

RESPONSES TO COMMENTS

Comment No. 43

LAW OFFICES OF ROBERT C. HAWKINS

June 27, 2005

Via Facsimile, e-mail and U.S. Mail

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

Re: Draft Environmental Impact Report ("DEIR") for the Precise Development Plan and Desalination Plant Project (the "Project"); SCH No. 2004041081

Dear Mr. Donnell:

Thank you for the opportunity to comment on the Draft Environmental Impact Report ("DEIR") for the Precise Development Plan and Desalination Plant Project (the "Project") by the City of Carlsbad (the "City"). As you may know, this firm represents individuals and groups in the coastal area of the County of San Diego including residents and groups in the City of Carlsbad. These individuals and groups have an interest in the Project, water resources in the area and environmental issues in the area especially within the City.

On behalf of these clients and in the hopes of improving the DEIR and the Project, we offer the following comments on the DEIR.

I. Introduction: CEQA Standards.

An EIR constitutes the heart of CEQA. An EIR is the primary environmental document which:

"... serves as a public disclosure document explaining the effects of the proposed project on the environment, alternatives to the project, and ways to minimize adverse effects and to increase beneficial effects."

CEQA Guidelines section 15149(b). See California Public Resources Code section 21003(b) (requiring that the document must disclose impacts and mitigation so that the document will be meaningful and useful to the public and decision-makers.)

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Law Offices of Robert C. Hawkins

Robert C. Hawkins

(Letter dated June 27, 2005)

- 43A** The commentator notes his firm represents individuals and groups within the project area, and identifies their interest in the project. This comment does not raise any specific issues related to the environmental analysis and therefore, no additional response is required.
- 43B** This comment appears to summarize provisions of the California Environmental Quality Act (CEQA) Guidelines and CEQA cases, but does not provide any reference to the project or the Draft EIR, therefore no additional response is required.
- 43C** The Lead Agency disagrees that tidelands resources were not adequately addressed. The Draft EIR includes a complete analysis of issues relevant to the administration of the public trust by the State Lands Commission with respect to the proposed project, including aesthetics (*Section 4.1*), marine biological resources (*Section 4.3*), hydrology and water quality (*Section 4.7*), land use/planning (*Section 4.8*), and recreation (*Section 4.11*). Contrary to the commentator's assertion that State Lands Commission approvals are not identified, *Section 3.7* (page 3-31) of the Draft EIR identifies anticipated actions required of the State Lands Commission related to approval of the project. These actions have been clarified to read "a lease for portions of the project extending to state-owned lands under jurisdictions of the California State Lands Commission." The remainder of this comment lacks sufficient clarity and specificity that would enable a detailed response.

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Further, CEQA Guidelines section 15151 sets forth the adequacy standards for an EIR:

"An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which takes account of the environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith attempt at full disclosure."

Further, "the EIR must contain facts and analysis, not just the agency's bare conclusions or opinions." Concerned Citizens of Costa Mesa, Inc. v. 32nd District Agricultural Association, (1986) 42 Cal. 3d 929 (Emphasis supplied).

In addition, an EIR must specifically address the environmental effects and mitigation of the Project. But "[t]he degree of specificity required in an EIR will correspond to the degree of specificity involved in the underlying activity which is described in the EIR." CEQA Guidelines section 15146. The analysis in an EIR must be specific enough to further informed decision making and public participation. The EIR must produce sufficient information and analysis to understand the environmental impacts of the proposed project and to permit a reasonable choice of alternatives so far as environmental aspects are concerned. See Laurel Heights Improvement Association v. Regents of the University of California (1988) 47 Cal. 3d 376.

Also, to the extent that an EIR proposes mitigation measures, it must provide specific measures. It cannot defer such measures until some future date or event. "By deferring environmental assessment to a future date, the conditions run counter to that policy of CEQA which requires environmental review at the earliest feasible stage in the planning process." Sundstrom v. County of Mendocino (1988) 202 Cal. App. 3d 296, 308. See Bozung v. Local Agency Formation Com. (1975) 13 Cal.3d 263, 282 (holding that "the principle that the environmental impact should be assessed as early as possible in government planning"); Mount Sutro Defense Committee v. Regents of University of California (1978) 77 Cal. App. 3d 20, 34 (noting that environmental problems should be considered at a point in the planning process "where genuine flexibility remains"). CEQA requires more than a promise of mitigation of significant impacts: mitigation measures must really minimize an identified impact.

"Deferral of the specifics of mitigation is permissible where the local entity commits itself to mitigation and lists the alternatives to be considered, analyzed and possibly incorporated in the mitigation plan. (Citation omitted.) On the other hand, an agency goes too far when it simply requires a project applicant to obtain a biological report and then comply with any recommendations that may be made in the report. (Citation omitted.) Defend the Bay v. City of Irving (2004) 119 Cal. App. 4th 1261, 1276.

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43D The discretionary role of the Regional Water Quality Control Board is identified in *Section 3.7* (page 3-32) of the Draft EIR. The U.S. Fish and Wildlife Service is not considered a Responsible Agency under CEQA for the proposed project. Pursuant to Section 15124(d) of the CEQA Guidelines, the Lead Agency has fulfilled its obligation to provide a statement describing the intended uses of the EIR "to the extent that the information is known to the Lead Agency" (CEQA Guidelines, Section 15124(d)(1)). *Section 2.3* (page 2-2) of the Draft EIR appropriately identifies the State Lands Commission as a Trustee Agency, pursuant to the definition of Trustee Agencies provided in the CEQA Guidelines. Specifically Section 15386(b) of the Guidelines states that "'Trustee Agency' means a state agency having jurisdiction over natural resources affected by the project which are held in public trust for the people of the State of California. Trustee Agencies include:...(b) The State Lands Commission with regard to state owned "sovereign" lands such as the beds of navigable waters...". Language has been added in the Final EIR that the State Lands Commission will also serve in the capacity of a responsible agency, recognizing its discretionary approval role. The Final EIR will also clarify that the existing power plant/Agua Hedionda Lagoon intake channel and power plant discharge channel, and their associated jetties, are on sovereign lands under State Lands Commission jurisdiction.

43E The City's Urban Water Management Plan and Water Master Plan are referenced and discussed in *Section 9.0* of the Draft EIR. These documents were not incorporated by reference pursuant to Section 15150 of the CEQA Guidelines because those documents do not contain specific analyses that required incorporation and summarization into the Draft EIR.

B (cont.)

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II. Summary of Concerns.

As discussed below, the DEIR fails to satisfy the above standard for several reasons. First, the Project Description is inadequate and fails to characterize the Project area properly. In particular, the DEIR fails to recognize and evaluate the tidelands resources affected by the Project and the necessary approvals required from the State Lands Commission.

Second, the DEIR fails to analyze sufficiently and fully Project related impacts on aesthetics, biological resources, geology and soils, hazards and hazardous materials, hydrology and water quality, transportation and traffic, public utilities and growth inducing impacts.

Third, the DEIR fails to provide specific and concrete mitigation measures. Rather, as discussed below, it defers and delays the specifics of such mitigation measures.

III. Section 2: "Introduction."

Section 2 discusses introductory CEQA matters including CEQA requirements, "Uses of this EIR," and documents incorporated by reference. As to "Uses of this EIR," Section 2.3 notes that the Cities of Oceanside and Vista are Responsible Agencies under CEQA because these cities are responsible for discretionary approvals over various project features, e.g. pipelines, which are outside the jurisdiction of the City. Section 2.3 notes:

"Other Responsible Agencies that would or may have involvement with this project include but are not limited to the San Diego Regional water (sic) Quality Board, various water districts, the Encina Wastewater Authority, and United States Fish and Wildlife Service (USFWS)."

DEIR, page 2-2. Although Section 2.3 explains why the Cities of Oceanside and Vista are responsible agencies, it fails to explain why these other agencies including the Regional Board and USFWS are responsible agencies. In addition, Section 2.3 recognizes the State Lands Commission as a Trustee Agency under CEQA. See CEQA Guidelines Section 15386 (defining "Trustee Agency"). However, Section 3.7 notes that the Project Applicant must obtain "[a]mendments to existing leases with the California State Lands Commission" for the Project. CEQA Guidelines Section 15381 defines a "Responsible Agency" as a public agency which has "discretionary approval power over the project." Because the Project requires an amendment to existing leases with the State Lands Commission and may require new permits or leases from the Commission, and apparently the Project is located on tidal lands under the jurisdiction of the Commission, the DEIR should be revised to reflect this correction and also recognize the situs of the Project on such lands.

As to other documents which may be incorporated by reference, the City through its Carlsbad Municipal Water District has recently adopted various plans including its Urban Water Management Plan (which must be updated in 2005) and its March 2003 Update to the City's Water

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43F This comment appears to summarize provisions of the California Environmental Quality Act (CEQA) Guidelines and CEQA cases, but does not provide any reference to the project or the Draft EIR, therefore no additional response is required.

43G This comment quotes language from the Notice of Completion, not the Notice of Preparation for the project. It does not provide any reference to the project or the Draft EIR, therefore no additional response is required.

43H *Section 3.7* (page 3-32) of the Draft EIR acknowledges that there is an existing lease between Cabrillo Power I LLC and the State Lands Commission. See also response 43D.

43I Ownership history of the EPS and Agua Hedionda Lagoon is discussed in *Project Site History*, beginning on page 3-3 of the Draft EIR. Language has been added in the Final EIR to clarify underlying fee ownership of land associated with the power plant site and lands under State Lands Commission jurisdiction (see response 43D). In addition, text has been added to clarify that both Agua Hedionda Lagoon and the beach directly in front of the EPS are privately-owned. However, the purpose of the discussion in *Section 3.2* is to describe the physical location of the project site, pursuant to the requirements of Section 15124(a) of the CEQA Guidelines. *Section 3.7* (page 3-31) of the Draft EIR acknowledges that there is an existing lease held by the State Lands Commission, and furthermore, as noted in Response 43C, the Draft EIR includes a complete analysis of issues related to aesthetics (*Section 4.1*), marine biological resources (*Section 4.3*), hydrology and water quality (*Section 4.7*), land use/planning (*Section 4.8*), and recreation (*Section 4.11*), which comprise the issues relevant to the administration of the public trust by the State Lands Commission, with respect to the proposed project. Therefore, the

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<p>Scott Donnell, Associate Planner - 4 - June 27, 2005</p> <p>Master Plan. Because the Project is a "water project" in the City, the DEIR should refer to this planning documents and make them generally available to the public in order to comment on the DEIR.</p> <p>IV. Section 3: "Project Description."</p> <p>Under the California Environmental Quality Act ("CEQA"), Public Resources Code section 21000, the project description is one of the key parts of any environmental document. As the Court of Appeal in <u>County of Inyo</u> noted long ago,</p> <p>"Only through an accurate view of the project may affected outsiders and public decision-makers balance the proposal's benefit against its environmental cost, consider mitigation measures, assess the advantage of terminating the proposal (i.e., the 'no project' alternative) and weigh other alternatives in the balance. An accurate, stable and finite project description is the <i>sine qua non</i> of an informative and legally sufficient EIR."</p> <p><u>County of Inyo v. City of Los Angeles (County of Inyo)</u> (1977) 71 Cal. App. 3d 185, 199 (bold emphasis supplied; italics in original). In addition, the CEQA Guidelines section 15124 requires that an environmental document describe the project "in a way that will be meaningful to the public, to the other reviewing agencies, and to the decision-makers." Discussion, Guidelines section 15124.</p> <p>The Notice of Preparation described the Project as follows:</p> <p>"Proposed land uses include a 50 million gallon a day seawater desalination plant and pipelines to convey the desalinated water into Carlsbad and neighboring communities for potable use. The proposed desalination plant is located adjacent to the Encina Power Station at 4600 Carlsbad Boulevard. The pipelines are proposed in Carlsbad and the cities of Oceanside and Vista and are generally within or along roads. The Precise Development Plan serves as the main land use application for the desalination plant proposal and as a plan that documents existing land uses at and provides land use and development standards for the Encina Power Station."</p> <p>Section 3.1 of the DEIR discusses, among other things, the Project Site History. As indicated above, the site currently holds a lease for certain lands or facilities with the State Lands Commission. Section 3.1 is silent on this permit and the facilities which require such permit.</p> <p>Section 3.2 implies that the Project site is owned by Cabrillo Power I LLC with easements held by among others the previous owner, San Diego Gas and Electric Co., now owned by Semptra Energy. However, as indicated above, Project facilities are located on State lands and will require additional permitting or leasing from the State Lands Commission. In addition, it appears that the</p> <p>110 Newport Center Drive, Suite 200 Newport Beach, California 92660 (949) 650-5550 Fax: (949) 650-1181</p>	<p>E (cont.)</p> <p>43J Lead Agency disagrees with the commentator's implication that sufficient information relative to impacts on tidelands was not provided in the Draft EIR.</p> <p>The text of the Final EIR has been revised to clarify that the project would result in a minor modification of the power plant facilities. However, the modification would not affect the operation of the power plant, because as noted in <i>Section 3.2</i> (page 3-3 of the Draft EIR) the fuel oil tank to be removed would not materially affect the power plant facilities, nor would it affect the required storage capacity for fuel oil the power plant, as a backup fuel source.</p> <p>43K See Response 43J.</p> <p>43L See Response 43I. The "state-owned water bodies" referred to in this comment, which constitute the three parts of the Agua Hedionda Lagoon as discussed in <i>Section 3.3</i>, are actually privately-owned.</p> <p>43M The discussion and graphics provided in the Project Description (<i>Section 3.4.3</i>, pages 3-26-28 and <i>Figure 3-5</i>, page 3-17) of the Draft EIR describe and show the locations of the offsite pipelines. Furthermore, <i>Figure 3-5</i> has been enhanced to clearly show where pipelines would be installed in existing roads, future roads, and off-road areas, and text has been added to <i>Section 3.4.3</i> to more specifically describe the location of the proposed pump station. Graphics at different scales are additionally provided in the Environmental Analysis Section of the Draft EIR, specifically, <i>Sections 4.3</i>, <i>Biological Resources</i> and <i>4.4</i>, <i>Cultural Resources</i> to provide information relevant to the impact discussion for those topics. In addition, <i>Section 3.6</i> (page 3-30) of the Draft EIR indicates the anticipated start and completion time frames for construction, while extensive analysis on construction-</p>
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<p>Scott Donnell, Associate Planner - 5 - June 27, 2005</p> <p>Project site is located on lands of mixed ownership: State owned lands (tidelands?) and privately held lands (uplands). The DEIR should be revised to discuss the location of such facilities, the character of the lands including which are tidelands or other regulated lands and which are uplands, the ownership of the underlying lands, the nature of the current permit and any proposed new permit or lease. All of this is necessary for the public to be fully informed on the Project, its location, its potential environmental impacts and any feasible mitigation measures which themselves may have impacts on tidelands.</p> <p>Section 3.2 states that:</p> <p>"The desalination plant would occupy an approximately 4-acre parcel in the area currently containing Fuel Oil Tank #3, which is the southernmost of three large tanks nearest Carlsbad Boulevard."</p> <p>This continues to discuss the location of Project related facilities.</p> <p>Section 3.3 discusses the Project site's environmental setting and baseline conditions. Again it notes that the desal plant will be located on the site of Fuel Oil Tank #3; "[t]he tank and concrete foundation would be demolished to accommodate the desalination facility." Because the Project site is located on an area which may have some fuel oil or other volatile organic compounds, this Section 3.3 should be revised to discuss the need for site remediation and discuss the Project in relation to this remediation effort.</p> <p>In addition, although Section 3.3 states that regulations require that the Power Station store fuel oil on site "as a backup fuel source for generating electricity" and the Project will require demolition of Fuel Oil Tank #3, Section 3.3 states:</p> <p>"... other than connection to the seawater discharge channel and electrical connections, there are no modifications proposed to existing EPS facilities."</p> <p>DEIR, page 3-9. Presumably, this Section ignores or redefines Fuel Oil Tank # 3 as a non-existing EPS facility. The DEIR should be revised to recognize this significant modification to the facility, explain the nature of this change, its impact on the environment including the EPS facility and, if necessary, propose adequate mitigation.</p> <p>Section 3.3 also discusses surrounding land uses. Among other things, this section discusses recreational uses of state owned water bodies without recognition of the State's ownership or control of such bodies. The DEIR should be revised reflect this areas and their ownership, and to discuss any and all restrictions on the sites upon which the Project may have an impact.</p> <p>Section 3.3 also discusses "Off-Site (Water Delivery) Project Area." These facilities are generally Project pipelines and appurtenant facilities including pump stations. Many of these facilities will be located within roadway right of way, either existing or proposed. However, some</p> <p>110 Newport Center Drive, Suite 200 Newport Beach, California 92660 (949) 650-5550 Fax: (949) 650-1181</p>	<p>(cont.)</p> <p>43N The Precise Development Plan (PDP) is described in <i>Sections 1.0</i> and <i>3.0</i> of the Draft EIR and analyzed in <i>Section 4.8, Land Use/Planning</i>. As discussed in <i>Section 3.4.1</i> (page 3-18) the project, including the PDP, does not include any modifications to existing Encina power plant facilities, other than those modifications described in the Draft EIR to accommodate the desalination plant. The policies and development standards referenced by the commentor, are applicable to future projects within the Encina PDP area. Any future proposal would be subject to future environmental review. There are no aspects of the policies and development standards contained in the PDP that would have the potential for an environmental effect in and of themselves, since their purpose is to provide guidance for consideration of future projects. Approval of the PDP would not allow for any physical development or changes in existing environmental conditions, other than permitting development of the desalination plant, which is fully analyzed in the Draft EIR. There is no development currently proposed with the PDP beyond the desalination plant.</p> <p>43O See Response 43N.</p> <p>43P The proposed location of the intake pump station (which as described, includes the wet well) is shown on <i>Figure 3-6</i>, on page 3-19 of the Draft EIR. The "uses" of the pump station and wet well are described on page 3-20 of the Draft EIR as follows: "An intake structure consisting of a pump station and a wet well tied-in to the power plant discharge channel will</p>
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<p>Scott Donnell, Associate Planner -6- June 27, 2005</p> <p>facilities will be located in off-road locations. Section 3.3 should be revised to discuss these areas fully rather than defer such discussion to another section. As for all Off-Site facilities, Section 3.3 should discuss construction issues as well as location: how and when are such Project related facilities being constructed. As discussed below, such discussion is necessary to determine the Project's construction related impacts. Thus, the DEIR should be revised and recirculated to discuss the timing of Project related construction activities, analyze the impacts of such construction activities, and then propose any necessary mitigation measures.</p> <p>Section 3.4 discusses "Project Characteristics." Section 3.4.1 addresses the Precise Development for the area and for the power facilities. It begins:</p> <p>"The Encina Power Station Precise Development Plan establishes general planning policies and development standards for the planning area and permits administrative processing for minor land use modifications."</p> <p>This is a laudable and valuable objection. Unfortunately, the DEIR contains no general planning policies or development standards for the planning area other than an attempted environmental analysis of the Project. The DEIR should describe the Precise Development Plan, discuss it in detail, set forth the policies and standards, analyze any impacts which such could cause, and, if necessary, propose adequate mitigation measures.</p> <p>Further, Section 3.4.1 states that: "[c]ertain future modifications to the EPS would require subsequent environmental review." Given that the Plan provides policies and standards, and presumably the DEIR should analyze such policies and standards, it is unclear what sort of "subsequent environmental review" would be necessary. If the Plan establishes policies and standards for the EPS facility and these policies or standards either require or allow changes, arguably no environmental review would be necessary; the DEIR would be that review. In order to understand the scope and nature of the Project analyzed by the DEIR, the DEIR should be revised and recirculated to identify clearly what standards and policies are proposed, how they may impact the environment, and, if necessary, propose mitigation measures.</p> <p>Section 3.4.2 addresses the Desalination Plant. The section discusses the plant "in order of water flow through the facility." The intake structure consists of "a pump station and a wet well tied in to the power plant discharge channel." Although Section 3.4.2 includes several graphics of this alignment, none of these depicts the location of the pump station and the wet well. The DEIR should be revised to explain these Project features, depict their location and state their uses and purposes in order that the public may be fully informed on the Project, its potential impacts, and any mitigation.</p> <p>Section 3.4.2 ambiguously continues:</p> <p>The 72-inch intake pipe will be constructed in parallel with a 48-inch seawater concentrate discharge pipe. The concentrate discharge pipeline will convey the</p> <p>110 Newport Center Drive, Suite 200 Newport Beach, California 92660 (949) 650-5550 Fax: (949) 650-1181</p>	<p>M (cont.)</p> <p>43Q</p> <p>pump water through a 72-inch pipeline to be constructed from the power plant to the desalination plant." The Lead Agency believes that these facilities have been adequately described and that additional information is not necessary to fully describe these project features.</p> <p>The commentator inaccurately describes the concentrate discharge pipeline as an existing facility. As noted on <i>Figures 3-6</i> (page 3-19) and <i>Figure 3-7</i> (page 3-21), the discharge pipeline is clearly shown as a component of the proposed project. Further, the discharge of concentrate is described on page 3-25 of the Project Description as follows:</p> <p>"Concentrated seawater (concentrate) will be produced in the RO membrane separation process. Approximately one gallon of concentrated seawater will be created for every gallon of potable drinking water produced; therefore, for the proposed 50-mgd desalination plant, approximately 50 mgd of concentrated seawater will be generated. The salinity of the concentrate will be 67,000 ppm, twice the concentration of the incoming seawater (33,500 ppm). The concentrated seawater will be conveyed to the power plant cooling water discharge canal, using the desalination plant concentrate pipeline as previously described, and then the concentrated seawater will be blended with the power plant cooling water prior to discharge of the blended stream into the ocean via the power plant discharge canal. The existing 15-foot wide, concrete discharge channel conveys the cooling water into an on-site discharge area by gravity before the cooling water travels through box culverts under Carlsbad Boulevard into a riprap-lined channel leading across the beach into the Pacific Ocean." (emphasis added)</p> <p>The Lead Agency believes that the discussion of the discharge flow adequately and accurately describes the project features and operational</p>
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<p>Scott Donnell, Associate Planner - 7 - June 27, 2005</p> <p>discharge from the desalination plant as a by-product of the RO filtration process into the existing discharge channel from the power plant at a location that is approximately 850 feet downstream of the desalination intake structure to avoid intermixing of the concentrate discharge with the desalination plant source water.</p> <p>The confusion arises from several mislabeled Project features: the "concentrate discharge pipeline" is an existing structure which takes "exhausted" water from EPS out to the ocean; the "existing discharge channel" appears to be the same thing. More over, this discussion is confusing because it occurs in a subsection entitled "Desalination Plant Intake." This discussion should be revised to explain the existing facilities, the new Project facilities, how these interrelate, where these are located and how they function. Again, this is necessary so that the public may understand the full scope and nature of the Project.</p> <p>Section 3.4.2 also discusses the two alternative pretreatment systems: (1) granular media (sand) filtration; and (2) membrane filtration. Under either system, some sort of microscreening may be necessary. As to the Microscreening System, Section 3.4.2 explains:</p> <p>"Material separated out of the seawater through the microscreening process will be washed from the screens and collected in hoppers, then would be conveyed via gravity to a wet-well, from where they would be pumped to the power plant outfall canal for release back into the ocean."</p> <p>DEIR, page 3-22. Although this indicates the function of the "wet-well," it is unclear that this collection and discharge will not have a significant environmental impact. Among other things, the DEIR should be revised to include some sort of program for the testing of this material and treatment, if necessary, so that the Project does not discharge contaminated or other materials into the ocean.</p> <p>Section 3.4.2's discussion of the Granular Media Pretreatment Filtration System includes a similar problem. The granular system will "remove particulate material that is then collected and processed for disposal." Again, none of this material is tested or treated prior to disposal. The DEIR should be revised to include a mitigation measure to test and treat the collected material prior to discharge into the ocean.</p> <p>The Membrane Filtration System suffers a similar problem. It will again collect particulates and discharge these without testing or treatment into the ocean. In addition, this system requires additional chemical cleaning periodically. This additional cleaning, however, will require that any waste generated by conveyed to the sanitary sewer system. This discharge may adversely affect the waste water system. The DEIR should be revised to analyze such impacts and propose adequate mitigation.</p> <p>In addition, the Project will include a cartridge filter system. This system will filter fine particles in cartridge filters which "will be disposed of at a sanitary landfill." Again, this material</p> <p>110 Newport Center Drive, Suite 200 Newport Beach, California 92660 (949) 650-5550 Fax: (949) 650-1181</p>	<p>processes to provide a clear understanding of the project. For added clarity, the paragraph heading "Desalination Plant Intake" on page 3-20 has been amended to include "and discharge."</p> <p>43R The desalination plant's discharges to the ocean will be monitored in accordance with the proposed mitigation measures (Mitigation Measure 4.3-6, page 4.3-54 of the Draft EIR) and the monitoring and reporting requirements stipulated in the desalination plant's NPDES permit, which is issued and administered by the Regional Water Quality Control Board.</p> <p>43S As discussed in <i>Section 3.4.2</i> (page 3-22) of the Draft EIR, 99% of the materials retained on the granular media pretreatment filters would be disposed to either the sanitary sewer, or processed (dewatered) for disposal to a sanitary landfill in the form of dewatered residuals. The remaining 1% would be returned to the front of the pretreatment filters or disposed to the ocean. Monitoring and disposal of these waste streams will be completed in accordance with all Federal, State and local regulations and ordinances.</p> <p>43T See Response 43R. The water quality of the membrane cleaning system waste streams has been tested (see Draft EIR Appendix C) and the City and Encina Water Pollution Control Facility (EWPCF) were consulted in connection with the acceptance of these discharges to the wastewater collection system. The results of the water quality analysis and review by the City and the Encina Water Pollution Control Facility staff indicate that the waste cleaning solution will have no significant impacts on the integrity and performance of the wastewater collection system, the wastewater treatment plant, water recycling facility or beneficial reuse of recycled water after the proposed mitigation. Therefore, no further mitigation measures are required.</p>
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<p>Scott Donnell, Associate Planner - 8 - June 27, 2005</p> <p>and these cartridges should be tested and treated if necessary. The DEIR should be revised to include such procedures as Project features and mitigation.</p> <p>The Project will employ a reverse osmosis treatment system. This system will use two type of filtration pumps: filter effluent transfer pumps; and high pressure RO feed pumps. Each of these will produce residue which again requires testing and perhaps treatment. The DEIR should be revised to include such analysis and mitigation.</p> <p>Section 3.4.2 also discusses Final Water Conditioning. This includes chlorine treatment. Section 3.4.2 fails to discuss the type of chlorine and transportation of such materials. The DEIR should be revised to discuss chlorine alternatives and provide that the Project will not use liquid chlorine.</p> <p>The Project will include concentrated seawater disposal. According to Section 3.4.2,</p> <p>"[a]pproximately one gallon of concentrated seawater will be created for every gallon of potable drinking water produced; therefore, for the proposed 50-mgd desalination plant, approximately 50 mgd of concentrated seawater will be generated."</p> <p>DEIR, page 3-25. This seems incredible. The Project will deliver 50 million gallons of potable water per day and dispose of 50 million gallons of concentrate seawater. The Project will produce gold from seawater and discharge the same amount of seawater: the Project will yield an alchemical miracle which would make De Vinci proud. However, it is unclear how the Project will do this.</p> <p>Section 3.4.2 states that the Project will generate 500 pounds per day of sludge which will be disposed of at the "Encina Water Pollution Control Facility (EWPCF)." This facility is part of the Encina Wastewater Authority which measures its capacity in terms of gallons per day. As indicated above, the DEIR is an informational document: the DEIR fails this standard by using non-standard names, e.g. EWPCF, and non-standard metrics, e.g. pounds in stead of gallons per day. The DEIR should be revised to standardize the names and metrics so that the public may understand the Project, the amount of sludge or bio-solids, and the percentage of the sludge generated by the Project as well as the capacity of the Encina Wastewater Authority or the EWPCF.</p> <p>Section 3.4.3 addresses "Off-Site Project Elements." These are generally pipelines which will travel down city, county or state routes. See DEIR, page 3-26. Section 3.4.3 states:</p> <p>"Regardless of which combination of segments is ultimately selected, it is anticipated that the longest potential network of pipeline will not exceed 16 miles."</p> <p>Id. The DEIR appears to regard all traffic routes as fungible. We know that they are not and that the DEIR's assumption is incorrect. Traffic routes including major ones suffer significant impacts</p> <p>110 Newport Center Drive, Suite 200 Newport Beach, California 92660 (949) 650-5550 Fax: (949) 650-1181</p>	<p>43U Spent cartridge filters are considered a solid waste and as such will be disposed to a sanitary landfill in compliance with all applicable regulations. The regulations applicable to solid waste disposal include requirements for testing of the disposed materials. Sampling and testing will be completed in accordance with these requirements.</p> <p>43V Waste materials generated during the routine operation and maintenance of the pumps are limited to pump cooling water and residuals generated during servicing. All waste materials will be sampled and disposed of in accordance with all applicable regulations.</p> <p>43W The project will not use liquefied chlorine gas. Instead, the project will use sodium hypochlorite for final water conditioning. Detailed information of the quantity and concentration of this disinfectant, as well as its storage and transportation to the site are presented in <i>Section 4.6</i> of the Draft EIR - Hazards & Hazardous Materials. As indicated on page 4.6-11 of the Draft EIR, "In order to eliminate the potential for formation and release of toxic chlorine gas plume, and thereby to avoid public risk associated with the use of chlorine at the desalination plant, the Applicant will use and store chlorine only in the form of liquid bleach (sodium hypochlorite) solution instead of in the form of gas."</p> <p>43X As stated in the fifth sentence of the reference <i>Section 3.4.2</i> (page 3-18) of the Draft EIR, "Up to 104 mgd of seawater would be diverted from the combined outlet of the power plant condensers and piped to the desalination facility." The discussion then goes on to describe how this intake water would be processed through the desalination facility. Therefore, the desalination process will yield approximately 50 mgd of product water and 50 mgd of discharge byproduct from approximately 104 mgd of intake water.</p>
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Section 3.7 addresses "Agreements, Permits and Approvals Required." As indicated above, the Project requires approvals from the State Lands Commission. The DEIR states that the Project will require amendments to existing leases. It will require more: a new application, hearings on those applications, and a new permit or lease. The DEIR should be revised to discuss these issues, analyze any Project impacts as a result of such permitting and, if necessary, propose adequate mitigation. In addition, as discussed above, the DEIR should be revised to delineate tidelands and uplands, analyze Project impacts on both, and propose any necessary mitigation measures.

DD

V. Section 4: "Environmental Analysis."

A. Sub-Section 4.1: "Aesthetics."

Section 4.1 recognizes that the construction of the Project features—both on and off site—may have aesthetic impacts. For on-site features, Section 4.1 proposes Mitigation Measure 4.1-4 which requires:

"Construction staging areas within the PDP area shall be screened from public view or located in an area away from direct public view."

DEIR, page 4.1-11.

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Section 4.1 recognizes that off-site features may require similar mitigation:

"The use of standard construction measures such as fencing and screening would be utilized to a limited extent to screen construction areas."

DEIR, page 4.1-10. However, this mitigation measure is not included in Section 4.1.5 on mitigation measures. The DEIR should be revised to include screening of construction of off-site features: if construction of on-site features require mitigation, construction of off-site features will require such mitigation.

B. Section 4.3: "Biological Resources."

Section 4.3 contains the environmental analysis of the Project's potential impacts on biological resources. It begins with a discussion of the methodology. For instance, Section 4.3 states:

"With regard to terrestrial biological resources, the majority of potential impacts would occur as a result of construction of portions of the offsite water delivery pipelines traversing undeveloped areas.

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available to the City of Carlsbad and the San Diego region" (emphasis added). In addition, as stated in *Section 9.2* of the Draft EIR (pages 9-3), regional water supply projections indicate that the project would represent approximately 6% of future (2020) regional water supply demand. Therefore, the commentor's implication that the project is intended to "serve the water needs of the three million (San Diego County residents)" is not supported by the discussion and analysis presented in the Draft EIR.

43CC It is important to note that the City is the Lead Agency in considering a privately-initiated project, and is not the proponent of the project. While the project objectives and their relationship to legitimate public interests are important considerations in the environmental analysis, CEQA requires that an EIR provide a statement of project objectives which "will help the lead agency develop a reasonable range of alternatives to evaluate in the EIR and will aid the decision makers in preparing findings or a statement of overriding considerations, if necessary." (CEQA Guidelines, Section 15124(b)). The project objectives stated in the Draft EIR accomplished the intended purpose of project objectives as identified in CEQA. An objective to improve potable water quality does not imply that existing potable water quality is poor, as the commentor attempts to suggest. Potable water delivered to the City of Carlsbad and distributed to the City's residents and businesses meets all regulatory requirements for drinking water quality. As fully described and analyzed in *Section 4.7* (Hydrology and Water Quality) of the Draft EIR, the project would not result in discharge of sludge into the ocean and would not adversely affect ocean water quality, as implied by the commentor.

43DD The information provided in the Draft EIR relative to the approvals required from the State Lands Commission adequately captures all relevant discretionary actions of that agency, pursuant to the requirements of CEQA

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<p>Scott Donnell, Associate Planner - 11 - June 27, 2005</p> <p>"Marine resources are evaluated in terms of impacts on both source water intake (impacts on organisms drawn through the water intake system) and by-product water discharge (primarily related to increased salt content of discharge from the reverse osmosis process)."</p> <p>DEIR, page 4.3-1. However, this ignores a substantial amount of residue product which will be disposed of prior to RO treatment. The DEIR should be revised to discuss and analyze the impacts of such residue on biological resources—both terrestrial and marine— and if necessary, propose mitigation.</p> <p>Section 4.3 concludes that the Project may have significant impacts on terrestrial biological resources which may be mitigated through a variety of on- and off-site mitigation measures. However, as indicated above, the problems with the Project Description undercuts this analysis: the exact alignment of the off-site features, e.g. the pipelines, is not specified in the DEIR. It should be revised to provide a discussion of the alignment, analyze its impacts on biological resources, and, if necessary, propose mitigation. Alternatively, the DEIR should discuss all possible alignments in the Project description, analyze the impacts of each on each resource including biological resources and propose necessary mitigation.</p> <p>As to marine resources, Mitigation Measure 4.3.6 provides:</p> <p>The operator of the desalination plant shall 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. Such monitoring results shall be available for inspection by the City of Carlsbad and the RWQCB."</p> <p>DEIR, page 4.3-54. Several problems arise from this measure. First, the Ocean Plan criteria are not specific; they are general.</p> <p>"The California Ocean Plan (SWRCB 2001) does not specify requirements or water quality objectives concerning RO concentrate discharge. On the other hand, the Ocean Plan does set forth limits on levels of water quality characteristics for ocean waters to ensure reasonable protection of beneficial uses and prevention of nuisance."</p> <p>DEIR, page 4.3-16.</p> <p>Second, Mitigation Measure 4.3-6 fails to state the operational remedy or protocol when salinity levels exceed the specified standards.</p> <p>Third, the DEIR itself proposes a target specified standard:</p> <p>110 Newport Center Drive, Suite 200 Newport Beach, California 92660 (949) 650-5550 Fax: (949) 650-1181</p>	<p>(CEQA Guidelines Section 15124(d)(2)). For clarity, <i>Section 3.7</i>, page 3-32 has been revised to read that the action the State Lands Commission would take on the project is "a lease for portions of the project extending to state-owned lands under jurisdictions of the California State Lands Commission." The additional "issues" suggested by the commentator are procedural and administrative activities that relate to the discretionary action anticipated by the State Lands Commission, and are not subject to CEQA review. See also Response 43C.</p> <p>43EE The comment paraphrases the analysis contained in <i>Section 4.1</i> (page 4.1-10 of the Draft EIR) relative to off-site facilities, and in doing so, overlooks the primary basis for the impact conclusion: "Because these impacts are short-term in nature, and because they affect a limited area, they are not considered to have a substantial adverse effect on a scenic vista, nor would they substantially damage scenic resources." Therefore, mitigation is neither necessary nor required.</p> <p>43FF The commentator's reference to "residue product" is not entirely clear, but it appears to reference materials that are removed from the intake seawater as a result of pretreatment processes. As noted in <i>Section 3.4.2</i> (pages 3-20 through 23) of the Draft EIR, pretreatment by-product water that would be discharged directly to the ocean would have the same characteristics as the intake ocean water, including inorganic sediments and organic materials. Therefore, operation of the desalination plant would not introduce solids or chemicals that would have a substantial effect on ocean water quality, as discussed and analyzed in <i>Section 4.7</i> (Hydrology and Water Quality) of the Draft EIR.</p> <p>43GG The method of analysis suggested by the commentator is precisely the approach taken in the Draft EIR analysis. As noted in <i>Section 3.3</i>, page 3-16 of the Draft EIR:</p>
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<p>Scott Donnell, Associate Planner - 12 - June 27, 2005</p> <p>The selected maximum salinity level of 40 ppt is conservatively estimated threshold for extended exposure established for the site-specific conditions of the proposed project and is consistent with the Ocean Plan criteria summarized above."</p> <p>DEIR, page 4.3-17. However, thereafter, the DEIR ignores this 40 parts per thousand ("ppt") standard. The DEIR should be revised to analyze Project impacts based upon this standard, employ this standard as the metric for mitigation measures, and include operational protocols when the salinity levels exceed this standard.</p> <p>Further, assuming the DEIR is revised to include enforceable salinity standards, it is unclear that the Project can meet its own goals: when water reliability requires use of the Project, salinity levels may require the Project to go off-line until salinity levels drop.</p> <p>In addition, as indicated above, Section 4.3 fails to analyze a whole host of Project discharges or disposals prior to the ultimate disposal of concentrated seawater. For instance, Section 3.0 indicates that portions of the residue may be disposed of at the Encina Wastewater facility. Section 4.3 indicates that discharges from wastewater facilities may have impacts on marine biological resources but concludes that the Project will not have such a component. This is incorrect. The DEIR needs to analyze each of these discharges/disposals to determine the nature and scope of the Project's impacts on biological resources and propose mitigation measures which will truly address project impacts.</p> <p>Also, many of the mitigation measures for impacts on biological resources fail to meet the standards articulated above. As the Court stated in <i>Defend the Bay v. City of Irvine</i> (2004) 119 Cal. App. 4th 1261, 1276,</p> <p>"Deferral of the specifics of mitigation is permissible where the local entity commits itself to mitigation and lists the alternatives to be considered, analyzed and possibly incorporated in the mitigation plan. (Citation omitted.) On the other hand, an agency goes too far when it simply requires a project applicant to obtain a biological report and then comply with any recommendations that may be made in the report. (Citation omitted.)"</p> <p>For instance, Mitigation Measure 4.3-6 fails this standard for several reasons. First, it proposes no specific or enforceable standards. Second, it fails to propose operational protocols or changes when the Project exceeds standards or create significant biological impacts. The DEIR should be revised to include real and enforceable mitigation measures which meet the <u>Defend the Bay</u> standards.</p> <p>C. Section 4.5: "Geology and Soils."</p> <p>Section 4.5 addresses the Project's impacts on geology and soils. Section 4.5.4 recognizes that the Project may have significant impacts on geology and soils at the Project site due</p> <p>110 Newport Center Drive, Suite 200 Newport Beach, California 92660 (949) 650-5550 Fax: (949) 650-1181</p>	<p>HH (cont.)</p> <p>II</p> <p>JJ</p> <p>43HH The referenced mitigation measure states: "The operator of the desalination plant shall 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." In this instance, the "enforceable standard" is compliance with the Ocean Plan criteria and EPA Guidelines, which are outlined in discussion of significance thresholds contained in <i>Section 4.3.3</i> (pages 4.3-15 through 17) of the Draft EIR. Regarding the Ocean Plan criteria, <i>Section 4.3.3</i> states:</p> <p>Specifically relevant to the proposed project are the following Ocean Plan objectives that are applicable to the areas outside the ZID:</p> <ul style="list-style-type: none"> • Marine communities, including vertebrate, invertebrate, and plant species shall not be degraded. • Waste management systems that discharge to the ocean must be designed and operated in a manner that will maintain the indigenous marine life and a healthy and diverse marine community. <p>LL</p>
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to the amount of fill on site. Section 4.5.5 proposes mitigation measure 4.5-1 which will require removal of fill soils beneath the Project site and recompaction of such material. Section 4.5.4 also indicates that the depth to groundwater may be as high as 20 feet below the surface today. However, this section fails to discuss the depth of the fill material. Mitigation Measure 4.5-1 may adversely affect groundwater in and around the Project area. The DEIR should be revised to consider whether this measure will itself require additional mitigation.

As noted above, CEQA requires actual, not deferred, mitigation. See *Defend the Bay v. City of Irvine* (2004) 119 Cal. App. 4th 1261, 1276. Mitigation measure 4.5-2 violates this standard. It provides:

"A pre-construction geotechnical investigation shall be prepared to address geotechnical considerations related to constructing and operating all of the offsite project components including water delivery pipelines, the pump station, and surge control facilities. **The report shall contain all necessary requirements to address any adverse soils conditions that may be encountered in final design of the facilities.** The project will be required to adhere to all such requirements. The report shall include a discussion of site-specific geology, soils and foundational issues, a seismic hazards analysis to determine the potential for strong ground acceleration and ground shaking, potential groundwater issues, and structural design recommendations. The soil engineer and engineering geologist shall review the grading plans prior to finalization to verify the plans' compliance with the recommendations of the report. A third party review of the geotechnical report and final grading plans shall be conducted by the Engineering Department of the appropriate local jurisdiction (e.g., the City of Carlsbad) prior to issuance of grading permits and encroachment permits. Compliance with this measure shall be verified by the local jurisdiction.

DEIR, page 4.5-16-17 (Emphasis supplied.) This is precisely what the *Defend the Bay* Court said was unacceptable:

"On the other hand, an agency goes too far when it simply requires a project applicant to obtain a biological report and then comply with any recommendations that may be made in the report. (Citation omitted.)"

Defend the Bay, 119 Cal. App. 4th at 1276.

As indicated above, the DEIR fails to provide specifics for the off-site project features. The DEIR should be revised to locate these features specifically or analyze all of them and propose adequate and enforceable mitigation measures for all such impacts. That is, the DEIR should include the geotechnical report recommended in Mitigation Measure 4.5-2, analyze all impacts recognized in the report, and implement all mitigation measures identified in the report.

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LL (cont.)

- Waste discharged to the ocean must be essentially free of substances which will accumulate to toxic levels in marine waters, sediments or biota.
- Chronic toxicity in receiving waters outside the ZID shall not exceed a daily maximum value of 1.0 TUc, and acute toxicity in receiving waters outside the ZID shall not exceed a daily maximum value of 0.3 TUa.

The Ocean Plan states that "degradation shall be determined by comparison of the waste field and reference site(s) for characteristic species diversity, population density, contamination, growth anomalies, debility, or supplanting of normal species by undesirable plant and animal species. Degradation occurs if there are significant differences in any of the three major biotic groups, namely, demersal fish, benthic invertebrates, or attached algae."

The EPA Guidelines are identified as follows:

"As applied to the proposed project, operational conditions that do not elevate salinities above 38.4 ppt (34.4 ppt upper limit of the natural variation in salinity plus EPA recommended variation of 4 ppt) in the subtidal hard bottom habitat would appear to be fully protective of the food and habitat forming plants living in the discharge field."

The discussion of environmental effects in *Section 4.3* concludes that these significance criteria are not exceeded with operation of the proposed project based on the operational parameters analyzed. After extensive review by experts relied upon by the Lead Agency, there is no evidence before the Lead Agency which would indicate that the proposed project has the potential to exceed these operational parameters. (see *Appendix E* of the Draft EIR and reports entitled *Marine Biological Considerations Related to*

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to the amount of fill on site. Section 4.5.5 proposes mitigation measure 4.5-1 which will require removal of fill soils beneath the Project site and recompaction of such material. Section 4.5.4 also indicates that the depth to groundwater may be as high as 20 feet below the surface today. However, this section fails to discuss the depth of the fill material. Mitigation Measure 4.5-1 may adversely affect groundwater in and around the Project area. The DEIR should be revised to consider whether this measure will itself require additional mitigation.

As noted above, CEQA requires actual, not deferred, mitigation. See *Defend the Bay v. City of Irvine* (2004) 119 Cal. App. 4th 1261, 1276. Mitigation measure 4.5-2 violates this standard. It provides:

"A pre-construction geotechnical investigation shall be prepared to address geotechnical considerations related to constructing and operating all of the offsite project components including water delivery pipelines, the pump station, and surge control facilities. **The report shall contain all necessary requirements to address any adverse soils conditions that may be encountered in final design of the facilities.** The project will be required to adhere to all such requirements. The report shall include a discussion of site-specific geology, soils and foundational issues, a seismic hazards analysis to determine the potential for strong ground acceleration and ground shaking, potential groundwater issues, and structural design recommendations. The soil engineer and engineering geologist shall review the grading plans prior to finalization to verify the plans' compliance with the recommendations of the report. A third party review of the geotechnical report and final grading plans shall be conducted by the Engineering Department of the appropriate local jurisdiction (e.g., the City of Carlsbad) prior to issuance of grading permits and encroachment permits. Compliance with this measure shall be verified by the local jurisdiction.

DEIR, page 4.5-16-17 (Emphasis supplied.) This is precisely what the *Defend the Bay* Court said was unacceptable:

"On the other hand, an agency goes too far when it simply requires a project applicant to obtain a biological report and then comply with any recommendations that may be made in the report. (Citation omitted.)"

Defend the Bay, 119 Cal. App. 4th at 1276.

As indicated above, the DEIR fails to provide specifics for the off-site project features. The DEIR should be revised to locate these features specifically or analyze all of them and propose adequate and enforceable mitigation measures for all such impacts. That is, the DEIR should include the geotechnical report recommended in Mitigation Measure 4.5-2, analyze all impacts recognized in the report, and implement all mitigation measures identified in the report.

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the Reverse Osmosis Desalination Project at the Encina Power Plant, April 4, 2005, by Dr. Jeffrey Graham; and *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 7, 2005 by Dr. S. Jenkins and Mr. J. Wasyl). The proposed mitigation measure is intended to ensure that any future changes in operational characteristics would not result in exceedance of the thresholds. Monitoring is a feasible and effective method for ensuring that standards are continuously met. The existing EPS project already includes (and will continue to include) receiving water monitoring and comparisons of populations and diversity of benthic and aquatic species at the discharge site and a representative control site. The monitoring and reporting program set forth in Mitigation Measure 4.3-6 of the Final EIR has been expanded to ensure compliance with the Ocean Plan criteria and EPA guidelines summarized above:

The operator of the desalination plant shall continuously monitor the desalination plant and EPS discharge flow rates and salinity levels. The operator of the desalination plant shall on at least a semi-annual frequency monitor and conduct testing to measure and evaluate the combined EPS/desalination plant discharge for compliance with Ocean Plan acute and chronic toxicity requirements. The operator of the desalination plant shall maintain records of the monitoring results to ensure compliance with the Ocean Plan criteria and EPA guidelines. All semi-annual monitoring and testing required by this mitigation measure shall be summarized in a report and submitted to the RWQCB within 45 days of completion, and any noncompliance with Ocean Plan acute and chronic toxicity requirements shall be reported to the RWQCB. Such monitoring and results and reports shall be available for inspection by the City of Carlsbad and the RWQCB. Should the RWQCB adopt a permit requirement that is intended to provide

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D. Section 4.6: "Hazards and Hazardous Materials."

Section 4.6 discusses hazards and hazardous materials. As indicated above, the Project description fails to state what form of chlorine the Project will use. Section 4.6.3 clarifies this: the Project will use liquid chlorine. It notes:

"Chlorine vapor plume formation of a size which may present public health hazard is only possible when chlorine is stored and used in gaseous form."

DEIR, page 4.6-11. However, this is incorrect. Liquid chlorine can generate such plumes when improperly mixed with various chemicals. We are aware of such a plume generated at facilities operated by the City of Pomona. The DEIR should be revised to eliminate use of liquid chlorine and specify use of chlorine particles.

As before, Section 4.6's analysis of the off-site facilities is flawed. Because the off-site facilities are not located, the DEIR cannot adequately analyze the Project's impacts on hazards. The DEIR should be revised to locate the off-site facilities, analyze the Project's impacts on hazards along the off-site facilities, and propose adequate mitigation.

E. Section 4.7: "Hydrology and Water Quality."

Section 4.7 discusses the Project's impacts on hydrology and water quality. Section 4.7.2 discusses existing conditions including groundwater. It recognizes that depth to groundwater on the site may be as high as 20 feet below the surface. As indicated above, the Project may be 10 feet below grade and 10 feet from groundwater. Mitigation Measure 4.5.1 requires removal and recompaction of the fill material on site. The DEIR fails to state the depth or thickness of the fill material. It may be that removal of the fill will adversely affect groundwater near or at the Project site. The DEIR should be revised to discuss the depth of the fill material, the amount of excavation and recompaction, any impacts on groundwater and propose adequate mitigation.

In addition, the analysis of the Project's impacts on ocean salinity levels is inadequate. As indicated above, the DEIR fails to employ any standards on salinity. It proposes 40 ppt as a standard in connection with the analysis of impacts on biological resources. Section 4.7.4 recognizes that at the discharge point, salinity will exceed this level, 40.11. See Table 4.7-4. The DEIR should be revised to address this impact, recognize its significance, and propose mitigation measures.

As for mitigation measures, Section 4.7.5 proposes several mitigation measures. Mitigation measure 4.7-1 provides in part: "Prior to issuance of grading permits or other permits, the project applicant shall demonstrate compliance with all applicable regulations . . ." of federal and state regulatory bodies for storm water and urban runoff. However, this measure is inadequate because it is not specific: when must the applicant demonstrate compliance? What other permits does the DEIR refer to?

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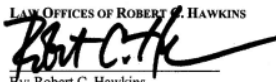
equal or greater protection to the marine environment, the Director is authorized to amend this mitigation measure to conform to the RWQCB order.

43II See response to 43 HH regarding mitigation and monitoring to ensure that the Project will not violate enforceable standards. The analysis contained in the Draft EIR relative to ocean water quality addresses all of the potential effects to ocean water quality that are anticipated to be associated with the proposed project; and confirms that the project reliability objectives will be met with all mitigation measures included in the Final EIR.

43JJ Please note that a detailed description, characterization and water quality analysis of all waste streams that would be generated at the seawater desalination plant are presented in the report entitled Waste Stream Characterization, which is included in Appendix C of the Draft EIR. The potential environmental impacts associated with these discharges are analyzed in *Section 4.3*, Biological Resources, *Section 4.7*, Hydrology and Water Quality, and *Section 4.11*, Public Utilities and Services of the Draft EIR. *Section 4.3* indicates that discharges from *municipal* wastewater facilities combined with the concentrated seawater byproduct of the desalination process may have impacts on marine biological resources. However, in this instance, the saline byproduct from the desalination project will not be combined with *municipal* wastewater.

43KK Refer to 43HH. This comment's reference to Defend the Bay v. City of Irvine (2004) 119 Cal.App. 4th 1261, 1276, is misplaced, since the proposed mitigation measure does not defer formulation of mitigation, it instead appropriately requires that the timing for implementation of the measure coincide with the activity having the corresponding potential for a significant effect. In addition, the referenced mitigation measure sets a

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<p>Scott Donnell, Associate Planner - 17 - June 27, 2005</p> <p>to bring water to the area at much expense and time. The Authority would not have engaged in such actions were it not necessary for the projected growth. The Project is simply another and supplementary water supply which will facilitate more growth.</p> <p>As for legal requirements, recent legislation (SB 610 and SB 221 passed 2001) now requires water suppliers to provide water supply assessments to cities and counties during the land use approval process. Hence, although the DEIR may reject any relationship between water and growth, state statutes recognize the relationship. Indeed, developments are required to show that there is water for the development. The Project will increase the water supply, make it more reliable and ensure water quality. This will allow or facilitate growth in the area.</p> <p>The DEIR should be revised and recirculated to address the Project's potential to create significant growth inducing impacts in the City and the region.</p> <p>VII. Conclusion.</p> <p>As indicated above, the DEIR is inadequate for many reasons including: the Project Description is inadequate and fails to characterize the Project area properly; it fails to analyze sufficiently and fully Project related impacts on aesthetics, biological resources, geology and soils, hazards and hazardous materials, hydrology and water quality, transportation and traffic, public utilities and growth inducing impacts. Finally, the DEIR fails to propose mitigation measures which are adequate under CEQA. The District should revise and recirculate the DEIR, fully analyze all impacts and propose adequate mitigation measures.</p> <p>Again, thank you for the opportunity to comment on the captioned document for the captioned Project. Of course, should you have any questions, please do not hesitate to contact us.</p> <p>Sincerely,</p> <p>LAW OFFICES OF ROBERT C. HAWKINS  By: Robert C. Hawkins</p> <p>RCH/kw</p> <p>110 Newport Center Drive, Suite 200 Newport Beach, California 92660 (949) 650-5550 Fax: (949) 650-1181</p>	<p>43PP The discussion immediately following the referenced <i>Table 4.7-4</i> explains the rationale for the conclusions relative to water quality impacts associated with the concentrated seawater discharge. Specifically, the Draft EIR at page 4.7-19 states that “The historical record of plant flow and environmental variables on which Figure 4.7.2 is based indicates that 95% of the time the maximum salinity at the edge of the ZID would be less than 36.2. Extended exposure to salinity levels above 40 ppt would be avoided under all proposed operating conditions. As measured against the significance thresholds, an end-of-pipe salinity greater than 40 ppt has a probability of occurrence that is also less than 1%. The salinity levels for the hard bottom habitat will always be below the significance criteria established for this habitat (38.4 ppt).” The Draft EIR therefore appropriately concludes that the impact is less than significant.</p> <p>43QQ The text of the Final EIR has been revised to clarify that the threshold timing mechanism for implementation of the referenced mitigation measure is prior to the issuance of a grading permit, building permit, or demolition permit, whichever occurs first.</p> <p>43RR The analysis contained in the Draft EIR relative to ocean water quality address all of the potential effects to ocean water quality that are anticipated to be associated with the proposed project, and all relevant, feasible and appropriate mitigation measures have been included in the Final EIR. The commentor’s reference to “some standards” does not provide sufficient detail or clarity to afford a more detailed response. Furthermore, it is unclear the specific sections the commentor is referencing. In addition, permits issued by other agencies would have separate enforcement mechanisms and procedures carried out by those agencies.</p> <p>43SS See Response 43Z.</p>
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	<p>43TT As noted in Response 43KK, the proposed mitigation measure does not defer formulation of mitigation, it sets a performance standard with specific parameters (1,000 mg/L), provides a mechanism for enforcement (monitoring) and provides a course of action if the stated parameters are exceeded (reduction in TDS or reimbursement to the water recycling agency(ies) for any additional costs associated with TDS reduction). In addition, it appropriately requires that the timing for implementation of the measure coincide with the activity having the potential for a significant effect. Use of performance standards in mitigation measures is provided for in Section 15126.4(a)(1)(B) of the CEQA Guidelines: “Formulation of mitigation measures should not be deferred until some future time, however, measures may specify performance standards which would mitigate the significant effect of the project and which may be accomplished in more than one specified way.” This is precisely the technique used in the referenced mitigation measure.</p> <p>43UU The project’s potential impacts on wastewater and solid waste are addressed in <i>Section 4.11.3</i> of the Draft EIR. The waste generated in all operational stages of the project is adequately and accurately assessed, analyzed for environmental effects and appropriately mitigated where necessary.</p> <p>43VV While the No Project/No Development Alternative does not preclude regional planning for desalination, it does not ensure that the objectives for this project would be satisfied. However, to clarify these underlying assumptions, the text of the Final EIR has been revised to reflect the uncertainty of future actions by other agencies.</p> <p>43WW 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 does not, as</p>
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RESPONSES TO COMMENTS

the commentor erroneously suggests “assumes but does not analyze that the Project will not have growth inducing impacts”. In fact, one of the conclusions presented in the analysis is that the project would 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. Water transfers from the Imperial Irrigation District are noted as a component of existing water supplies in *Section 9.2* (page 9-2) of the Draft EIR. However, as also noted, the County Water Authority’s Regional Water Facilities Master Plan concludes that imported water supplies, including existing water transfers, need to be supplemented by desalination to meet future water demand and reliability needs.

43XX See Response 43WW. Contrary to the commentor’s statements, the Draft EIR does not “reject any relationship between water and growth”.

43YY As noted in Response 43WW, the Draft EIR provides a comprehensive analysis of potential growth inducing effects associated with the project, and therefore the suggested recirculation of the Draft EIR is neither necessary nor required.

43ZZ This comment appears to summarize points raised by the comments in the balance of the comment letter. All of the issues raised in this comment are addressed in the discussion provided in Responses 43A through 43Y². The commentor’s reference to “The District” is unclear. The City of Carlsbad is the Lead Agency for the subject project.

RESPONSES TO COMMENTS

Comment No. 44

June 17, 2005

City of Carlsbad
Scott Donnell, Associate Planner
Planning Dept.
Re: Case # EIR-03-05
Case Name: Precise Development Plan
and Desalination Plant Project.



Mr Donnell,
A lot of money has gone into this plant from the city, as well as the developer, trying to sell it. He done alot of research, costs for the future are prohibitive. Morro Bay, California built and closed down theirs, after one year in the '80's. I know of no operating and successful plant of the size projected. The existing, at the Encina Power Plant, is a toy prototype. We should treat run off waters, or divert to ground basins. No to this case.

Norma J. Wolk
2457 Lewante St.
Carlsbad
Ca 92009

RESPONSE TO COMMENT NO. 44

Norma J. Wolk

Letter dated June 17, 2005)

- 44A 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.

RESPONSES TO COMMENTS

Comment No. 45

RESPONSE TO COMMENT NO. 45

Mark Bird
(Letter Not Dated)

MR. DONNELL:
IF APPROPRIATE,
PLEASE CONSIDER THESE
IDEAS AND/OR THE
ENTIRE ARTICLE FOR
THE EIR. MY EMAIL
ADDRESS IS ON PAGE 13.
THANKS, MARK BIRD

A

45A Comment noted.

45B The attached article provides additional research on desalination plants conducted by the commmentor. The information provided in the article supports the project's objective and does not raise any new significant environmental impacts that could be inferable. The article is included in the Final EIR, but is not intended to support specific analysis conducted for this project.

\$000 Current Seawater Desalting Costs?



By Mark Bird



Photo and map courtesy of Colorado River Commission



Introduction

Can nations now desalinate a million—or a billion—gallons of seawater at no real cost? Could \$000 be the real cost to purify an acre/foot of desalted ocean water? This article answers these questions in the affirmative if the indirect desalting benefits are considered.

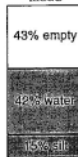
The United States Colorado River system will be used as an example of 19 benefits that are derived from desalination. Similar results would apply to multiple water shortage locations around the world. Most of these 19 benefits would be applicable to nations adjacent to an ocean. For example, clean water benefits would apply to a far greater extent to nations other than the U.S.

An example

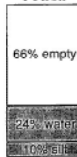
Lakes Mead and Powell on the Colorado River are the two largest reservoirs in the U.S. As the only large river system in the southwest, the Colorado is a life-line for over 25 million people. Almost every year for the past 25 years, no river water has entered the ocean.

It took from 1963 to 1980 (17 years) for Lake Powell to fill completely. The water now remaining in Lake Powell could all fit into Lake Mead and Lake Mead would still be far from being full. Insofar as the Colorado River system now provides water to around 10 million more people than when Lake Powell was filling, it appears likely that it will take more than 17 years for both lakes to fill under normal river flow conditions.

Lake Mead



Lake Powell



Population growth, possible plans by the state of Colorado to pipe water to the east side of the Continental Divide, Native American water claims, increased reservoir evaporation from global warming and other factors will intensify wa-

ter shortages in the southwest. Exacerbating the problem will be rising temperatures: the five warmest years in over a century in order, have been 1998, 2002, 2003, 2004 and 2001.

Global warming may be the cause of less annual snowfall, vegetation needing more water, more evaporation from all Colorado River reservoirs and more evaporation from over 1,000 miles of river canals. That evaporation is no trivial matter as it is estimated as much as 20 percent of river flow evaporates under normal conditions. If global warming is the primary or a leading contributor to low river flows for the past five years, there is the distinct likelihood that these reservoirs will never fill from river flow.

If the U.S. government had pursued desalination research and development more vigorously during the past 50 years, the following 19 factors would now be less severe. If the U.S. pursues desalination R&D and other remedies to restore these lakes now, these factors will become less severe. As over 200 cities including the largest cities in Arizona, Nevada and California are highly dependent on the Colorado River, if the U.S. ignores desalination R&D and other remedies, the worst case scenario is the economic collapse of these three states.

19 Factors

Inland Areas

California desalting potentially allows more river water for reservoirs and the other six Colorado River states. Ac-

APRIL 2005

Water Conditioning & Purification 11

RESPONSES TO COMMENTS

According to the U.N., about half of the world's rivers are depleted and polluted. Major rivers, including the Ganges, Yellow and Rio Grande, now regularly run dry. Coastal desalting at these or other river deltas would provide water for inland areas.

Pollutants

In 2004, the non-profit organization American Rivers designated the Colorado as the "Number One Most Endangered River in the U.S.," a rank earned more because of pollutants than because of water scarcity.

As an example of one pollutant, American Rivers noted that 400 pounds of rocket fuel flow toward Lake Mead each day. Among the over 100 pollutants and chemical compounds found in the two lakes are arsenic, chlorine compounds, cow manure, *Cryptosporidium*, lead, mercury, medical waste, paint derivatives, parathes, pesticides, phosphates, plane exhaust derivatives from the nearby Las Vegas airport (that now hosts 40 million passengers per year), plastics, septic tank discharge, sewage sludge, old boat gasoline and urban storm runoff. Last but not least is residue from the years of atmospheric nuclear testing at Nevada test sites. This water flows untreated to farms in Arizona and California. Fruits and vegetables from these farms are shipped to all 50 states.

California desalting plants would mean people would be ingesting higher quality water. If the U.S. had vigorously pursued desalination over the past few decades, both lakes would likely be at a higher water level today. These pollutants are concentrated in the lower levels of the lakes. Now that both lakes have declined considerably, there is a very real chance that higher concentrations of these pollutants are entering our food supply and will continue to do so.

Groundwater deterioration

Subsurface water is far more subject to contamination from mining, agriculture and industry than desalted water. Higher concentrations of metals, pesticides, toxins and human and non-human fecal matter are contained in groundwater than desalted water. Subsurface water is likely to experience declining water quality in the decades to come. Desalting can help prevent further groundwater deterioration by giving cities and nations less justification for groundwater withdrawal.

Diseases

Cancer, birth defects, internal organ malfunctions and over a dozen other dis-

eases are partly attributable to low quality water. Seventy percent of the human body and 90 percent of blood is water. The thousands of waterborne disease deaths from the Decemba Asian tsunami catastrophe is a global reminder of the necessity of clean water.

Electricity

Glen Canyon Dam at Lake Powell has lost 25 percent of its power generation capacity. Hoover Dam at Lake Mead has lost 17 percent of its power generation capacity. Increased power costs have already been passed on to some consumers. Glen Canyon Dam may lose 100 percent of its power capacity in another three years.

Recreation

According to National Park Service records, in 2004 Lake Mead had roughly one million less visitors than in the year prior to the last five low flow years. Some people incorrectly think Lake Mead is closed to recreation as they have seen the low water levels on major news networks. In the past five years, tens of millions of recreation dollars have been lost to the region. Millions have been spent just from marinas having to repeatedly relocate due to the declining water levels.

Food prices

A significant portion of the food consumed in the United States is grown in Southern California. Coastal desalination would increasingly assist farms, allowing Colorado River water to be used for prudent inland agriculture.

Water shortage preparation

Desalination far better prepares arid regions for probable future periods of water shortages. It gives water agencies and states more flexibility. The National Weather Service is forecasting that the inflow to Lake Powell from April to July will be 114 percent of average. It would probably take ten consecutive years of inflow to fill Lakes Powell and Mead.

Global warming

Climatologists are nearly unanimous in their belief that global warming is occurring and that it will intensify in the future. A few years ago, an iceberg the size of Delaware chipped off of Antarctica. In the past 30 years, an area of ice larger than Texas has been lost in the Arctic. Alaskan villages have already been relocated due to rising water levels. Desalting plants currently in operation—over 10,000 of them—have already re-

duced damages caused by global warming by taking water out of the ocean.

The dollar value of inundated in Florida or Southern California coastal land could be considered an asset for desalination. Relative to the Colorado River states, desalination further reduces global warming damages as millions of people in the southwest are being urged to undergo roof conversion, eliminate lawns and generally water less with the partial consequence that less cooling and less oxygen enter the warming atmosphere.

Environmental damages

Substantially less adverse ecological destruction to wildlife, endangered species, national parks, forests, public lands, roads and utilities would occur with desalination than with comparable groundwater development.

Litigation

Since there is a relatively infinite amount of ocean water and less impact with desalination as compared to land-based water development, the cost of litigation (calibrated in both time and money) would be substantially reduced. A previous legal dispute between Arizona and California lasted for over a decade before being decided by the U.S. Supreme Court. Recent news stories have indicated most river states, many Native American tribes, environmentalists representing the parched river delta and others all thought their water interests were shortchanged before the last five low flow years.

Currently, given the water scarcity in the Colorado River system, there is talk of the potential for litigation between the lower basin Colorado River states, and possible disputes between the lower and upper basin states. If states do not reach agreement on how future water reductions will be managed, it is probable that such litigation will be in the courts for years.

Mexico

Mexico has an annual legal entitlement to 1.5 million acre-feet of water from the Colorado River. In 1974, Congress authorized the construction of a desalting plant at Yuma, Arizona to ensure water quality going to Mexico. As the U.S. recognizes these obligations, ocean desalination thereby reduces probable costs, salinity damages and international embarrassment by helping to maintain Mexico's water supply. Colorado River salinity damages are not trivial; they typically range from \$500 to \$750 million dollars per year. Besides being lethal to

B (cont.)

RESPONSES TO COMMENTS

crop-iver salt is harmful to machinery, fish and wildlife. In this context, desalination is not only an interstate solution but also fosters positive international relations.

Incentives

The federal government can develop conservation contingent desalting funding agreements with cities and states, and this can work on an international scale in the same fashion. Desalting can be legislatively contingent upon EPA-type monitoring of farm wastewater and per capita water consumption rates. This would promote conservation as well as reduce the time and quantity of desalination.

Coastal aquifers

Cities in Southern California and around the world are subject to seawater intrusion into municipal aquifers. Desalting reduces seawater intrusion and groundwater withdrawal-induced subsidence because if a coastal aquifer is near normal capacity, the substantial water pressure prevents seawater intrusion.

Mineral development

Desalting is likely to lead to cheaper development of the abundance of gold and dozens of other minerals in the oceans. Salt has hundreds of uses besides the small percentage used as table salt. In the virtually impossible event that desalting costs do not continue to rapidly decline, new chemical separation techniques applied to saline residue could make desalting a literal goldmine.

Trade imbalance

If the U.S. does not pursue desalting, Japan or other countries will assume leadership. Such neglect is likely to cost the U.S. tens of billions of trade dollars in the 21st century. By the middle of the century, the U.S.-Japan desalting trade imbalance could be as large as the highest U.S.-Japan auto trade imbalance. Unlike just three decades ago when the U.S. was on the cutting-edge in desalination development, Japan now produces and sells about three times as much desalination technology as the United States, according to former U.S. Senator Paul Simon (deceased).

War prospects reduced

Israel has engaged in several armed disputes over water. Prior to Iraq's invasion of Kuwait, Turkey and Syria were making vigorous plans to build upstream dams on the Tigris and Euphrates rivers.

Both rivers flow through the center of Iraq for hundreds of miles. As Kuwait has some of the best desalting facilities, this was suggested as a crucial motive for the invasion. Similarly, strife in Somalia was attributed both to drought and to Ethiopia preventing water from flowing into Somalia. Egypt has threatened to go to war if several downstream nations try to divert water from Nile River tributaries. Desalting reduces future prospects for conflict in these and other locations with scarce water. What if U.S. and Israeli scientists assisted Middle East countries in building desalting plants as a means of promoting political stability?

One billion people

Over a billion people now have inadequate drinking water, according to the United Nations. This includes millions of children whose lives are measurably shortened or ended by poor quality water. Given auspicious desalting cost trends and global ocean-land distribution, desalting helps to bequeath to posterity an infinite clean water source.

Future costs

People buy homes, stocks and land because of an anticipated higher future value of these commodities. Governments regularly make decisions based on a future economic value. Hence, governments should also consider not only the present price of desalination but also the future price.

The following table depicts historic and future costs of desalting ocean water. Costs increased in the 1980s due to escalating energy costs. It appears certain to this writer that future less-energy-intensive desalting technology will accelerate a decrease in costs. The following table was adapted and updated from former Senator Simon's book, *Tipped Out*, page 125.

Decade	Cost per 1,000 gallons
1950s	\$15-20
1960s	\$ 6- 9
1970s	\$ 2- 7
1980s	\$ 4- 7
1990s	\$ 4- 6
2000s	\$ 2- 5
2010s	\$ 1- 2?
2020s	\$??

Future desalting costs are also likely to decline given anticipated advances in pre-treatment, membranes and computer monitoring of desalination functions. Some scholars anticipate major theoretical desalting discoveries in the near future. Four types of potential innovations are tidal-solar desalting, vertical desal-

ting, microbial desalting and environmentally benign fusion desalting. Conventional plants may also be modified to serve a vastly less expensive innovation. While desalting costs are certain to decline, the price of land-based water development is certain to increase.

Conclusion

According to the U.N. Commission on Sustainable Development, between three and four million people annually die from waterborne diseases. According to Water Partners International, "Water-related diseases are the leading causes of death in the world. This killer takes the lives of more than 14,000 people each day and is responsible for 60 percent of all sickness in the world."

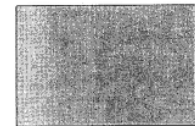
Many water experts would contend that desalting is an impossibility for poor countries. But millions of people subsist on 10 gallons or less per day. At a current desalting rate of \$3 per 1,000 gallons, the lives of millions would improve at a cost of three cents per day.

The world's current desalting plants save thousands of lives per year. By the end of the 21st century, with vastly improved desalting technology in use all over the planet, desalting is likely to save over a million lives per year. By governments not explicitly recognizing the current life-enhancing properties of desalting, are they not implicitly placing a low value on life?

A proper scientific analysis of desalting entails estimating the dollar and human value of the above 19 factors, and then using this value when evaluating the costs of ocean desalting. If all or even half of the above cost factors were considered, ocean desalting becomes an increasingly attractive option. Given these 19 factors, could the current real cost of ocean desalting be less than \$300 per billion gallons for the U.S. Southwest?

About the author

Mark Bird is a faculty member at the Community College of Southern Nevada. He is a former federal water planner and author of over 30 water-related articles. Bird can be reached via email at mark_bird@ccsn.edu



Water Conditioning & Purification

B (cont.)

RESPONSES TO COMMENTS

Archimedean desalination wave of future

By Mark Bird

Mark Bird is an adjunct faculty member at the Community College of Southern Nevada.

Several new desalting techniques offer the American Southwest and the world a clean and inexhaustible water source. Probably the most auspicious of these techniques is Archimedean desalination which purports to reduce costs more than 90 percent compared to conventional seawater desalination. In effect, this technique would lead to the creation of streams of high quality drinking water from the ocean.

Archimedean desalination consists of four primary components: filtration membranes, an Archimedean screw to elevate water, a vertical shaft to purify water via the force of gravity, and brine

recycling. Seawater is filtered through increasingly fine membranes and elevated over a hill. Gravity then becomes a force to purify the water, to assist in brine recycling, and to distribute the water to houses and buildings.

Following are six construction factors involving Archimedean desalination to lead to immense cost reduction compared to conventional seawater purification.

- It is estimated Archimedean desalination would use at least 75 percent less land than conventionally constructed conventional plants.

- Archimedean desalination had the promise to produce electricity to assist in elevating the water and additional electricity for sale. Archimedean desalination also has cost saving potential to release purified water at a higher level than the surrounding land. This facility

takes the distribution to municipal pipes, canals, and/or storage basins.

- Archimedean desalination has the advantage of being adapted to derive renewable energy benefits. These potential modifications include using ocean tidal energy to propel water upward, solar panels on the cylinder to assist in elevating the water, and wind power to assist in cranking the cylinder.

- It is envisioned Archimedean desalination would use a minimum of present a half dozen filtration screens and membranes prior to the entry of water through the cylinder.

- Archimedean desalination relies far more on computer monitoring of filtration accomplishment, cylinder operations, and shaft purification processes than conventional desalination.

Conversely, many elements and minerals are declining both nationally and globally. These two indisputable trends imply the monetary value of brine recycling will soar. Desalination plants of a decade and more ago did not have the advantage of current membrane technology, computer monitoring and brine recycling.

Archimedean desalination may rank as one of most profound and practical inventions of the early 21st century. The above cost reduction of 90 percent does not include environmental benefits compared to conventional water development, medical benefits of cleaner water, child mortality reduction benefits, or international conflict reduction benefits. Desalting plants in Southern California over give Clark County the promise of obtaining more "California" water from Lake Mead.

- Nearly all the 92 natural elements of the Periodic Table are found in seawater.

B (cont.)

RESPONSES TO COMMENTS

Comment No. 46

RECEIVED

JUN 27 2005

CITY OF CARLSBAD
PLANNING DEPT

June 26, 2005

Comments on City of Carlsbad EIR for Desalination

Regarding the possibility of a desalination plant being built on the premises of the Encina Power Station, some important questions must be addressed:

In the City of Carlsbad Environmental Impact Report it considers water provided by the desalination plant as a replacement of imported water, but regionally wouldn't it be a new water source, since the amount of water imported for the region is not predicted to decrease? And this is the same situation for the power used to create the desalinated water, and the same situation for the emissions produced when creating the desalinated water. Regionally they are all new source and uses-- water, power usage and emissions. The Encina plant does not just make power for the City of Carlsbad. It makes power for the region and its emissions affect the region (except for the peaker unit). So how could "the water created by the desalination plant, the power used to desalinate it and the emissions put into the air" be considered "replacement"?

If the desalination plant were built, what would happen to water rates if the power rates increased as they did a few years ago during the power crisis? We are still paying for the last power crisis. Remember Encina is a for profit business. How can the City of Carlsbad insure that we won't get into that situation again, only the next time our water rates would increase also?

The desalination plant is a huge power user and is dependent upon a large power source to process saline water into clean water. What would happen if there was a power shortage (as there was a few years ago) and as a huge power user the desalination plant had to cut back production? Would this cut back create a water shortage situation in Carlsbad? (Even though there is a large power station going on-line in 2006, the number of homes and businesses in the region has increased substantially for many years and this is the first large power source built since long before the 2000-2001 power crisis.)

If the desalination had to run during off-peak hours, would there be enough intake cooling water running into the Encina Power Station for the desalination plant to work?

Why isn't the city of Carlsbad pushing for Encina to first build an efficient power plant on site (that would use only a small percentage of the land it currently occupies and doesn't burn oil as a backup source of fuel) before they consider allowing a desalination plant?

If a natural gas shortage occurs in the future, the Encina Power Station would be forced to burn oil since they are a RNR and the only power plant in the North County that is a dual fuel plant. The emissions from burning oil are far greater than that of burning natural gas. If the desalination plant were in existence during a natural gas shortage, it

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RESPONSE TO COMMENT NO. 46

Kerry Siekmann

(Letter dated June 16, 2005)

46A

The commentor identifies quoted statements that do not appear in the Draft EIR. The Draft EIR does not state that energy consumption and indirect operational air emissions are considered "replacement". The Draft EIR accurately quantifies energy usage and air emissions associated with the proposed project, and appropriately quantifies similar impacts that are associated with imported water for comparison purposes. However, the commentor's characterization of the Draft EIR's analysis as a wholesale "replacement" of impacts is not accurate, and was not part of the Draft EIR analysis for energy and air emission impacts.

Additionally, the Draft EIR discusses the desalinated water that would be produced by the project as both a "new" water source and a "replacement" water source. As discussed in Section 9.0, Growth Inducing Impacts, seawater desalination is identified as a new water source, as are other sources that would bring imported water via new pipelines to the north and west. The Draft EIR also anticipates desalinated water as a replacement water source in the sense that agencies purchasing desalinated water will correspondingly reduce the amount of water they traditionally import, such as purchase through the San Diego County Water Authority.

46B

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. Therefore, fluctuations in power pricing would not affect

RESPONSES TO COMMENTS

<p>could be responsible for increasing emissions beyond what the citizens of Carlsbad might otherwise have had to endure due to the high power usage the desalination plant requires. Once again, before the City of Carlsbad jumps into a project that requires so much power usage, it would seem to be a far better strategy for the City of Carlsbad and Poseidon to push for Encina to build an efficient power station? In addition, why isn't the City of Carlsbad pushing for Poseidon to find a renewable source of energy for all or part of its power usage?</p> <p>During the 2000-2001 power crisis the city council approved the hiring of a consultant to represent them at the Air Pollution Control District meetings where Encina was requesting variances to increase emissions. The consultant was very successful in helping the city fight these variances. I know, as I was in attendance at these meetings and saw first hand the knowledge this consultant had about power plants (and specifically the Encina Power Station), power usage, and the emissions they create. Has the City of Carlsbad contacted this consultant, who would be a great source in helping the city evaluate these issues especially when considering the possibility of permitting a huge power user in our city - a desalination plant?</p> <p>If the desalination plant is built, has the city considered how it could be a future conflict of interest to fight any variance requests again? The City of Carlsbad would be dependent on the water produced by the desalination plant and subsequently dependent on the power needed to produce it. But the city would also be responsible for protecting the air quality for the citizens of the Carlsbad.</p> <p>Many of the energy availability strategies proposed in the EIR are strategies based on plans. How can the City of Carlsbad make such an important decision based on future strategies that they have absolutely no control over? How often have we seen such strategies written up in our newspapers only to see them change significantly over time?</p> <p>The Encina Power Station has a "peaker" unit that runs on diesel fuel. There are a maximum number of hours that this unit can run per year. This unit has no pollution controls. The Encina Power Station is approximately 1/2 mile from the community of Terramar. With the addition of the desalination plant as a major power user it would be safe to assume that the "peaker" unit could be called upon to supply power more often than if the desalination plant was not there. Has the city of Carlsbad considered this possibility and the effects that it might have on the air quality for the residents of Terramar?</p>	<p>costs to the Carlsbad Municipal Water District or water rate structure for the District's customers.</p> <p>46C 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). 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 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.</p>
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RESPONSES TO COMMENTS

To summarize, there are many important power and emissions issues to be thoroughly resolved especially after the power crisis. Enclosed is a copy of the letter sent to the city council regarding the desalination plant . Please consider it an addendum to these comments. }K
Sincerely,

Kerry Siekmann
5239 El Arbol
Carlsbad, Ca. 92008
760-438-5611
•

- 3 -

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.

46D The flows rates for cooling water through the EPS used in the analysis of effects of the desalination plant are based on over 20 years of operational data, including off-peak flow rates. Therefore, off-peak flow rates have been taken into consideration in the analysis of project effects.

46E Environmental impacts associated with the construction of a new power plant were not analyzed in this Draft EIR and are not considered a component of the proposed project.

RESPONSES TO COMMENTS

	<p>46F 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 change its fuel source from natural gas to fuel oil.</p> <p>46G The Draft EIR contains a complete analysis of potential air emissions associated with the proposed project, including an Air Quality Technical Report (Appendix D of the Draft EIR), prepared by Scientific Resources Associates, a company that specializes in evaluation of air emission impacts.</p> <p>46H As noted in Section 4.2.4 of the Draft EIR, 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 control districts. 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. Therefore, any future variance request by the EPS operator would not be attributable to the proposed project.</p> <p>46I It is assumed that the “energy availability strategies” that the commentor refers to are the initiatives developed by the California Energy</p>
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RESPONSES TO COMMENTS

	<p>Commission, the California Public Utilities Commission, and the California Independent System Operator that are referenced in Section 4.11 of the Draft EIR and further outlined in Response 46D. These initiatives are referenced and discussed to provide context on the stability of the electricity grid, and support a conclusion that adequate electricity supply capacity to accommodate the proposed project are reasonably foreseeable. The analysis provided in the Draft EIR provides an adequate and appropriate basis for the Lead Agency to conclude that energy demand generated by the proposed project would not require or result in the construction of new electrical generation and/or transmission facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects.</p> <p>46J This comment makes assumptions that are not based in fact and that are speculative. As noted in Response 46C, 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. It is not reasonable to assume that this increase in demand would require operation of additional electrical generating facilities at the EPS.</p> <p>46K Comment noted. Letter sent to the city council regarding the desalination plant has been included as <i>Comment No. 47</i>.</p>
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RESPONSES TO COMMENTS

Comment No. 47

Carlsbad City Council
 Carlsbad City Hall
 Carlsbad Village Dr.
 Carlsbad, Ca. 92008

Dear Council Members,

June 22, 2005

Thank you for listening to my comments at the council meeting last night. You, as council for the city of Carlsbad, made the decision in 2000-2001 to rely upon Mr. Bill Powers, an expert on power plants including the Encina Power Station, to guide the city's input at the APCD hearings during the energy crisis. At that time Encina was asking for variances to increase pollutants into the air in order to make more power. By hiring this expert, the APCD hearing board listened to the concerns of the city in many favorable ways.

In my opinion, one of the most significant decisions that came out of these meetings was that Encina decided to install the five SCR's at the power station. These five scrubbers decrease the amount of pollution the plant puts out as long as it is burning natural gas. Earlier in those APCD meetings, Encina admitted that they were considering asking the San Diego County Board of Supervisors if they could forego installing them, even though their installation was part of the original purchase agreement when they bought the plant.

I feel that the presence of the city aided by Mr. Powers made a difference in this change of plan by Encina.

If I understand correctly, the desalination plant could use up to ten percent of the daily output of the Encina Power Station. If the power station runs at full capacity, the desalination plant would use just under four percent of the daily output. This is a significant amount of power usage and dependency on the Encina Power Station. What happens if we get into a power crisis again? Occasionally I read articles in the paper predicting that very thing. If the desalination plant were up and running, not only would we be dependent on Encina for power, we would also be dependent on Encina for our water. How could we ever fight a variance request if that were the case? And what if there was another natural gas shortage? Encina would have to burn oil.

Encina is a very old power station and I assume that the technology is also old but only an expert can really answer that question. It would benefit Carlsbad to get the historical expertise needed from Mr. Bill Powers.

Thank you for your consideration.

Sincerely,

Kerry Siekmann



RESPONSE TO COMMENT NO. 47

**Kerry Siekmann
 (Letter dated June 22, 2005)**

- 47A** This letter was sent from the commentor to the City Council Members describing decisions made regarding the Encina Power Station in 2000 and/or 2001. The comment provides background, but is not relevant to the proposed project. No further response is necessary.

- 47B** See response to *Comment No. 46C*.

- 47C** This comment is not relevant to the proposed project or to the environmental analysis contained in the Draft EIR. No further response is necessary.

RESPONSES TO COMMENTS

Comment No. 48



Monday, June 13, 2005

Mr Scott Donnell
Associate Planner
City of Carlsbad
1635 Faraday Avenue
Carlsbad CA 92008

Dear Mr Donnell

As a past member of the city council and a resident of Carlsbad, I have closely followed the proposed Carlsbad Seawater Desalination Facility and am pleased to offer my comments.

The citizens demand and the City Council of Carlsbad have always shown strong leadership in conservation of water. Early on, we pioneered the use of reclaimed sewage water to help reduce our dependence on imported water. We have always understood we live in a desert. The constant cycles of drought and abundance of water are part of living in Southern California. We need to have a reliable source.

Our business park is filled with research and development companies that depend on a reliable local supply of high quality water that is affordable and under the city's direct control. In and effort to address this situation, Carlsbad has appropriately entered into a public-private partnership with Poseidon Resources to build a state of the art desalination plant. The site chosen is uniquely situated to provide a dependable, affordable water source that can also share its water cooling system. The site is well designed to give the least visual impact to the site.

Once completed, the plant will produce enough drinking water to serve 300,000 San Diego county residents. This is an important step towards reducing our regions dependence upon imported water. The project is a key component to meeting Carlsbad's water reliability goals.

I am certain that this project will be a benefit to the entire region. Poseidon has done an exceptionally thorough job researching the environmental impacts of the project. It will be an outstanding example of cutting edge technology that will ensure our quality of life in the future.

Sincerely,


Julianne Nygaard



RESPONSE TO COMMENT NO. 48

Julianne Nygaard
(Letter dated June 13, 2005)

48A The commentor expresses support for the project. No issues or concerns regarding the environmental review were raised and therefore no additional response is required.

RESPONSES TO COMMENTS

Comment No. 49

06/08/2005 11:49 FAX I 760 834 4605 KINRO'S ENCINITAS 002

FAX: (760) 602-8559
 RE: CASE # EIRC03-05
 PRECISE DEVELOPMENT PLAN
 AND DESALINATION PLANT PROJECT

HELEN BOURNE
 7040 AVENIDA ENCINAS
 STE.104, PMB 207
 CARLSBAD, CA., 92009
 JUNE:7, '05

MR. SCOTT DONNELL, ASSOCIATE PLANNER
 CARLSBAD PLANNING DEPARTMENT
 1635 PARADAY AVENUE
 CARLSBAD, CA., 92008.

DEAR MR. DONNELL AND PLANNING DEPARTMENT:

AFTER READING OVER THIS EIR, I STILL HAVE CONCERNS ABOUT THE DESALINATION PLANT PROJECT.
 IN A RECENT REPORT BY THE U.S. COMMISSION ON OCEAN POLICY, IT WAS STATED THAT OUR OCEANS AND COASTAL AREAS ARE IN SERIOUS TROUBLE, AND THAT WE MUST NOW PROTECT ECOSYSTEMS IN THEIR ENTIRETY, AS WELL AS TO SIGNIFICANTLY REDUCE WATER POLLUTION FROM URBAN CHEMICAL RUNOFF.

A

THE ENCINA POWER PLANT USES A ONCE THROUGH COOLING PROCESS IN WHICH SEAWATER IS PULLED IN THROUGH A WATER INTAKE PIPE WHICH CURRENTLY KILLS MORE THAN 97% OF THE MARINE LIFE THAT IS PULLED INTO THE PIPE WITH THE WATER. ALL OF THIS MARINE LIFE COULD BE SAVED BY USING BEACH WELLS WITH SUBSURFACE WATER INTAKE PIPES. BOTH THE CITY AND POSEIDON OFFICIALS ARE AWARE OF THIS. IT IS MY OPINION THAT THE PROJECT SHOULD BE REQUIRED TO EITHER USE THE BEACH WELLS WITH SUBSURFACE INTAKE PIPES OR TO CHANGE THE PLANT COOLING PROCESS TO USE FANS TO COOL THE GENERATORS--THE DRY COOLING PROCESS.

B

MY NEXT CONCERN IS ABOUT EXCESS SALINITY CREATED BY THE DESALTING PROCESS, AND THE POLLUTION CAUSED FROM CHEMICALS USED IN THIS PROCESS. THERE ARE APPROXIMATELY 21,000 SEAWATER DESALINATION PLANTS WORLDWIDE, AND WITH THE ADDITION OF THE HUNTINGTON BEACH, CARLSBAD, SANDAG, AND LONG BEACH PLANTS, CALIFORNIA'S SOUTHERN COASTS WILL BE LINED WITH THESE DESAL. PLANTS. EVEN THOUGH A STUDY DONE FOR THIS EIR SHOWS ONLY A SLIGHT CHANGE IN SALINITY (3.8), WE MUST ASSUME THAT THE CONTINUOUS OPERATION OF ALL THESE PLANTS SIMULTANEOUSLY AND IN CLOSE PROXIMITY TO EACH OTHER WILL HAVE AN ADVERSE AFFECT ON MARINE LIFE. WE SHOULD FIRST CONSIDER THE BENEFITS OF MAXIMIZING WATER CONSERVATION AND RECLAMATION.

C

WHY IS THE CITY OF CARLSBAD SO WILLING TO ALLOW THEIR MAIN WATER SUPPLY TO BE PRIVATIZED? I FEEL THAT THE FAR REACHING EFFECTS OF THIS PROJECT HAVE NOT BEEN ADEQUATELY ADDRESSED. MORE ENERGY HAS BEEN SPENT ON PROMOTING THIS PROJECT THAN ON EXPLORING ALTERNATIVES OR CONSERVING WATER. I AM NOT IN FAVOR OF THIS PROJECT.

D

THANK YOU FOR CONSIDERING MY COMMENTS. PLEASE INCLUDE THEM IN THE RECORD.

SINCERELY,

Helen Bourne

RESPONSE TO COMMENT NO. 49

Helen Bourne

(Fax Transmittal dated June 8, 2005)

49A This Comment expresses concern regarding the project, but does not identify specific issues related to the environmental analysis that would allow a more detailed response. Responses to specific comments are provided below.

49B 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 appendices to clarify the analysis provided in the Draft EIR. See "Carlsbad Seawater Desalination Project Alternatives to the Proposed Intake". It should be noted 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 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

RESPONSES TO COMMENTS

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 to produce approximately 50 MGD of desalinated water will 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 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

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	<p>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 and appearance and recreation once the majority of Carlsbad's oceanfront is set aside as either Carlsbad State Beach or South Carlsbad State Beach.</p> <p>49C 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</p>
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	<p>that the project's contributions to cumulative effects on marine organisms would be less than significant.</p> <p>49D This comment expresses an opinion that other alternatives to seawater desalination, such as conservation, have not been adequately considered.</p> <p>As noted in Section 9.0 (Growth-inducing impacts) of the Draft EIR, 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 Quantification Settlement Agreement, Sacramento-San Joaquin Bay-Delta Accord and other regional, state and federal water issues.</p> <p>Between 1980 and 2000, 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, while the region is expected by 2030 to further increase its population by 1 million, to 3.8 million through natural growth and migration. This population growth has already been studied and provided for in the City of Carlsbad'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. A complete discussion of growth-related issues is presented in Section 9.0 of the Draft EIR.</p>
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Between 2001 through 2004 the SDCWA and member agencies conducted an extensive review of the water supply options available to address regional water supply needs through the year 2030; including alternatives that would maximize water conservation, groundwater and water recycling opportunities. This process included extensive opportunities for public input that culminated in the certification of the RWFMP Programmatic EIR (PEIR), which is incorporated by reference into the Draft EIR, and approval of a preferred project.

Increased water conservation, increased recycled water and increased groundwater production alternatives were evaluated in the PEIR. These alternatives were rejected by the SDCWA because they failed to feasibly attain most of the basic objectives of the RWFMP. Instead, the preferred project approved by the SDCWA Board of Directors after numerous public workshops and hearings contemplates a balanced water supply portfolio for the San Diego region that includes already planned increase in conservation, already planned increase in water recycling, reduction in imported water use, already planned increase in water transfers and 80,000 to 150,000 acre-feet of desalinated water supply. Both the RWFMP and PEIR were incorporated by reference in the subject Draft EIR.

Similarly, CMWD considered a variety of actions to improve its water supply reliability, diversify supplies, and reduce dependence on imported water. These actions include a 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.

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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.

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. 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.

CMWD's *2000 Urban Water Management Plan (URMP)* was referenced in the subject Draft EIR. The implementation of the water conservation and water recycling elements included in CMWD's UWMP 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. This goal could not be met through conservation and recycling alone.

In summary, excessive dependence on water from the Colorado River and Bay-Delta has caused CMWD and SDCWA to shift their focus toward

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	<p>the development of local water resources. This includes the water transfer agreement with Imperial Irrigation District, implementation of recycled water projects, ground water desalination projects, water conservation programs, and the proposed desalination plant in Carlsbad. SDCWA's Regional Water Facilities Master Plan determined that a combination of conservation, recycling, importation and desalination was needed to provide the San Diego region the most cost-effective and efficient means of addressing its water supply reliability needs through the year 2030.</p>
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