

Department of Water and Power



the City of Los Angeles

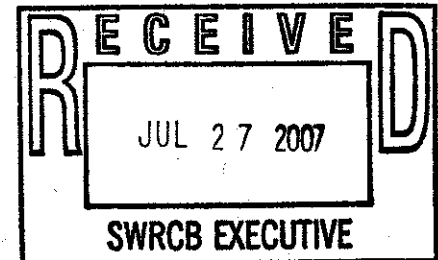
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July 27, 2007

Ms. Song Her  
Clerk to the Board, Executive Office  
State Water Resources Control Board  
P.O. Box 100  
Sacramento, California 95812-0100



Dear Ms. Her:

Subject: Comment Letter – California Ocean Plan Amendment

The Los Angeles Department of Water and Power (LADWP) appreciates the opportunity to comment on the State Water Resources Control Board's (State Board) amendments to the California Ocean Plan, and commends the State Board on their decision to pursue a model monitoring approach in the development of standards and regional monitoring.

LADWP hopes that the State Board, in considering the alternatives, will pursue protection of the environment, while being mindful of the potential negative effects it may have on industry. LADWP provides water and power to the citizens of City of Los Angeles at reasonable costs and has future plans to expand our services to include water reclamation, desalination, and green power projects such as wind power and fuel cell technology. LADWP encourages the State Board to implement new policies that do not hinder the continued operation of existing services, or the development of new programs.

LADWP has commented on ten of the 13 issues, including Appendix III. Please find our comments enclosed herewith.

If you have any questions, please contact Mr. Bob Krivak of my staff at (213) 367-1339.

Sincerely,

Katherine Rubin, Interim Manager  
Wastewater Quality Compliance

BK:gc  
Enclosure  
c/enc: Mr. Bob Krivak

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## **Los Angeles Department of Water and Power**

### **COMMENTS ON THE CALIFORNIA OCEAN PLAN AMENDMENTS**

#### **Issue 10 – Desalination Facilities and Brine Disposal**

The Los Angeles Department of Water and Power (LADWP) does not support the State Water Resources Control Board's (State Board) preliminary recommendation of Alternative 2, Establish a Narrative Water Quality Objective Where Salinity Should Not Exceed a Certain Percentage of Natural Background. Rather LADWP supports Alternative 1, No Action, Do Not Change the Existing Ocean Plan, for the following reasons:

Although there are no specific salinity limitations in the existing COP, there are adequate safeguards protecting both water quality and marine species. Chronic and acute toxicity analyses are well established and address the health of selected species. If a toxic effect is identified, additional testing procedures and evaluation methods are intact, i.e., TRE and TIE.

The State Board staff expresses concern over potential harmful effects of a dense, saline plume on the benthic community. The statement that brine discharges may form a dense plume that tends to settle on the ocean floor should not be assumed, and must be evaluated on a site-specific basis. Future desalination plants may be sited at existing power generating facilities, and if utilizing existing cooling water outfall structures, both mixing and dilution occur within the outfall before reaching end of pipe. More study would be necessary in areas such as the percentage of brine to facility cooling water discharged, the composition of the benthic community near the outfall, the submarine topography, and the surrounding ocean currents in order to determine site-specific background salinities and their distribution.

State Board staff has also concluded that 33.5 parts per thousand (ppt) may be used as an approximate ocean salinity for California near coastal marine waters. Published information shows ocean salinity varies significantly throughout the State due to seasonal changes and natural occurrence, the conclusion is not practical or scientifically defensible.

With regards to marine toxicity, one preliminary study conducted by the Southern California Coastal Water Research Project (SCCWRP) is cited on negative effects to the normal development of one organism (Purple Sea Urchin) at an increased salinity of 36.5 parts per thousand (ppt). However, the other tests conducted as part of this study showed no impact to marine life at salinities greater than 36.5 ppt. As mentioned above, site-specific analyses are necessary and the selection of sensitive species should be based on endemic species.

In February 2005, a seawater desalination brine dilution study report was completed for LADWP using a modeling system that was developed at the Scripps Institution of

Oceanography for the United States Navy's *Coastal Water Clarity System and Littoral Remote Sensing Simulator*. This model has been peer reviewed by several entities, including the State Water Resources Control Board and the California Coastal Commission. The study was performed to evaluate brine dilution and dispersion, based on various seawater desalination brine discharge scenarios from a potential desalination facility in the Los Angeles coast. Among the findings in the study is that the same species along the Los Angeles coast naturally experience much greater salinities in other habitats, including the southern California Bight and Baja California. The study is now part of the Scripps Institution of Oceanography Technical Report Series, and has been assigned to the Digital Library of the University of California at the link, <http://repositories.cdlib.org/sio/techreport/54>.

If the State Board believes that a brine discharge objective is necessary to protect the marine life and beneficial uses of the receiving waters, then an administrative process must be followed whereby all relevant factors are taken into account including economic considerations and the need for desalination and recycled water use.

### **Issue 13 – Review Table B Water Quality Objectives**

The State Board believes that the radioactivity objective contained in Table B does not provide adequate protection for aquatic life. It is based on a citation from Title 17, Section 30253 of the California Code of Regulations that refers to human exposure. Therefore, the State Board has initially endorsed Alternative 3, Adopt Water Quality Objectives for Aquatic Life Based on the Standards Proposed by the U.S. Department of Energy in 10 CFR Part 834.

LADWP agrees that Alternative 3 is a good starting point to assess risk to aquatic organisms and aid in the determination of reasonable protection, however, LADWP believes that the radioactivity objective and the need for monitoring must be determined on a case-by-case, site specific basis. The standards proposed by the U.S. Department of Energy (DOE) were developed for their nuclear-fueled generating facilities and waste storage facilities.

The Los Angeles Regional Water Quality Control Board (Region 4) NPDES permits for LADWP coastal generating stations contained requirements to monitor gross and net beta activity; however, the Monitoring and Reporting Programs also provided that, "a statement certifying that radioactive pollutants were not added to the discharge may be submitted in lieu of monitoring".

In the latter 1980's, the monitoring program for the Steam Electric Power Generation facilities included annual sampling for radioactivity, where the effluent would not exceed limits specified in Title 17, Chapter 5, Subchapter 4, Group 3, Article 3, Section 30269, of the California Administrative Code. The Regional Board was concerned with levels of radioactivity reported at several coastal generating stations. LADWP reported that annual monitoring results showed radioactivity was attributable to naturally occurring radioactive potassium-40 in seawater, as well as unavoidable analytical variability. In

support of this argument, data were submitted of gross beta activity, with and without potassium-40 activity, a naturally-occurring radionuclide. The data indicated that most of the ocean water gross beta activity originates from the presence of potassium-40.

After receipt of the data, the Regional Board agreed to allow for a statement in lieu of monitoring for radioactivity. The new monitoring requirement for radioactivity is a footnote that reads: "A statement certifying that a specific pollutant was not added to the waste stream during the reporting period may be submitted in lieu of the analytical result for this parameter." This statement remains to this day, and should not be removed, or replaced with monitoring for the steam electric power industry.

This is adequate for non-nuclear facilities since there is not a use of the material at the facility. LADWP believes that there is no added environmental benefit to require this type of monitoring at a non-nuclear facility. Furthermore, should a standard be developed, LADWP recommends that the standard account for naturally occurring background levels, provide historic data, and not require monitoring where it can be demonstrated that background levels are above standards and not a contribution from the facility.

#### **Issues 14, 15, 17, and 18 (Appendix III) – Regional Ambient Water Quality Monitoring, Standard Monitoring and Reporting Requirements, Storm Water Discharges, and Non-point Sources**

LADWP applauds the State Board's decision to pursue a model monitoring approach in the development of standard and regional monitoring, but in doing so, it must allow for site-specific issues to be addressed. Therefore, LADWP does not support Alternative 3, Use a Model Monitoring Approach Providing Flexibility in Implementing Standard Monitoring Procedures, with Minimum Requirements to Provide Consistent Statewide Ocean Monitoring. Alternative 3 provides consistent statewide ocean monitoring, which deviates from the notion of a model monitoring approach. Furthermore, Appendix III states, "If no direction is given...for a specific provision of the Ocean Plan, it is within the discretion of the Regional Water Boards to establish the monitoring requirements for that provision." LADWP believes that if provisions exist for monitoring procedures without a stakeholder process, then the State Board will decide the direction of the monitoring framework without stakeholder input. In fact, where the State Implementation Plan addresses nonpoint source discharges, it explicitly states that "...nonpoint source pollution control can best be achieved through the cooperative efforts of the dischargers, other interested persons, and the SWRCB and RWQCBs. Therefore, LADWP supports Alternative 2, Use a Model Monitoring Approach Providing Flexibility in Implementing Standard Monitoring Procedures, but Without Minimum Requirements.

#### **Issue 19 – Expression of Metals in Ocean Plan**

LADWP agrees with the preliminary recommended Alternative 2, Amend the Ocean Plan to Clarify that Metals are Expressed as Total Recoverable Concentrations. The inclusion of the statement "unless otherwise specified, all metal concentrations are expressed as total recoverable concentrations" will eliminate any ambiguity. State-

developed Discharge Monitoring Report (DMR) forms explicitly state that metals concentrations are to be reported as the Total Recoverable fraction, and this has been the practice of many environmental laboratories.

### **Issue 22 – Suspended Solids Regulation in Table A**

The State Board's preliminary recommendation is for Alternative 3, "Amend the Ocean Plan Table A Suspended Solids Effluent Limitations Using the 40 CFR 133.102 Treatment Standards", to be effective upon adoption. The State Board recommendation also states that the revised suspended solids effluent limitation would continue to be applicable to both POTWs and industrial dischargers. LADWP does not believe that secondary treatment standards should apply to the Steam Electric Power Generating Point Source category, as it does to POTWs. At a minimum, the State Board should first justify why Table A limitations should apply to power plant effluent in the absence of secondary treatment. 40 CFR 423 contains suspended solids limitations for Low volume Wastes, and the COP provides effluent concentration limits for the whole effluent at those facilities for which effluent guidelines have not been established. Therefore, Table A should only apply to POTWs or in limited situations where an industry does have an onsite treatment system and where that industry does not have Effluent Limitations Guidelines established for the wastestream. LADWP supports alternative 4, Clarify that Table A suspended solids effluent limitations do not apply to POTWs, with the understanding that they do apply to industrial discharges at facilities for which effluent guidelines have not been established. It is inappropriate to apply a technology-based treatment standard designed for secondary treatment at POTWs to industrial waste discharges.

### **Issue 23 – Plastic Debris Regulation**

LADWP agrees with the State Board in recommending Alternative 2, which amends the Ocean Plan objectives to state that ocean water shall not contain trash including, but not limited to, plastic debris, to the extent that it would cause a nuisance or adversely affect beneficial uses, and require that all waste streams be essentially free of trash including plastic debris.

### **Issue 24 – Acute Toxicity Definition**

LADWP supports the State Board's position that there is a need to modify the existing acute toxicity definition. However, the alternative revised definition that has been provided in the ocean plan amendment is problematic for the reasons stated below:

Standard acute test practices, as defined in USEPA (2002), call for the use of 20 or 40 organisms per test concentration for effluent and receiving water samples, respectively. Under such test conditions, the death of just one (for 20 organisms per concentration) or two (for 40 organisms per concentration) is equivalent to 5% mortality. Under USEPA standard acute test practices, a 95% survival rate in the full-strength sample is not

considered an acute toxic response. However, the calculated  $TU_a$  for 95% survival is 0.41, which is above the limit provided in the Ocean Plan of 0.3  $TU_a$ . Furthermore, the USEPA acceptability criterion of 90% survival for the laboratory control results in a  $TU_a$  value of 0.59 based on the Ocean Plan calculation. Therefore, organisms must perform better in an effluent or receiving water sample than in the corresponding clean laboratory water control. The recommended amendment to the calculation allows for modification of the  $TU_a$  calculation to take into account survival in the laboratory control. However, this modification is not helpful when control survival is 100% (i.e., there would be no difference between results according to the new and old formulas where no control mortality is observed).

As this information suggests, toxic unit limits that fall near or within current control acceptability criteria do not accurately reflect a toxic response. Such criteria have been established based on a long history of experience and take into account random contributions to background mortality, such as shipping and handling stress. The evaluation of toxicity data is based on multiple overlying variables, and should not be reduced to a simple comparison of the survival in undiluted sample to 100% survival, as described in the Ocean Plan. Test designs include concurrent controls and multiple sample concentrations to provide information on the condition/sensitivity of a given batch of test organisms and the magnitude of toxicity observed in any given sample. Data are evaluated as a whole, and statistical comparisons are performed between the control and each sample concentration. Variability of the dataset is also evaluated and taken into account when determining whether a sample is toxic or not. Again, evaluation and analysis tools have been developed over many years using comparative data collected from testing laboratories across the country and should not be set aside.

The recommendation to take into account control survival is a big step in the right direction. Rather than just normalizing for control survival, however, the criterion still needs to include a statistical comparison, consistent with how most toxicity tests are evaluated for permit compliance, and how any experimental results are evaluated in general. Under the revised plan, there is still no statistical comparison to the control and, if control survival is high, a difference of only a few percent from the control can still exceed the 0.3  $TU_a$  criterion (i.e., a sample with 95% survival and concurrent control with 100% survival will exceed the limit). This still makes no sense. If the State Board is set on having a fixed number for comparison, a minimum significant difference (MSD) approach would make much more sense. This has been added to several chronic EPA whole effluent toxicity (WET) protocols (including that for several of the marine species approved for use in the Ocean Plan) to avoid falsely concluding a sample is toxic due to small differences from the control combined with low test variability. Basically, a relevant MSD from the control is determined by statistical derivation from a large dataset (EPA has this from inter- and intra-variability studies).

To summarize, the State Board's proposed revision is still inadequate. If the control has no mortality, the discharger is right back in the position it was in before the amendment. Furthermore, and more importantly, the revision does not take into account the inherent variability of toxicity tests and the fact that a sample exhibiting survival above the

required minimum for acceptable control performance could still be considered acutely toxic. LADWP suggests that a revised definition be developed using any one of the following: 1) an application criterion for a statistical comparison where samples with significantly lower survival than that in the control are toxic, or, 2) a criterion with a % difference from the control, or 3) a minimum significant difference (MSD) criterion, or any combination thereof.

## **Attachment 1 to the June 2007 Scoping Document – Appendix III – Proposed Standard Monitoring Procedures**

### **1- Introduction:**

LADWP supports the State Board's guidance to the Regional Boards that all monitoring and reporting should serve a purpose, namely, to answer a question, rather than just for the sake of gathering data. Monitoring should be focused on assuring compliance with narrative and numeric water quality standards, the statues, and attainment of beneficial uses, and identifying sources of pollution.

### **3 - Type of Waste Discharge Sources, Non-point Sources:**

LADWP is concerned about the categorization of Non-point Sources, and request that the State Board clarify what is meant by category d., Urban Not Covered Under an NPDES Permit. Also, the Regional Boards have issued Waivers for Irrigated Nurseries, which should not be affected by the inclusion of category a., Agriculture, or category d.

### **4 – Indicator Bacteria, Point Sources:**

Appendix III states that core monitoring shall be conducted in the receiving water for indicator bacteria at a minimum five times per month for any point sources (non-storm water) discharging treated sewage effluent within one nautical mile of shore, or if the discharge is in excess of 10 MGD.

LADWP believes that the requirement to monitor for indicator bacteria should not have a blanket default volume basis. A power plant will have an effluent discharge in the hundreds of millions of gallons per day; however, this is generally 99.9% once-through cooling water which originated from the receiving water and is being returned to the receiving water with only the addition of temperature and periodic uses of chlorine for bio-fouling treatment. The actual process wastewater component, which comprises 0.1% of the total effluent flow, generally is on the order of a few hundred thousand gallons per day. Additionally, to the extent that sanitary waste effluent is one of those internal process wastewaters, that volume is generally on the order of a few tens of thousands of gallons. Thus, a volume trigger is not an appropriate mechanism for the application of a bacteria monitoring requirement.

Furthermore, if there is no reasonable potential for bacteria to be added by the discharger to the effluent or a particular waste stream, or if detected at a concentration that is below the corresponding water quality objective, the discharge should not be

subject to the proposed bacterial monitoring requirement. If a facility does not add a sanitary waste component to the outfall, nor has historical evidence of a problem, e.g. through review of the data submittals accompanying the 5-year NPDES permit renewal applications, then the facility in question should be exempt from this monitoring requirement.

Finally, the minimum bacterial monitoring frequency of five times per month is excessive. For facilities that have either shown no reasonable potential, or if the indicator bacteria are found at concentrations below or equal to the water quality objectives, no monitoring should be required. If a facility has an intermittent sanitary source that has periodic minor excursions, a reduced frequency, such as quarterly, semi-annually, or annually should be considered.

#### **4 – Indicator Bacteria, Non-point Sources:**

The narrative in Appendix III states that core monitoring of representative agricultural tail water and storm water runoff, at a minimum, will be conducted in receiving water for indicator bacteria. Sampling of the receiving water, if agricultural sources are suspected, should not be required of industrial dischargers. In the case of storm water, unless it can be shown that an individual facility is the sole contributor to a particular section of receiving water, regional monitoring should be pursued in lieu of core monitoring, if at all.

#### **5 – Chemical Constituents, Point Sources:**

LADWP believes the requirement to monitor one complete scan of the Table B substances semi-annually is excessive and unwarranted. Monitoring results submitted with the previous 5-year NPDES permit renewal applications have consistently shown that nearly all of the priority pollutants are recorded as “Not Detected,” or when detected, were in quantities less than the water quality objectives.

Therefore, rather than requiring one complete scan of the entire Table B (and, if applicable, Table A) substances, only those chemicals with a reasonable potential to be present should be analyzed on an annual basis; a scan of chemicals not reasonably expected to be present should be required only once during the permit renewal cycle.

#### **5 – Chemical Constituents, Storm Water:**

Unlike the proposed changes to Table B monitoring of non-storm water point sources, the changes to this section specify, “for industrial storm water discharges, all outfalls must be monitored during two storm events per year.” LADWP is in agreement with the proposed monitoring as long as it is simply a monitoring and reporting program without effluent limits. In addition, there are no clarifications provided for what is a storm event, or under what circumstances a sample collection should be exempt or delayed. Storm water monitoring program language contained in earlier permits, although designed with requirements of the General Industrial Activities Storm Water Permit in mind, included the following language: “During periods of extended rainfall, no more than one sample per week need to be taken. Sampling shall be during the first hour of discharge. If, for



safety reasons, a sample cannot be obtained during the first hour of discharge, a sample shall be obtained at the first safe opportunity, and the reason for the delay shall be included in the report.” Similar language should be included in Appendix III or addressed elsewhere.

As mentioned previously, and reiterated here, a reasonable potential analysis should be permitted, and if Table B PAHs and pesticides are not detected, then only those chemicals present should continue to be analyzed in each of two storms per year.

## **6 – Sediment Monitoring:**

The State Board proposes to monitor sediment for the purpose of determining the source and nature of impact. For most point source discharges, there are multiple industrial dischargers either upstream or along the coast. If there are impacts to the sediment, given the variability of ocean currents, submarine topography, and seasonal changes, including dry and wet weather flows, unless there is an isolated industrial discharger, it would be unlikely to determine which discharger is causing the impact. This would be better addressed in a regional monitoring program, or at least evaluated on a case-by-case basis.

There are several terms/phrases that need to be delineated. The State Board needs to define: “natural conditions” in item 1, at what concentrations do Table B substances in the sediment “degrade the benthic community” in item 2, and at what concentrations do organic pollutants in the sediment “degrade the benthic community” in item 3.

## **7 – Aquatic Life Toxicity:**

### **7.1 Point Sources**

The State Board states it is not their intent to address site-specific monitoring issues in the Ocean Plan, but some of the directions are too vague, e.g., Section 7.1, Point Sources, contains the following: “Core monitoring for Table B Water Column toxicity shall be required periodically”, and “If a discharge consistently exceeds an effluent limitation based on a toxicity objective in Table B, a TRE is required.” LADWP believes that the term “consistently” needs to be defined, i.e., three consecutive failures, or more than five failures within a certain time period, etc. Without guidance or definition, interpretation of the term is left up to both the discharger and the permit writer whom may not be able to reach a mutual consensus. In order to avoid these situations, terms such as “consistently” need to be defined with a more specific time frame.

### **7.2 Storm Water**

The State Board, in its proposed Standard Monitoring Procedures (Appendix III), acknowledges that Storm Water Point Sources are regulated by Industrial Storm Water General permits, or separate storm sewer system (MS4) permits. Furthermore, the State Implementation Plan and California Toxics Rule do not regulate storm water runoff, therefore core toxicity monitoring should not be required for those industrial facilities already regulated by the General Industrial or MS4 storm water permits.

## **10 – Water Column Characteristics, Non-point Sources:**

It appears that the State Board is requiring two wet weather samples and two dry weather (irrigation season) samples annually. LADWP believes one sample from each is adequate. Also, the State Board is not clear as to where the samples are to be taken, at the site or in the receiving water. LADWP suggests that the State Board require sampling at the site and at or in the receiving water body, since the sample at or in the receiving water would most likely be commingled with other discharges.

## **11 – Analytical Requirements:**

LADWP believes that the methods listed in the 40 CFR 136 approved by EPA have been tested and should be adequate for the NPDES permit monitoring requirements. The discharger should have the flexibility to use any methods stated in Part 136, and the permit should not stipulate one specific method over another. The methods listed in Part 136 have been through rigorous scientific studies to prove they are sound and reliable methods. Therefore, if there are multiple methods listed for the analysis of a certain constituent, the discharger should be able to choose any of the listed methodologies rather than having the Regional and/or State Board dictate which methodology shall be used.

## **General Concern:**

The following and similar statements appear throughout Appendix III: "This requirement may be satisfied by core monitoring individually or through participation in a regional monitoring program at the discretion of the Regional Board". LADWP believes that if a decision is to be made regarding core monitoring or participation in a regional monitoring program that the decision should be between the Regional Board and the discharger or other regional stakeholders, not solely up to the Regional Board.