

RESPONSES TO COMMENTS

Comment No. 50

June 29, 2005

RECEIVED
JUN 30 2005
CITY OF CARLSBAD
PLANNING DEPT

Scott Donnell
Associate Planner
City of Carlsbad Planning Department
1635 Faraday Avenue
Carlsbad, CA 92008

Subject: Comments on DEIR Desalination Plant Project

Dear Mr. Donnell:

There is some new research coming out about small changes in salinity having large impacts and ramifications for the Pacific Ocean. An area in the middle of the Pacific where evaporation occurs very rapidly and has left the water slightly more saline was found to be a biological wasteland. I heard about this on Public Radio, you could probably locate the program segment on their web site.

A

Please make sure any deleterious effects of altering salinity are thoroughly researched and noted in your final EIR. This needs to be thoroughly investigated before the first plant is built. Once we get dependent on the water, there will be no turning it off - regardless of the effects on the environment.

B

I heard the talk the Scripps Scientists gave last year, (at the water conference held at Faraday) Scripps scientists tend to all jump in on one side, as they have on this project, claiming no deleterious effects. Please look beyond Scripps and their research, for research others have completed.

C

Tourists & locals already bombard our inshore region: their trash, raw sewage spills, secondary effluent, and the ubiquitous urban runoff all contribute to a compromised inshore region. The poor condition of our inshore resources, upon which many fish rely for reproduction, should be duly noted. Any additional anticipated effect from the Desalt Plant should be documented and mitigated. We might also note that the population in this vicinity is slated to grow quite a lot more. Dredging is also a regular occurrence, from offshore sand to onshore sand to benefit the tourist industry. This results in churning up and mixing any contaminants. I doubt that there have been any studies to see if this is negatively affecting the environment, or contributing to what I perceive as an increase in red tides. A consultant could be hired to investigate and document current conditions.

D

1

RESPONSE TO COMMENT NO. 50

Kasey Cinciarelli

(Fax Transmittal dated June 29, 2005)

50A Comment noted.

50B The Draft EIR and the technical appendices related to effects on the marine environment (Appendix E to the Draft EIR), contain a detailed literature review of salinity tolerances, as well as the findings of detailed salinity tolerance conducted specifically for the project on selected benthic species representative of the Encina area. Benthic organisms are important because they have limited potential for moving out of the permanent elevated salinity area.

As reported in the Draft EIR, Le Page conducted salinity tolerance and adaptation tests (*Salinity Tolerance Investigations: A Supplemental Report for the Carlsbad, CA Desalination Project Carlsbad, CA* March 7, 2005; hereinafter the "Le Page report", Draft EIR, Appendix E), using elevated salinity water produced by the demonstration desalination facility, that has operated at the Encina Power Station for several months.

Le Page's results show:

- no effect of exposure to salinities higher than have been modeled for the discharge plume and,
- that salinity tolerances of species tested far exceed the tolerances predicted by geographic range (e.g., sand dollars, sea urchins, and abalone are unaffected by prolonged [\geq 19 days] exposure to salinities as high as 40 ppt).

RESPONSES TO COMMENTS

People get ill swimming, surfing and playing in the water all the time. My six-year-old son had his first ever ear infection just 6 hours after frolicking in the filthy, red surf two weeks ago. My better judgments said don't let him go in, but it was a party and all the other kids did. We still have a red tide condition that has been persisting for weeks.

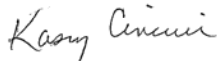
I've heard many people say that this is unrelated to human activity. But my common sense and a lifetime of observing our ocean tell me otherwise. I believe they are getting larger and that they persist longer due in some way to the ocean being used as a toilet.

What temperature will the Desal effluent, on average, be? Any significant change in temperature should be duly noted and research associated with temperature changes included.

Baseline research would need to be done to identify any ADDITIONAL effect the Desal plant may have. Baseline research, to document existing conditions prior to the addition of this plant **should start immediately.**

In addition we need to make certain that all permitting requirements from the licensing of the (now named) Cabrillo Power Plant, are being fully complied with.

Sincerely,



Kasey Cinciarelli
2727 Lyons Ct.,
CBD 92010

} E
} F
} G
} H

Le Page also did tolerance tests involving gradual step increases in salinity (as might happen if Plant flow rate changes) and these show no effect of incremental salinity increases on animal survival. He also maintained a number of local species in an aquarium at 36 ppt for extensive periods at the Carlsbad test facility. In this tank he has shown that sea urchins, which are usually regarded as “at risk” to salinity variation, did very well in the higher salinity, as demonstrated by normal feeding, gains in body weight, and production of gametes during the breeding season.

The Le Page work shows that the salinity tolerances of species from the Encina area vastly exceed the salinity limits suggested by their geographic distribution and vastly exceed the range of salinities modeled for the Zone of Initial Dilution (ZID, the reference point most commonly referred to in the NPDES permit governing the Power Plant’s thermal discharge).

Specifically, and as reported in the *Hydrodynamic Modeling of Dispersion And Dilution of Concentrated Seawater Produced by the Ocean Desalination Project at the Encina Power Plant, Carlsbad, CA. Part II. Saline Anomalies Due to Worst-Case Hydraulic Scenarios* March 5, 2005 (hereinafter the “2005 Jenkins and Wasyl report”, Draft EIR, Appendix E), based on the historical record of Plant thermal discharge rate and assuming a desalination production rate of 50 MGD, there would be a permanent increased salinity “footprint” in the discharge plume. However, because of the mixing of the desalination byproduct and the Plant’s discharge, the median salinity at the end of the discharge will be about 37 and this would be rapidly diluted across the 1000 ft extent of the ZID.

RESPONSES TO COMMENTS

	<p>The 2005 Jenkins and Wasyl report shows that, under historical average flow conditions, benthic salinity at a distance of 500 ft out from the discharge channel will be 35.2 ppt. At a distance of 1000 ft out from the end of the discharge channel, salinity would be 34.5 ppt. These findings can be seen by inspecting Figures 26 and 30 in the 2005 Jenkins and Wasyl report. These figures further show that, under the range of Plant flow volume scenarios and receiving water mixing conditions that were modeled for the discharge, the probability that a salinity of 37 ppt or greater occurring 500 ft from the discharge is less than 5%. Similarly, the probability of a 37 ppt or greater salinity occurring at 1000 ft is less than 2%.</p> <p>As this summary of information contained in the Draft EIR demonstrates, the Lead Agency is confident that all potential adverse effects associated with increased salinity resulting from the project's discharge would not have significant effects on marine organisms.</p> <p>50C See Response 50B. The findings of the Draft EIR are supported by scientific literature research conducted by independent third parties contracted with the City of Carlsbad and reflect the independent review and judgment of the Lead Agency.</p> <p>50D Comment noted regarding dredging offshore, however, the proposed project does not involve or require offshore dredging during construction or operation of the plant.</p> <p>50E This comment does not raise any specific issues regarding the environmental analysis or allude to any conditions that correlate red tide and potential impacts associated with construction or operation of the proposed project.</p>
--	--

RESPONSES TO COMMENTS

	<p>50F Section 4.3.4 of the Draft EIR (page 4.3-51) provides an analysis of the combined effect of elevated salinities and temperatures associated with the project discharge. The temperature increases modeled for the combined discharge flow field are in the range of those that occur presently in the EPS discharge. When the project discharge (reverse osmosis concentrate) is added, the discharge will submerge due to the higher density of the concentrate. Under "historical average day" conditions the plume will drift down coast as it sinks. This will cause a greater extent of bottom warming than occurs within the water column currently and expand the thermal contours along the bottom. The warmest temperatures will occur in waters near the discharge channel. However, whether along the bottom or in the water column, the "historical average day" temperature increase would only be about 1.1° C above ambient temperature. No significant effects associated with combining concentrate discharge with the existing thermal discharge are anticipated.</p> <p>50G The baseline for the marine biology and the areas that may be affected by the desalination project are addressed in Section 4.3 – Biological Resources, of the Draft EIR and are described in detailed reports contained in the Draft EIR, including a report by Dr. Jeffrey Graham entitled <i>Marine Biological Considerations Related to the Reverse Osmosis Desalination Project at the Encina Power Plant, Carlsbad, CA</i>, April 4, 2005; hereinafter the “Graham report” and a report prepared by Tenera Environmental entitled <i>Carlsbad Desalination Facility Intake Effects Assessment</i>, March 3, 2005; hereinafter the “Tenera report”, both of which are part of Appendix E to the Draft EIR.</p> <p>50H As stated in <i>Section 3.7</i> of the Draft EIR (pages 3-31 to 3-32), the proposed project would be under the jurisdiction of several local, state, and federal regulatory agencies, including the City of Carlsbad, San</p>
--	---

RESPONSES TO COMMENTS

	<p>Diego Regional Water Quality Control Board, San Diego County Air Pollution District, California Coastal Commission, California Department of Fish and Game, United States Army Corps of Engineers, United States Fish & Wildlife Service, and the NOAA Fisheries. Applicable permits required by the above mentioned agencies would be obtained prior to the commencement of the project.</p>
--	--

RESPONSES TO COMMENTS

Comment No. 51



THE LEAGUE OF WOMEN VOTERS OF NORTH COAST SAN DIEGO COUNTY

June 27, 2005

Scott Donnell
 Carlsbad Planning Department
 1635 Faraday Avenue
 Carlsbad, Ca. 92008-7314



Re: EIR for Precise Development Plan and Desalination Plant, EIR 03-05

Dear Mr. Donnell,

Thank you for the opportunity to comment on this EIR. The League of Women Voters supports adding a new water supply to the San Diego region as long as the project is done in an environmentally and economically sound manner.

First, we urge the City to accept all mitigation recommendations and make them requirements. This guarantees environmental protection during the construction and operational phases, should this project proceed.

We are especially concerned about potential marine biology and water quality problems. The data provided by J. B. Graham and presented through Dudek and Associates indicate that the various marine fauna near the outfall can handle various levels of salinity and some temperature variation. Continued monitoring of salinity and thermal changes are a necessary part of this project. We are concerned about plants and microorganisms that might be impacted by this change in conditions but not monitored because of lack of studies.

The question of electrical energy availability in the future is, of course, something that all Californians are concerned about. The EIR has based its assumptions regarding that availability on a rather domino-like series of assumptions which we hope will come to fruition. It is necessary that the City be assured that **no matter what happens** there will be electricity available for plant operation. Huge amounts of energy are needed to operate this plant. Energy conservation should be another important consideration in planning this project.

The League strongly supports water pricing which is fair and equitable. In the case of this project, because Carlsbad has a contract for the desalinated water never to cost more than imported water, the customers of Carlsbad will certainly benefit. However, the cost of the remaining water probably will be higher and whatever the market will bear. This is not equitable to the other potential customers in the region. The issue of whether this is a regional project or a city project is important, and we hope will be settled in favor of serving the region. The MWD subsidies for this water transfer its real costs to other users, which is unfair.

P.O. Box 131272, Carlsbad, CA 92013 (760) 736-1608

www.lwvncsd.org

THE LEAGUE OF WOMEN VOTERS IS A NONPARTISAN ORGANIZATION WITH MEMBERSHIP OPEN TO ALL CITIZENS OF VOTING AGE

A
B
C
D
E

RESPONSE TO COMMENT NO. 51

**League of Women Voters of
 North Coast San Diego County
 Jackie Stone
 (Letter dated June 27, 2005)**


- 51A** Comment noted.
- 51B** All of the mitigation measures proposed in the Draft EIR have been incorporated into the Final EIR. In addition, regulatory agencies with permitting authority may impose additional mitigation measures related to the agency's area of expertise. It is anticipated that any additional mitigation measures incorporated into the final project design would be consistent with the intent of the mitigation measures presented in the Final Draft EIR.
- 51C** The Draft EIR and the technical appendices related to effects on the marine environment (Appendix E to the Draft EIR), contain a detailed literature review of salinity tolerances, as well as the findings of detailed salinity tolerance conducted specifically for the project. The Draft EIR Mitigation Measure 4.3-6 requires that the operator of the desalination plant continuously monitor the desalination plant and EPS discharge flow rates and salinity levels and maintain records of the monitoring results to ensure compliance with Ocean Plan criteria and EPA guidelines. The monitoring results will be available for inspection by the City of Carlsbad and the Regional Water Quality Control Board.
- 51D** Section 4.11.3 of the Draft EIR includes an extensive discussion and analysis of potential impacts associated with energy demand created by

RESPONSES TO COMMENTS

As advocates of sustainability for California, the League would remind all involved that population growth is a continuing and inevitable circumstance with attendant problems which we have not solved, such as transportation issues, economic equity, and environmental impacts from habitat and open space losses. This project will certainly have an effect in that it will allow more people to have good water at a reasonable price. This is not called "growth inducing", but it is a fact that cannot be denied.

We want to thank the City and Poseidon Resources for making an extra effort to provide the public with a much greater level of information related to marine biology than was originally distributed. The League vigorously supports easy access by the public information was necessary to evaluate the EIR.

Sincerely,



Jackie Stone, president

F
G

the project. As noted in that discussion, the California Energy Commission, the California Public Utilities Commission, and the California Independent System Operator recently released a study entitled "California's Electric Situation: Summer 2005" (CEC Study). These same agencies have developed a set of initiatives to ensure that there is no medium to long term deficit including: augmenting demand response programs, interruptible programs, and energy efficiency programs; encouraging the accelerated construction of permitted power plants, and new peaking generation; identifying and expediting transmission upgrades that are feasible for 2005; and encouraging conservation efforts. In addition, the CEC Study includes an action plan for 2006 and beyond to ensure that peak demand needs are met, including: a series of energy conservation initiatives (including green building initiatives); demand reduction strategies (including dynamic pricing, and voluntary load reduction for certain large users of electricity during peak demand); increased development of renewable energy sources; and encouragement of new generation and transmission facilities.

As a specific example of expected increased generation capacity, power plants totaling approximately 1,000 MW of capacity are approved for Otay Mesa and Escondido, and are expected to be online by 2008. The Governor has made a priority of implementing the CEC Report's recommendations and other strategies to ensure adequate supply of electrical energy during peak demand. Specifically, on February 22, 2005, the Resources Agency unveiled a 10-point plan designed to ensure an adequate, stable supply of electricity at reasonable prices. The plan specifically calls for all electricity suppliers to operate with minimum 15 percent reserve margins by 2006.

RESPONSES TO COMMENTS

	<p>The Draft EIR concludes that, given the comprehensive and cooperative nature of the planning effort to improve electrical power supply during peak demand, as well as the Governor's stated goal to ensure that running reserves are adequate by 2006 and the plan to implement that goal, the energy supply will be adequate by the end of 2006.</p> <p>As noted in the Draft EIR, the grid currently supplies an annual volume of approximately 200 million MWh of electricity throughout California. The cumulative effect of energy consumption of <u>all</u> existing and planned seawater desalination facilities located within the grid is approximately 22,500 MWh per year and 1million MWh per year, respectively; these represent less than one percent of the total energy available on the grid. Therefore, The Draft EIR contains sufficient analysis and information to demonstrate that energy planning activities currently in place will ensure that a continuous, long-term energy supply will be available to operate the project as anticipated.</p> <p>51E The project applicant has provided the Carlsbad Municipal Water District with product water pricing commitments, through provisions included in the Water Purchase Agreement that is attached to the Draft EIR as Appendix B. From the standpoint of the Lead Agency, costs associated with water produced from the proposed project are predictable and within an acceptable range. The proposed project and its related facilities are therefore considered to be economically feasible.</p> <p>51F A complete discussion of growth-related effects associated with the proposed project is provided in Section 9.0 of the Draft EIR.</p> <p>51G Comment noted.</p>
--	---

RESPONSES TO COMMENTS

<div style="text-align: right; border: 1px solid black; padding: 2px;"> Comment No. 52 </div> <p>JUL. 7, 2005 2:56PM CA STATE PARKS SDCD NO. 969 P. 2/4</p> <p>State of California • The Resources Agency Arnold Schwarzenegger, Governor</p> <p>DEPARTMENT OF PARKS AND RECREATION Ruth Coleman, Director</p> <p>San Diego Coast District PO Box 880069 San Diego, CA 92168-0069</p> <p style="text-align: center;">July 7, 2004</p> <p>ATTN: Chris DeCervo, Principal Planner City of Carlsbad, Planning Department 1635 Faraday Ave Carlsbad, CA 92008</p> <p>RE: Precise Development Plan and Desalination Plant Environmental Impact Report 03-05 - SCH #2004041081.</p> <p>Dear Chris DeCervo,</p> <p>Thank you for providing us the Environmental Impact Report (EIR) for the Carlsbad Desalination Project. We understand that the project involves building a desalination plant capable of producing 50-million gallons per day of potable water and associated structures and transportation lines. As a trust agency for the resources of the California State Park System, we have an interest in the proposed project because it is located adjacent to Carlsbad State Beach and may contribute substantial indirect effects as related to hydrology, water quality, native ecosystems, and urban growth and park visitor use at several parks within the following watersheds: Buena Vista Creek (Carlsbad State Beach), Agua Hedionda (Carlsbad State Beach, South Carlsbad State Beach), Encinas (South Carlsbad State Beach), San Marcos (South Carlsbad State Beach, Leucadia State Beach, Moonlight State Beach), and Escondido Creek (San Elijo State Beach and Cardiff State Beach).</p> <p>After reviewing the EIR we are specifically concerned about the following issues: the removal of a potential obstacle to urban growth by development of a new water supply; the increased freshwater introduced to local watersheds and associated urban runoff; and a lack of accountability with regard to monitoring and mitigating the effects of increased salinity in the vicinity of the discharge plume.</p> <p>The growth inducement section of the EIR argues that the project will not promote growth because water is only one of the impediments to growth (along with "buildable land and adequate infrastructure", page 9-1), and that there will be little effect because the "proposed project is not anticipated to represent additional supplies over and above what is already contemplated for the San Diego region" (page 9-5). Freshwater is the largest limiting factor in the development of and land. Importation of freshwater provided the foundation for development of the southwest by fueling agriculture, and later industry, and tourism. Without freshwater there isn't a need for buildable land or adequate infrastructure. Increasing the supply of water will promote growth in the project vicinity. By developing a new source of water (contemplated or not) from desalination, there will be increased pressure on existing utilities and infrastructure and</p> <div style="text-align: right; margin-top: 20px;"> <p>A</p> <p>B</p> </div>	<div style="text-align: center;"> <p>RESPONSE TO COMMENT NO. 52</p> <p>California Department of Parks and Recreation</p> <p>Ronilee Clark</p> <p>(Letter dated July 7, 2005)</p> </div> <p>52A This comment provides background on the commentor's jurisdictional area, acknowledges the project's proximity to Carlsbad State Beach and introduces specific areas of the Draft EIR that the Department of Parks and Recreation is concerned about.</p> <p>52B This comment expresses the commentor's opinion regarding the importance of water in allowing growth in southern California. The Draft EIR discussion indicates that water supply is one of many factors that influence growth, not the only factor. The Draft EIR contains extensive discussion on the potential for the project to cause growth, and provides all available information to support conclusions, without engaging in speculation. As noted in Section 9.0 of the Draft EIR, the project is anticipated to have similar effects to those analyzed for the Regional Water Facilities Master Plan prepared by the San Diego County Water Authority, which was found to have the potential to foster additional growth indirectly by removing barriers to growth. However, further analysis of indirect effects on growth is not possible without unreasonable speculation. As also noted in Section 9.0, while the overall effects on growth may not be fully ascertainable, local effects are analyzed and documented. Section 9.0 of the Draft EIR discusses how local and regional growth projections and control mechanisms ensure that the change in water supply represented by the project would not result in growth beyond what is already anticipated on a local and regional level.</p>
--	--

RESPONSES TO COMMENTS

<p>JUL 7, 2005 2:56PM CA STATE PARKS SDCD NO. 988 P. 3/4</p> <p>a negative impact to undeveloped lands. The EIR discusses the capacity and planned growth of utilities (e.g., the Encina Wastewater Facility) to accommodate increases in the water supply and related sewer and storm drains. The EIR does not address the potential effects of growth-related impacts on coastal recreational facilities such as parking or coastal access at Carlsbad or South Carlsbad State Beaches. Additionally, The EIR does not adequately discuss the potential effects of increased urban runoff from the additional capacity for development or the use of 50-million gallons per day on native habitats and systems.</p> <p>Currently, coastal lagoons within local watersheds, that will likely receive a portion of the proposed projects freshwater in the form of urban runoff, are subject to the deleterious effects of existing runoff. Many of the coastal lagoons and creeks that occur within or adjacent to the City of Carlsbad, and that will receive a portion of this additional water are listed as 303(d) Impaired water bodies by the California Regional Water Quality Control Board: Buena Vista Creek (at Carlsbad State Beach) and Lagoon, Agua Hedionda (adjacent to South Carlsbad State Beach), San Marcos Creek, Escondido Creek, San Elijo Lagoon (adjacent to Cardiff State Beach and San Elijo State Beach) (http://www.waterboards.ca.gov/sandiego/programs/303dlist/1st05020Waterbodies-2002.pdf). Water quality issues in these water bodies include bacterial indicators, sedimentation and siltation, nutrients, total dissolved solids, and/or eutrophic conditions. Reduced water quality as related to increased fresh water and urban runoff may lead to unhealthy conditions or beach closures that directly affect State Beach Visitors. The EIR should provide further detail regarding the relative contribution of the new water supply to these impaired waterbodies and discuss the cumulative effect of this additional runoff to the existing problems.</p> <p>Additional fresh water and associated runoff may exacerbate hydrological problems within the area's coastal bluffs (including those located at Carlsbad and South Carlsbad State Beaches). Several coastal bluff areas are currently subject to accelerated erosion from subsurface drainage problems caused by urban runoff. These areas receive year-round fresh water from sources that are difficult to locate and equally difficult to repair. While the proposed project may not substantially exacerbate these problems it may incrementally contribute to further erosion problems on State Park lands.</p> <p>California State Parks also has concerns regarding the intake and outfall of water related to the desalination process. The EIR and related technical studies provided an analysis of the effects of varying levels of salinity on groups of species or indicator organisms under laboratory conditions and provided anecdotal accounts of the lack of effects at other existing desalination plants. The EIR provided a mitigation measure to "continuously monitor the desalination plant and EPS discharge flow rates and salinity levels and maintain records of the monitoring results to ensure compliance with Ocean Plan criteria and EPA guidelines" (page 1-9). This measure is prudent but would provide no corroborating data as to the effects of these parameters within a natural system. Because of the complexity of estuarine and the near shore ecosystems and the fact that most systems have unique properties because of local geography and oceanography, a biological monitoring component should be included in the mitigation measures. This component should provide an objective measure of the health of extant indicator species (perhaps those referenced in the technical reports) or habitats. It should also provide a mechanism to implement further mitigation measures should</p>	<p>52C See Response 52B. It is not anticipated that the project will result in additional water consumption, thereby leading to additional urban runoff. Therefore, the Lead Agency does not agree that the project would result in additional or cumulative effects on runoff water quality or quantity.</p> <p>52D See Response 52C.</p> <p>52E The information provided in the Draft EIR and Technical Appendices includes empirical and quantitative scientific data, not "anecdotal accounts" as claimed by the commentor. The Lead Agency believes that the extensive analysis of impacts on marine organisms meets all requirements for full disclosure of potential impacts associated with the propose project. The Lead Agency further believes that the monitoring program identified in the mitigation measures is adequate and appropriate to ensure that long-term operation of the project facilities will maintain potential impacts at levels that are less than significant.</p>
--	---

RESPONSES TO COMMENTS

JUL 7, 2005 2:57PM CA STATE PARKS SDCD

NO. 988 P. 4/4

there be significant changes in these indicator species or habitats that are shown to be related to the desalination process. These additional corrective measures should be stated in the EIR.

↑ E (cont.)


Thank you for the opportunity to comment on the project. If you have further questions or would like elaboration on the above-mentioned issues please contact me at your convenience.

Sincerely,



for
Ronilee Clark
Superintendent
California State Parks, San Diego Coast District

CC: Tony Perez
Rick Rayburn
Denny Stouffer
Bill Menfell
Noah Tighman
Darren Smith


RESPONSES TO COMMENTS

<div style="text-align: right; border: 1px solid black; padding: 2px;">Comment No. 53</div> <div style="font-size: small; margin-top: 10px;"> <p>Jul 13 05 03:06p HEAL THE BAY 310 453 7927 P. 1</p>  <p>3220 Nebraska Avenue ph 310 453 0395 info@healthebay.org Santa Monica CA 90404 fax 310 453 7927 www.healthebay.org</p> </div> <div style="margin-top: 20px;"> <p>July 13, 2005</p> <p>Mr. Scott Donnell Carlsbad Planning Department 1635 Faraday Avenue Carlsbad, CA 92008</p> <p>Via e-mail: Sdonn@ci.carlsbad.ca.us Via Facsimile: 760-602-8559</p> <p>RE: Seawater Desalination Project at Encina Power Plant Draft EIR No. 03-05</p> <p>Dear Mr. Donnell:</p> <p>Heal the Bay is a nonprofit environmental organization with over 10,000 members dedicated to making the waters of Southern California clean and healthy for marine life and people. We have been actively coordinating with the environmental representatives of the State's Desalination Task Force and we currently participate in the 316(b) working group led by the Los Angeles Regional Water Quality Control Board.</p> <p>We have reviewed the Draft Environmental Impact Report No. 03-05 for the Seawater Desalination Project at Encina Power Plant (DEIR) and we have numerous concerns. Specifically, we find the DEIR fails to assess all potential environmental impacts of the proposed facility nor does it thoroughly evaluate alternatives to the proposed project as required by the California Environmental Quality Act (CEQA). The project applicant has not completed the necessary analyses nor provided the information necessary to enable responsible agencies and the public to determine the full range of environmental impacts, especially those relating to the impingement and entrainment of marine species.</p> <p>Specifically, the DEIR relies on misleading standards for determining "significance" of impacts to marine life. Furthermore, the DEIR narrowly defines the scope of potential impacts from the co-location of a massive desalination facility with the existing Encina Power Station (EPS).</p> <p>Defining "Significant"</p> <p>The DEIR, in Section 4.3, page 42, concludes that: "Species of direct recreational and commercial value constitute less than one-percent of the entrained organisms, and considering the fact that in general, less than one percent of all fish larvae become reproductive adults, the operation of the desalination facility would not result in significant impacts on these species."</p> </div>	<div style="text-align: center; border: 1px solid black; padding: 5px;"> RESPONSE TO COMMENT NO. 53 Heal the Bay Leslie Mintz Letter dated July 13, 2005) </div> <div style="margin-top: 20px;"> <p>53A This comment provides information regarding the commentor's organization and does not raise any issues relative to the environmental analysis. Therefore, no additional response is necessary.</p> <p>53B The Lead Agency disagrees with the broad assertions provided in this comment regarding the adequacy of the environmental analysis provided in the Draft EIR. However, the comment lacks sufficient clarity and specificity to afford a more detailed response. Detailed responses to specific comments are provided below.</p> <p>53C The Lead Agency disagrees that the significance thresholds identified for marine biological resources in the Draft EIR are "misleading" and also disagrees that the scope of potential impacts identified is "narrowly" defined. However, the comment lacks sufficient clarity and specificity to afford a more detailed response. Detailed responses to specific comments are provided below.</p> <p>53D The significance of impacts was analyzed in several ways including comparing the proportional mortality estimates with harvest control levels from the Nearshore Fishery Management Plan (the so called "40-10 Rule"). The levels from the Nearshore Fishery Management Plan are relevant because they were established to provide protection to exploited species and would by nature be overprotective of non-exploited species. These levels would also be overprotective when used with larval</p> </div>
--	--


RESPONSES TO COMMENTS

<p>Jul 13 05 03:06p HEAL THE BAY 310 453 7927 P. 2</p>  <p>3220 Nebraska Avenue ph 310 453 0395 info@healthebay.org Santa Monica CA 90404 fax 310 453 7927 www.healthebay.org</p> <p>This conclusion is based in part on reliance on the harvest control rule adopted in the Nearshore Fishery Management Plan – the so-called “40-10 rule.” [I]. This harvest control rule is applied to fisheries where the necessary data is available. For many species, this data is not available and harvest controls must resort to “proxies.” We feel reliance on this rule as a metric for determining “significant impacts” is misplaced.</p> <p>First, numerous species likely entrained at the facility, such as Tidewater Goby and Garibaldi, are not regulated for sustainable harvests – several of these types of fish having total prohibitions on any “take” – therefore, the use of fishery management plans and harvest control rules as an indicator of “significant impacts” on marine life in the DEIR oversimplifies the complicated process of determining “total allowable catch” and misleads the DEIR reader.</p> <p>Furthermore, drawing conclusions by excluding the impact on species other than those with recreational and commercial value dramatically underestimates the impacts. For example, the DEIR itself documents that:</p> <p>“Both phytoplankton and zooplankton frequent the open coast area offshore of the Power Plant. [Phytoplankton] are the open ocean’s principle primary producers, meaning that, by means of photosynthesis, they convert solar energy into energy containing organic molecules that sustain life and form the basis for pelagic food chains. <i>Phytoplankton and kelp are the main energy production sources in coastal waters.</i>” See DEIR §4.3, page 13 (emphasis added).</p> <p>Although the DEIR thus describes the ecological significance of phytoplankton and zooplankton, it then goes on to summarily disregard it in the conclusion that the proposed project will have no significant impact.</p> <p>Nonetheless, assuming the best case scenario (i.e., that the species’ populations, survival strategies, and life cycles are fully understood), the Nearshore Fishery Management harvest rule would not necessarily allow the “taking” of up to 60% of the existing populations, as implied by the DEIR. In fact, the harvest control rule relies on estimates of “unfished biomass” – not current populations. If the current populations are below 40% of the estimated unfished biomass, “rebuilding plans” are implemented on a curve between 40% and 10% of those populations. Consider a species where the necessary data is available to employ the “40-10” rule, and current populations are below 10% of the estimated unfished biomass – the “40-10” rule may prohibit the take of these species altogether. There are species within the Southern California Bight where this is the case (e.g., “Clow Cod” rockfish) and others that have dramatically reduced harvest allowances because the current populations are estimated below the 40% target (e.g., “Sheephead”). Therefore, any “take” of these species and others under similar controls would necessarily be “significant” under the definition relied on in the DEIR.</p> <p>Additionally, the DEIR does not document historical impingement/entrainment of species of major concern, nor does it compare these rates with dwindling populations. For example,</p>	<p>populations because they do not account for any mechanisms that may act to compensate for the small levels of additional larval mortality resulting from operation of the proposed project.</p> <p>53E See Response 53D. Tidewater goby larvae have not been observed in the area of the EPS intake and were <u>not</u> collected in the desalination project’s intake entrainment studies. California State Government Code 425.6, establishing the Garibaldi as the state fish, included protection for the adults (1) from sport fisherman, particularly spear- gunners, who found the species easy prey and (2) because the populations were declining. The Draft EIR looks to the State of California for guidance on the population level significance of early life stage losses of entrained fish species and to regulatory law, such as the Endangered Species Act (ESA), for establishment of allowable take. Relying on both the science and practice of population management and protection, the Draft EIR estimated that the proportional entrainment losses due to the project’s seawater intake represent a de minimis effect. These entrainment effects would never rise to significance in a population of unharvested species and are far below the State’s recommendation for managing fisheries for harvested species. The fact that estimated entrainment losses from the project are far below an upper limit that will sustain a fishery of the most vulnerable harvested species provides in-depth assurance of the lack of any significant effect on the remaining entrained species that are not commercially or recreationally harvested because the vast majority of these species are substantially less vulnerable.</p> <p>53F See Response 53D. The power plant and the desalination plant will return 89% of biomass of entrained phytoplankton and zooplankton back into the ocean through the existing power plant discharge where they will be available to serve as food to the pelagic and other marine organisms.</p>
---	---


RESPONSES TO COMMENTS

<p>Jul 13 05 03:06p HEAL THE BAY 310 453 7927 p. 3</p>  <p>3220 Nebraska Avenue ph 310 453 0395 info@healthebay.org Santa Monica CA 90404 fax 310 453 7927 www.healthebay.org</p> <p>populations of Sheephead, Vermillion Rockfish, Boccaccio Rockfish, and Cowcod Rockfish have declined from habitat losses, overfishing and other pressures over the past several decades that may lead to dramatic reductions in the number of individuals recorded in impingement/entrainment studies (population declines underscore the importance of reducing marine life mortality from cooling water intake structures.)</p> <p>In sum, the DEIR's use of the "40-10 rule" for defining "significant" (and the inexplicable application of the rule to the species killed by the EPS), and the additional mortality attributable to the proposed co-located desalination facility is misleading. Without fully identifying the populations of consideration, and the applicability of the harvest control rule, the DEIR falsely concludes that there are no significant impacts. <u>The DEIR should describe the impact on all marine life. As noted above, because phytoplankton are the base of the food chain in coastal waters, it seems especially important to understand the impact on these organisms.</u></p> <p><u>Furthermore, the DEIR should identify species killed in the process that do not have harvest controls where "take" is prohibited. For instance, there is no allowable fishery for Garibaldi, Tidewater Goby or Black Sea Bass. "Take" of these species is prohibited altogether and any impact on these species would be "significant."</u></p> <p>Therefore, the DEIR should not be certified until it includes a thorough and defensible definition of "significant impact" on all organisms destroyed in the cooling water intake. The DEIR should also thoroughly explain the current population assessments for the species recorded in historical 316(b) studies and reconcile why some with already diminished populations may be recorded in relatively low numbers. Finally, the DEIR should identify species killed in the intake that are protected under the Endangered Species Act, fishery management plan "take" reductions and prohibitions, and other regulatory and legislative protections.</p> <p>Scope of Impacts</p> <p>The addition of a desalination facility of this size creates a dramatic new demand for electricity that may or may not be met by the EPS. Furthermore, the EPS will soon be required to comply with recently promulgated regulations under Clean Water Act Section 316(b). In a misleading conclusion, the DEIR states that: "The cooling water intake is part of the EPS existing operations and is presently regulated under 316(b)." While it is true that 316(b) Phase 2 rules are applicable to the EPS cooling water intake, it is not true that the average operations of the EPS cooling system would not need to change in order to supply water to the desalination facility. But, they may change significantly if EPS is to supply energy for the desalination operation. Until the compliance option EPS chooses to pursue is available, the impacts from the co-located desalination plant are speculative and unsubstantiated. While there may be several alternatives for compliance with the newly promulgated 316(b) regulations, each of the compliance alternatives would likely alter the current operation of the</p>	<p>Therefore, even after seawater use through the power plant and the desalination plant, this plankton biomass, regardless of whether it is living or dead, will be still available to provide the "organic molecules that sustain life and form basis for pelagic food chains". Therefore, the desalination project will have an insignificant impact on the availability of phytoplankton and zooplankton in the immediate vicinity of the project. The loss of the small amounts of organic material from the returned discharge may be quickly replaced by the rapid reproduction and short generation times of marine phytoplankton and zooplankton. Nearshore nutrients and sunlight generally present in excess would be similarly available at the Encina Power Station discharge site to stimulate both primary and secondary production of diatoms and dinoflagelates in abundant supply and to provide for the secondary growth and rapid, short regeneration times of holoplankton, such as the ubiquitous copepods and other zooplankton found in the area.</p> <p>53G See Response 53D and 53E.</p> <p>53H See Response 53D. The proposed desalination plant is a new facility. Therefore, the proposed desalination facility has no history of impingement/entrainment of species of major concern or any of the other species indicated in the comment.</p> <p>53I See Response 53F. All of the populations of "consideration", assuming the commentator meant to say entrained larval fish, are fully described by larval duration and speed of ocean currents. Based on the abundance and rapid generation time of these large numbers of phytoplankton, any potential for the CDF entrainment to impact coastal phytoplankton populations or food chains is too small to realistically assess stochastically.</p>
--	--


RESPONSES TO COMMENTS

<p>Jul 05 03:07p HEAL THE BAY 310 453 7927 p. 4</p>  <p>3220 Nebraska Avenue ph 310 453 0395 info@healthebay.org Santa Monica CA 90404 fax 310 453 7927 www.healthebay.org</p> <p>plant and the resulting effect(s) upon the local marine and estuarine environment. Finally, the impact of the brine discharge, and the associated study, is misleading and inconclusive.</p> <p>1) Encina Power Station's compliance with Clean Water Act §316(b) should be determined prior to approval of a co-located desalination facility</p> <p>Cooling water intake structures operated by the electric utility industry are "[t]he single largest predators of our nations waters."¹ Noting the tremendous negative impact of once-through cooling systems, the US Court of Appeals for the Second Circuit recently upheld the United States Environmental Protection Agency's (EPA) regulation mandating "closed cycle cooling" as the national minimum technology for new power plants, while striking down provisions that would have sanctioned inferior technology and attempts to "mitigate" the impacts of once-through cooling.² More recently, EPA has promulgated a rule applicable to existing facilities like EPS.³ This rule sets standards to dramatically reduce impacts to the marine environment by reducing impingement at existing facilities by 80 to 95%, and by reducing entrainment by 60 to 90%.</p> <p>The preferred alternative for compliance with Section 316(b) is identified as closed-cycle cooling. However, co-location of the desalination facility on EPS property may effectively preclude the preferred compliance alternative before EPS has identified their compliance plans. Moreover, the footprint of the desalination plant and ancillary facilities would use valuable space that could otherwise be used for construction of cooling towers.</p> <p>As noted by the State Desalination Task Force, the co-location of desalination facilities may "... provide a justification for the continued use of once-through cooling technology, ... a technology that has well-documented environmental impacts, including impacts on marine organisms."⁴ Pursuing the proposed project without first understanding the EPS plan for 316(b) compliance will effectively bring the dire predictions of the Task Force to reality.</p> <p><u>In conclusion, it is premature to certify this DEIR without fully documenting the Clean Water Act § 316(b) compliance plans for EPS. In the alternative, the DEIR should at the very least offer an environmental analysis of the several avenues of compliance that EPS has available. EPS compliance with CWA § 316(b) is a reasonably foreseeable occurrence and is directly relevant to the impacts from the co-location of a desalination plant.</u></p> <p>///</p> <p>¹ May, JR, and MK von Rossum, "The Quick and the Dead: Fish Entrainment, Entrapment and the Application of Section 316(b) of the Clean Water Act," 20 Vermont Law Review 376 (1995). ² Riverkeeper v. US EPA, No. 02-4005 (2d Cir. Feb 3, 2004) ³ NPDES – Final Regulations to Establish Requirements for Cooling Water Intake Structures at Phase 2 Existing Facilities, Final Rule," Federal Register 40 CFR Parts 9, 122 et seq., July 9, 2004. ⁴ California Department of Water Resources, "Water Desalination: Findings and Recommendations," October, 2003</p>	<p>53J See Response 53E.</p> <p>53K See Responses 53D through J. As discussed in Section 4.3.3 of the Draft EIR (pages 4.3-15 through 17), and as further described in Responses 53D through J, the significance thresholds identified in the Draft EIR are considered by the Lead Agency to be appropriate and adequate for assessing the significance of impacts to marine biological resources. Therefore, the Lead Agency disagrees with the commentor's assertion that certification of the EIR should be deferred.</p> <p>53L As stated in the Draft EIR, the power supply for the Desalination Facility would be from the Encina Power Station (EPS) or the regional grid. If the EPS is the source of the power, the desalination facility would be able to draw power from either Unit 4 or Unit 5, the two newest and largest independent generating units on site. Under this mode of operation, the desalination facility will use approximately 10% of the generation capacity available from one of the two generating units. An additional 10% load on an individual generating unit does not represent enough demand to cause the EPS to bring on an additional generating unit, or increase the cooling water flow rate. Additionally, if EPS were to supply power to the Desalination Facility, it is not certain that EPS would increase its overall power generation, rather than reduce its power sales to other buyers. The EPS manages its level of power sales and power generation to achieve an optimum state of operation, taking into account a variety of factors including cost of fuel, maintenance requirements and the performance of its generating units. Typically, once a unit is brought on line, the cooling water system flow rate remains constant. Thus, the EPS would continue to pump the same amount of source seawater for cooling as it does today. The flow rate for Unit 4 and Unit 5 are 304</p>
---	---


RESPONSES TO COMMENTS

<p>Jul 13 05 03:07p HEAL THE BAY 310 453 7927 p. 5</p>  <p>3220 Hebraoka Avenue ph 310 453 0395 info@healthebay.org Santa Monica CA 90404 fax 310 453 7927 www.healthebay.org</p> <p>2) The DEIR fails to clearly identify how the energy demands will be met The DEIR, in Section 4.2, documents that the desalination facility will create dramatic demands for electricity. The DEIR is also misleading in this section in that it implies this dramatic demand for energy will somehow be off-set by reductions in the energy consumed by the State Water Project -- but fails to substantiate how and where those reductions would occur. This "conclusory" statement fails to meet CEQA standards.</p> <p>Nonetheless, the DEIR states that "The desalination facility would purchase power from the local utility, a power generator or other supplier or suppliers. No decision has been made as to which electrical supplier will be used." This makes analysis of the reasonably foreseeable impacts of the desalination plant on local marine life dramatically understated.</p> <p>It is reasonable to assume that the desalination plant would acquire its electricity from the EPS. Co-location of a desal facility with a generator offers the advantage of reduced transmission losses from long distance delivery of electricity. This fact has been offered by proponents of co-located desalination facilities as a basis for pursuing "in the fence" rate reductions for electricity.</p> <p><u>If this plant were to use electricity supplied by EPS, the DEIR should include a detailed documentation of historical and current operational output of the EPS, and a reasonably foreseeable prediction of the change in average operation of the generator. Furthermore, this predicted change should be used as the basis for documenting predicted increases in cooling water intake at EPS, and the associated marine life mortality that would be directly attributable to the desalination plant.</u></p> <p><u>If, on the other hand, the project proponent insists that the supplier of electricity cannot be identified, the DEIR should nonetheless identify the additional marine life mortality that would come from EPS supplying the electricity as a "worst case scenario" alternative.</u></p> <p>3) The DEIR inadequately addresses alternative intake technologies for the desalination facility As noted above, the analysis of sub-surface intakes (e.g., "beach wells" or "galleries") is summarily dismissed because of the self-imposed objective to supply 50 million gallons a day of product water. The California Coastal Commission warns that "...facilities proposing to co-locate should not presume that use of the cooling system is the best available alternative, but should conduct the necessary feasibility study to determine whether subsurface intakes would work in the area."⁵ <u>A feasibility study should include a comprehensive study of the feasibility of alternatives that would provide necessary supplies for a reasonable prediction of future demand, including an analysis of the comparable costs and benefits of greater uses of wastewater reclamation and water conservation in the region. Furthermore, given an assessment of the portion of the predicted demand that could be accommodated by</u></p> <p>⁵ Seawater Desalination and the California Coastal Act, California Coastal Commission, March 2004, p.71</p>	<p>MGD and 350 MGD, respectively. The existing permit allows the EPS to divert up to 860 MGD.</p> <p>Cabrillo Power LLC (Cabrillo), is the owner and operator of the Encina power plant, and is currently conducting impingement and entrainment studies pursuant to Phase II 316(b) requirements. Cabrillo intends to achieve full compliance with the requirements, but has not as of yet determined the specific measures, or combination of measures, that will be implemented to achieve compliance. However, the Lead Agency believes it is reasonably foreseeable that compliance can be achieved without reduction of seawater intake below the threshold levels identified as the "worst case" (historical extreme) scenarios analyzed in the Draft EIR and in the technical studies contained in Appendix E of the Draft EIR ("Hydrodynamic Modeling of Dispersion And Dilution of Concentrated Seawater Produced by the Ocean Desalination Project at the Encina Power Plant, Carlsbad, CA Part II. Saline Anomalies Due to Worst-Case Hydraulic Scenarios" March 5, 2005; hereinafter the "2005 Jenkins and Wasyl report", and "Marine Biological Considerations Related to the Reverse Osmosis Desalination Project at the Encina Power Plant," April 4, 2005; hereinafter the "Graham report").</p> <p>Under the historical extreme scenario used as the basis for a worst case analysis of effects related to increased salinity discharge, the power plant seawater intake volume is identified as 304 MGD, which is approximately 53% of the average intake volume (20.5 year average of 576 MGD), and 35% of the maximum permitted intake capacity (857 MGD). Therefore, even if the proposed compliance measures included reduction of intake volumes, it is unlikely that the flow would drop below 304 MGD. As indicated in Section 3, Project Description, of the Draft EIR, the current project is defined as using the cooling water discharge of</p>
---	---



RESPONSES TO COMMENTS

<p style="text-align: center;">JUL 13 05 03:08p HEAL THE BAY 310 453 7927 p. 6</p> <div style="display: flex; justify-content: space-between; align-items: center;">  <div style="font-size: 8px;"> <p>3220 Nebraska Avenue ph 310 453 0395 info@healthebay.org Santa Monica CA 90404 fax 310 453 7927 www.healthebay.org</p> </div> </div> <p><u>environmentally preferred alternatives like reclamation and conservation, the DEIR could then assess the feasibility of alternative subsurface intakes for the remainder of the predicted demand.</u></p> <p>4) The DEIR fails to assess impacts of the proposed project as it would operate independently of the EPS cooling water intake The DEIR starts with the premise that "The desalination plant feedwater does not include a cooling water intake structure. Therefore, it is not subject to intake regulation under the Federal Clean Water Act Section 316(b)."</p> <p>Once again, this inexplicably presumes the continued operation of the current cooling water intake for EPS. As explained above, the future of the current cooling system is subject to compliance with recently promulgated regulations. It is reasonably foreseeable that EPS will either dramatically alter its cooling technology or implement some other compliance plan.</p> <p><u>Therefore, the DEIR is inadequate until EPS's plans are made available and the assumption of the continued use of the current cooling technology is substantiated. Alternatively, the DEIR should offer an analysis of the technology available to operate independent of the current use of once-through cooling. It is possible that some of the EPS infrastructure could be re-deployed in a manner that would comply with Section 316(b) for use as a supply conduit for the desalination facility. However, absent some analysis of the potential alternative uses of the EPS pipes and pumps, it is impossible for the public to fully understand the environmental impacts of the desalination plant as a "stand alone" facility.</u></p> <p>5) The DEIR fails to identify potential impacts from the brine discharge In Section 4.3, p.11, the DEIR documents that. "...the SKS (Southern Kelp Stand) is the only kelp bed in the vicinity of the EPS that is <i>regularly</i>, but only partially contacted by its heated seawater discharge." (emphasis added.) It is reasonable to conclude that the mixing occurring to the heated water did not always prohibit the discharge from impacting the health of the SKS kelp bed, but the DEIR is not clear on this point. Further, the DEIR states that "NKS occurs approximately 1000 m north of the EPS discharge channel and is <i>rarely</i> contacted by the discharge." <u>Id.</u> (emphasis added).</p> <p>The DEIR suggests that the study conducted to assess the impact of the addition of brine to the discharge concluded that none of the organisms commonly found in rocky reef substrate, and associated kelp communities, would be impacted by the brine discharge. See DEIR Section 4.3 page 47. The study was conducted in enclosed aquariums and concluded that "no mortality was encountered and all species showed normal activity and feeding behavior."</p> <p>Interestingly, studies by the same researchers for a similar desalination proposal in Huntington Beach concluded that the impact of the brine discharge would be confined to the displacement of certain organisms, not the mortality of those organisms...Of course, a study</p> <div style="text-align: right; margin-top: 20px;"> <p>↑ T (cont.)</p> <p>U</p> <p>V</p> <p>W ↓</p> </div>	<p>the power plant as source water for the desalination plant. Under CEQA, the Lead Agency is required to address existing or reasonably foreseeable future conditions and impacts and cannot speculate about uncertain outcomes or potential effects that cannot be reasonably quantified or predicted at this time or are outside the project definition. In addition, the baseline for measuring potential environmental impacts of a project under CEQA is the current physical environment, including current operating conditions. Since no plans currently exist or are under consideration to reduce or discontinue the power plant use of seawater for cooling purposes, the assessment of plant operations under this completely different project baseline is speculative at best and is outside of the scope of the CEQA review of this project, as defined in the Draft EIR.</p> <p>53M See Response 53L. This comment suggests that consideration of the project be deferred until future permitting requirements for the Encina power plant are determined. As noted in Response 53L, it is reasonably foreseeable that EPS compliance with 316(b) requirements can be achieved without reduction of seawater intake below the threshold levels identified as the "worst case" (historical extreme) scenarios analyzed in the Draft EIR. Therefore, there is no reason to defer consideration of the project.</p> <p>53N See Response 53L and 53M. It should be noted that the revised 316(b) requirements for Phase II facilities provides five alternatives for compliance, only one of which involves closed-cycle cooling. Implementation of the proposed desalination plant would not affect the ability of Cabrillo to implement any one of the four other alternatives.</p> <p>53O See Responses 53L through N.</p>
---	--

RESPONSES TO COMMENTS

<p style="text-align: center;">Jul 13 05 03:08p HEAL THE BAY 310 453 7927 P. 7</p> <div style="display: flex; justify-content: space-between; align-items: center;">  <div style="font-size: 8px;"> <p>3220 Nebraska Avenue ph 310 453 0395 info@healthebay.org Santa Monica CA 90404 fax 310 453 7927 www.healthebay.org</p> </div> </div> <p>such as this DEIR study which was conducted on organisms <i>within the confines of aquariums</i> would not result in any data on the impact of displacing those organisms; there would be no place else to go!</p> <p>Given that the DEIR documents the scarcity of shallow rocky reef and kelp habitat in the surrounding marine environment, it is reasonable to conclude that any displacement of organisms from this habitat is potentially significant. Even if organisms are only occasionally displaced from the protective cover of their preferred habitat, they are arguably exposed to increased predation—thus, the potential result of the “rare contact” of the discharge on the NKS is potentially significant, and needs to be documented. Further, “regular” contact of the discharges may result in the dislocation of individual species that might otherwise inhabit portions of the SKS. The DEIR is impermissibly vague and inconclusive on these potential impacts.</p> <p><u>The DEIR should therefore be amended to better explain the current reach of impacts from the discharge. Furthermore, the DEIR should clarify the value of the “aquarium” experiment, given that dislocation of species is the reasonably foreseeable result of the concentrated brine discharge. Finally, the DEIR should identify the impacts of displacing organisms from surrounding kelp communities, including potential increased predation from occasional dislocation and the loss of relatively scarce habitat from more permanent dislocation.</u></p> <p>6) Impacts on habitat and species of concern not fully documented In several places, the DEIR suggests that there are no “areas of special biological significance” that are impacted by the proposed project. However, the intake for the EPS cooling water, and consequently the “supply water” for the proposed desalination plant, is located within a rare coastal wetland. Ninety percent of the coastal wetlands in the southern California region have already been filled or otherwise degraded. This dramatic loss of habitat that is critical to numerous species of concern deserves heightened protections.</p> <p>It has been suggested that, because EPS dredged the portion of the estuary that supplies the water to the power plant and maintains the constant flow of seawater to the lagoon, this area is somehow precluded from the protections for coastal wetlands. However, it is long since settled that wetlands are delineated from their current status, not the historical existence, or non-existence of wetland characteristics. In short, the estuary serving the EPS is a coastal wetland and deserves heightened scrutiny for the habitat it provides.</p> <p><u>The DEIR should be amended to fully document the dramatic loss of coastal wetlands in the region, the impact of continued degradation of this critical habitat for species of concern, and how the continued use of once-through cooling and the co-location of a desalination facility will impact current uses. As noted above, the DEIR should not simply assume the continued use of the estuary for a cooling water intake. It is reasonably foreseeable that the status of the estuary for that purpose will be re-considered in the near future.</u></p>	<p>53P A detailed energy use breakdown by key desalination project components, is included in Appendix C of the Draft EIR and an analysis of effects provided in Section 4.11.3 (pages 4.11-17 through 21) of the Draft EIR text. Additional information provided to illustrate energy use “offsets” associated with replacing imported water with desalinated water is both appropriate and accurate, and is based on information obtained from the State Department of Water Resources. As noted in the Draft EIR, the analysis is based on energy use within the regional grid, which contrary to the commentator’s assertion, indicates where the energy reductions would occur. In addition, energy offsets were not relied upon to determine the significance of impacts. The conclusion reached in the Draft EIR that the project would not require additional facilities to meet increased electricity demand does not depend upon reduction in energy use associated with imported water. Therefore, the commentator’s opinion that the analysis provided in the Draft EIR is “misleading” is not based in fact.</p> <p>53Q It is presumed that the commentator’s attempt to associate power purchase decisions with the understatement of impacts on marine organisms is based on previous comments related to changes in operation of the power plant. As noted in Responses 53L through N, the proposed project would not affect the operation of the power plant or its cooling water intake structure. Therefore, the Lead Agency disagrees that impacts on marine organisms are “dramatically understated”.</p> <p>53R The power supply for the Desalination Facility would be from the Encina Power Station (EPS) or the regional grid. If the EPS is the source of the power, the desalination facility would be able to draw power from either Unit 4 or Unit 5, the two newest and largest independent generating units on site. Under this mode of operation, the desalination facility will use</p>
--	---

RESPONSES TO COMMENTS

<p>Jul 13 05 09:09p HEAL THE BAY 310 453 7927 p. 8</p>  <p>3220 Nebraska Avenue ph 310 453 0395 info@healthebay.org Santa Monica CA 90404 fax 310 453 7927 www.healthebay.org</p> <p>Closing</p> <p>In conclusion, Heal the Bay strongly recommends that significantly more analyses be completed and another draft EIR be released for public review and comment. We find the DEIR to be wholly inadequate in its assessment of the potential impacts to marine life and likely operating scenarios of the proposed project. Given that this is a first of many future projects concerning desalination in the arid climate of Southern California, we feel this DEIR sets a poor precedent and allows for the continued degradation of our precious marine resources.</p> <p>Thank you for the opportunity to comment on the DEIR. Please call us at 310-453-0395 if you have any questions about Heal the Bay's comments.</p> <p>Sincerely,</p>  <p>Leslie Mintz Legislative Director Heal the Bay</p> <p style="text-align: right;">AA</p>	<p>approximately 10 % of the generation capacity available from one of the two generating units. An additional 10 % load on an individual generating unit does not represent enough demand to cause the EPS to bring on an additional generating unit, or increase the cooling water flow rate. Typically, once a unit is brought on line, the cooling water system flow rate remains constant. Thus, the EPS would continue to pump the same amount of source seawater for cooling as it does today. The flow rate for Unit 4 and Unit 5 are 304 MGD and 350 MGD, respectively. The existing permit allows the EPS to divert up to 860 MGD.</p> <p>The desalination facility operations will not require additional seawater use by the Encina Power Generation Station (EPS). After installing the desalination facility, the EPS will continue to pump the same amount of source seawater for cooling as is used today. The EPS permit allows the generation station to take up to 860 MGD for 24 hours per day and 365 days per year without any constraints on the time of the day, year, or the frequency of operation at this condition.</p> <p>The impingement and entrainment effects of the desalination plant are addressed in Section 4.3 of the Draft EIR. As indicated on page 4.3-36 of the Draft EIR, “The desalination plant feed water intake will neither increase the volume, nor the velocity of the EPS cooling water intake, nor will it increase the number of organisms entrained or impinged by the EPS cooling water intake structure.”</p> <p>As indicated on page 4.3-35, “The Carlsbad Desalination Plant will not have a separate direct lagoon or ocean intake and screening facilities, and will only use cooling water that is already screened by the EPS intake.” A comprehensive analysis of the desalination plant discharge impact was completed under a number of scenarios reflective of both the normal</p>
---	---

RESPONSES TO COMMENTS

	<p>power plant operations and historical extreme operational conditions identified over the 20.5-year period of plant operations. The results of these analyses are presented in Appendix E of this draft EIR and summarized in section 4.3, Biological Resources of the Draft EIR. The impingement and entrainment effects attributed to the desalination plant operations were estimated under a monthly maximum desalination plant intake flow of 106 MGD, as stated in Section 4.3 of the Draft EIR. As indicated in Section 3, Project Description, of the Draft EIR, the average desalination plant intake flow is 104 MGD. These flow rates are well within the actual historic baseline flow range of power plant operations defined in Appendix E.</p> <p>53S See Response 53R.</p> <p>53T An analysis of a modified intake designs (vertical intake wells, horizontal beach wells and infiltration galleries) is provided in Section 6 of the Draft EIR, Alternatives to the Proposed Action. Additional technical detail prepared by the applicant has been provided in the Final EIR to clarify the analysis provided in the Draft EIR. Specifically, a report titled Carlsbad Seawater Desalination Project Alternatives to the Proposed Intake, has been added to the appendices to the EIR. The reference of the use of beach wells as “environmentally preferable” alternative to the proposed intake configuration for the site-specific conditions of the Carlsbad seawater desalination project is inaccurate and unfounded on facts. Please note that beach wells are not designated or recognized by EPA as “best technology available” for mitigation of intake impingement and entrainment under the applicable 316 (B) Federal Regulations. In addition, there is no long-term track record of the use of beach wells for large scale seawater desalination plants or for power plants. Although beach wells have proven to be viable for plants of capacity smaller than 1</p>
--	---

RESPONSES TO COMMENTS

MGD, open surface ocean intakes have significantly wider application for large seawater reverse osmosis (SWRO) desalination plants. At present, out of over 50 operational SWRO facilities worldwide with capacity larger than 5 MGD there are only four using beach well intakes. The largest SWRO facility with beach wells is the 14.3 MGD Pembroke plant in Malta. This plant has been in operation since 1991. The 11 MGD Bay of Palma plant in Mallorca, Spain has 16 vertical wells with capacity of 1.5 MGD each. The third largest plant is the 6.3 MGD Ghar Lapsi SWRO in Malta. Source water for this facility is supplied by 15 vertical beach wells with unit capacity of 1.0 MGD. The largest SWRO plant in North America which obtains source water from beach wells is the 3.8 MGD water supply facility for the Pemex Salina Cruz refinery in Mexico. This plant also has the largest existing seawater intake wells – three Ranney-type radial collectors with capacity of 3.8 MGD each. Neither one of these projects is comparable in capacity to the proposed 50 MGD Carlsbad seawater desalination project.

As indicated on page 4.3-41 of the Draft EIR the entrainment effect attributed to the proposed Carlsbad seawater desalination plant “ranges from 0.01 percent for northern anchovy to 0.28 percent for CIQ gobies.” This entrainment effect is less than significant. Therefore, the beach well option does not provide a significant advantage over the intake configuration proposed by the project proponent.

As indicated on page 6-6 of the Draft EIR, the collection of 100 MGD of seawater would require the construction of a minimum of 25 beach wells along 4 miles of the Carlsbad beaches. The excavation of over 2 million cubic feet of beach sand material and disturbance of a 4-mile strip of the beach shore for a period of over one year to build the needed 25 beach wells would result in an irreversible loss of large amount of marine

RESPONSES TO COMMENTS

	<p>organisms inhabiting the sand. The excavation, transportation and disposal of large volume (2 million cubic feet/74,000 cubic yards) of beach sand to construct the wells would also have a significant additional environmental and traffic impacts. Taking under consideration that one large-size truck can transport up to 15 cubic yards of sand and the total amount of sand to be transported is over 74,000 cubic yards the construction of the beach wells would add a minimum of 9,866 one-way truck trips to the local traffic. In addition, the implementation of the beach well alternative would result in negative impacts in terms of beach aesthetics, appearance, and recreation, since the majority of Carlsbad's oceanfront is set aside as either Carlsbad State beach or South Carlsbad State Beach.</p> <p>53U The operational relationship between the desalination plant and the power plant are described in detail in Section 3, Project Description of the Draft EIR. As indicated on page 3-20 of the Draft EIR, the desalination plant will not affect power plant operations and will be connected to the power plant discharge and might be connected to one or more of the generating units for its power supply. As defined in the project description, the desalination plant will have no separate direct ocean intake or connection to the power plant intake structure and canals. The power plant intake and discharge flows in the future with the project are not expected to be different from the historic and current range of intake and discharge flows described in the EIR. In any event, the project will not increase any intake and discharge flows above permitted levels in the existing power plant NPDES permit.</p> <p>The commentor states that "EPS will either dramatically alter its cooling technology or implement some other compliance plan". It should be noted that the revised 316(b) requirements for Phase II facilities provides</p>
--	--

RESPONSES TO COMMENTS

	<p>five alternatives for compliance, only one of which involves closed-cycle cooling. As noted in Response 53N, implementation of the proposed desalination plant would not affect the ability of Cabrillo to implement any one of the four alternatives available to Cabrillo to achieve compliance with the revised 316(b) permitting requirements for Phase II facilities that do not involve substantial reductions in cooling water intake. And it is reasonably foreseeable that compliance can be achieved without reduction of seawater intake below the threshold levels identified as the “worst case” (historical extreme) scenarios analyzed in the Draft EIR and in the technical studies contained in Appendix E of the Draft EIR (“Hydrodynamic Modeling of Dispersion And Dilution of Concentrated Seawater Produced by the Ocean Desalination Project at the Encina Power Plant, Carlsbad, CA. Part II. Saline Anomalies Due to Worst-Case Hydraulic Scenarios” March 5, 2005; and “Marine Biological Considerations Related to the Reverse Osmosis Desalination Project at the Encina Power Plant,” April 4, 2005).</p> <p>53V The purpose of the referenced discussion sections from the Draft EIR is to illustrate the location of sensitive habitats relative to the extent of existing discharge characteristics. The comment appears to suggest that some unidentified historical impacts to the Southern Kelp Stand have not been considered in the Draft EIR analysis. As previously discussed, the Draft EIR analysis is based on reasonably foreseeable historical (20.5 year operational data) current and future operating characteristics of the Encina power plant. It is not within the scope of the EIR analysis to speculate on potential historical effects of the Encina power plant discharge on marine resources. See also Response 53U.</p> <p>53W The SKS (Southern Kelp Stand) is located 2000 feet southwest of the discharge channel. As pointed out in the Draft EIR, this area is</p>
--	--

RESPONSES TO COMMENTS

sufficiently distant from the discharge channel to result in contact by only a very slightly warmer than ambient water in the Power Plant's effluent stream. This thermal effluent does not reach the entire SKS and, having traveled so far, it is only slightly warmer than the ambient water. This level of contact between the thermal discharge and part of the SKS is documented in the Appendix report (*Marine Biological Considerations Related to the Reverse Osmosis Desalination Project at the Encina Power Plant, Carlsbad, CA*, April 4, 2005; hereinafter the "Graham report", Draft EIR, Appendix E) to the Draft EIR. The Graham report points out that ecological surveys of the entire discharge field conclude there has been no significant effect of this slight warming on the apparent health of the SKS kelp or on the biodiversity of the SKS habitat.

The Draft EIR also reports that computational flow models for the combined heated and hypersaline discharge were developed by Jenkins and Wasyl (See the Draft EIR Appendix report, *Hydrodynamic Modeling of Dispersion and Dilution of Concentrated Seawater Produced by the Ocean Desalination Project at the Encina Power Plant, Carlsbad, CA, Part II: Saline Anomalies Due to Theoretical Extreme Case Hydraulic Scenarios*, hereinafter the "2005 Jenkins and Wasyl report"). These models show that the combined discharge plume will flow through the more inshore part of the SKS. Under historical average conditions for both power plant flow rate and receiving water mixing conditions, the combined discharge plume flowing through the SKS will have a salinity of 33.8-34.5 ppt, which is only slightly above the ambient ocean salinity (33.5 ppt). Even the models depicting the hypothetical occurrence of historically extreme conditions for receiving water mixing, that are then made even more extreme by the assumption that these mixing conditions would prevail for 30 days (i.e., the worst case scenario), show that the discharge plume contacting the SKS will have a salinity from 34-35 ppt,

RESPONSES TO COMMENTS

which is only slightly above the 33.5 ppt ambient. Neither of these salinity extremes are sufficient to affect either the kelp itself or the biota living in the kelp forest.

For this reason and because the salinity tolerance and resistance data obtained by Mr. S. Le Page (Draft EIR, Appendix E report, *Salinity Tolerance Investigations: A Supplemental Report for the Carlsbad, CA Desalination Project Carlsbad, CA* March 7, 2005; hereinafter the “Le Page report”,) show no effect of such salinity levels on aquarium organisms, the behavioral avoidance experiments suggested in this comment are unlikely to provide any useful additional information relevant to the behavior of organisms in the SKS area.

The Huntington Beach Draft EIR referred to in this comment features an entirely different flow-discharge scenario than occurs at the Encina Power Station. At the Encina Plant, the combined heated power plant discharge and concentrated seawater from the desalination facility exit the site through a channel into the surf zone, which promotes rapid and intense mixing with the ocean water. By contrast, the Huntington Beach discharge is offshore and does not have the benefit of the surf zone mixing, thus a higher salinity in the immediate vicinity of the point the combined discharge enters the receiving water.

The NPDES permit for the power plant establishes a Zone of Initial Dilution (ZID). The ZID is a semi-circle area encompassing an area extending 1000 feet from the end of the discharge channel around to the shoreline on either side of it. The same reference point was adopted for modeling the combined power plant and desalination facility discharge. Accordingly, the Draft EIR and appended reports including the 2005 Jenkins and Wasyl report and the Graham report describe salinity values

RESPONSES TO COMMENTS

at the midpoint of the ZID, outside boundary of the ZID and beyond. It should be noted that there are no kelp stands within the ZID; the SKS is 1000 ft further offshore from the ZID to the southwest of the discharge channel.

The Appendix reports accompanying the Draft EIR analyze the salinity gradient that will occur within the ZID, that is, from the end of the discharge channel out to distances of 500 ft and 1000 ft. The 2005 Jenkins and Wasyl report cited above shows that, under historical average flow conditions, benthic salinity at a distance of 500 ft from the discharge channel will be 35.2 ppt. At 1000 ft, the edge of the ZID, salinity will be 34.5 ppt. These findings can be seen in Figures 26 and 30 of the 2005 Jenkins and Wasyl report cited above. These figures further show that, under the range of Power Plant flow volume scenarios and receiving water mixing conditions that were modeled for the combined discharge, the probability of a salinity of 37 ppt or greater occurring 500 ft from the discharge channel is less than 5%. Similarly, the probability of a 37 ppt or greater salinity occurring 1000 ft from the discharge channel is less than 2%.

In other words, the models show that, by diluting the desalination plant discharge with cooling water, discharge salinities are kept reasonably close to ambient levels. Based on facts reported in the Graham report and the Le Page report, it can be expected that salinities up to and including 38 ppt would be readily tolerated by the benthic organisms (mainly worms and small mollusks and crustaceans) currently residing in the sandy, sublittoral habitat between the end of the discharge channel and the ZID. Specifically, most of the scientific literature reviewed in the Graham report indicates that chronic exposure to salinities greater than 38 ppt and in some cases as high as 40 ppt would not present long-term

RESPONSES TO COMMENTS

tolerance problems for many species, and the Le Page report document no effect of continuous exposure to elevated salinity and 100% survival by key benthic species in 40 ppt water for as long as 19 days.

Thus, because of the small area within the ZID (1.5 acres of soft bottom habitat) that would be exposed to the salinity increase and the relatively low magnitude of the actual salinity increase within this area (34-37 ppt), avoidance or movement experiments proposed in this comment would not provide useful additional information.

Finally, both the Draft EIR and the Graham report acknowledge that the resulting area of elevated salinity within the ZID could affect the abundance and diversity of the benthic fauna there and could even result in the addition of different species (i.e., species that live in estuaries and bays and which are more tolerant of elevated salinity). If the latter occurs, the behavior and natural history of these new organisms will be highly similar to that of species currently residing there and thus the biological features of the habitat would not change markedly. It is emphasized again that the area within the ZID is only 1.5 acres and no hard bottom kelp habitat occurs there.

In summary, the level of salinity change to be experienced by the SKS habitat is very small and will not affect the organisms living there. Thus, experiments to monitor the behavioral responses to these small salinity changes would not provide useful data regarding the effect of the combined discharge. The elevated salinity area within the ZID will also not be great but could result in the replacement of some organisms by those having a greater salinity tolerance. This replacement would not, however, be the result of animal movements but rather the change in populations over time as larval animals arrive to populate the area.

RESPONSES TO COMMENTS

	<p>53X This comment implies that the scarcity of rocky outcroppings where kelp occur is somehow a local environmental problem and that because these habitats are scarce, the organisms living there are also scarce, and that this tenuous existence will be adversely affected by salinity discharge.</p> <p>This is not correct, kelp require rocks that are not covered by sand to which they can attach and grow from. If rocky areas are seasonally inundated with sand, kelp stands cannot remain. This has happened at the NKS in the past several years (see the Graham report cited in Response 53W). By all accounts the SKS has a typical compliment of fishes and invertebrates living in it as occur in other kelp habitats and the organisms there are not scarce (Graham report).</p> <p>Comment X also implies that the contact of slightly elevated salinity water with the SKS will displace organisms from the habitat and that the occasional contact of the combined thermal and elevated salinity discharge with the NKS (North Kelp Stand) will have significant effects on the kelp as well as the organisms dwelling in the kelp habitat.</p> <p>The SKS occurs about 2000 ft southeast of the discharge channel. As stated in response to Comment W, the computational models show that the discharge water reaching the SKS area will have a salinity of 33.8-34.5 ppt, which is only slightly above the ambient ocean salinity of 33.5 ppt. This increase is not sufficient to stress the kelp or the organisms living in it, as verified by both reviews of the scientific literature contained in the Graham report and the actual salinity tests as documented in the Le Page report (cited in Response 53W).</p>
--	--

RESPONSES TO COMMENTS

While the slightly elevated salinity effect would be a permanent feature in the SKS habitat, the salinities experienced by organisms will not be high enough to displace any species or to affect the kelp plants.

Regarding the NKS, this habitat occurs over 3000 ft northwest of the power plant discharge channel. Early data documented cases when the heated only discharge could extend to the NKS. However, the mixing of the heated and desalination byproduct waters markedly changes the distributive functions of the discharge (see details in Comment YY below). Computational models in the 2005 Jenkins and Wasyl report cited in Response 53W show virtually zero probability that under either historical average conditions or worst-case scenarios of power plant flow rate and ocean mixing conditions that any of the combined discharge will reach the NKS. Thus, the NKS will only rarely if ever experience a slight and temporary salinity change (see the Graham report, Figure 7). The major reason for this is the better mixing with the receiving water due to the greater density of the more saline discharge, and the prevailing net flow of shore water toward the southeast.


Finally, this comment requests justification for the aquarium tests of organisms as useful method for extrapolation to the environmental question. Laboratory tests are clearly important. The U.S. Environmental Protection Agency has standardized methods and study species for tests involving salinity. The Le Page report shows that organisms normally living in the area of the Encina discharge are unaffected by greater salinity changes than will occur in the discharge plume. Moreover, they live perfectly well at these salinities and feed, grow and develop their gonads during the appropriate season. This stands as substantial evidence that the salinity levels to which they will be exposed by a heated and more saline discharge are not going to affect them.

RESPONSES TO COMMENTS

	<p>53Y The Draft EIR contains a complete assessment an analysis of impacts related to the desalination plant feedwater. The baseline for the marine biology and the areas that may be affected by the desalination project are addressed in Section 4.3 – Biological Resources, of the Draft EIR and are described in detail in the Graham report. In addition, Appendix E of the Draft EIR also contains a study of potential impingement and entrainment effects by Tenera Environmental (<i>Carlsbad Desalination Facility Intake Effects Assessment</i> March 3, 2005; hereinafter the “Tenera report”, Draft EIR, Appendix E), which fully and accurately characterizes source water populations of potentially affected species. Specifically, Section 3.1 of the Tenera report provides a complete description of the habitat and species values within Agua Hedionda Lagoon, and Section 4.2.2 of the report indicates that five sampling stations were located within the Agua Hedionda Lagoon to provide a complete characterization of source water.</p> <p>53Z The commentor suggests that the Draft EIR discounts the biological value of Agua Hedionda Lagoon by offering an unclear reference to attempts by apparent unknown parties to do so. This is incorrect. A complete and accurate assessment of potential impacts to Agua Hedionda Lagoon is provided in the Draft EIR, as noted in Response 53Y. See also Response 53U regarding comments related to cooling water intake.</p> <p>53AA The Lead Agency disagrees with the commentor’s recommendation that additional analysis be completed, and disagrees with the assertions that the Draft EIR is inadequate. As demonstrated by the analysis provided in the Draft EIR and as further demonstrated in these Responses, the Draft EIR provides a complete assessment of environmental effects associated with the proposed project.</p>
--	---

RESPONSES TO COMMENTS

OFFICERS
Sage Sweetwood
President
Kevin Johnson
Senior Vice President
Gary Patton
Vice President
J William Yates
Secretary-Treasurer



PLANNING AND CONSERVATION LEAGUE

July 11, 2005

Mr. Scott Donnell
City of Carlsbad
Department of Planning
1635 Faraday Avenue
Carlsbad, CA 92008-7314

Re: Poseidon-Carlsbad Desalination Plant at Encina Power Station draft Environmental Impact Report

Dear Mr. Scott Donnell,

The Planning and Conservation League submits the following comments on the draft Poseidon-Carlsbad Desalination Plant Environmental Impact Report (DEIR). We appreciate this opportunity to comment on this project and request careful consideration of these comments and those received by other individuals.


Large scale desalination has not yet been successfully achieved in California or in the United States. There is only one large scale seawater desalination facility in the United States. That facility, located in Tampa Bay Florida, cost millions of dollars but has never functioned as intended and has cost considerably more than originally expected. Citizen uproar over these unexpected costs has called into question continued operation of the facility.

The proposed project under this DEIR would be the first large scale reverse osmosis facility in California, the largest in the United States, with a projected capacity of twice Tampa Bay's poorly-functioning facility. Careful and thoughtful consideration must be given to this project proposed for the City of Carlsbad to ensure that all concerns and outstanding issues raised by citizens and ratepayers are addressed prior to moving forward with such a large-scale facility that will have enduring impacts on the Northern San Diego County community and on the coastal and marine resources of Southern California.

As the 10 comments below demonstrate, this DEIR does not provide information essential to assessing the long term feasibility and impacts of the proposed project. Specifically, the DEIR does not adequately demonstrate a need for the project; it fails to adequately analyze growth inducing impacts, environmental justice impacts, impacts on marine life, or cumulative impacts of the proposed project. In addition, the DEIR does

Comment No. 54

VICE PRESIDENTS
Elizabeth Brown
George Cooney
Phyllis Pabst
Ray Aron
Dorothy Green
Los Angeles




54A This comment provides information regarding the commenter's organization and does not raise any issues relative to the environmental analysis. Therefore, no additional response is necessary.

54B This comment points out that large scale desalination has not yet been successfully achieved in California.


Seawater desalination technology, available for decades, is at work in many arid areas of the world such as the Middle East, the Mediterranean, and the Caribbean. Desalination plants operate in more than 120 countries in the world, including Mexico, Saudi Arabia, Oman, United Arab Emirates, Spain, Cyprus, Malta, Gibraltar, Cape Verde, Portugal, Greece, Italy, India, China, Japan, and Australia. Worldwide, 21,000 desalination plants produce over 3.5 billion gallons of potable water a day.

Careful and thoughtful consideration has been given to the proposed project, including five years of environmental and technical assessment, over two years of pilot plant operations and extensive public education and outreach.

The applicant has been conducting source water quality sampling and receiving water modeling and biological studies since 2000. A pilot scale (36,000 gallon per day) version of the full-scale Project (as proposed) has been operating at the Encina Power Plant continuously since January

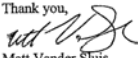


921 11th Street, Third Floor, Sacramento, CA 95814 Phone 916-444-5726 Fax 916-448-1789
Website: www.pcl.org Email: pclmail@pcl.org



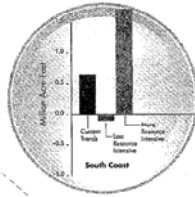
California Affiliate

RESPONSES TO COMMENTS

<p>not provide information on how private ownership of the desalination facility impacts the operation of the proposed facility and how the responsibilities of the private company will differ from that of a public owner. This information is essential for the public and the city council to consider prior to moving forward on this project.</p> <p>This project will impact future Clean Water Act compliance, coastal zone management, land use planning, electricity generation, and the marine ecosystem of the Southern California Bight. Such a decision requires thorough information and careful consideration of the full impacts and alternatives available.</p> <p>Unfortunately, this DEIR is inadequate, flawed, and sets an unacceptably low precedent for future reviews of desalination in California. The DEIR does not provide essential information to the Carlsbad City Council and to residents of the City of Carlsbad. The DEIR states that "agencies other than the City of Carlsbad will use this EIR when making a decision on aspects of the project that require their approval." These communities deserve an adequate EIR as well.</p> <p>We strongly urge the Carlsbad City Council to reject the current DEIR and attain and make available to the public all information essential to making an informed decision prior to moving forward with any proposed seawater desalination project in the Carlsbad community.</p> <p>Thank you,  Matt Vander Stuis Planning and Conservation League</p> <p>Cc: SDCWA, John Clay, Huntington Beach City Council, City of Oceanside Planning Department, City of Vista Planning Department, Joe Geever, Conner Everts, Coastal Commission: Tom Luster, Peter Douglas, Al Wanger.</p> <p style="text-align: center;">COMMENTS</p> <p>1) The DEIR does not adequately demonstrate a need for the proposed project.</p> <p>The DEIR states that the specific objective of the project is to "provide a local source of potable water to supplement imported water supplies available to the City of Carlsbad and the San Diego Region." "Supplementing" water supplies indicates that the intention of the project is to <i>add</i> to the supplemental water supply, not <i>replace</i> existing supplies. However, State of California documents show that supplemental water is unnecessary in Southern California. The recently released <i>Draft California Water Plan Update</i> indicates</p> <p style="text-align: center;">2</p>	<p>2003. By running the scale model under the same conditions that will be present for the full-scale plant, the applicant has been able to demonstrate the success and reliability of the technology and confirm the environmental safeguards of the Project.</p> <p>The applicant has been conducting an extensive public education and outreach program since 2001. To date, several thousand individuals representing community based organizations and other interested groups have been engaged in the project either through informational presentations, pilot plant tours, direct communications or other means of outreach.</p> <p>54C The Lead Agency disagrees with the broad assertions provided in this comment regarding the adequacy of the environmental analysis provided in the Draft EIR. However, the comment lacks sufficient clarity and specificity to afford a more detailed response. Detailed responses to specific comments are provided below.</p> <p>54D The Lead Agency disagrees with the broad assertions provided in this comment regarding the adequacy of the environmental analysis provided in the Draft EIR. However, the comment lacks sufficient clarity and specificity to afford a more detailed response. Detailed responses to specific comments are provided below.</p> <p>54E The Lead Agency disagrees with the broad assertions provided in this comment regarding the adequacy of the environmental analysis provided in the Draft EIR. However, the comment lacks sufficient clarity and specificity to afford a more detailed response. Detailed responses to specific comments are provided below.</p>
---	--

RESPONSES TO COMMENTS

that the Southern California region could feasibly use less water in 2030 than it does today.¹ The *Draft California Water Plan Update* less-resource intensive scenario (see below) indicates that Southern California will use about 100,000 acre-feet less water with minimal implementation of conservation measures.²



California Water Plan Update Public Review Draft, Highlights, page 4

Accordingly, the DEIR should provide documented information that explains the need for an additional 56,000 acre-feet per year in San Diego County. Without such information, there is no demonstrated need for this project.

The DEIR states that “the amount of water generated by the project would be more than Carlsbad required” but does not clearly identify the additional end users. This information is inadequate in a discussion of project need and implies that significant growth inducing impacts will result from the project if the water is not needed at this time. The DEIR is further flawed as it fails to assess these potential growth inducing impacts (see comment # 5).

The required explanation of additional need must be detailed and rigorous and must rely on more than a presumption of regional population growth. As the *Draft California Water Plan Update* states, “As has been demonstrated in various regions of the state, an increase in population does not necessarily result in a proportionate increase in urban water use.” San Diego provides a strong example; In their February 2005 *SDCWA Water Conservation Fact Sheet* the San Diego County Water Authority reported that “water conservation measures are expected to reduce total urban water demands by approximately 10 percent in 2020, with an estimated savings of 93,200 acre-feet of water a year.” They also state, “Urban per capita water use is actually lower than it was in

¹ California Water Plan Update Public Review Draft, Highlights, page 4

² California Water Plan Update Public Review Draft, Highlights, page 4.

54F The Lead Agency disagrees with the commentator’s recommendation that additional analysis be completed, and disagrees with the assertions that the Draft EIR is inadequate. As demonstrated by the analysis provided in the Draft EIR and as further demonstrated in these Responses, the Draft EIR provides a complete assessment of environmental effects associated with the proposed project.

54G This Comment cites the Department of Water Resources’ draft California Water Plan Update 2005 to support the commentator’s view that Southern California *could* feasibly use less water in 2030 than it does today.

The information provided by the draft California Water Plan Update 2005 is noted. However, if recent trends continue, California Water Plan Update 2005 concludes that water conservation and reuse alone will not be adequate to meet Southern California’s future needs. Under these circumstances, more than 600,000 acre-feet of new supply will be needed to meet the South Coast region’s needs by the year 2030.¹ Under these conditions, the Water Plan relies on both conservation and up to 500,000 acre-feet of desalinated water to meet the projected water needs in California.²

f conservation measures are effectively implemented (as speculated by the commentator), then conservation and desalinated water production will together provide a greater opportunity to reduce imported water demand in the region.

¹ California Water Plan Highlights page 4.

² California Water Plan Highlights page 15.

RESPONSES TO COMMENTS

54H This comment requests information that explains the need for proposed project capacity of 56,000 AFY.

As discussed in the Draft EIR, Section 9.0 *Growth-Inducing Impacts*, and as further elaborated upon in this comment, the San Diego region's pursuit of seawater desalination is in direct response to growing concern over water supply reliability. This concern is driven by several factors, including climate, limited surface and groundwater supplies, expected population growth and decreasing reliability of imported water resources stemming from the Colorado River 4.4 Plan and QSA, Sacramento-San Joaquin Bay-Delta Accord and other regional, state and federal water issues. Between 1980 and 2000, the City of Carlsbad added 47,000 people to its population and the San Diego region added 952,000 people to its population. Carlsbad expects to add another 40,000 people under its voter approved Growth Management Plan. The City of Carlsbad has studied and provided for this population increase in the City's General Plan. However, the project's planned sale of desalinated water to Carlsbad is not dependent on any population growth in the City, but instead is intended to provide an alternate source of supply to meet the City's current water needs at a cost that is equal to or less than expected future costs of imported water supplies. The region is expected by 2030 to further increase its population from 2.8 million to 3.8 million through natural growth and migration according to population projects utilized by the San Diego County Water Authority in its planning documents.

Approximately 97% of San Diego County's population lives within the SDCWA service area. San Diego County imports between 75 and 90 % of its water supply from the State Water project and Colorado River Basin through MWD and SDCWA. Currently, the SDCWA imports nearly 600,000 AF per year from MWD, but is only legally entitled to

1990.³ The DEIR must analyze this document and show what regional changes will create the demand for an additional 56,000 acre-feet beyond the supplies that will be available from future water conservation. In describing these regional changes, the DEIR must also show why less resource intensive scenarios such as those discussed below would not be feasible.

2) The DEIR does not fully analyze alternatives to the proposed project.

The DEIR defines its purpose in an overly narrow manner, and correspondingly fails to include an analysis of how other water supply reliability methods could increase the reliability of available water supplies. In stating that the project goal is to "provide a local source of potable water to supplement imported water supplies available to the City of Carlsbad and the San Diego Region," the DEIR precludes a discussion of alternative methods for offsetting demand for imported potable water. In particular, the DEIR fails to analyze an alternative that includes conservation, recycling and groundwater treatment.

Water for California and the Planning & Conservation League recently released an analysis of cost-effective strategies to meet California's future water needs. The document, the *Investment Strategy for California Water (Investment Strategy)* demonstrated that California can more than meet water needs with implementation of cost-effective water conservation, water recycling and groundwater clean up. The chart from the *Investment Strategy* below summarizes these findings.⁴

Additional Needs	million acre-feet
Population Increase	2.0-2.4
Environmental Restoration	1.0
Total additional needs	3.0-3.4
First Priority Options	million acre-feet
Urban Water Conservation	2.0-2.3
Agricultural Water Conservation	At least 0.3-0.6
Recycled Water	1.5
Groundwater Treatment and Desalination	At least 0.29
Total First Priority Potential	At least 4.09-4.69

³ http://www.sdcwa.org/manage/pdf/Conservation/Conservation_factsheet.pdf

⁴ *Investment Strategy for California Water*, page 2.
http://www.pcl.org/pcl_files/Investment%20Strategy_11_18_04.pdf



RESPONSES TO COMMENTS

In addition to the *Investment Strategy*, the *Draft Water California Plan Update* and *State Recycled Water Taskforce Findings* also indicate that water conservation, recycling and groundwater management can more than meet water needs in California. As stated above, the *Draft California Water Plan Update* indicates that California and in particular Southern California could feasibly use less water in 2030 than is used today.⁵ In the scenario that California needs more water, the *Draft California Water Plan Update* identifies several options that are more reliable and cost-effective than large scale seawater desalination, including water conservation and water recycling.

According to the *Draft California Water Plan Update*, Urban Water Use Efficiency holds the greatest potential as a water management option with a potential to provide up to 2.0-2.3 million acre feet of water. The Update states that recycled water has a potential to provide up to an additional 1.4 million acre feet of water. Groundwater management and storage is also identified as having a significant potential at greater than 2.0 million acre feet.⁶

The DEIR does not provide an alternative that includes the finding of the *Investment Strategy for California Water* or the information from the *Draft California Water Plan Update*. Omitting such an alternative falsely indicates that Southern California and in particular San Diego County have no alternative to expensive seawater desalination.

Because the DEIR fails to include an analysis of an alternative including water conservation, water recycling and groundwater treatment, the DEIR omits essential information on how such an alternative would compare to the proposed project. In fact, as outlined in the *Investment Strategy* and the *Draft California Water Plan Update*, this alternative could more than meet the DEIR's stated objective of increased water supply in a more reliable, less energy intensive, more cost-effective and less environmentally damaging way than the proposed project.

Unlike seawater desalination, conservation, water recycling and use of stored groundwater are proven, reliable drought responses. Recent developments of these water management strategies have increased drought reliability in Southern California. For example, in Orange County, recycled water is being stored in natural local aquifers, providing a secure supply that can be accessed during drought periods. A more reliable local source of potable water for the San Diego region could be attained through a program similar to the one in Orange County.

For the past many years, Southern California has maintained its water supply reliability without increases in water supply. The region met water demands during the 1996-1997

⁵ California Water Plan Update Public Review Draft, Highlights, page 4.
⁶ California Water Plan Update Public Review Draft, Highlights, page 15

L (cont.)
 M
 N
 O
 P

approximately 300,000 AF per year, and thus is highly vulnerable to water shortages and supply disruptions. Increased pressure on supplies diverted from the Bay-Delta and the Colorado River only heighten the region's vulnerability to water shortages and supply disruptions.

SDCWA has projected that as a result of the additional one million people that will be added to the county over the next three decades water demands will grow by 118,000 acre-feet to reach 813,000 AFY in 2030. The contribution from water conservation efforts account for 54,000 AFY of reduced demand today and is expected to grow to over 12% or 93,200 AFY in reduced demand over the next 15 years. The increased demand projection is a net of 93,200 acre-feet of annual savings due to ongoing and planned water conservation efforts.

The SDCWA delivers water to 23 member agencies, which in turn meter retail water deliveries to end-use customers. The percentage of imported water used by each agency varies between 40-100%. Carlsbad Municipal Water District (CMWD) primarily serves municipal and industrial customers, along with a few agricultural customers. CMWD is currently 100% dependent on the SDCWA for its potable water supplies.

However, as noted above, the City of Carlsbad's purchase of water from the project is not premised or dependent upon any expected future population growth, but instead is a means of providing an alternative supply to meet the City's current water needs at a cost equal to or less than expected future costs of imported water supplies.

Prior to considering the proposed desalination project, CMWD undertook a variety of actions to improve water supply reliability, diversify supplies, and reduce dependence on imported water. These actions include a

RESPONSES TO COMMENTS

<p>drought. It met demands during the current long-term drought in the Colorado River system. It met demands during the past four years which were some of the driest years in Southern California. Over these dry periods, water needs have been met with minimal conservation and reclamation efforts.</p> <p>Alternatively, large-scale seawater desalination has not proven to be a reliable drought supply. In times of drought, hydroelectricity throughout California and the Pacific Northwest is reduced and prices of remaining electricity increase. According to a recent California Energy Commission report, energy is less available precisely when local water needs are greatest.⁷ The proposed desalination facility would be a significant strain on the energy grid, requiring more energy than any other source of water. The DEIR fails to address how energy shortages and increased cost will affect the reliability of the proposed project. Therefore, the DEIR does not provide sufficient support for the conclusion that the proposed project would in fact increase water supply reliability in San Diego County.</p> <p>The DEIR should be re-drafted to include an alternative based on the <i>Investment Strategy for California Water</i> and the <i>Draft California Water Plan Update</i> so that a full comparison of alternatives is considered by the Carlsbad community and elected officials.</p> <p>3) By failing to analyze the proposed large-scale desalination facility apart from the Power Station, the DEIR fails to analyze the full environmental impacts of the desalination facility, especially impingement and entrapment of marine life.</p> <p>The DEIR states that because the proposed desalination facility will be co-located with the Encina Power Station (EPS) and will make use of an existing once-through cooling intake, the project has no significant impacts on the marine life from impingement and entrapment. This finding is misleading, untrue and inconsistent with the recommendations of the State of California.</p> <p>The California Department of Water Resources convened a Desalination Task Force and published the <i>Task Force Findings and Recommendations</i> in October of 2003.</p> <p>According to the <i>Desalination Task Force Findings</i>, co-locating a desalination facility with a coastal power plant, as is proposed with the DEIR, can provide a justification for the continued use of once-through cooling technology. Once-through cooling technology has well-documented environmental impacts, including impacts on marine organisms from impingement and entrapment, according to the Desalination Task Force.⁸</p> <p>⁷ California Energy Commission Potential Changes in Hydropower Production from Global Climate Change in California and the Western United States - Consultant Report, CEC publication # CEC-700-2005-010 http://www.energy.ca.gov/2005_energy/policy/documents/index.html#062105 ⁸ Water Desalination Task Force, October 2003. Department of Water Resources, page 5.</p> <p style="text-align: center;">6</p>	<p>commitment to implement all cost-effective water conservation and recycling opportunities. Today, CMWD has one of the most aggressive conservation and recycling programs in the San Diego region.</p> <p>CMWD is committed to implementation of the best management practices (BMPs) set forth in the California Urban Water Conservation Council's 1991 Memorandum of Understanding Regarding Urban Water Conservation in California. These BMPs include: residential surveys, plumbing retrofits, water audits, metering with commodity rates, conservation pricing, landscaping programs, high-efficiency clothes washer rebates, and public education and conservation programs. Water conservation savings in the San Diego Region will continue its upward trend through continued implementation of existing and proposed BMP's. SDCWA estimates that by 2020 water conservation investments will reduce municipal and industrial demands by 12%, saving 93,200 AFY.</p> <p>In 1991, Carlsbad adopted a five-phase Recycled Water Master Plan designed to save potable water. The result is that CMWD has the most aggressive water recycling program in the region when measured in terms of percent of supply derived from recycled water. Currently, CMWD purchases recycled water from Leucadia County Water District's Gafner and Vallecitos Water District's Meadowlark water recycling plants for distribution to a variety of irrigation applications.</p> <p>In 2004, approximately 2,061 AFY or 10% of CMWD's water needs were met by recycled water supplied from the two existing water recycling plants. This water, which is only used for non-potable applications, such as landscape irrigation, is sold at a reduced cost. Currently there is approximately 30 miles of recycled water pipelines installed in CMWD's service area. CMWD's ability to supply the non-</p>
---	--

RESPONSES TO COMMENTS

In order to ensure all impacts from a desalination facility are understood, the Desalination Task Force recommended that impacts from a proposed project be assessed separately from the existing power plant.⁷ The DEIR fails to follow this state recommendation.

Assessing impacts of the desalination facility apart from the power plant is important because power plants may be shut down or the operation of the power plant may change in a way that is incompatible with desalination operations. In those cases, the desalination facility would need to function separately from the existing facility, and therefore the impacts of the desalination operation would be different than the impacts from the existing facility.

Older power plants such as the EPS use open ocean intakes to gather water for once-through cooling. This method of cooling requires vast amounts of water and the unscreened intake results in very high marine life loss. Numerous species of marine life in the Southern California Bight are currently under extreme pressure and several are estimated to have been depleted to less than ten percent of their historical populations.

However, there are new technologies for power plants that re-circulate cooling water or use dry methods of cooling which significantly reduce the water needed for power generation, which in turn reduces the impacts on the marine environment.

Under the Federal Clean Water Act, a power plant must have a current 316 (b) permit for an intake to the ocean. The Federal EPA recently adopted new rules for permitting ocean water intakes. The new rule requires all large existing power plants, including EPS, to reduce impingement and entrainment of marine life by the cooling water intake structure by 80 to 95 percent. In addition, the law requires cooling intakes to utilize the best available technology for reducing entrainment and impingement.

There is a process underway to update the 316 (b) permit for most power plants in California. The current intake for the EPS does not reflect the best available technology for reducing impacts, as required by the new rules. It is uncertain how the EPS intends to comply with the recently promulgated Clean Water Act 316 (b) regulations on cooling water intakes. One potential compliance response would be to reduce the volume of intake water from the historical baseline.

This course of action would make the proposed project infeasible because the desalination facility would require a vast amount of water to produce potable water as well as to dilute the brine wastewater produced by the desalination process. In this case, the operation of the desalination facility would be significantly different than the operation of the intake for the power plant. Failing to assess the impacts of the intake on marine life separate from the impacts of the power plant is a significant flaw in the DEIR.

⁷ Water Desalination Task Force, October 2003. Department of Water Resources, page 21.

T (cont.)
U
V
W
X
Y

potable demands with recycled water is limited by the availability of supply from the two existing water recycling plants. To correct this deficiency, CMWD has invested \$49M in a new water recycling facility and associated distribution mains at the Encina Wastewater Treatment Plant.

When the newly constructed recycled water production facility becomes operational in the fall of 2005, recycled water use in CMWD's service area is expected to more than double to 5,000 AFY and supply more than 20% of projected water demands. The use of recycled water is expected to continue to grow as it is the policy of CMWD to require dual plumbing and recycled water use in all new developments within its service area. Thus, water recycling has become and will continue to be a major component of CMWD's water supply.

The implementation of the water conservation and water recycling elements included in CMWD's *2000 Urban Water Management Plan* are on schedule and are achieving the desired reduction in potable water use. These programs are designed to work in tandem with the proposed seawater desalination project to accomplish the City Council's water supply reliability goal of 90 percent water availability during a severe drought. CMWD's success with these programs translates to a 3.5 percent reduction in the demand on the regional water supply system and an overall improvement in regional water supply reliability.

Both the Metropolitan Water District of Southern California (MWD) and the San Diego County Water Authority (SDCWA) have implemented integrated regional plans that include a seawater desalination component. MWD has adopted an integrated resources plan (IRP) that provides for a combination of conservation, recycling, importation and brackish and

RESPONSES TO COMMENTS

<p>The DEIR must state if the EPS has updated its 316 (b) permit and if not, how it plans to achieve compliance. Without this information the DEIR is inadequate. Z</p> <p>In addition, the DEIR does not indicate how the project will affect areas designated as Area of Special Biological Significance by the State Water Resources Control Board. AA</p> <p>Because the DEIR does not adequately assess the environmental impacts of entrainment and entrapment at the proposed desalination facility, the DEIR is fatally flawed and must be rejected. BB</p> <p>4) The DEIR does not provide clear information about the required amount of energy, the source of energy or the related impacts of additional energy generation, including project price, energy availability, global climate change or air quality.</p> <p>Amount: The proposed project would require a significant amount of energy to operate. The DEIR is not clear as to the specific amount of energy required and is therefore inadequate. The DEIR states "the pumping of State Water Project water now requires approximately 3,200 MWh of electricity per acre foot of water, versus 4.655 (on average) to 5.123 (at maximum load) MWh of electricity per acre foot of water for the production of desalinated water at desalination plant. In other words, the desalination plant running at full capacity would use an average of 30 MWh." This statement is incomplete and incorrect. If producing one acre foot of desalinated water does require 4.655 MWh on average as stated in the DEIR, then the 50 MGD (153 acre feet/day) that Carlsbad proposes to provide would require 714 Megawatt hours per day. The 2005 Huntington Beach Desalination Plant REIR for a similarly sized 50 MDG facility stated that the operation of the proposed project would require 720 to 840 megawatts hours per day, enough for 30,000 to 35,000 residential units. The failure to clearly state the megawatts needed for this energy-intensive process requires that the DEIR be rejected.</p> <p>Source and Impacts: The DEIR also fails to identify the source energy for the project, which makes it impossible to adequately analyze the related impacts. The energy source for this project is important because it will affect the cost of this project and the impact of the project on the availability of energy in the Carlsbad area and in the greater energy grid. It will also determine the affect of and the project's contribution to global climate change. Lastly, identifying the energy source allows a rigorous analysis of the air quality impacts of this project. Without a clearly identified energy source, this DEIR should be rejected. DD</p> <p>Costs: Not identifying an energy source obfuscates the operating price of the facility, essential information for the Carlsbad City Council and the larger community as they weigh various strategies for achieving cost-effective water supply reliability. The greatest</p> <p>8</p>	<p>seawater desalination to address the future water supply needs of Southern California. MWD's IRP provides for 150,000 acre-feet per year of new supply being available from seawater desalination, including 56,000 AFY of supply from the proposed project. Similarly, SDCWA Regional Water Facilities Master Plan for a combination of conservation, recycling, importation and brackish and seawater desalination to address the future water supply needs of San Diego County, including 56,000 AFY form the proposed project.</p> <p>54I Comment noted. The Final EIR has been revised to clarify the following:</p> <ol style="list-style-type: none"> 1. The delivery area for the desalinated water may include portions of the geographical area served by the Carlsbad Municipal Water District, San Dieguito Water District, City of Oceanside, Olivenhain Water District, Vista Irrigation District, and Vallecitos Water District. 2. Potential purchasing agencies include the Metropolitan Water District of Southern California (MWD), San Diego County Water Authority (SDCWA) and SDCWA member agencies and subagencies. 3. Specific uses include municipal, industrial and agricultural water uses and potential users include municipal, industrial and agricultural water users. <p>54J See Responses 54G and 54H.</p> <p>54K See Responses 54G and 54H. Prior to considering the proposed desalination project, the SDCWA and member agencies conducted a thorough and lengthy public discussion regarding a variety of actions to improve water supply reliability, diversify supplies, and reduce dependence on imported water.</p>
---	--

RESPONSES TO COMMENTS

expense in the operation of reverse osmosis facilities is energy. The cost of operation and the economic feasibility of this project will be based on the cost of energy. If there is no secure source of energy for this project, the cost of the project operation will increase according to the market rate for energy. Increased energy costs could result in much higher operations cost, which would then increase the cost of water. The claimed benefits of this project would be greatly reduced if the price of water from the facility became prohibitively expensive. If the energy for the project will come from the energy grid, a discussion of the impact on energy costs and energy availability must be included in the DEIR and made available to the community in order for the impacts on the City of Carlsbad and San Diego County to be fully understood prior to a decision on this project.

Global Climate Change:

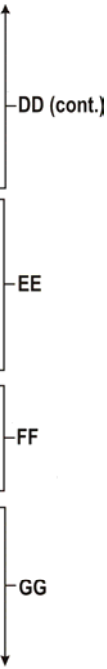
In addition the DEIR must evaluate how the energy required for operation of the Poseidon-Carlsbad desalination facility will be affected by and contribute to global climate change. It is now recognized that climate change is affecting California's water supply and that these changes will impact hydropower energy production. In June 2005, the California Energy Commission released a report entitled, *Potential Changes in Hydropower Production from Global Climate Change in California and the Western United States*.¹⁵ The report confirms that in dry periods, hydropower production capacity will decrease. The DEIR must include an analysis of this report, specifically addressing how climate change will affect the energy sources for the Carlsbad desalination facility and the reliability and cost of that water supply.

The DEIR must also include impacts on the energy grid for California and the Pacific Northwest and how the increased energy demand from the project may contribute to global climate change. Power plants have been identified as some of the largest sources of CO₂, the leading contributor to global climate change. Any increase in CO₂ emissions from increases in energy production must be mitigated. Full implementation of the alternatives discussed in comment #2 could reduce CO₂ emissions below current levels by reducing power generation.

Air Quality:

The DEIR is required to identify and mitigate for the air quality impacts of generating the energy necessary for this project. If the energy for the DEIR project will come from the EPS, the air quality impacts on residents in the downwind region must be included in the DEIR. If the energy for the project will come from the energy grid, air quality impacts in this substantially larger area must be included in the DEIR. Given the high levels of smog-forming NO_x emissions and PM₁₀ from power plants and the clearly identified relationship between air pollution and elevated rates of childhood asthma and cancer in

¹⁵California Energy Commission Potential Changes in Hydropower Production from Global Climate Change in California and the Western United States - Consultant Report, CEC publication # CEC-700-2005-010 http://www.energy.ca.gov/2005_energy/policy/documents/index.html#062105



Regional water demand forecasts based on regional population growth projections were part of the water supply planning effort included in SDCWA's 2030 Regional Water Facilities Master Plan (RWFMP). As a result of the analysis performed for the RWFMP, three main water supply alternatives were identified:

1. Delivering water from the north – this involves construction of a new pipeline to convey water from the Metropolitan Water District of Southern California
2. Delivering water from the east – this involves a new pipeline extending to the Imperial Valley to convey water transferred from other water agencies
3. Delivering water from the west – this involves development of seawater desalination.

The seawater desalination development alternative was identified as the preferred alternative in the RWFMP, because it was found to provide safe, high-quality water through a locally controlled process from a drought proof source.

A baseline assumption of the Draft EIR is that the water conservation and water recycling elements included in CMWD's 2000 Urban Water Management Plan and the RWFMP will be fully implemented. However, even with the targeted conservation and recycling in place, the RWFMP identified a need for additional local water in an amount equal to or greater than the project capacity. The RWFMP also found that local groundwater storage options are limited due to geological constraints and water quality issues.

RESPONSES TO COMMENTS

<p>Southern California, any additional air pollution generated because of the Poseidon-Carlsbad facility must be viewed in light of these accompanying health affects.</p> <p>It should be noted the San Diego air basin is currently in non-attainment status for PM 10 and ozone.</p> <p>The DEIR does not provide information necessary to adequately assess how the energy consumption of the proposed project will affect the San Diego County community and the larger West Coast region. It should therefore be rejected.</p> <p>5) Growth inducing impacts have not been adequately analyzed.</p> <p>The DEIR does not answer basic questions about the growth inducing impacts of the Poseidon-Carlsbad desalination facility. This information is essential because growth caused by this project will have a number of effects including regional air quality and traffic congestion, and these changes must be properly analyzed and considered.</p> <p>The DEIR fails to identify a use or user for all of the project water. This calls into question the need for the project, but it does not excuse the DEIR from addressing the growth inducing impacts of the proposed project. The project would be connected to the San Diego County water distribution system, and therefore could be used in a limited area. Therefore, growth inducing impacts of an additional 56,000 acre-feet of water supply in San Diego County should be analyzed.</p> <p>Growth Inducing Impacts are simply excluded as a category in the executive summary Table 1-1. They must be included in all summaries and relevant chapters.</p> <p>The DEIR incorrectly claims that "growth-limiting factors in San Diego County are primarily related to availability of buildable land and adequate infrastructure." Water availability, as analyzed in water supply assessments such as those required under SB 221 and SB 661, is an integral component of growth regulation in San Diego County and all of southern California. The residents of Carlsbad and San Diego County deserve to know how additional water will affect growth in their area.</p> <p>The Growth Inducing Impacts chapter discusses a variety of regional planning documents that include desalinated water, but fails to directly address the growth inducing impact of the project. The DEIR inadequately tiers from the Program EIR for the Regional Water Facilities Master Plan (RWFMP). The DEIR states, "the (RWFMP's) EIR concludes that while the RWFMP may foster additional growth indirectly by removing barriers to growth, it is too speculative to reasonably assess what physical effects on the environment may result from the RWFMP's contribution to growth." It continues, "implementation of the proposed project at a local level would have the same potential impact for growth inducement as the RWFMP, and no additional discussion of potential</p> <p style="text-align: center;">10</p>	<p>One of the objectives of the project is to address a portion of this water supply need. Based on regional water supply planning efforts that are documented in the Draft EIR, the Lead Agency disagrees that the referenced project objectives are "overly narrow", and instead believes that the project objectives accurately and appropriately reflect the extensive analysis of regional water demand and water supply planning that has been conducted to date.</p> <p>54L As noted in Responses 54G and 54H, and further discussed in Section 9.0 of the Draft EIR, extensive analysis of water demand and supply issues for the San Diego region has been conducted by agencies with specific authority and responsibilities with respect to population growth and water supply and delivery, including SANDAG, the Metropolitan Water District, the County Water Authority and the City of Carlsbad. As noted, the conclusions reached by these agencies with respect to providing water supplies to meet future demand include desalinated seawater as a necessary component of future water supplies. The information provided by the commentor is noted, however, it does not change the basic conclusions of regional water planning efforts that indicate the need for development of seawater desalination as a regional water supply component to serve future demand.</p> <p>54M See Response 54L.</p> <p>54N See Responses 54K and 54L.</p> <p>54O See Response 54K. Orange County has vastly superior conditions (from both a geologic and water quality standpoint) for groundwater storage as compared to San Diego County. Additionally, as referenced in Response 54K, options for local groundwater storage projects have been thoroughly</p>
--	---

RESPONSES TO COMMENTS

<p>growth effects are required or necessary." This statement is untrue. An adequate Programmatic EIR for the Poseidon-Carlsbad desalination facility would provide exactly the sort of specificity required to more fully explore the direct and indirect growth inducing impacts discussed in the RWFMP. Without this analysis the DEIR is inadequate and should be rejected.</p> <p>The DEIR also fails to specify whether the water is indeed supplemental as stated in the project purpose or replacement as stated elsewhere in the document. The DEIR claims that the existence of Urban Water Management Plans that include seawater desalination as a potential water supply, are sufficient to "reasonably (assume) that desalinated seawater purchased directly from the operators of the proposed project would replace a reciprocal component of the supplies anticipated to be purchased from CWA by each of the affected districts." This assumption cannot reasonably be made and the DEIR must identify the end users for the 25 mgd of project water for which there are no current purchasers and whether these unidentified purchasers will use this water as supplemental water or replacement water.</p> <p>The DEIR also fails to include any discussion of growth inducement in its analysis of cumulative impacts.</p> <p>The DEIR has not adequately assessed growth inducing impacts or identified a need for this project and should therefore be rejected.</p> <p>6) The DEIR fails to assess Environmental Justice Impacts from increased water costs and proliferation of the Encina Power Station operation.</p> <p>As discussed above, the proposed project may provide justification for the extended operation of the Encina Power Station. In the absence of the proposed project, the EPS may close as newer, more efficient and less environmentally damaging power generation is developed. Operation of the proposed project would provide justification for the continued use of the EPS even if less environmentally damaging power becomes available. The DEIR therefore should analyze the impacts of continued power plant operation on the local community, and in particular the environmental justice impacts that result from the continued use of the EPS.</p> <p>In addition, the water produced from seawater desalination is recognized as the most expensive source of water. Even with technological advances, seawater desalination still requires costly upkeep, including filter and membrane maintenance and replacement. Energy consumption for reverse osmosis processes is greater than required for other water options. In fact, according to the Department of Water Resources Desalination Task Force Findings, seawater desalination requires 30 percent more energy than any other supply source to Southern California, including imported water.</p> <p style="text-align: center;">11</p>	<p>considered by the CWA, and found to have limited potential for meeting future regional reliability needs.</p> <p>54P See Response 54H.</p> <p>54Q Section 4.11.3 of the Draft EIR includes an extensive discussion and analysis of potential impacts associated with energy demand created by the project. As noted in that discussion, the California Energy Commission, the California Public Utilities Commission, and the California Independent System Operator recently released a study entitled "California's Electric Situation: Summer 2005" (CEC Study). The planning effort associated with this study included consideration of energy from all available sources on the grid, including hydroelectric power. These same agencies have developed a set of initiatives to ensure that there is no medium to long term deficit including: augmenting demand response programs, interruptible programs, and energy efficiency programs; encouraging the accelerated construction of permitted power plants, and new peaking generation; identifying and expediting transmission upgrades that are feasible for 2005; and encouraging conservation efforts. In addition, the CEC Study includes an action plan for 2006 and beyond to ensure that peak demand needs are met, including: a series of energy conservation initiatives (including green building initiatives); demand reduction strategies (including dynamic pricing, and voluntary load reduction for certain large users of electricity during peak demand); increased development of renewable energy sources; and encouragement of new generation and transmission facilities.</p> <p>As a specific example of expected increased generation capacity, power plants totaling approximately 1,000 MW of capacity are approved for</p>
--	--

RESPONSES TO COMMENTS

In addition, cost savings have never been realized as of yet for seawater desalination. In California, a seawater desalination plant constructed in Santa Barbara has never been used because operation of the plant is too costly. In Tampa Bay, the seawater desalination plant operation became significantly more expensive when it was discovered that filters and membranes would have to be replaced much more frequently than project proponents had indicated. The Tampa Bay plant currently operates far below capacity, primarily because operation costs are so high.

RR

If the proposed project were to provide water to the residents of San Diego County, the expensive water could increase the cost of water throughout the county. This potential increase in price could be marginal, but even a marginal increase in cost could severely impact residents on limited incomes. Therefore, the DEIR should include an analysis of how increased water costs will impact water rates in San Diego County and how the increase will affect low income residents. This information is essential in order for the Carlsbad City Council members to determine how this project will affect their community.

SS

This is consistent with the recommendation of the Desalination Task Force which states: "Environmental justice considerations include the siting of desalination facilities, determining who accrues the costs and benefits of desalination and who has the opportunity to use higher quality (desalinated) water, and the possible impacts of replacing low-cost with high-cost water."¹¹

7) The DEIR does not indicate how the privately owned facility will operate as a supplier of public water.

The *Desalination Task Force Findings & Recommendations* states: "There are implications associated with the range of public-private possibilities for ownership and operation of desalination facilities. Local government has the responsibility to make the details of these arrangements available to the public."¹²

TT

The proposed project will not be publicly owned. As a private organization, the proposed project operators would not be subject to the same requirements as public agencies and would operate according to different motivations and incentives. The DEIR does not address how private ownership of this desalination facility will affect the facility operator's responsibilities regarding the Coastal Act, the Clean Water Act and other important environmental and public health laws. Nor does it discuss how international disputes, especially those concerning environmental protection standards, would be addressed by a private owner.

¹¹ Desalination Task Force Findings & Recommendations October 2003, page 6
¹² California Desalination Task Force, October 2003, page 5

Otay Mesa and Escondido, and are expected to be online by 2008. The Governor has made a priority of implementing the CEC Report's recommendations and other strategies to ensure adequate supply of electrical energy during peak demand. Specifically, on February 22, 2005, the Resources Agency unveiled a 10-point plan designed to ensure an adequate, stable supply of electricity at reasonable prices. The plan specifically calls for all electricity suppliers to operate with minimum 15 percent reserve margins by 2006.

The Draft EIR concludes that, given the comprehensive and cooperative nature of the planning effort to improve electrical power supply during peak demand, as well as the Governor's stated goal to ensure that running reserves are adequate by 2006 and the plan to implement that goal, the energy supply will be adequate by the end of 2006.

As noted in the Draft EIR, the grid currently supplies an annual volume of approximately 200 million MWh of electricity throughout California. The cumulative effect of energy consumption of all existing and planned seawater desalination facilities located within the grid is approximately 22,500 MWh per year and 1million MWh per year, respectively; these represent less than one percent of the total energy available on the grid. Therefore, The Draft EIR contains sufficient analysis and information to demonstrate that energy planning activities currently in place will ensure that a continuous, long-term energy supply will be available to operate the project as anticipated. Further, the project does not represent commitment to desalination as a sole source of domestic water supply, and therefore if water supplies from the project were to be curtailed for any reason in the long-term, the City could access imported water, therefore avoiding any potential water delivery shortfalls. In addition, impacts associated with short-term fluctuations in water supply from the project are avoided by the City's water supply reserves.

RESPONSES TO COMMENTS

<p>The San Diego County Water Authority is currently considering a publicly owned facility on the same location as described in this Posiedon-Carlsbad Desalination Plant DEIR. This greatly increases the need for a detailed discussion of the different environmental scenarios resulting from public and private ownership of a desalination facility in the City of Carlsbad.</p> <p>Before this DEIR is approved, this information must be provided to the public.</p> <p>8) The DEIR does not adequately indicate how the facility will assure the healthfulness of the product water.</p> <p>There are several chemicals in seawater that are either not found in freshwater, or are found only in very low concentrations. For instance some algal toxins such as "Red Tide" are found in seawater. In addition wastewater discharges to the ocean introduce endocrine disrupters, viruses and parasites to coastal waters. Because California currently uses very little desalinated water, these constituents have not been evaluated as potential public health risks for drinking water. The DEIR fails to show how it will identify, test and filter for any currently unmonitored contaminants and is therefore inadequate and must be rejected.</p> <p>9) The Cumulative Impacts of desalination on the Southern California Bight are not adequately assessed.</p> <p>The DEIR fails to document the cumulative impacts on energy demand, marine life and growth inducement from the numerous desalination projects planned for the area, including the Posiedon-Carlsbad facility. It also fails to examine several desalination facilities proposed for this region.</p> <p>Each new desalination facility would require vast amounts of energy. These new energy demands would generate impacts on ratepayers and public health in Southern California, the Pacific Northwest and Mexico. The DEIR fails to examine these impacts.</p> <p>The DEIR fails to address how the proposed desalination projects in Southern California will perpetuate the use of harmful open ocean intakes on the Southern California Bight.</p> <p>Despite indications that several proposed large-scale desalination facilities will generate water that is not needed in California at this time, the DEIR Cumulative Impacts Analysis simply leaves out any reference to growth inducement.</p> <p>Lastly, the breadth of sites included in the cumulative impacts analysis is inadequate. For example, the DEIR examines only one of the four possible sites for the border-area seawater desalination plant proposed by the San Diego County Water Authority.</p> <p style="text-align: center;">13</p>	<p>54R The Lead Agency disagrees with the recommendations of the commentor, for the reasons outlined in Responses 54G, 54H, 54K and 54L.</p> <p>54S The Lead Agency disagrees. It is not reasonable to evaluate the effects of the proposed desalination facility operating on its own, because such mode of desalination plant operation is not anticipated. As described in Section 3 of the Draft EIR (Project Description), by its baseline definition, the desalination plant is planned to operate in conjunction with the power plant and to use cooling water flow from the power plant discharge rather than to operate on its own and to take seawater directly from the ocean.</p> <p>As noted in Section 3.3 (page 3-14 of the Draft EIR), the California Independent System Operation (CALISO) has designated a portion of the generating capacity at the Encina power plant as a "reliability-must-run" (RMR) status. Therefore it is not reasonably foreseeable that the power plant would completely shut down. A comprehensive analysis of the desalination plant discharge impact was completed under a number of scenarios reflective of both the normal power plant operations and historical extreme operational conditions identified over the 20.5-year period of plant operations. The results of these analyses are presented in Appendix E of the Draft EIR and summarized in section 4.3, Biological Resources of the Draft EIR.</p> <p>In the event that the project were to require independent operation of the intake and outfall for any reason, the direct connection to the intake structure would be treated as a separate project. The direct connection would be subject to applicable CEQA and regulatory agency permit requirements, including the approval of the City of Carlsbad. Avoidance, minimization, and mitigation measures for such a direct connection</p>
---	---

RESPONSES TO COMMENTS

<p>Alternate sites at the International Wastewater Treatment Plant in the Tijuana River Valley and two sites in Mexico are not included. In March 2005, SDCWA completed a feasibility study for this 50 MGD border-area desalination plant. The feasibility study stated that there was no immediate need for additional water in South San Diego County.¹³ The DEIR must assess this feasibility study and include in its Cumulative Impacts Assessment all desalination facilities currently under consideration on the Pacific Coast.</p> <p>Of special note in the example above, alternate sites located outside of U.S. jurisdiction may present water quality concerns both to product water and discharge water. These concerns deserve mention in the cumulative impact assessment.</p> <p>The DEIR fails to assess the cumulative growth inducing impacts on Southern California and is therefore inadequate.</p> <p>10) The City did not make available all documents necessary for public review.</p> <p>Important appendices to the DEIR were not available to the public through the City's web page during the public comment period. In order to ensure full disclosure and proper public process, the City of Carlsbad should make these documents available to the public and extend the public comment period for at least an additional 45 days.</p> <p>Conclusion</p> <p>The residents of Carlsbad and the Carlsbad City Council will be some of the first to examine large-scale ocean water desalination in the United States. They deserve an Environmental Impact Report that allows them to weigh the issues carefully, to examine how their health and environment will be affected and how their actions will affect their neighbors on the rest of the state and beyond. They have not received that document.</p> <p>The failures of this DEIR are egregious and dangerous. They present the community of Carlsbad with a number of false choices. By failing to examine alternative water strategies, the DEIR does not identify the number of cost-effective, reliable and environmentally friendly options that could be chosen instead of the proposed costly seawater desalination facility. By failing to adequately examine the energy impacts, the DEIR presents seawater desalination as a cheap, environmentally-neutral, endless supply of water, which it is not. By failing to examine how private ownership of the proposed facility would impact project operations, the DEIR fails to alert the city of Carlsbad to potential management decisions which would not be in the public interest and would violate the public trust.</p> <p>¹³ http://www.signonnsandiego.com/uniontrib/20050618/news_fm18desal.html</p> <p>14</p>	<p>would occur at that time.</p> <p>As indicated on page 4.3-41 of the Draft EIR, under normal operational conditions, the incremental entrainment effects attributed to the desalination plant “range from 0.01 percent for northern anchovy to 0.28 percent for CIQ gobies”, and these entrainment effects are less than significant.</p> <p>54T See Response 54S.</p> <p>54U See Response 54S. As noted, operation of the desalination plant separate from the power plant would trigger entirely new permitting and environmental review processes.</p> <p>54V The following response applies to a number of related issues raised in Comments 54V through 54Z.</p> <p>The assessment of compliance of the power plant operations with EPA 316 (b) regulations and with the intake velocity criteria for “best available technology” quoted by the commentator is the subject of a separate regulatory process that is the responsibility of the power plant. Cabrillo Power LLC (Cabrillo), is the owner and operator of the Encina power plant, and is currently conducting impingement and entrainment studies pursuant to Phase II 316(b) requirements. Cabrillo intends to achieve full compliance with the requirements, but has not as of yet determined the specific measures, or combination of measures, that will be implemented to achieve compliance. However, the Lead Agency believes it is reasonably foreseeable that compliance can be achieved without reduction of seawater intake below the threshold levels identified as the “worst case” (historical extreme) scenarios analyzed in the Draft EIR and in the technical studies contained in Appendix E of the Draft EIR</p>
--	--

RESPONSES TO COMMENTS

These failures of the DEIR exceed the conditions under which the City should undertake the traditional "Response to Comments." Instead, this DEIR must be re-circulated to address our concerns and the concerns of the numerous other individuals and organizations who have studied this document and submitted comments.

Because of the flaws identified in the 10 comments above, the Carlsbad City Council is required to reject this DEIR.

↑
EEE (cont.)

("Hydrodynamic Modeling of Dispersion And Dilution of Concentrated Seawater Produced by the Ocean Desalination Project at the Encina Power Plant, Carlsbad, CA Part II. Saline Anomalies Due to Worst-Case Hydraulic Scenarios" March 5, 2005, and "Marine Biological Considerations Related to the Reverse Osmosis Desalination Project at the Encina Power Plant," April 4, 2005).

Under the historical extreme scenario used as the basis for a worst case analysis of effects related to increased salinity discharge, the power plant seawater intake volume is identified as 304 MGD, which is approximately 53% of the average intake volume (20.5 year average of 576 MGD), and 35% of the maximum permitted intake capacity (857 MGD). Therefore, even if the proposed compliance measures included reduction of intake volumes, it is unlikely that the flow would drop below 304 MGD. As indicated in Section 3, Project Description, of the Draft EIR, the current project is defined as using the cooling water discharge of the power plant as source water for the desalination plant. Under CEQA, the Lead Agency is required to address existing or reasonably foreseeable future conditions and impacts and cannot speculate about uncertain outcomes or potential effects that cannot be reasonably quantified or predicted at this time or are outside the project definition. In addition, the baseline for measuring potential environmental impacts of a project under CEQA is the current physical environment, including current operating conditions. Since no plans currently exist or are under consideration to reduce or discontinue the power plant use of seawater for cooling purposes, the assessment of plant operations under this completely different project baseline is speculative at best and is outside of the scope of the CEQA review of this project, as defined in the Draft EIR.

RESPONSES TO COMMENTS

As required under CEQA, the environmental impact analysis of this project was completed based on existing physical conditions of the site, including the range of conditions associated with the ongoing operations of the adjacent power plant. As shown in Appendix E of the Draft EIR, the existing physical conditions of the power plant discharge were determined based on a 20.5 year database of the actual power plant operations and ambient ocean conditions in the area of the discharge. During this period, the power plant has never completely shut down or stopped circulating seawater (see Draft EIR, Appendix E). As noted in Section 3.3 (page 3-14 of the Draft EIR), the California Independent System Operation (CALISO) has designated a portion of the Encina power plant generating capacity as a “reliability-must-run” (RMR) status. Therefore it is not reasonably foreseeable that the power plant would completely shut down.

A comprehensive analysis of the desalination plant discharge impact was completed under a number of scenarios reflective of both the normal power plant operations and historical extreme operational conditions identified over the 20.5-year period of plant operations. The results of these analyses are presented in Appendix E of the Draft EIR and summarized in section 4.3, Biological Resources of the Draft EIR. The impingement and entrainment effects contributed to the desalination plant operations were estimated under a monthly maximum desalination plant intake flow of 106 MGD, as stated in Section 4.3 of the Draft EIR. As indicated in Section 3, Project Description, of the Draft EIR, the average desalination plant intake flow is 104 MGD. These flow rates are well within the actual historic baseline flow range of power plant operations defined in Appendix E.

54W See Response 54V.

RESPONSES TO COMMENTS

	<p>54X See Response 54V.</p> <p>54Y See Response 54V.</p> <p>54Z See Response 54V.</p> <p>54AA The comment inquires how the project will affect areas designated as Area of Special Biological Significance by the SWRCB.</p> <p>The nearest Area of Special Biological Significance as designated by the State Water Resources Control Board is located over 20 miles south of the proposed desalination facility (La Jolla Ecological Reserve) and would not be impacted by the proposed project.</p> <p>54BB As indicated on page 4.3-41 of the Draft EIR, under normal operational conditions, the incremental entrainment effects attributed to the desalination plant “range from 0.01 percent for northern anchovy to 0.28 percent for CIQ gobies”, and these entrainment effects are less than significant.</p> <p>54CC A detailed energy use breakdown by key desalination project components, including the power demand for product water transfer to the distribution system is included in Appendix C of the Draft EIR. As indicated in this Appendix, the total average and maximum desalination project power demand of 29.8 and 35.5 MW/h (or 715 and 852 MWh/day), respectively, combined with the 0.55MWh (132MWh/day) required for the offsite pump station, includes the energy needed to pump and deliver the potable water produced at the Carlsbad desalination plant into the distribution system. No other additional power uses beyond these disclosed in the Draft EIR are projected to occur.</p>
--	---

RESPONSES TO COMMENTS

	<p>A comprehensive quantification and disclosure of the environmental impacts of the proposed project due to energy generation are presented in Section 4.2 of the Draft EIR – Air Quality. Since the project has negligible long-term effect on the air quality in air basin of the local project area, the project is not anticipated to contribute significantly to or result in a global climate change.</p> <p>Project price has no effect on the potential environmental impacts of this project. Engineering, construction, procurement and mitigation efforts, and power supply and other related operations services associated with the proposed project would be completed at market prices customary for this type of services.</p> <p>Implications that the proposed project may have on energy use are presented in Section 4.11 of the Draft EIR – Public Utilities and Service Systems.</p> <p>54DD The comment suggests that the Draft EIR fails to identify an energy source for the project and analyze the related impacts and fails to identify operating costs.</p> <p>The Draft EIR states that the project will not contain any electrical power generating facilities, and will need to purchase electrical power for operations. The Draft EIR states that the project may purchase electrical power directly from the Encina Power Station or from the regional power grid, and then analyzes the reliability of both alternatives and the potential for impacts related to energy consumption. (Draft EIR § 4.2 and 4.11.)</p>
--	---

RESPONSES TO COMMENTS

	<p>The comment also states that the costs of electrical energy is not stated in the Draft EIR. The costs of electrical energy supplying the project is not an environmental issue and does not require analysis under CEQA. However, the cost of electrical energy may be set by long-term contract negotiated in the future by the applicant if the project obtains electrical energy from the Encina Power Station, or by the market, if the project obtains electrical energy from the regional power grid. The comment incorrectly states that the benefits of the project will depend on the cost of the electrical energy. In reality, the applicant has entered into a long-term fixed-price contract with the City of Carlsbad for much of the desalinated water the project will produce. Under the terms of this contract, the cost to the public of using desalinated water will not vary with the costs of electrical energy. The benefits of diversifying the region's water supply and providing a local source of clean, reliable water will be had regardless of the price of electrical energy.</p> <p>Additionally, project price has no effect on the potential environmental impacts of this project. Engineering, construction, procurement and mitigation efforts, and power supply and other related operations services associated with the proposed project would be completed at market prices customary for these types of services.</p> <p>54EE See Response 54Q.</p> <p>54FF See Response 54CC. Regarding the commentor's statement that "Power plants have been identified as some of the largest sources of CO₂, the following information is offered to put the emissions of carbon dioxide in perspective. According to the California Air Resources Board, the total estimated 2010 emissions of carbon dioxide in California from light-duty vehicles alone (i.e., passenger cars and light trucks) will be 417,080 tons</p>
--	--

RESPONSES TO COMMENTS

per day. The carbon dioxide emissions from motor vehicles are several orders of magnitude higher than the carbon dioxide emissions from energy use required for the Carlsbad desalination plant. Thus proposed controls and reduction in the use of personal vehicles is the focus of the California Air Resources Board's efforts in reducing carbon dioxide emissions. According to the California Energy Commission, transportation accounts for 58 percent of greenhouse gas emissions in California, as opposed to 16 percent from electric power generation and 9 percent from residential uses.

The Air Quality Analysis addresses impacts of regulated pollutants from the proposed project and is consistent with both the requirement of CEQA and the requirements of the U.S. EPA, the California Air Resources Board, and the San Diego Air Pollution Control District. Furthermore, there are no current regulatory requirements for emissions of CO₂ that have been implemented by either the U.S. EPA or the state of California. There are also no significance thresholds established in the California Environmental Quality Act or by the San Diego Air Pollution Control District for carbon dioxide.

54GG In its conclusion, Draft EIR Section 4.2, *Air Quality*, states in part: As shown in Table 4.2-9, total emissions [including PM₁₀, and ROCs, the latter of which are precursors of ozone] from operations would be less than the significance thresholds. The project would not result in any significant increase of any criteria pollutant for which the project region is non-attainment. Emissions from power generation, which are the main source of emissions associated with project operation, would be within permitted emission levels for the electrical plants which are planned for and regulated by the San Diego Air Pollution Control District, South Coast Air Quality Management District, and other local air pollution

RESPONSES TO COMMENTS

control districts. Emissions from other sources associated with the desalination plant operation are minor. Furthermore, the electric power required by the desalination plant is not expected to cause any power supplier to exceed the permitted levels of its emissions. In any event, regulation of and potential mitigation for any changes in air emissions from electrical generating facilities resulting from increased power usage is within the responsibility and jurisdiction of local air pollution control districts in California, not the City of Carlsbad.

The project's construction emissions are above the significance threshold for NO_x; however, construction would be temporary and would not have a long-term impact. Project operational emissions are below the applicable significance thresholds and would therefore not violate any air quality standard or contribute substantially to an existing or projected air quality violation.

The desalination plant does not involve the direct emission of toxic air contaminants and would therefore not have the potential to expose sensitive receptors to substantial pollutant concentrations. Furthermore, the project does not involve any odor-generating sources and is not classified as an odor-generating process (SCAQMD 1993); therefore, the project would not create objectionable odors affecting a substantial number of people. The project's operational impacts are therefore less than significant.

For further information on air quality impacts, please see Responses 54CC and 54FF and the air quality technical report in Appendix D of the Draft EIR.

RESPONSES TO COMMENTS

	<p>54HH The Lead Agency disagrees with the commentor's assertion that the Draft EIR does not provide the basic information necessary to analyze growth inducing impacts. On the contrary, information specific to growth-related effects on both the regional and local levels is provided in detail in Section 9 of the Draft EIR. For example, Section 9.3 considers growth forecasts and water demand projections on a regional basis. Section 9.4 (pages 9-6 and 7), focuses more on local water users within the project's vicinity. It notes, for example, that the City of Carlsbad's Growth Management Plan (GMP), approved by Carlsbad voters in November 1986, includes specific unit count limitations on new housing development and provides a mechanism to aggressively manage and control growth in the City of Carlsbad that cannot be eliminated without a subsequent vote. The future maximum size of the city is established by limiting the total number of residential units that can be built for the city as a whole and for four sub-areas (called "quadrants"). Existing and future development cannot exceed 54,600 dwelling units. Consequently, Section 9.4 concludes that the availability of water from the proposed project is not anticipated to have a substantial effect on growth within the City of Carlsbad.</p> <p>54II Potential growth-inducing effects on a regional scale are identified in Section 9 of the Draft EIR. That analysis includes consideration of the product water from the proposed project as a component of a regional water supply portfolio, and therefore analyzes potential effects of regional, as well as local growth-inducement. See also Response to Comment 54I.</p> <p>54JJ Comment noted. Although not specifically required by CEQA, the Final EIR has been revised to include a summary of potential growth-inducing impacts in Section 1 of the EIR.</p>
--	--

RESPONSES TO COMMENTS

	<p>54KK The Draft EIR discussion indicates that although water supply is one of many factors that influence growth, it is not the only factor. The Draft EIR contains extensive discussion on the potential for the project to cause growth, and provides all available information to support conclusions, without engaging in speculation. As noted in Section 9.0 of the Draft EIR, the project is anticipated to have similar effects to those analyzed for the Regional Water Facilities Master Plan prepared by the San Diego County Water Authority, which was found to have the potential to foster additional growth indirectly by removing barriers to growth. However, further analysis of indirect effects on growth is not possible without unreasonable speculation. As also noted in Section 9.0, while the overall effects on growth may not be fully ascertainable, local effects are analyzed and documented. Section 9.0 of the Draft EIR discusses how local and regional growth projections and control mechanisms ensure that the change in water supply represented by the project would not result in growth beyond what is already anticipated on a local and regional level.</p> <p>54LL The argument presented by the commentor regarding inappropriateness of incorporation of growth-related analyses of the Regional Water Facilities Master Plan in the Draft EIR has no basis in fact, and is not consistent with the provisions of the CEQA Guidelines (Section 15150).</p> <p>54MM See Responses 54I and 54II.</p> <p>54NN The analysis of growth-inducement (Section 9 of the Draft EIR) includes a summary of projections contained in planning documents that address future water demand and supply issues, including the SADAG Regional Comprehensive Plan, the CWA Regional Facilities Master Plan and relevant Urban Water Management Plans. Therefore, growth-inducing effects on a cumulative projects level is discussed and analyzed in the</p>
--	--

RESPONSES TO COMMENTS

	<p>Draft EIR, pursuant to the method of analysis outlined in Section 15130(b)(1)(B) of the CEQA Guidelines. It should be noted however, that CEQA does not require that the environmental analysis for a specific project include analysis of specific growth-inducing effects of other cumulative projects. In the subject case, the cumulative growth-inducing effects are part of the growth inducement analysis.</p> <p>5400 For the numerous reasons related to the discussion of growth-inducement that are outlined in these responses, the Lead Agency disagrees with this comment.</p> <p>54PP There are no plans for the power plant owner, Cabrillo Power, LLC, to substantially change operations of the existing power plant. Therefore, assumptions that the power plant would shut down in the future are not reasonable and would be speculative in nature and as such are not the subject of environmental review under CEQA.</p> <p>As noted in Section 3.3 (page 3-14 of the Draft EIR), the California Independent System Operation (CALISO) has designated a portion of the generating capacity at the Encina power plant as a “reliability-must-run” (RMR) status. Therefore it is not reasonably foreseeable that the power plant would completely shut down, and it is also not reasonable to assume that the proposed project would “provide justification for the extended operation” of the EPS.</p> <p>54QQ The project applicant has provided the Carlsbad Municipal Water District with product water pricing commitments, through provisions included in the Water Purchase Agreement that is attached to the Draft EIR as Appendix B. From the standpoint of the Lead Agency, costs associated with water produced from the proposed project are predictable and within</p>
--	--

RESPONSES TO COMMENTS

	<p>an acceptable range. The proposed project and its related facilities are therefore considered to be economically feasible.</p> <p>54RR See Response 54QQ.</p> <p>54SS See Response 54QQ. Contractual commitments by the project applicant ensure that water pricing is within acceptable ranges. Additionally, it should be noted that the proposed project is a privately-initiated facility and the pricing of product water is therefore subject to market forces that include the costs of imported water. Therefore, it is anticipated that pricing for desalinated water from the proposed plant would be competitive with imported water costs, even without the pricing commitments provided through the Water Purchase Agreement. As a result, it is not anticipated that any of the stated environmental justice issues would be affected. It is also important to note that the CEQA Guidelines indicate that “economic or social effects shall not be treated as significant effects on the environment” (Section 15131(a)). Physical environmental effects that may be indirectly caused by economic factors are the subject of analysis, but as noted above, it is not reasonably foreseeable that water pricing issues would have the potential to result in substantial physical effects on the environment.</p> <p>54TT The Lead Agency does not agree that public ownership by itself would result in different types or levels of environmental impacts. Substantial evidence in the Draft EIR indicates that the project (privately owned and operated) would fully comply with the Coastal Act, the Clean Water Act, and other environmental laws and regulations. One example of this obvious factor is the provision in the Water Purchase Agreement between the Carlsbad Municipal Water District and the applicant (Appendix B) that provides that CMWD’s obligation to buy water is subject to Poseidon</p>
--	---

RESPONSES TO COMMENTS

having obtained and maintained all necessary governmental approvals for construction and operation of the project. Specifically:

LEGAL ENTITLEMENTS. (Page 9 of the Agreement – Appendix B of the Draft EIR) Poseidon, at its sole cost and expense, shall be solely responsible for obtaining and maintaining (or causing its applicable subcontractors to obtain and maintain) any and all permits, licenses, approvals, authorizations, consents and entitlements of whatever kind and however described (collectively, “Legal Entitlements”) which are required to be obtained or maintained with respect to the Project or the activities to be performed by Poseidon (or its applicable subcontractors) under this Agreement and which are required to be issued by any federal, state, city or regional legislative, executive, judicial or other governmental board, agency, authority, commission, administration, court or other body or any official thereof having jurisdiction with respect to any matter which is subject to this Agreement, including without limitation the California Coastal Commission, the Regional Water Quality Control Board, the City, the Carlsbad Housing and Redevelopment Commission ("RDA") and the District (each, a "Governmental Authority"). Poseidon also shall be solely responsible for compliance with and for all costs and expenses necessary for compliance with the CEQA, to enable Poseidon to make Product Water available to the District pursuant to this Agreement, and Poseidon shall be responsible for initiating any procedures required for compliance with CEQA with regard to this Agreement. The City shall be the "Lead Agency" (as that term is used in CEQA) with respect to the Project and shall include this Agreement as part of the proposed Project which will be subject to environmental review under CEQA.

RESPONSES TO COMMENTS

	<p>In addition, the City has the right under the agreement to approve any assignee at its sole discretion, and any future assignee must agree to abide by Legal Entitlements.</p> <p>54UU See Response 54TT. A discussion of the relationship of the project being evaluated by the County Water Authority and the proposed project is provided in Section 3.1 (pages 3-2 and 3-3) of the Draft EIR.</p> <p>54VV See Response 54TT.</p> <p>54WW The “healthfulness” or public health safety of the potable water supplied by this project will be ensured by continuous compliance with all applicable Federal, state and local regulations that control the quality of the produced drinking water. Detailed specifications of the quality of the drinking water which will be produced by this project are presented in the Draft EIR, Appendix C. As indicated in Appendix C, the scope of this project will include the development and implementation of a product water quality monitoring program. The purpose of this monitoring program is to verify on a regular basis that the potable water produced at the desalination plant and distributed for public supply is in compliance with all applicable regulations, is safe for public consumption and does not represent a public health risk.</p> <p>Appendix C, section “Product Water Quality,” of the Draft EIR provides detailed description of the specific source water protection and treatment measures which are planned to be implemented in order to mitigate potential impact of “Red Tide” events and other sources of seawater contamination on the project product water quality.</p>
--	--

RESPONSES TO COMMENTS

	<p>54XX Section 5.0 of the Draft EIR contains an analysis of cumulative effects associated with the project, when considered in conjunction with other projects with similar effects, pursuant to the requirements of Section 15130 of the CEQA Guidelines. The Draft EIR provides an analysis of potential cumulative effects of other reasonably foreseeable past, present and future desalination projects with similar impacts, including proposed desalination projects in the communities of Dana Point, Long Beach, Huntington Beach, Redondo Beach, Playa del Rey, San Onofre and Chula Vista. The analysis contained in Section 5.0 of the Draft EIR indicates that the proposed project design and operating parameters would not result in significant impacts to marine organisms as a result of the discharge associated with the proposed desalination plant. In support of this finding are studies pertaining to impingement and entrainment, modeling and prediction of elevated salinity levels, and effects of elevated salinities on marine organisms provided in Section 4.3 and 4.7 of the Draft EIR, and related appendices.</p> <p>As noted in Section 5.0 of the Draft EIR, specific analyses for each of the cumulative projects that were considered may yield different results, depending on the proposed operational characteristics of each desalination plant and the resources found locally. However, the Draft EIR states that it is reasonable to conclude that the absence of localized impacts to populations of species that occur throughout the cumulative projects study area resulting from the proposed project would indicate that the project's contributions to cumulative effects on marine organisms would be less than significant.</p> <p>With respect to cumulative energy consumption, the Draft EIR notes that the grid currently supplies an annual volume of approximately 200 million MWh of electricity throughout California. The cumulative effect</p>
--	---

RESPONSES TO COMMENTS

	<p>of energy consumption of <u>all</u> existing and planned seawater desalination facilities located within the grid is approximately 22,500 MWh per year and 1million MWh per year, respectively; these represent less than one percent of the total energy available on the grid. Therefore, The Draft EIR contains sufficient analysis of cumulative energy consumption.</p> <p>With regards to cumulative growth inducing impacts, see Response 54NN.</p> <p>54YY The Draft EIR adequately characterizes existing conditions and establishes an accurate and appropriate baseline from which to measure project impacts, but does not speculate on conditions that may be present if existing uses were to be terminated. See Response 54S.</p> <p>54ZZ See Response 54NN. The Lead Agency disagrees with the commenter’s opinion that desalinated water is not needed. The need for the project is documented in Section 3 and Section 9 of the Draft EIR.</p> <p>54AAA The CEQA Guidelines (Section 15126.6(b)) states that the purpose of the alternatives analysis is to focus on alternatives which are capable of avoiding or substantially lessening any significant effects of the project.</p> <p>Additionally, as noted in Section 15126.6(f)(2) (Alternative Locations), subsection (A) states that “the key question and first step in analysis is whether any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location”.</p> <p>As noted in the discussion of project impacts, feasible mitigation measures are proposed that have the ability to reduce nearly all of the significant effects of the project, with the exception being cumulative air</p>
--	---

RESPONSES TO COMMENTS

quality impacts and regional growth-inducing impacts for which no feasible project-level mitigation is available for those impacts, regardless of location of the alternative within the region. As noted in Section 6.0 of the Draft EIR, none of the project alternatives, including alternative locations, would provide avoidance or mitigation of impacts (including biological impacts) that could not be achieved with implementation of the proposed mitigation measures for the project.

Therefore, the Lead Agency believes that the alternatives analysis presented in the Draft EIR includes a reasonable range of alternatives, based on the anticipated effects for which those alternatives are intended to address. As such, the Draft EIR provides adequate information and appropriate level of detail is provided in the analysis of project alternatives to foster meaningful public participation and informed decision making.

54BBB See Response 54NN.

54CCC Because of their large file size, the draft EIR appendices were not included on the City's website. The website did include a note to this effect along with a city department phone number to call to request a copy of the appendices. Additionally, as explained in the Notice of Completion for the draft EIR, a copy of the appendices was made available for public review at the City of Carlsbad Planning Department. The appendices were also available for review on the applicant's website, www.carlsbad-desal.com.

54DDD The Lead Agency disagrees with the commentor's opinion. As evidenced in the analysis provided in the Draft EIR and through these Responses to Comments, the Lead Agency believes that the EIR is comprehensive in

RESPONSES TO COMMENTS

	<p>its analysis and meets all applicable substantive and procedural requirements for analysis and disclosure of potential environmental effects associated with the project.</p> <p>54EEE Responses to these issues are provided throughout Responses 54A through 54DDD.</p>
--	---