regarding these recommended Revised Findings. Staff and Poseidon agree that the Commission approved those parts of Poseidon's Plan that provide emission reduction credit for the Plan's identified on-site and project-related emission reduction measures – including, but not limited to, projected reductions in State Water Project imports. However, based on review of the record before the Commission and of the hearing transcript, staff believe that the Commission required Poseidon to obtain any necessary remaining offsets, credits, or emission reduction measures through the California Air Resources Board (CARB), California Climate Action Registry (CCAR), or a California air district, unless otherwise authorized by the Executive Director. Poseidon, on the other hand, contends the Commission allowed Poseidon to obtain a certain type of offset – a REC, or Renewable Energy Credit – from any third-party provider, and that Poseidon is to purchase through CARB, CCAR, or an air district only those offsets or credits that do not qualify as RECs.

Staff's position is based in part on the clear intent expressed by the Commission that any emission reduction measures Poseidon will need after accounting for its on-site and project-related measures are to be obtained and verified through CARB, CCAR, or an air district. Poseidon's position is based in part on text in its Plan that the Commission did not specifically change – particularly, a statement added to the August 2, 2008 version of the Plan providing that “[c]onsistent with Staff's recommendation, acquisition of RECs are not limited to purchase from CCAR, CARB, or any other Third Party Provider.” Poseidon has also stated that it believes its Plan differentiates more generally between offsets and RECs.

Staff, however, believes Poseidon's contentions are not supported by the record or the hearing transcript. With regard to Poseidon's first contention, the quoted statement in the Plan is inaccurate and contradictory. The staff recommendation proposed that *all* emission reduction measures (apart from on-site measures that directly reduced the project's electricity use) be verified by CARB, CCAR, or an air district. It did not distinguish RECs from other forms of offsets. Moreover, the Plan Poseidon presented to the Commission (see Exhibit 1) describes offsets and credits interchangeably, and in fact defines a REC as a type of offset.¹ The Plan also categorizes renewable energy projects not as RECs, but as a type of offset. In presenting its Plan to the Commission at the August 6th hearing, Poseidon also used the terms “offsets” and “credits” interchangeably, as did staff in its recommendation to the Commission based on Poseidon's proposal. Staff notes that in discussions with Poseidon prior to the Commission hearing, staff had recommended that both offsets and RECs be handled through one of the three entities referenced above. Finally, and importantly, the Commission in its discussion and its motions at the hearing clearly stated that Poseidon is to obtain its necessary offsets and credits through CARB, CCAR, or an air district in the same manner as other types of offsets, and made no distinction that would allow RECs to be handled differently (see, for example, pages 197, 200, and 211-213 of Exhibit 3). Staff therefore believes that the record viewed as a whole establishes that the Commission intended RECs to be handled through CARB, CCAR, or an air district in the same manner as other kinds of offsets.

Staff therefore recommends the Commission *approve* these Recommended Revised Findings.

¹ Poseidon's Plan at pages 18 and 19 states:

An offset is created when a specific action is taken that reduces, avoids or sequesters greenhouse gas (GHG) emissions in exchange for a payment from an entity mitigating its GHG emissions. Examples of offset projects include, but are not limited to: increasing energy efficiency in buildings or industries, reducing transportation emissions, **generating electricity from renewable resources such as solar or wind**, modifying industrial processes so that they emit fewer GHGs, installing cogeneration, and reforestation or preserving forests.

One type of offset project is Renewable Energy Credits (RECs), also known as Green Tags, Renewable Energy Certificates or Tradable Renewable Certificates. Each REC represents proof that 1 MW of electricity was generated from renewable energy (wind, solar or geothermal). For GHG offsetting purposes, purchasing a REC is the equivalent of purchasing 1 MW of electricity from a renewable energy source, effectively offsetting the GHGs otherwise associated with the production of that electricity... [emphasis added]

SUMMARY

On November 15, 2007, the Commission conditionally approved CDP E-06-013 for Poseidon Resources (Channelside), LLC (Poseidon) for construction and operation of a desalination facility to be located adjacent to the Encina Power Plant in Carlsbad, San Diego County. The Commission imposed as part of its approval *Special Condition 10*, which required Poseidon to submit for further Commission review and approval, an Energy Minimization and Greenhouse Gas Reduction Plan (the Plan) (see the full text and requirements of *Special Condition 10* in Section 2.0 below).²

On July 23, 2008, Poseidon submitted to Commission staff its a proposed Plan, which staff received on July 7, 2008 (see Exhibit 1). Commission staff reviewed the Plan and prepared a staff report for the August 2008 hearing recommending the Commission approve the Plan with modifications. After several conversations with Commission staff, Poseidon on August 2, 2008 submitted a revised Plan for Commission consideration (see Exhibit 1). At its August 6, 2008 hearing, the Commission approved the Plan submitted on August 2nd with modifications. Because the Commission's action differed from staff's recommendation, revised findings are necessary. This report provides staff's analysis of the Plan, staff's evaluation of whether the Plan conforms to *Special Condition 10* as described in the Findings, and staff's recommendation as to whether the Commission should approve the Plan.

In brief, staff's analysis shows that the Plan as submitted does not conform to *Special Condition 10*. However, if modified as described herein, staff believes the modified Plan would conform to *Special Condition 10*. Staff therefore recommends the Commission ~~approve~~ the Plan, as modified herein. The primary modifications staff has identified as being necessary for Plan approval are summarized below and are further detailed in Sections 1.1 and 4.0 of this memorandum.

Staff recommends the Plan be The Commission modified Poseidon's August 2, 2008 version of the Plan as follows:

- 1) Except as set forth in the Plan's contingency provisions (as described below in Section 4.0 of these Findings), Poseidon is to implement the Plan's provisions regarding offsetting the project's net GHG emissions using the protocols, criteria, and mechanisms provided by Assembly Bill 32 (AB 32):
 - a. Use CARB-, ~~and/or~~ CCAR-, or California Air District-approved protocols and mechanisms for all emission reduction measures proposed to ~~ensure~~ offset the net GHG emissions from Poseidon's purchased electricity are "net zero". On-site and project-related measures identified in the Plan are used to calculate the project's net GHG emissions and therefore are not subject to the CARB, CCAR, or Air

² The Commission's approval of this CDP also included *Special Condition 8*, which required Poseidon to submit for Commission review and approval a Marine Life Mitigation Plan. ~~That Special Condition and Poseidon's submitted plan are evaluated in a separate staff report under Item W5b of the August 6, 2008 Commission hearing.~~ The Commission approved the Marine Life Mitigation Plan at that hearing. The recommended Revised Findings for that Plan are on the Commission's December 2008 hearing agenda as Item W16a.

- District requirements for offsetting the net GHG emissions.**³ This requirement does not apply to measures Poseidon identified in its Plan as “on-site” or “project-related” measures.
- b. Join the CCAR “Climate Action Reserve” ~~and~~ **or** other entities that require the use of CARB-, ~~or~~ CCAR-, **and/or California Air District-approved** protocols to implement the Plan’s emission reduction measures and provide necessary accounting of those measures.
 - 2) ~~Submit annual reports for Executive Director review and approval that show the results of Poseidon’s verified emission reduction measures as determined pursuant to CARB or CCAR approved verification procedures.~~
 - 3) ~~Modify the Plan’s GHG template to conform to AB 32-based review processes.~~
 - 4) ~~Within 60 days of the Commission’s approval of this modified Plan, submit for the Executive Director’s review and approval a revised Plan that includes these modifications.~~

These recommended Revised Findings incorporate the modifications described above. Staff recommends the Commission *approve* these Findings.

~~Staff’s main recommendation—that the Plan be implemented using AB 32 protocols for verifying greenhouse gas reductions—is based on recommendations from the California Air Resources Board, the San Diego Air Pollution Control District, the California State Lands Commission, and the California Energy Commission. The other recommendations are meant to help Poseidon and the Commission implement the Plan in a manner consistent with the Commission’s approval and with AB 32.~~

~~With these modifications, staff believes Poseidon’s Plan would conform to **Special Condition 10** and applicable provisions of the Commission’s Findings. Further, staff believes that the modified Plan would also be fully consistent with the goals and provisions of AB 32. By using CARB and CCAR approved methods and protocols to quantify and verify its emission reductions, Poseidon would also be able to participate in the state’s approved program, which will allow it to transition smoothly to any future AB 32 regulations that may apply to its facility.~~

³ **The “on site” and “project-related” measures identified in the Plan consist of the following:**

- **use of an energy recovery system for the desalination facility.**
- **implementation of “green building” design.**
- **on-site solar power generation.**
- **addition of carbon dioxide (CO₂) from a CO₂ recovery facility into produced water.**
- **avoided emissions from reduced energy use at a Carlsbad water reclamation facility.**
- **avoided emissions from displaced imported water.**
- **avoided emissions from carbon sequestration in project-related wetland mitigation.**

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1.0 MOTION & RESOLUTION

Motion:

“I move that the Commission adopt the revised findings in support of the Commission’s action on August 6, 2008 to approve the Energy Minimization and Greenhouse Gas Reduction Plan attached to the staff recommendation as Exhibit 1, if modified as shown in Section 1.1 below, as compliant with Special Condition 10 of CDP E-06-013.”

Resolution to Approve:

*The Commission hereby adopts the findings set forth below for the Commission’s approval of the Energy Minimization and Greenhouse Gas Reduction Plan as compliant with Special Condition 10 of CDP E-06-13 on the grounds that the findings support the Commission’s decision made on August 6, 2008, and accurately reflect the reasons for it finds that the compliance plan titled “Carlsbad Seawater Desalination Project: Energy Minimization and Greenhouse Gas Reduction Plan” prepared and submitted by the permittee, Poseidon Resources (Channelside) LLC, dated July 3, 2008, if modified as shown in Section 1.1 of the July 24, 2008 Commission staff report, is adequate, if fully implemented to comply with **Special Condition 10** of CDP E-06-013.*

Staff Recommendation:

Staff recommends a “YES” vote on the motion. Passage of this motion will result in the adoption of revised findings as set forth in this staff report. The motion requires a majority vote of the members from the prevailing side present at the revised findings hearing, with at least three of the prevailing members voting. Only those Commissioners on the prevailing side of the Commission’s action are eligible to vote on the revised findings, which will result in the ~~approval~~ of the modified plan as compliant with **Special Condition 10** and adoption of the motion, resolution, and

findings herein. The motion passes only by an affirmative vote of a majority of the Commissioners present. Staff's recommended modifications are provided in Section 1.1 below, and are further detailed in Section 4.0 of this memorandum. If these recommended modifications are not incorporated into the Plan, staff recommends the Commission find the Plan, as submitted, does not conform to **Special Condition 10** and staff would therefore recommend the Plan be denied.

1.1 RECOMMENDED MODIFICATIONS TO POSEIDON'S PROPOSED PLAN

- 1) Implement the Plan's **provisions regarding offsetting the project's net GHG emissions** using the protocols, criteria, and mechanisms provided by Assembly Bill 32 (AB 32)⁴:
 - a) Use California Air Resources Board (CARB), ~~and/or~~ California Climate Action Registry (CCAR), **and/or California Air District** approved protocols and mechanisms for all emission reduction measures **proposed to offset the net GHG emissions from Poseidon's purchased electricity use. On-site and project-related measures identified in the Plan are used to calculate the project's net GHG emissions and are therefore not subject to the CARB, CCAR, or Air District requirements regarding offsetting the net GHG emissions.**⁵ proposed to ensure emissions from Poseidon's purchased electricity are "net zero".
 - b) Join the CCAR "Climate Action Reserve" and other entities that require the use of CARB-, ~~or~~ CCAR-, **or California Air District**-approved protocols to implement the Plan's emission reduction measures and provide necessary accounting of those measures.
- 2) ~~Submit annual reports for Executive Director review and approval that show the results of Poseidon's verified emission reduction measures as determined pursuant to AB 32-approved review processes.~~
- 3) ~~Modify the Plan's GHG template to conform to AB 32-based review processes.~~
- 4) ~~Within 60 days of the Commission's approval of this modified Plan, submit for the Executive Director's review and approval a revised Plan that includes these modifications.~~

⁴ See Exhibit 3: The Global Warming Solutions Act of 2006, also known as **Assembly Bill 32** (AB 32) – from <http://www.arb.ca.gov/cc/docs/ab32text.pdf> (last visited June 30, 2008).

⁵ This would not include measures Poseidon implements at the desalination facility to avoid or reduce its need for purchased electricity. These measures include, for example **The on-site measures consist of:**

- Poseidon's installation of a high efficiency energy recovery system;
- Its use of green building design components; and,
- Installation of solar photovoltaics on the facility's roof to generate electricity for Poseidon's use.

Each of these measures, if implemented, would result in the facility needing less purchased electricity, which would therefore reduce the GHG emissions for which Poseidon's emission reduction measures would be needed.

The "project-related" measures Poseidon identified in its Plan are recovery of CO₂ for injection into produced desalinated water, emission reductions from reducing electricity used at the Carlsbad water treatment facility, avoided emissions expected from imported water offsets, and carbon sequestration in the project's wetland mitigation site(s).

2.0 STANDARD OF REVIEW

The Commission ~~must determine whether the~~ subject plan must conform to *Special Condition 10* of CDP E-06-013, which states:

PRIOR TO ISSUANCE OF THE PERMIT, the Permittee shall submit to the Commission a Revised Energy Minimization and Greenhouse Gas Reduction Plan that addresses comments submitted by the staffs of the Coastal Commission, State Lands Commission, and the California Air Resources Board. The permit shall not be issued until the Commission has approved a Revised Energy Minimization and Greenhouse Gas Reduction Plan after a public hearing.

As shown in the Permit Findings and in the Commission’s November 15, 2007 hearing transcript, Poseidon offered as part of the project to make its facility operations “carbon neutral” or “net carbon neutral”.⁶ It offered a Climate Action Plan to implement this part of its project. The Commission required through *Special Condition 10* that Poseidon submit a revised Plan to ensure conformity to applicable Coastal Act provisions. In its Permit Findings, the Commission stated that this Plan was to “ensure that Poseidon minimizes ~~electricity~~ energy consumption of the project and mitigates any effects of the project’s emissions on coastal resources of the project’s net GHG emissions...” The Plan was to ensure that the project would “avoid, minimize, or mitigate adverse impacts to a wide range of coastal resources, including public access, recreation, marine resources, wetlands, ESHA, agriculture, natural land forms, and existing development associated with its minimized and mitigated energy consumption.” The Commission further found that, with such a Plan, the project would be consistent with the requirements of Section 30253(4) and other relevant Coastal Act provisions related to minimizing energy use and mitigating any adverse effects on coastal resources from greenhouse gas emissions.

2.1 APPLICABILITY OF AB 32

In reviewing the proposed Plan for conformity to *Special Condition 10* and the Commission’s Permit Findings, staff used as guidance the state’s primary statute applicable to greenhouse gas emissions reductions. The Global Warming Solutions Act of 2006 (AB 32) is California’s landmark greenhouse gas (GHG) emissions reduction law (see Exhibit 2). It sets a statewide target to reduce GHG emissions in the state to 1990 levels by 2020. This target will be achieved through the implementation of regulations, policies, and programs that lead to maximum technically feasible and cost-effective emission reduction measures.

⁶ These terms generally refer to a broader range of emissions than are addressed in Poseidon’s Plan. For example, “carbon neutral” is defined as providing mitigation for the amount of carbon emitted from both direct and indirect emissions. Poseidon’s Plan identifies only those indirect emissions that would result from Poseidon’s use of electricity generated by, and purchased from, SDG&E (or any other entity from which the desalination facility may obtain all or part of its electricity in the future), and proposes mitigation for just those emissions. Similarly, the analyses in the Findings and in this memorandum are focused only on identifying, avoiding, reducing, offsetting, or otherwise mitigating just those indirect emissions rather than the full suite of emissions that would need to be addressed to determine whether the project was “carbon neutral”.

Role of the California Air Resources Board (CARB): AB 32 recognizes CARB as the agency primarily responsible for implementing its provisions. Last year, CARB adopted regulations that require certain entities to report and verify their GHG emissions and to monitor those emissions and enforce compliance.⁷ In June 2008, CARB released its draft AB 32 implementation scoping plan. AB 32 also directs CARB to adopt regulations on GHG limits and emissions reductions measures by January 2011 and to implement those regulations by January 2012.

CARB is anticipating that it will first focus on developing regulations for the largest sources of GHGs and that it will phase in additional sources later. However, reaching the statewide target will also depend on GHG emitters that are not initially regulated to voluntarily undertake actions to reduce or mitigate their GHG emissions. In recognition of this need, AB 32 includes several provisions to adopt acceptable methods for verifying and quantifying voluntary emissions reductions that may be used to meet the AB 32 goals. For example, AB 32 requires CARB to adopt a plan by 2009 that identifies how the state will meet its goal of reducing emissions to their 1990 levels, and that plan is to, among other things, “identify opportunities for emission reductions measures from all verifiable and enforceable voluntary actions, including, but not limited to, carbon sequestration projects and best management practices”.⁸ Further, the regulations AB 32 requires be adopted by 2011 are to “ensure that entities that have voluntarily reduced their greenhouse gas emissions prior to the implementation of this section receive appropriate credit for early voluntary reductions”.⁹ In support of this policy, AB 32 also requires CARB to adopt methods to quantify voluntary GHG emission reductions.¹⁰

Relevance of AB 32 to Special Condition 10 and Poseidon’s proposed Plan: AB 32 clearly anticipates and applies to the types of emission reductions that will be needed from entities like Poseidon – that is, entities that may not initially be regulated directly through AB 32, but that are implementing measures meant to conform to other requirements and be consistent with AB 32. The statute applies to all sources of GHG emissions and, as mentioned above, explicitly includes electricity consumed in the state (see AB 32, Section 38530(b)(2)). Any new, large, significant electricity load will make reaching this statewide target more difficult. Poseidon’s desalination facility will be a new, large, significant electricity consumer, thereby increasing the electricity sector’s GHG emissions at a time when a statewide effort is underway to dramatically decrease this source of emissions. By implementing its proposed Plan using AB 32 guidance and regulations, Poseidon will likely minimize GHG emissions in a manner that is well integrated with AB 32’s framework.

⁷ See Air Resources Board, Mandatory Reporting of GHG Emissions, <http://www.arb.ca.gov/regact/2007/ghg2007/ghg2007.htm> (last visited June 30, 2008).

⁸ See Section 38561(f).

⁹ See Section 38562(b)(3).

¹⁰ Section 38571 states: “The state board shall adopt methodologies for the quantification of voluntary greenhouse gas emission reductions. The state board shall adopt regulations to verify and enforce any voluntary greenhouse gas emission reductions that are authorized by the state board for use to comply with greenhouse gas emission limits established by the state board. The adoption of methodologies is exempt from the rulemaking provisions of the Administrative Procedure Act (Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code).”

Poseidon's desalination facility is not anticipated to be included in the initial regulatory mechanism CARB plans to implement in 2012. Therefore, although Poseidon's proposed GHG emissions reduction measures are required pursuant to **Special Condition 10** of its coastal development permit, they would be reviewed as "voluntary" measures for purposes of AB 32. As noted above, AB 32 establishes provisions to ensure such "voluntary" measures meet AB 32 standards, and CARB has already adopted some regulations to ensure voluntary measures are consistent with AB 32, and is planning to adopt additional similar regulations. For example, CARB has established protocols for voluntary forestry projects meant to sequester carbon, and Commission staff and other agencies have recommended that Poseidon follow these protocols to implement its \$1 million ~~purchase of trees for carbon sequestration~~ **payment for reforestation of areas in San Diego County burned by the 2007 wildfires**. These protocols will allow Poseidon's anticipated carbon "credits" to be quantified and verified and meet other applicable AB 32 provisions. CARB is expected to approve additional methodologies and protocols during the next several years that will allow Poseidon to participate in other verified emission reduction programs.

CARB is also scheduled in 2009 to require emission reporting from electricity-generating facilities, including San Diego Gas & Electric Company (SDG&E), from which Poseidon plans to purchase its electricity.¹¹ In recognition of this requirement, Commission staff recommended to Poseidon that the emission factors¹² and emission reductions in its Plan be based on the mandatory reports provided to CARB. For the period before these mandatory reports are required, Commission staff accepted Poseidon's proposal to use SDG&E's voluntary reports to the California Climate Action Registry.

AB 32 also recognizes the California Climate Action Registry (CCAR) as one of the mechanisms to be used to implement the state's GHG emission reduction programs. CCAR is a non-profit public organization initiated by the State of California to serve as a voluntary GHG registry to encourage and protect early actions to reduce GHG emissions. CCAR has established the Climate Action Reserve, which is specifically designed for the voluntary GHG emission reduction market and provides accurate and transparent measurement, verification, and tracking of GHG reduction projects and their inventories of GHG reduction tons, thus assuring a high degree of reliability. Commission staff ~~has~~ recommended that Poseidon join CCAR's Reserve and use it in implementing its proposed emission reduction measures.

¹¹ Personal communication between Commission staff and CARB staff on June 5, 2008. According to CARB staff, SDG&E will be required to report to CARB by June 2009 its 2008 GHG emissions. The emission report is to be verified by an accredited third party by December 2009, and by February 2010, annual reports will be available to the public.

¹² An emission factor represents the average amount of GHG emissions produced from an electricity generator's portfolio of energy sources as measured in pounds per megawatt-hour. Each type of electricity generator has a different emission factor – for example, a natural gas-fired power plant may produce 800 pounds of GHG emissions for every megawatt-hour of electricity it produces, and a coal-fired plant may produce 2000 pounds of GHG emissions for the same amount of electricity. SDG&E's emission factor varies each year based on where it purchases or generates its electricity – for example, its emission factor this year was about 780 pounds per megawatt-hour and its previous emission factor was less than 600 pounds per megawatt-hour. SDG&E currently certifies its annual emission factor using CCAR, and will be required to certify it through CARB starting in 2009.

Based on the above, it is appropriate for the Commission to use AB 32 and its implementing regulations, protocols, criteria, and mechanisms as the basis for its review and approval of **the provisions of Poseidon’s Plan regarding offsetting the project’s net GHG emissions. The Commission includes the Plan’s identified on-site and project-related measures as part of Poseidon’s calculation of the project’s net GHG emissions and these measures therefore will not be subject to the Commission’s requirement that Poseidon use CARB-, CCAR-, or Air District- approved AB 32 protocols regarding offsets for net GHG emissions.** This approach is supported by other agencies that have been involved in Commission staff’s review, including CARB, the San Diego Air Pollution Control District (SDAPCD), the State Lands Commission (SLC), and the California Energy Commission (CEC), all of which requested that Poseidon use AB 32 provisions to develop and implement its Plan. ~~Staff believes that~~ ~~Implementing Coastal Act requirements using the terms, criteria, and mechanisms provided through AB 32 would result in the Plan’s conformity to **Special Condition 10**. Additionally, staff believes this would ensure the Plan is consistent with the state goals and targets expressed in AB 32, and would result in maximum credible and verifiable emissions reductions.~~

Relationship between AB 32 and the Coastal Act: ~~Staff believes that~~ This approach would also be fully consistent with Coastal Act Section 30414. For example, Section 30414(c) states:

The State Air Resources Board and any air pollution control district may recommend ways in which actions of the commission or any local government can complement or assist in the implementation of established air quality programs.

As noted above, both CARB and the SDAPCD are implementing provisions of AB 32 and have recommended the Commission and Poseidon use AB 32 as the basis of the proposed Plan’s **provisions regarding offsetting the project’s net GHG emissions.** ~~Staff believes that~~ The Commission’s action requiring the use of these provisions would also be consistent with Section 30414(a), which recognizes that CARB and the state’s regional air pollution control districts are the principal agencies responsible for establishing air quality and emission standards. Section 30414 states, in relevant part, that the Coastal Act does not authorize the Commission “to establish any ambient air quality standard or emission standard, air pollution control program or facility, or to modify any ambient air quality standard, emission standard, or air pollution control program or facility which has been established by the state board or by an air pollution control district.” The Commission’s requirement that Poseidon implement **the offset provisions of its** Plan in a manner consistent with AB 32 ensures that the Plan is consistent with and supportive of programs established by CARB or the SDAPCD, and does not establish or modify emissions standards or programs. Further, this approach is consistent with AB 32’s Section 38598(a), which states that “nothing in this division shall limit the existing authority of a state entity to adopt and implement greenhouse gas emissions reduction measures.” As noted in the **Permit Findings**, the Commission determined that Poseidon must mitigate for its indirect GHG emissions and their effects on coastal resources.

Applicability of AB 32 goals, terms, criteria, and related mechanisms to ensure emissions reductions: Commission staff incorporated into its review several of the relevant terms defined in AB 32, including the following:

- “**Greenhouse gas**” or “**greenhouse gases**”: Section 38505(g) states that greenhouse gas or gases “includes all the following gases: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.”
- “**Statewide greenhouse gas emissions**”: Section 38505(m) defines these as “the total annual emissions of greenhouse gases in the state, including all emissions of greenhouse gases from the generation of electricity delivered to and consumed in California, accounting for transmission and distribution line losses, whether the electricity is generated in state or imported. Statewide emissions shall be expressed in tons of carbon dioxide equivalents.”

~~Commission staff recognizes that t~~The desalination facility will contribute to “statewide greenhouse gas emissions” because its baseline electricity use ~~will~~ **is expected to** result in about 90,000 tons of CO₂ each year. As noted in AB 32, any new, large, significant electricity load, such as that represented by Poseidon’s desalination facility, will unless adequately mitigated, adversely affect the electricity sector’s ability to achieve statewide targets.

- “**Emissions reduction measure**”: Section 38505(f) defines these as “programs, measures, standards, and alternative compliance mechanisms authorized pursuant to this division, applicable to sources or categories of sources, that are designed to reduce emissions of greenhouse gases.”

Commission staff reviewed Poseidon’s Plan based on this definition, which encompasses all the proposed measures, offsets, reductions, or other methods Poseidon proposes in its Plan – that is, all the measures Poseidon proposes to meet a “net zero” emission level for its use of purchased electricity are considered by AB 32 to be “emission reduction measures”. As noted ~~throughout this memorandum~~ **previously in these Findings**, three of the **on-site** measures Poseidon currently proposes would not be subject to this review, because, **if implemented**, they **would** result in direct reductions of Poseidon’s purchased electricity use and therefore reduce the amount of emissions that must be accounted for – these include Poseidon’s installation of a high efficiency energy recovery system, its use of green building design components, and its installation of solar photovoltaics on the facility roof to generate electricity for Poseidon’s use. **The Commission also finds that the project-related measures Poseidon identified in its Plan are not subject to this review. These measures are the use of recovered CO2 for injection into water produced at the facility, emissions avoided by reducing energy needs at the Carlsbad water reclamation facility, emissions avoided from the expected displacement of imported water, and sequestration from project-related wetland mitigation. The Commission is satisfied that these project-related measures will reduce the GHG emissions attributable to the project and that they therefore should be included in the calculations used to determine the project’s net GHG emissions. This approach was supported by the Chair of the California Air Resources Board,**

the Executive Director of the California Energy Commission, and the General Manager of the Metropolitan Water District. Only the remaining provisions of the Plan intended to offset the project’s net GHG emissions are subject to CARB-, CCAR-, or Air District-approved AB 32 protocols.

AB 32 also identifies six criteria to be used to determine whether proposed GHG emission reduction measures are adequate to ensure conformity to AB 32. The criteria, at Section 38562(d) require that any measures approved by CARB are “real”, “permanent”, “quantifiable”, “verifiable”, “enforceable”, and are “in addition to” any GHG emission reduction otherwise required by law or regulation and any other GHG emissions reduction that otherwise would occur. While AB 32 does not define these criteria, CARB staff indicated that they are defined in other state air regulations and recommended those existing definitions be used, such as:¹³

- “Real” and “in addition to”: Real or additional emission reductions are those that have actually occurred, not emissions that could have been emitted but were not or are avoided emissions. This means that the emission reductions result from actions taken that are beyond the course of normal activity such that the emission reductions are not considered "business as usual."
- “Permanent”: Permanent means that the life of the emission reductions is reasonably established and commensurate with the proposed use of the credits. Projects should be “irreversible”; that is, the reductions achieved should not be subject to backsliding or vulnerable to changes in external conditions.
- “Quantifiable”: Quantifiable means that the amount of the emission reductions can be measured with reasonable certainty.
- “Verifiable”: Verification means the process used to ensure that an operator’s emissions data report is free of material misstatement and complies with CARB’s procedures and methods for calculating and reporting GHG emissions.
- “Enforceable”: Enforceable means that the reductions can be independently verified and are legally binding. Enforcement is an essential element of any alternative compliance strategy. Projects thus must be accessible to inspection by California staff.

As recommended by CARB and other agencies, Commission staff provided in its review of Poseidon’s proposed Plan an initial application of these six criteria to assess whether Poseidon’s suggested emissions reduction measures might conform to AB 32. Staff’s conclusions, **The Commission finds** in Section 4.0 of **these Findings that emission reduction measures to offset the project’s net GHG emissions must comply with CARB-, CCAR-, and/or Air District-approved measures and protocols and that Poseidon must purchase or implement these offsets through CCAR, CARB, or a California air district. If offsets cannot feasibly**

¹³ CARB staff stated examples of criteria definitions were available from various sources, such as 2008 modifications to its regulations for reporting GHG emissions at (17 CCR Subchapter 10), San Diego Air Pollution Control District’s August 2004 operating permit regulations (Regulation XIV, Title V), August 2004 proposed rulemaking to control GHG emissions from motor vehicles, etc.

be acquired through these entities due to price or inadequate supply, Poseidon may request the Commission’s Executive Director to approve purchases of offsets or implementation of projects from other entities. Poseidon may also, upon approval of the Executive Director or the Commission, deposit funds into an escrow account in lieu of purchasing offsets/RECs in the event that (i) offset/REC projects in an amount necessary to mitigate the Project’s net indirect GHG emissions are not reasonably available; (ii) the “market price” for carbon offsets or RECs is not reasonably discernable; (iii) the market for offsets/RECs is suffering from significant market disruptions or instability; or, (iv) the market price has escalated to a level that renders the purchase of offsets/RECs economically infeasible to Poseidon. The funds placed in escrow will be paid in an amount equal to \$10 per metric ton, adjusted for inflation from 2008, and will be used to fund offset projects as they become available, with the Executive Director or Commission determining the entities that may use these funds and the time period for which this contingency may be used. With these modifications, the Plan is consistent with Special Condition 10 and applicable Coastal Act requirements this memorandum, suggest that several of Poseidon’s proposed measures would likely conform to the criteria; however, as reflected in staff’s recommendations, the actual assessment of Poseidon’s proposals, should be done by a certified independent verifier as established through AB 32.

~~In sum, Commission staff, on advice from CARB and other agencies, have recommended that Poseidon implement its Plan consistent with the provisions, guidance, and regulations established pursuant to AB 32, and that the Commission base its approval and ongoing review of Poseidon’s Plan on the guidance provided by AB 32.~~

3.0 PLAN DEVELOPMENT AND REVIEW

Between November 2007 and July 2008, Commission staff worked with Poseidon and with other agencies to develop an acceptable Plan to present for Commission review and approval. Commission staff’s research included determining appropriate GHG accounting methods, evaluating current and pending legislation related to GHG emission reductions, identifying and assessing the effectiveness of various measures meant to avoid or reduce GHG emissions, and other similar issues. Commission staff met with Poseidon and agency representatives at various times during the process to discuss various proposed modifications to the Plan, determine the feasibility and effectiveness of proposed measures, and develop other aspects of the Plan. Throughout the process, Commission staff provided comments and guidance to Poseidon, and Poseidon provided several drafts of its proposed Plan.

This review process included Commission staff hosting a May 2, 2008 interagency meeting in Carlsbad. The purpose of the meeting was to inform other involved agencies about the status of Poseidon’s Plan and to seek input and guidance from those agencies about the proposed approach, about potential mitigation projects for Poseidon to develop, and to establish contacts for ongoing review. Along with Commission staff and Poseidon, participants included:

California State Lands Commission
California Energy Commission
California State Parks
California Department of Forestry &
Fire Protection

San Diego Air Pollution Control District
San Diego Association of Governments
San Diego County Water Authority
City of Carlsbad
City of Vista

Through this process, and with the assistance and guidance from these agencies as well as CARB, Commission staff developed ~~the recommended modifications described in Sections 1.1 and 4.0 of this memorandum for Poseidon to incorporate into its Plan. The recommendations also provide the basis for the analyses herein~~ **to Poseidon's Plan.**

On July 7, 2008, Commission staff received a ~~the currently proposed Plan~~ for review by the Commission. **After several conversations with Commission staff, Poseidon subsequently submitted a revised Plan on August 2, 2008. At its August 6, 2008 hearing, the Commission approved the revised Plan with modifications as described herein.**

4.0 ANALYSIS FOR CONFORMITY TO ADOPTED FINDINGS & SPECIAL CONDITION 10

Special Condition 10 states:

PRIOR TO ISSUANCE OF THE PERMIT, the Permittee shall submit to the Commission a Revised Energy Minimization and Greenhouse Gas Reduction Plan that addresses comments submitted by the staffs of the Coastal Commission, State Lands Commission, and the California Air Resources Board. The permit shall not be issued until the Commission has approved a Revised Energy Minimization and Greenhouse Gas Reduction Plan after a public hearing.

The **Permit** Findings state that this Plan is to ensure that Poseidon minimizes its ~~electricity~~ **energy** consumption and mitigates any effects of ~~indirect emissions resulting from the project's use of purchased electricity on coastal resources~~ **of the Project's net GHG emissions** to ensure conformity to Coastal Act Section 30253(4) and other applicable Coastal Act provisions.

Section 4.1 below provides a description of the submitted Plan's key elements. The Plan **submitted by Poseidon on August 2, 2008** is attached as Exhibit 1. ~~Sections 4.2 through 4.4 describes staff's recommended~~ **the modifications needed to the Plan adopted by the Commission that will** ensure the Plan conforms to the Adopted **Permit** Findings and ***Special Condition 10***. ~~Each section also includes concerns Poseidon expressed about the recommendations and staff's response to those concerns. Briefly, the recommended modifications described herein are:~~

- **Section 4.2:** Implement the Plan's **provisions regarding offsetting the project's net GHG emissions** using the protocols, criteria, and mechanisms provided by Assembly Bill 32 (AB 32):
 - **Section 4.2.1** – Use CARB-, and/or CCAR-, **and/or California Air District-** approved protocols and mechanisms for all emission reduction measures proposed to ensure emissions from Poseidon's purchased electricity are "net zero" **offset the net GHG emissions from Poseidon's purchased electricity are "net zero". On-site and project-related measures in the Plan are used to calculate the project's net**

GHG emissions and therefore are not subject to CARB, CCAR, or Air District requirements for offsetting the net GHG emissions.¹⁴

- ~~Section 4.2.2~~ – Join the CCAR “Climate Action Reserve” and other entities that require the use of CARB-, ~~or CCAR-~~, **or California Air District-**approved protocols to implement the Plan’s emission reduction measures and provide necessary accounting of those measures.
- ~~Section 4.3:~~ Submit annual reports for Executive Director review and approval that show the results of Poseidon’s verified emission reduction measures as determined pursuant to AB 32 approved review processes.
- ~~Section 4.4:~~ Modify the Plan’s GHG template to conform to AB 32 based review processes.

~~The key recommended modifications are those in Section 4.2 related to the Plan’s use of AB 32. Poseidon states that parts of its Plan are meant to be consistent with AB 32, and although staff’s analysis shows that the Plan, as submitted, is not yet consistent with AB 32’s protocols regarding reducing and offsetting GHG emissions, staff believes it would be if modified as recommended in Section 4.2. The recommendations in Sections 4.3 and 4.4 would change the process Poseidon has proposed for Plan review in a manner consistent with AB 32 provisions and in a way that would ensure the Commission has adequate certainty and oversight over ongoing condition compliance. Similarly, staff’s recommendation in Section 1.1 that Poseidon submit a revised Plan that incorporates these modifications would assist the Commission in ensuring conformity to its decision.~~

4.1 PLAN DESCRIPTION

Poseidon’s submitted Plan includes^d three main steps for the desalination facility to accomplish “net zero” emissions from its electricity use:

- 1) Identify the amount of indirect GHG emissions: determine by multiplying annual electricity use (as measured by electric meter readings of delivered electricity) by the annual emission factor certified by CARB or CCAR.
- 2) Identify on-site and project-related reduction of indirect GHG emissions. This includes seven proposed measures to reduce emissions.

¹⁴ **On-site measures consist of:**

- **Poseidon’s installation of a high efficiency energy recovery system;**
- **Its use of green building design components; and,**
- **Installation of solar photovoltaics on the facility’s roof to generate electricity for Poseidon’s use.**

Each of these measures, if implemented, would result in the facility needing less purchased electricity, which would therefore reduce the GHG emissions for which Poseidon’s emission reduction measures would be needed.

The “project-related” measures Poseidon identified in its Plan are recovery of CO₂ for injection into produced desalinated water, emission reductions from reducing electricity used at the Carlsbad water treatment facility, avoided emissions expected from imported water offsets, and carbon sequestration in the project’s wetland mitigation site(s).

- 3) Identify mitigation options to offset any remaining indirect GHG emissions. These include:
- A proposed process for obtaining, reviewing, approving, and validating emission reduction projects, including formation of a committee and database.
 - An annual process to “true-up” emission reduction credits
 - A contingency approach if Poseidon determines no GHG emission reduction projects are reasonably available.
 - A contingency approach if new GHG emission reduction regulatory programs are created.
 - Examples of potential emission reduction projects.
 - A general description of Poseidon’s reforestation sequestration project.
 - A table reflecting Poseidon’s projected annual net-zero GHG emissions balance.
 - An implementation schedule that includes an annual report to the Commission describing Poseidon’s conformity to the above provisions.

The Plan’s focus ~~is~~was on the process by which Poseidon will select and implement its emission reduction measures. Because Poseidon does not anticipate operating its facility for about three years, and because the policies, regulations, and acceptable emission reduction measures are expected to change significantly over the next three years and beyond, many of the measures described in the Plan are subject to change and additional review. Given these likely changes, the Commission staff concurs with Poseidon that the ~~Commission’s approval~~ Plan should emphasize the process by which Poseidon will identify, select, and verify its emission reduction measures. However, as shown in the discussions below, ~~staff believes~~ the Commission required the Plan’s provisions regarding offsetting the project’s net GHG emissions, as submitted, ~~is not adequate~~ be modified to ensure conformity to *Special Condition 10* ~~or~~ and the Commission’s direction as expressed in the Permit Findings.

Section II.A of the Plan also requires the desalination facility to incorporate on-site energy minimization features including numerous Project components designed to ensure that the Project will use only the minimum energy necessary. These include energy efficiency measures like the state of the art “pressure exchanger” energy recovery technology that allows recovery and reuse of 33.9% of the energy associated with desalination’s reverse osmosis process, as well as high efficiency and premium efficiency motors and variable frequency drives on the intake water pumps to improve their efficiency. As discussed below, the Commission finds that these energy minimization measures will reduce impacts to coastal resources that would have been caused through additional energy usage, and will minimize energy consumption consistent with Coastal Act section 30253(4) and other applicable Coastal Act policies.

4.2 RECOMMENDATION—USE PROVISIONS APPLICATION OF AB 32

Staff’s ~~A~~ central issue of concern is an inability to verify verification of the Plan’s emission reductions offsets of the net GHG emissions against accepted protocols and criteria. This results in a lack of assurance that the proposed Adequate protocols and criteria are necessary to ensure that the Plan’s offset provisions will provide the stated level of mitigation – that is, a “net zero” increase in indirect net GHG emissions from the facility’s operations.

Staff's ~~key~~**Key** concerns include the following:

- **Poseidon had proposed using several sets of criteria and various third-party providers to implement its Plan.** The process proposed in the Plan would not ~~provide verification for~~ most of the ~~proposed emission reduction measures, including those that Poseidon is relying on for the bulk of its emission reductions.~~ The Plan creates a new category of emission reductions —“project related” measures— and suggests these should be evaluated under criteria unique to this project. Staff believes these measures, regardless of the term used to describe them, would best be reviewed using **necessarily use** the protocols, mechanisms, and criteria established by CARB, ~~or CCAR,~~ **or a California Air District** pursuant to implementation of AB 32.
- ~~The Plan would establish a committee to select and verify Poseidon's emission reduction measures; however, this committee would not provide the degree of third-party independence identified in AB 32 as necessary for emission reduction verification.~~
- The Plan ~~does~~ **as proposed would** not provide assurance that adequate emission reductions would ever be implemented due to its contingency provision that would allow Poseidon to forego mitigation when it deems market conditions to be unfavorable. In lieu of mitigation, Poseidon states that it would deposit \$10 per ton of unmitigated GHG emissions into an escrow account, but the Plan does not describe how these funds would be used.

Staff's ~~recommended modifications are meant to~~**The modifications adopted by the Commission** resolve these **and other** concerns and ~~to ensure the Plan would conform to~~ *Special Condition 10 and Coastal Act requirements*. Further, staff believes these modifications will provide Poseidon with the certainty and flexibility needed for it to select and implement verifiable emission reduction measures to operate at its anticipated “net zero” level of indirect electricity-related emissions *and* to be credited for its efforts as part of the state's approach under AB 32. These are each described in detail below.

4.2.1 Use CARB-, and/or CCAR-, and/or California Air District-approved protocols and mechanisms for emission reduction measures.¹⁵

As noted in Section 2.0, AB 32 includes a number of provisions meant to apply to emission reductions measures such as those Poseidon is proposing **to offset its net GHG emissions.** Staff's primary recommendation is **The Commission's primary modification is to require** that

¹⁵ ~~As noted previously,~~ **As noted previously,** ~~this would not include measures Poseidon implements at the desalination facility to avoid or reduce its need for purchased electricity. These measures include, for example:~~

- Poseidon's installation of a high efficiency energy recovery system;
- Its use of green building design components; and,
- Installation of solar photovoltaics on the facility's roof to generate electricity for Poseidon's use.

Each of these measures, if implemented, would result in the facility needing less purchased electricity, which would therefore reduce the GHG emissions for which Poseidon's emission reduction measures would be needed.

This would also not include the “project-related” measures Poseidon identified in its Plan – i.e., recovery of CO₂ for injection into produced desalinated water, emission reductions from reducing electricity used at the Carlsbad water treatment facility, avoided emissions expected from imported water offsets, and carbon sequestration in the project's wetland mitigation site(s).

Poseidon's Plan use these provisions to ensure its these proposed emission reduction measures **(i.e., those needed to reach net zero emissions after on-site and project-related measures are factored in)** fit within the framework California has established for this type of project. The existing or anticipated protocols and mechanisms being implemented by CARB, ~~and~~ CCAR, **and/or California Air Districts** pursuant to AB 32 can be used to evaluate ~~Poseidon's~~ these proposed emission reduction measures.

The ongoing implementation of AB 32 has jumpstarted the voluntary emission reduction market in California, although similar to the situation elsewhere, it is not always clear that measures being proposed are real or verifiable. AB 32 addresses this issue by requiring CARB to develop approved methodologies and protocols for the voluntary market that meet the AB 32 criteria – that the emission reduction measures are real, permanent, quantifiable, verifiable, enforceable, and additional to any reduction that would otherwise occur. By 2012, CARB will have a list of CARB-approved project protocols and CARB-accredited verifiers to identify valid emission reductions. CARB has already approved a forestry-project protocol and is in the process of reviewing additional protocols.

CCAR, like CARB, also approves project protocols and third-party verifiers for the voluntary GHG emission reduction market, pursuant to AB 32.¹⁶ CCAR currently has certified project protocols for forestry, landfill, and livestock projects. As mentioned above, CARB has already approved the forestry protocol and is in the process of reviewing the CCAR-approved livestock project protocol. CCAR estimates that by 2009 it will have approved several additional CCAR project protocols and it has just issued a Request for Proposals to begin work on ten new project protocols. Staff notes that CCAR's approved protocols have received strong support within California.¹⁷

Poseidon is concerned that some of its proposals **for offsetting the project's net GHG emissions** do not yet have accepted protocols and it would not be able to get emission reduction credits for them – that is, Poseidon has proposed a number of emission reduction measures that cannot yet be quantified or verified using adopted protocols. ~~Staff notes, however, that o~~ **One** of Poseidon's key proposals – its \$1 million ~~tree purchase for sequestration~~ **payment for reforestation of areas in San Diego County affected by the 2007 wildfires** – does have approved protocols in place, and that other protocols are being developed over the next several years **and may be in place** before Poseidon plans to start operations. Further, and importantly, California's emission reduction framework is based on accepting only those emission reduction measures that can be verified. Verification relies on there being accepted protocols by which to determine the validity, extent, and effectiveness of any emission reduction measure. ~~For example, Poseidon has offered to verify the emission reductions it expects from its proposed imported water offsets by providing Commission staff a contract from the Metropolitan Water~~

¹⁶ Section 38530(b)(1) directs CARB to, "where appropriate and to the maximum extent feasible, incorporate the standards and protocols developed by the CCAR."

¹⁷ For example, the CARB Chair, Mary Nichols, has stated that, "the Registry's Forest Protocols are among the world's most accurate and environmentally sound, which led the State of California to adopt them." See also Climate Action Reserve at: http://www.climateregistry.org/resources/docs/press-releases/climate-action-reserve-release_final_IA.doc (last visited July 19, 2008), which includes statements of support from Linda Adams, Secretary of the California Environmental Protection Agency and Chair of CCAR, and others.

District that confirms the offsets; however, staff is uncertain as to whether this contract would adequately verify that these expected emission reductions would occur. Staff suggests, therefore, that the Commission address this concern *not* by accepting proposed measures for which there is a current lack of approved protocols, but by ensuring that whatever measures Poseidon proposes in its Plan are verified using approved protocols. Staff believes ~~that~~ **The best way to ensure Poseidon's Plan provides the intended result – that is, to mitigate for Poseidon's net indirect GHG emissions – is for the Plan's offset provisions to be based on the protocols and mechanisms that are already approved or that will be approved pursuant to AB 32. Staff therefore recommends that The Commission's approval therefore requires that, with respect to offsetting the project's net GHG emissions (i.e., for other than Poseidon's identified on-site and project-related measures), Poseidon to must select emission reduction measures and project proposals for which there are CARB-, ~~or~~ CCAR-, or California Air District-approved project protocols and must purchase emission reduction offsets or credits approved by CARB-, ~~or~~ CCAR-, or California Air District-accredited verifiers.**

Additionally, for proposed emission reduction measures that may be unique to Poseidon and do not have approved protocols, there are mechanisms in place that would allow Poseidon to propose protocols for CARB to approve. CARB has already initiated this “one-off” process for ten projects, and this same process is available for Poseidon to ensure its proposed measures conform to provisions of AB 32.

Poseidon has also stated that the AB 32 criteria are not meant to apply to some of its proposed measures, and has additionally contended that it is not required to adhere to those criteria. Its Plan references at least three different sets of criteria to apply to its various emission reduction proposals – those in AB 32, some based on the Kyoto Protocols, and a set of Evaluation Criteria developed for its Plan. It is not clear from the Plan which criteria would apply to the various proposed emission reduction measures, as the criteria sometimes overlap or are contradictory.

As noted above, AB 32's criteria are expected to apply to a wide range of emission reduction measures, including those implemented for both regulatory and voluntary efforts, which include Poseidon's. Staff therefore recommends that Poseidon's **The Commission has determined, therefore, that the Plan will use one set of criteria – those established in AB 32 – to apply to all the measures it proposes to mitigate for the net indirect GHG emissions resulting from its use of purchased electricity.¹⁸ This ~~would allow~~ Poseidon's Plan to ~~have~~ use a single, clear, and applicable set of criteria by which **some of** its emission reduction measures ~~could~~ can be verified and incorporated into California's emission reduction framework. Trying to implement the Plan using three sets of different and sometimes overlapping or conflicting criteria would likely cause confusion and uncertainty and would not allow some of Poseidon's proposed measures to be adequately reviewed and verified. By relying on these criteria and on CARB's and CCAR's implementation of AB 32, the Commission will have adequate assurance that Poseidon's modified Plan will conform to *Special Condition 10*. The Commission will also be assured that its review will be consistent with the framework the state has selected for addressing the need to reduce GHG emissions, and Poseidon will be able to validate its GHG ~~emission reduction efforts~~ **offset measures, including RECs,** as part of California's program.**

¹⁸ **As stated previously, this requirement does not apply to the on-site and project-related measures identified in the Plan. These measures are instead factored into the determination of the net GHG emissions that Poseidon is responsible for offsetting.**

Poseidon's Plan also includes a proposed contingency mechanism to be used if offset projects or mitigation measures are not reasonably available (see Section 3.h of the Plan, pages 24-25). It suggests that Poseidon would not implement some emission reduction measures. **The Commission's approval modifies that contingency to allow Poseidon to request an Executive Director determination that GHG reduction projects are not reasonably available** under certain conditions: 1) if there are not enough projects available; 2) if the market price for offsets or RECs is not reasonably discernable; 3) if the market price for those mitigation measures is suffering from significant market disruptions or instability; or, 4) if the price of those measures has escalated to a level Poseidon deems economically infeasible. ~~If any of those circumstances occur, Poseidon proposes, instead of funding projects or offsets, to deposit money into an escrow account equal to \$10 per ton of offsets needed.~~ **If the Executive Director determines that one or more of these conditions apply, Poseidon may deposit money into an escrow account to be expended on carbon offset projects. The Executive Director would have the authority to determine the duration of the escrow account and to approve Poseidon's proposal identifying one or more entities to use funds deposited into the escrow account to implement emission reduction projects. In the event of a dispute, Poseidon could appeal the Executive Director's determination to the Commission. The Commission also authorizes the Executive Director to approve, upon Poseidon's request, the use of emission reduction measures that may be available from entities other than CARB, CCAR, or the Air Districts.**

Staff believes this provision would prevent the Plan from conforming to **Special Condition 10**, as it could result in far fewer emission reductions than the Commission anticipates Poseidon will provide. The Plan does not define the terms used (e.g., "reasonably discernable", "market disruptions", etc.) and Poseidon has not established at what level various measures might become economically infeasible. Additionally, determining when the various conditions might occur appears to be solely under the purview of Poseidon. The Plan does not identify how funds in the escrow account would be used or who would decide their use. These characteristics each prevent the Commission from having the necessary level of assurance that Poseidon will adequately mitigate for its indirect GHG emissions. Further, because AB 32 requires CARB to consider cost effectiveness in developing its regulations and protocols, this contingency is likely not necessary. The broad application of the AB 32 processes to a wide variety of projects should ensure that Poseidon's proposed measures are not held to a different standard than others in the emission reduction marketplace.

4.2.2 Join CCAR's "Climate Action Reserve" or other entities using CARB- or CCAR-approved protocols

Poseidon's Plan proposes that Poseidon form a committee to evaluate its emission reduction measures and account for its total emission reduction credits. The committee would include three members—Poseidon, the California Center for Sustainable Energy (CCSE), which is Poseidon's consultant, and a member from academia with expertise in energy or air regulatory policy and emission reduction. The committee would identify, evaluate, and select suitable projects, subject to Poseidon approval. Projects implemented would be included in an annual report to be presented to the SDAPCD and to Commission staff for review and approval. The Plan also proposes that the SDAPCD provide annual oversight of the committee's work and manage a publicly accessible database showing how the Plan is being implemented.

~~Staff believes this proposal is overly complex and is duplicative of procedures and mechanisms already available to Poseidon through CCAR. Additionally, the committee would not represent the independent third party review identified in AB 32 as a necessary component for verifying emission reductions. Further, as currently proposed, the committee would be charged with implementing the Plan using its three sets of criteria, which, as described above, do not ensure adequate validation of the proposed measures. Staff notes, too, that Poseidon's proposal relies on the SDAPCD to perform a role for which it has not yet agreed, and staff therefore recommend the Commission not impose this requirement on the SDAPCD.~~

~~As an alternative, staff recommends~~ **The Commission modifies the Plan to require** that Poseidon join CCAR's Climate Action Reserve, which is a program within CCAR, so that it could implement **some of** its Plan through the Reserve. The Reserve was designed specifically for the voluntary GHG emission reduction market. The Reserve provides account holders accurate and transparent measurement, verification, and tracking of GHG reduction projects and inventories of their GHG reductions, thus assuring a high degree of integrity.

Poseidon has been supportive of CCAR – it stated that it has already joined CCAR, and as noted in the ~~Adopted~~ **Permit** Findings, it used CCAR's certified emission factor in determining its total expected GHG emissions. By participating in CCAR's Reserve program, Poseidon will have at least two additional ways to pursue fully verified GHG emission reduction measures – it can elect to purchase CCAR-approved emission reduction credits, and it can request implementation of CCAR-approved emission reduction project proposals. For example, Poseidon could immediately begin implementing its forestry project in San Diego through the Reserve. The Reserve will ensure Poseidon follows CARB/CCAR-approved forestry protocols, will provide independent third-party verification of results, and will provide an accounting mechanism for emission reductions credits Poseidon accrues over time. Poseidon would maintain an account with the Reserve that provides verification of the amount of emission reduction credits it has accrued in the form of public reports available on the Reserve's website, which would provide a high level of transparency.

Poseidon has expressed concerns to Commission staff that the Reserve may not have enough emission reduction credits and project protocols available to meet Poseidon's needs. However, according to the Reserve, it has had available about 200,000 "carbon reduction tons"¹⁹ so far in 2008 and expects to have at least five million available in 2012 when Poseidon plans to start operations.²⁰ ~~Even if Poseidon were to rely entirely on the Reserve for all its necessary emission reduction credits (about 90,000 tons per year), this would represent less than two percent of the Reserve's expected supply~~ **This is well in excess of the amount of credits that Poseidon is expected to need (approximately 16,000 credits per year).**

¹⁹ A "carbon reduction ton" or "CRT" is the Reserve's unit of measure used as a credit for reducing GHG emissions by one ton.

²⁰ Personal communication with the CCAR Reserve's Joel Levin, Vice President for Business Development, on July 22, 2008.

Summary and Conclusion: In sum, staff recommends above that Poseidon's the Commission finds that the Plan's provisions regarding offsetting the project's net GHG emissions is are to be implemented through the available and applicable provisions of AB 32, as carried out by CARB, and CCAR, and California Air Districts. This would ensure the Plan conforms to the provisions of the Commission's approval of Poseidon's coastal development permit and would allow Poseidon's Plan to be part of the state's approach to reducing its GHG emissions. In recognition of Poseidon's concerns that implementation of AB 32 may not proceed at a pace necessary to provide Poseidon with its needed emission reduction credits, Poseidon may at any time apply to the Commission for a permit amendment to modify its Plan to address this issue. Staff notes, however, that consultation with the various agencies has identified a number of AB 32-based protocols and mechanisms that are already in place or expected to be in place before Poseidon begins its operations and needs to implement its Plan. As noted previously, the Commission has also authorized the Executive Director to approve, upon Poseidon's request, the use of offsets, credits, or other emission reduction measures that may be available from other sources.

The Commission finds that the Project's energy minimization features described above will minimize the Project's energy consumption in accordance with Coastal Act Section 30253(4) and reduce impacts to coastal resources. Additionally, the Plan will mitigate impacts from the desalination facility's net GHG emissions from electrical usage by requiring all such net GHG impacts of the project be offset, and the Commission finds that the Plan will mitigate to the extent feasible impacts on coastal resources of the project's net GHG emissions, in accordance with applicable Coastal Act policies, including Section 30260.

~~4.3 — SUBMIT ANNUAL REPORTS FOR COMMISSION STAFF REVIEW AND APPROVAL~~

~~Poseidon's Plan includes an annual review process to ensure that the Commission has an opportunity to review the results of Poseidon's implemented emission reduction measures each year and to determine conformity to *Special Condition 10*. Poseidon has agreed to provide an annual report for Executive Director review and approval (see Exhibit 1 insert: July 24, 2008, *Memorandum to File—Plan Modifications Agreed to By Poseidon and Commission Staff*). The type and amount of emission reductions is expected to vary each year based on the annual update of SDG&E's certified emission factor and the amount of electricity Poseidon purchases each year from SDG&E.~~

~~However, the current Plan proposes a complex reporting method involving different timelines, committee review, RFP submittals and approvals, accounting methods, and other elements. Staff's recommendation is that Poseidon's annual report submittal be based on the review and timing needed to conform to the particular AB 32-related review processes Poseidon chooses to implement its Plan. The report should describe and account for all approved emission reduction measures and include both an annual and cumulative balance of Poseidon's net emissions; however, the particular mechanisms to develop each year's report may vary. For example, as a member of the Reserve described above, Poseidon will have its own account that reflects the amount of emission reductions credits it owns. This accounting service negates the need for Poseidon's committee, SDAPCD, or Commission staff to perform this function. It also eliminates the need for the committee to serve as a third-party reviewer, as this would be provided by the Reserve.~~

~~If Poseidon were to join the Reserve and use its accounting services for the annual report, the review process would be simplified and would provide Commission staff with a full account of its emission reduction credits that are CARB and/or CCAR approved. This recommendation would also provide the Commission with the necessary level of assurance that Poseidon's Plan is conforming to **Special Condition 10** and meeting the Commission's expectations as expressed in its Findings.~~

~~4.4 — MODIFY THE PLAN TEMPLATE TO CONFORM TO AB 32-BASED REVIEW PROCESSES.~~

~~Commission staff provided to Poseidon a template to use as the basis for its Plan. Staff's template included three main steps:~~

- ~~1) Determine expected indirect GHG emissions based on electricity use.~~
- ~~2) Identify measures that will reduce electricity use at the facility or use renewable energy and thereby reduce indirect GHG emissions.~~
- ~~3) Identify emission reduction measures that will be used to offset any remaining indirect emissions.~~

~~In its submitted Plan, Poseidon modified the template in a manner that would remove some of its proposed emission reduction measures from the necessary review process. For example, Part II of staff's template was meant to include only those measures that would directly avoid or reduce the amount of electricity purchased for use at the desalination facility (such as those described in footnote xx of this memorandum). Poseidon modified this step to include "project-related" measures that involve potential electricity or emission reductions that may occur elsewhere or through the actions of other entities. The submitted Plan also suggests that these "project-related" measures added to Part II be automatically deducted from the facility's baseline electricity use to derive its net use and net GHG emission level. However, staff's review shows that these measures would not necessarily reduce electricity use or emissions from the facility and are therefore appropriate to include in Part III of the template to ensure they are verified through the elements of AB 32 described above in Section 4.2.2.~~

~~Similar to the previous recommendation, staff recommends Poseidon modify the template in a manner appropriate to the AB 32 approved processes Poseidon chooses to implement for its Plan. As long as the template shows that all emission reduction measures needed to account for the indirect emissions from Poseidon's purchased electricity use are reviewed using the protocols, mechanisms, criteria, and other elements approved pursuant to AB 32, the Commission will have the necessary level of assurance that ongoing implementation of the Plan can conform to the provisions of **Special Condition 10**.~~

CONCLUSION

The Commission finds that, as modified, Poseidon's Energy Minimization and Greenhouse Gas Emission Reduction Plan complies with Special Condition 10 and with the Coastal Act's requirements to minimize energy consumption, protect coastal resources, and minimize the adverse environmental effects of coastal-dependent industrial facilities.