

6/26/07 Scoping Mtg.
CA Ocean Plan Amend.
Deadline: 7/27/07 Noon



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July 24, 2007

Ms. Tam M. Doduc, Chair & Members
State Water Resources Control Board
1001 I Street
Sacramento, CA 95814
Attention: Ms. Song Her, Clerk to the Board
Via U.S. and Electronic Mail
commentletters@waterboards.ca.gov



Dear Ms. Doduc

Subject: Comment Letter – California Ocean Plan Amendment

The West Basin Municipal Water District (West Basin) is pleased to provide comments on the proposed amendments to the California Ocean Plan (COP). Staff from West Basin participated in the Scoping Workshop held in San Francisco on June 26, 2007, and appreciated the efforts of your staff as well as those of Member Spivy-Weber to engage in a dialogue on this important topic. The comments presented herein address four of the issues included in the June 2007 Scoping Document. West Basin also has provided comments on one additional issue which is of high priority, and should be considered as part of this amendment process.

West Basin is a public agency that purchases imported water from the Metropolitan Water District of Southern California and wholesales the water to cities and water companies in southwest Los Angeles County. West Basin currently serves a population of more than 900,000. An integral part of this water supply program is the use of recycled water, which reduces the region's dependence on imported water and the impact of drought or other water shortages. West Basin currently supplies over 20 million gallons per day (mgd) of recycled water for landscape irrigation, salt water barrier injection, and industrial applications with plans to produce and use over 100 mgd. The cornerstone of the recycling program is the West Basin Water Recycling Facility that produces five qualities of "designer" or custom-made recycled water for various municipal, commercial and industrial applications. Part of the treatment process for the plant is reverse osmosis, and the brine waste generated (currently 1.8 mgd) is discharged through the City of Los Angeles Hyperion Ocean Outfall. This brine discharge is regulated via a dedicated National Pollutant Discharge Elimination (NPDES) Permit issued to West Basin.

Another important water supply element for the region is ocean-water desalination. West Basin currently operate a \$1.5 million desalination research pilot project with future plans to build a demonstration-scale desalination plant to address concerns of regulators and other stakeholders by evaluating environmental effects and water quality. West Basin is also actively involved with the Southern California Salinity Coalition that is addressing the needs of its members to remove salt from water supplies and manage and preserve water resources.

You will note that the theme common to all of West Basin's comments is the need to ensure that when the state adopts policies, such as changes to the COP, that it carefully considers the impacts of such policies on water recycling, desalination and salt management, and that the policies do not hinder or obstruct the development and implementation of these programs which are critical to the state's ability to create and maintain a sustainable water supply.

Comments on Scoping Document Issues

Issue 10: Desalination Facilities and Brine Disposal

West Basin does not believe it is necessary to amend the COP to add a water quality objective that specifically applies to brine waste discharges, and thus does not support the State Water Resources Control Board's (SWRCB's) recommendation regarding this issue to establish a statewide narrative water quality objective based on not exceeding a certain percentage of natural background salinity (Alternative 2). The prudent and appropriate approach is the "no action" alternative (Alternative 1) because the COP has sufficient safeguards currently in place for protection of water quality and marine life that can address brine discharges.

Brine disposal is an important issue for West Basin in light of the agency's active involvement with water recycling, desalination, and salt management, as well as for many other utilities throughout the state involved in similar activities. Seawater desalination and water recycling, which generate brine wastes, are recognized parts of Southern California's future water portfolio including the programs West Basin sponsors. Other projects in the region are being implemented that treat brackish or saline groundwater supplies using membranes and these projects also produce brine wastes. Salt build up and the need to manage and dispose of salts is a critical issue for inland surface waters and groundwater. For example at the Groundwater Resources Association Conference held in June 2007, the Executive Officer of the Santa Ana Regional Board noted that his region had a 600,000 tons/year negative salt balance.

The key to the success of all of these programs is a mechanism and location to safely dispose of salts generated by membrane treatment. For most programs, ocean discharge will be the only economical option. The continued success of these programs is even more critical in light of the current and future droughts, pressures on the Colorado River supply, and anticipated additional shut downs of the California State Water Project now and in the coming years.

While it is acknowledged that the SWRCB must protect the quality of the state's waters and beneficial uses of those waters, West Basin believes that the COP as currently written has sufficient provisions to provide for that protection in the case of brine disposal to the ocean.

West Basin believes it is also important to remember why this issue was deemed to be a high priority in the Triennial Review in the first place. The SWRCB received input three years ago that the COP needed to be modified to facilitate permitting of facilities that discharge brine waste in a manner that protects the environment. The alternative that has been recommended, Alternative 2, will not facilitate projects, but will create barriers to their implementation and fails to consider how Regional Boards have recently proceeded with permitting the disposal of brine from water recycling and desalination facilities under the current COP.

The SWRCB should pursue Alternative 1 for the following reasons.

- A one size fits all water quality objective for the entire State based on a fixed change in natural background salinity as embodied by Alternative 2 is not practical or scientifically defensible when one considers the natural and seasonal variations in salinity that occur in different coastal areas through out the state. In the Scoping Document discussion, it appears that staff has already concluded that it would be appropriate to use a value of 33.5 parts per thousand (ppt) "as an approximate ocean salinity for California near coastal marine waters." This is a premature supposition that this value cannot be supported based on the variability in salinity levels around the state and in different seasons. For example, as part of the NPDES permit issued for the Carlsbad desalination plant (Order No. R9-2006-0065), it was recognized that background salinity concentrations within the receiving waters varied naturally by approximately 10% based on looking at over 20 years of data, and that salinity may be affected by freshwater storm runoff during winter months (lower salinity) and by El Nino periods (higher salinity due to the influx of high salinity water mass from Southern Baja California). Certainly a thorough review of the scientific literature or input from experts would indicate that California coastal waters have variable conditions and cannot be uniformly characterized by a single background value.
- The current COP has sufficient provisions in place to provide the Regional Boards with the flexibility to establish effluent limitations for brine discharges using the acute and chronic toxicity standards, the objectives in Table B, narrative objectives and monitoring and reporting requirements that can include special studies needed to establish limits. This situation is analogous to the current approach for discharges of non-saline treated wastewater to the ocean – there is no salinity standard in those cases, and effluent limitations are based on species tolerance.

At the June 26, 2007 COP Scoping Meeting, staff indicated that they preferred the fixed standard approach rather than using the current narrative and chemical specific standards in the COP to protect marine life from brine toxicity; however, it is evident that the current provisions can be effectively used to establish permit requirements that are protective of the marine environment based on the permits that have been issued for recycling projects and desalination projects over the past two years by Regions 4, 8 and 9. For example, West Basin's NPDES permit (Order No. R4-2006-0067), in which the brine from the West Basin Water Recycling Plant is discharged through the City of Los Angeles ocean outfall, includes chronic toxicity monitoring requirements using a sample that represents the blend of brine and Hyperion effluent under critical conditions (highest brine flow and lowest average monthly Hyperion flow). For the Carlsbad NPDES permit, the discharger conducted extensive studies that were used to establish toxicity and salinity limitations in the permit. These permits clearly show that the COP requires no modifications to facilitate permitting projects or for establishing permits that are fully protective of water quality and beneficial uses.

- With specific regard to marine toxicity, the discussion in the Scoping Document is insufficient to justify the course of action recommended (e.g., a simple review of the literature) given the range in site specific conditions that must be considered.
- While the issue as described in the Scoping Document specifically mentions brine waste from "desalination plants or groundwater desalination facilities," the derivation and application of a narrative water quality objective for salinity would also presumably apply to any brine discharges and thus would impact recycled water projects. As such, it is critical to remember that each recycling or desalination project will have site specific marine

organisms; site specific sources of water that are treated to remove salts and thus different salt levels in the brine; different discharge configurations; different ocean conditions; different levels of blending and dilution; etc. Given this variability, it is not clear how the SWRCB could "firmly" determine a percentage that would be applied statewide to natural background salinity that is protective of beneficial uses simply based on a review of the literature. In some cases it would be overprotective, in some under protective, and in general not likely to be able to account for all site specific conditions and thus create barriers to project implementation.

- If the SWRCB wishes to pursue a brine discharge objective, then a simple literature review would not suffice. It would be necessary to follow the requirements set forth in Water Code Sections 13170, 13241 and 13242 taking into consideration all the relevant factors such as beneficial uses of the water, water quality conditions that could reasonably be achieved, economic considerations, and the need to develop and use recycled water. Of particularly relevance in this process would be the need to determine the impacts the objective would have on the implementation of water recycling and desalination projects (both ocean and groundwater desalination), and the environmental consequences and costs that would result from new projects not being allowed to proceed or existing projects being curtailed.

For example, under the recommended alternative, one could hypothetically illustrate what would be required via a blending option to meet a salinity water quality objective for the West Basin proposed desalination facility that would produce 20,000 acre-feet of potable water. If the salinity objective were to be defined as 10% above a background of 33.5 ppt, and the brine salinity is 67 ppt, then the undiluted brine discharge would not meet the objective. If the discharge was blended with seawater, then 4 gallons of seawater would be required to be blended with each gallon of brine to keep bottom salinity below the objective. For this example, the ocean outfall is presumed to be a vertical single port discharge configuration with no special diffusers, similar to what is used for other desalination projects. Thus, the SWRCB would need to assess the environmental and cost consequences of this blending scenario and other management scenarios that might be needed for attainment of a new objective.

At the June 26, 2007 COP Scoping Meeting, staff indicated that the SWRCB may sponsor a workshop to discuss impacts associated with brine salinity to marine life. Notwithstanding West Basin's recommendation that the SWRCB not pursue an objective, at a minimum, this workshop should be held before staff proceeds with further work on an amendment for Issue 10.

In summary, since the completion of the Triennial Review, the urgency to amend the COP to facilitate permitting of desalination facilities has dissipated and recent permits issued by Regions 4, 8 and Region 9 have illustrated that the COP currently has sufficient provisions that can be effectively used to establish permit requirements that are protective of the marine environment.

Thus, the SWRCB should not pursue Alternative 2, but rather Alternative 1 for Issue 10.

Regional Monitoring Issues¹

As a permit holder, West Basin is very sensitive to the need for cost effective monitoring; however, it is apparent that the relationship between the expense and value of monitoring

¹ Issues 14, 15, 17 and 18 from the Triennial Review were combined in the Scoping Document.

programs is often ignored or not carefully evaluated, and that once monitoring programs are established they are seldom revised even if the information that is being collected is no longer meaningful. West Basin is also aware that a great deal of effort has been undertaken by stakeholders in Southern California on the development of a model regional monitoring program that is designed to ensure that it will collect meaningful information. Thus, for the four ocean monitoring issues raised during the Triennial Review process, West Basin recommends that the SWRCB pursue Alternative 2 (the model monitoring approach without minimum requirements) rather than the alternative recommended in the Scoping Document (Alternative 3 - the model monitoring approach with minimum requirements).

West Basin believes that Alternative 3 is too prescriptive and not in keeping with the overall goal of a model monitoring program; namely, 1) To focus monitoring on activities that directly relate to management questions that need to be answered, rather than gathering data for data's sake, 2) To address questions posed at different spatial scales by a variety of different audiences, and 3) For the level of monitoring to be proportional to the level of concern about the question to be addressed. Accordingly, there is no need for minimum requirements to be prescribed in the COP. Monitoring provisions should provide sufficient flexibility in terms of general questions that can be used by each Regional Board and stakeholders to develop site specific questions and monitoring requirements for regional programs. This approach is already successfully being implemented, for example by Region 4.

In the Scoping Document, staff indicated that it did not favor Alternative 2 because it would result in a lack of consistency between ocean dischargers' monitoring programs in different regions. This same concern was raised by staff at the June 26, 2007 Scoping Meeting. However, it is important to remember that because regional programs are developed specifically for each Region there will inherently be differences as a result of the need to address questions and collect data unique to each area. The SWRCB has other remedies that can be used to encourage other Regions to upgrade or revise their monitoring programs without including minimum requirements in the COP.

West Basin also has specific concerns regarding the questions to be addressed as part of the monitoring in Section 10 of Draft Appendix III regarding the evaluation of water column characteristics for all sources. All of these questions are too prescriptive and some seem to have no relevance to addressing management issues or compliance with water quality standards. If questions are to be included, they should be revised to more generic formats to provide sufficient flexibility to Regional Boards in developing programs. The key questions that should be asked are the following:

1. Is the effluent concentration of selected constituents below levels that will protect human health and aquatic life?
2. What is the mass of selected constituents that are discharged annually?
3. Is the effluent concentration or mass changing over time?

Of particular concern is Question Number 5: "Does the discharge of waste cause the salinity to change at any time more than 10% from that which occurs naturally?"

There appears to be no regulatory or legal basis for asking this question, and thus it is an arbitrary and unnecessary requirement for monitoring purposes. If there is no standard, what would a discharger or Regional Board do with the results since it is not related to an impact or making a management decision? Questions to be addressed in monitoring programs for any discharges, including saline, should be directed at impacts not arbitrary changes in concentration.

It is also premature to include this monitoring question in the COP since a decision has not yet been made with regard to Issue 10; namely, the potential development of a narrative salinity objective. The inclusion of this "10%" factor seems to marginalize the otherwise open process in determining the proper response to Issue 10 in the COP Scoping Document.

The inclusion of this question will have monitoring implications on all dischargers – publicly owned treatment works (POTWs), desalination facilities, water recycling facilities, salt management programs - since it would apply to increases or decreases in salinity.

In summary, West Basin requests that **the SWRCB pursue Alternative 2 for the Regional Monitoring Issues** to ensure that monitoring programs can be developed to collect question driven information appropriate for each region.

West Basin also recommends that the SWRCB specifically remove Question No. 5 from Section 10 of Draft Appendix III.

Issue 22: Suspended Solids Regulation in Table A

West Basin believes that the SWRCB is not taking the correct approach with regard to suspended solids regulations for both POTW and industrial discharges to the ocean, and recommends that the SWRCB pursue Alternative 4 (clarify that Table A suspended solids effluent limitations do not apply to POTWs) rather than Alternative 3 as recommended by staff (amend the suspended solids limitations in Table A of the COP to reflect the standards in 40 CFR 133.102).

The origin of the issue in the Triennial Review were comments from the U.S. Environmental Protection Agency (EPA) and the Central Coast Regional Board to revise the effluent limitation in Table A to be consistent with the Clean Water Act (CWA) and EPA's regulation for the minimum level of suspended solids effluent quality attainable by secondary treatment at POTWs. The current suspended solids limit in Table A was adopted in 1983 and is applicable to both POTWs and industrial dischargers for which EPA Effluent Guidelines have not been established, including brine discharges. In 1984, EPA promulgated the technology-based secondary treatment standards for POTWs, but the COP was not amended to reflect those changes.

West Basin believes that Alternative 4 would technically and legally be the correct approach inasmuch as it is not appropriate to apply a technology based treatment standard for secondary treatment at POTWs to an industrial discharge. This position was supported by EPA at the June 26, 2007 COP Scoping Meeting.

Section 301(b)(1)(B) of the CWA required POTWs to meet effluent limitations based on secondary treatment as defined by EPA in Section 304(d)(1) of the Act. Section 304(d)(1) required EPA to establish regulations on the amounts of constituents and physical, chemical and biological characteristics of pollutants and the degree of effluent reduction attainable through secondary treatment. A waiver from full secondary treatment requirements was included in Section 301(h) if certain conditions were satisfied.

Based on these statutory requirements, EPA developed secondary treatment regulations for POTWs, which are specified in 40 CFR Part 133. These technology-based regulations apply to all municipal wastewater treatment plants and identify the minimum level of effluent quality attainable by secondary treatment in terms of biochemical oxygen demand (BOD₅), Suspended Solids (SS), and pH. (See 40 CFR Part 133.102.)

Section 301(b)(1)(A) of the CWA requires EPA to establish effluent limitations for point sources other than POTWs that require the application of best practicable control technology currently available as defined by EPA pursuant to Section 304(b). Thus, EPA is responsible for establishing technology based effluent limits for industries under the Effluent Guidelines Program. Effluent guidelines are developed for types or categories of industry then applied uniformly on a national basis to all industries in a particular category or subcategory (See 40 CFR Parts 405 to 471). The standards are technology-based (i.e., they are based on the performance of treatment and control technologies for each industrial category).

If the SWRCB chooses to establish a new water quality based suspended solids objective for industrial dischargers, which is the effect of Alternative 3, the Board must go through the appropriate regulatory process. That means suspended solids limits for industrial discharges would have to be established in accordance with Water Code Sections 13170, 13241 and 13242 taking into consideration all the relevant factors such as beneficial uses of the water, water quality conditions that could reasonably be achieved, economic considerations, and the need to develop and use recycled water. Notably, if opportunities for brine disposal are hindered, so are opportunities for the development and use of recycled water.

If the intent is to simply make the COP consistent with federal requirements for POTWs, West Basin believes that the SWRCB should **pursue Alternative 4, which would clarify that the Table A suspended solids effluent limitations do not apply to POTWs**, but do apply to industrial discharges for which EPA Effluent Guidelines have not been established.

Issue 13: Review Table B Water Quality Objectives

West Basin supports comments provided by the California Association of Sanitation Agencies (CASA), Tri-TAC, the Bay Area Clean Water Agencies (BACWA), and the Southern California Alliance of POTWs (SCAP) recommending that the SWRCB defer the development of a new radioactivity objective in Table B (Alternative 1). The genesis of the priority for this issue in the Triennial Review was the comment from EPA to conduct a review for priority pollutants that have EPA recommended criteria that are not currently included in the COP. In the Scoping Document, it appeared that the SWRCB decided not to address EPA criteria, but to focus solely on developing a radioactivity objective because the current objective, which is applicable to human health, might not provide protection for aquatic life and is also difficult to interpret. Staff recommended Alternative 3; namely, to adopt water quality objectives for aquatic life based on the standards proposed by the U.S. Department of Energy (DOE) in 10 CFR Part 834. The rationale for the alternative was that DOE had already expended a significant effort to examine the literature (in 1993) and review public comments (which occurred in 1996), and using this information (if it can be obtained) would save the state work in developing the objective.

As noted in Tri-TAC's comments, this is a very complex issue that in addition to the technical foundation for an objective, must also take into consideration the regulatory complexities faced with regard to the regulation of radioactive wastes. The SWRCB would also need to address the requirements set forth in Water Code Sections 13170, 13241 and 13242 taking into consideration all the relevant factors such as beneficial uses of the water, water quality conditions that could reasonably be achieved, economic considerations, and the need to develop and use recycled water.

In summary, West Basin recommends that for the time being, **the SWRCB defer developing an amendment for Issue 13**, and work with Tri-TAC and other stakeholders in more fully exploring options for this issue.

Comments on Another Priority Issue

Need for Categorical or Case-by-Case Exceptions to the COP

West Basin recommends that the SWRCB consider including categorical or case-by-case exceptions to the COP similar to the provisions included in the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (SIP). The inclusion of the exceptions would facilitate water recycling as illustrated by the two cases presented below for which the COP has hindered recycling projects.

The first case is associated with the need to open and flush recycled water lines for maintenance and to maintain pipe integrity. This practice is also undertaken in the potable water industry. In Region 4, the Regional Board has issued a General Permit that enables water purveyors to flush their systems and discharge the water.² The discharge of these waters is considered to be a *de minimis* discharge with no reasonable potential to cause or contribute to in-stream excursions for water quality criteria for priority pollutants; however, the General Permit does contain some effluent limitations and monitoring requirements for compliance with inland surface water requirements. It is notable for this example to underscore the fact that the General Permit does not require compliance with the COP.

When the General Permit was last revised, West Basin and other agencies attempted to obtain coverage for flushing recycled water lines; however, the request was denied on the basis of the need to ensure compliance with the COP Table B limitations since the flushed water could reach the ocean. This determination seemed illogical for a number of reasons. First, presumably potable water flushed from lines also has the possibility of reaching the ocean. Second, the recycled water that would be discharged meets all Title 22 requirements for drinking water and thus in terms of quality is analogous to the quality of drinking water flushed from potable lines. Therefore, the potable water would in all probability have the same issue of meeting Table B limitations, yet this issue was not a factor in establishing the requirements in the General Permit. Flushing lines is an important part of promoting and facilitating recycled water use because if it cannot be done easily and routinely, users are faced with water stagnation and odors. Consequently, recycled water users are faced with a significant obstacle in performing routine maintenance of systems.

The second case involves the ability to use recycled water for creating a hydraulic barrier in a de-designated groundwater aquifer. One of West Basin's customers, Chevron Refinery in El Segundo, must pump water into a de-designated aquifer under its facility to create a hydraulic barrier surrounding a zone of contamination. Groundwater is pumped from within the contamination zone and treated. Currently over 500,000 gallons of imported potable water is used to create the barrier. West Basin believed that the use of recycled water would be a better option in lieu of using imported water. However, the project was unable to proceed because the Regional Board indicated that it would require the recycled water to meet Table B COP limitations (without dilution) and COP monitoring requirements because of the possibility of "one molecule" of recycled water migrating to the ocean. The potable water supply used for the remediation is not required to comply with the COP, yet the potential impact on the ocean is identical if you use either potable or recycled water. Because it was simply less burdensome to use potable water, further efforts to use recycled water came to a standstill. As noted in the previous example, recycled water and potable water both meet Title 22 drinking water

² Order No. R4-2004-0109 Waste Discharge Requirements for Discharges of Low Threat Hydrostatic Test Water to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties.

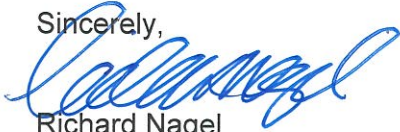
standards. In addition, the use of imported water for a remediation project when recycled water was available seemed to be a huge waste.

West Basin believes that both cases could have been alleviated by including provisions in the COP that allow for categorical and case-by-case exceptions similar to the language included in Section 5.3 of the SIP. These provisions would allow a Regional Board to grant categorical short-term or seasonal exceptions, which would certainly provide agencies with more latitude for flushing recycled water lines, and to grant case-by-case exceptions, which would have allowed for a project like the Chevron remediation project using recycled water to proceed.

While this issue was not raised as part of the Triennial Review process, West Basin believes it has sufficient priority to be considered as part of this amendment process and could be easily accomplished based on work that has already been done for the SIP. Thus, West Basin recommends that **categorical or case-by-case exceptions to the COP be added to the list of proposed amendments for the COP.**

West Basin appreciates the opportunity to comment, and looks forward to participating in this effort. If you have any questions, please contact Uzi Daniel at (310) 660-6245.

Sincerely,



Richard Nagel
General Manager

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