INFORMATIONAL DOCUMENT

Public Scoping Meeting
for
Proposed State Policy for Water Quality Control,
San Francisco Bay, Sacramento-San Joaquin River Delta and
Tributaries Mercury Discharge Offset Policy

January 2007

STATE WATER RESOURCES CONTROL BOARD
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

INTRODUCTION

On September 7, 2005, the State Water Resources Control Board (State Water Board) adopted Resolution No. 2005–0060, which remanded to the San Francisco Bay Regional Water Quality Control Board (San Francisco Bay Water Board) for reconsideration a proposed San Francisco Bay Mercury Total Maximum Daily Load (TMDL). In the remand resolution, the State Water Board directed State Water Board staff to develop

> "[A] State policy for water quality control that establishes alternative methods to allow dischargers to meet mercury effluent limitations that are directed to preventing contributions to excursions above water quality standards. The policy shall allow dischargers to perform other activities aside from eliminating more mercury from their discharges than they would be required to remove by applicable technology-based effluent limitations. This policy shall require more rigorous activities for: (a) dischargers not in compliance with their wasteload allocations and/or other applicable criteria or objectives; and (b) dischargers seeking to increase their mercury load. The policy shall include provisions that recognize the efforts of those dischargers who are meeting or outperforming their wasteload allocations, and that recognize the expenditures made by dischargers who are employing higher treatment levels. The policy shall not include requirements that would leverage existing point source discharges as a means of forcing dischargers to bear more than their fair share of responsibility for causing or contributing to any violation of water quality standards. In this context "fair share" shall refer to the dischargers' proportional contribution to the impairment. The policy shall also include provisions that prevent localized disparate impacts."

In response to the direction of the State Water Board, and in consideration of the fact that both the San Francisco Bay and the Sacramento-San Joaquin River Delta and tributaries are impaired by mercury, staff is proposing a mercury discharge offset policy (Policy) for the San Francisco Bay, Sacramento-San Joaquin River Delta and tributaries (Bay–Delta system). The State Water Board has the authority to establish pollutant offset programs, pollutant trading, and other market programs to achieve water quality standards. This authority is described in an attached memorandum from Michael Lauffer, Chief, Office of Chief Counsel, to Board Members Baggett and Wolff. Offsets refer to voluntary abatement efforts by a discharger to remove a specified pollutant from a different existing source, to compensate for all or a portion of the discharger's own discharge of that same pollutant. Offsets are voluntary because dischargers may choose among options to meet wasteload allocations. Under the Policy, individual dischargers may obtain offsets:

1. To help meet their wasteload or load allocations;

2. To allow an increase above their wasteload or load allocation as a result of expansion that would otherwise result in additional mercury loading to the Bay–Delta system; or

3. To initiate a new discharge that would otherwise result in new mercury loading to the Bay–Delta system.

BACKGROUND

Under the California Water Code ("Water Code"), the Regional Water Quality Control Boards (Regional Water Boards) adopt Water Quality Control Plans (Basin Plans) in which they designate the beneficial uses of the waters of the region and establish water quality objectives to

protect those beneficial uses. The Water Code also requires that Basin Plans include a plan of implementation to ensure that waters achieve the water quality objectives. The federal Clean Water Act requires states to establish water quality standards for surface waters. The Clean Water Act defines "water quality standard" as consisting of the designated uses of the navigable waters and the water quality criteria to protect the designated uses. The Regional Water Boards have adopted, and the State Water Board has approved, beneficial use designations and water quality objectives that are considered equivalent to the federal water quality standard.

The Clean Water Act establishes the National Pollutant Discharge Elimination System (NPDES) permit as the primary mechanism for achieving water quality standards in navigable waters. NPDES permits are issued to point source dischargers and include effluent and receiving water limitations. Receiving water limitations are based on the water quality objectives in the applicable Basin Plan and are designed to attain and maintain water quality standards in the receiving waters. Receiving water limitations commonly equal the water quality objectives.

For those waters that do not attain water quality standards even after NPDES permits are issued to point sources with the effluent limitations described above, the Clean Water Act requires states to adopt TMDLs for the pollutants causing the impairment in a water body. TMDLs are designed to restore water quality by controlling the pollutants that cause or contribute to such excursions. A TMDL assigns wasteload allocations for specific pollutants to point sources discharging effluent pursuant to the terms and conditions of NPDES permits. A TMDL also assigns load allocations to nonpoint source discharges. Attainment of all load and wasteload allocations would, in most cases, result in compliance with the water quality standards within a reasonable time period.

NPDES permits must control all pollutants in the permitted discharge that " . . . have the reasonable potential . . ." to " . . . cause or contribute to an excursion above any state water quality standard . . . ." 40 Code of Federal Regulations §122.44(d)(1)(i). Effluent limits in NPDES permits must also be consistent with the assumptions and requirements of wasteload allocations assigned in an applicable TMDL. Therefore, compliance with permits that are adopted following adoption of a TMDL should result in compliance with water quality standards, even in impaired waters, over a reasonable period of time.

Concentrations of mercury, a bio-accumulative substance, are causing impairment of the water quality standards designed to protect wildlife and human consumption of fish. Beneficial uses of water impacted by mercury include: Commercial and Sports Fishing; Water Contact Recreation, Cold Freshwater Habitat; Warm Freshwater Habitat; Estuarine Habitat; Marine Habitat; Wildlife Habitat; and Rare, Threatened, or Endangered Species.

Reduction or elimination of mercury loads from point source discharges alone will not bring the Bay–Delta system into compliance with water quality standards. Compliance with water quality standards will require reductions in both point and nonpoint sources and will result to some degree from erosion and flushing of mercury from Bay bottom sediments. Because mercury is bioaccumulative, mercury added to the system from legacy sources will contribute to the impairment until those sources of mercury are controlled or eliminated, and sufficient amounts of mercury have eroded to the ocean.

Mining-legacy mercury that has washed into the riverbeds and the San Francisco Bay attaching to sediments is a major source of mercury loading to the Bay–Delta aquatic ecosystem. Mercury in the water column is primarily associated with suspended sediment. Mercury is also present in bed sediments. Offsets may consider removal of mercury from sediments.

POLICY PRINCIPLES

The Policy will describe the requirements that must be met before any NPDES permit may be issued to discharge mercury in amounts that exceed wasteload allocations specified in a TMDL. It will also describe the factors that must be considered in determining the appropriate offset amount for any given offset proposal.

General Principles

1. Offset projects must result in a net environmental benefit in the Bay-Delta system.

2. Dischargers must implement pollution prevention measures before qualifying for an offset. Dischargers will not be allowed to avoid the responsibility to perform at the highest level feasible.

3. Dischargers may be allowed to offset a portion of the mercury in their discharges if, after the effective date of the applicable TMDL, their discharge level exceeds their wasteload allocation.

4. A Regional Water Board may issue a permit allowing a new or additional discharge of mercury only from a new facility or an expansion of an existing facility, and only when offset consistent with this Policy. In all other circumstances, even when authorizing an offset, the Regional Water Board may not allow the mass or concentration of mercury in an existing discharge to increase.

5. Offsets for individual dischargers will be established in individual NPDES permits.

6. Dischargers should make an effort to locate their offset project near the discharge it is offsetting; however, if demonstrated to not be practical, a project not in the vicinity of the discharge may be considered.

7. Offsets must not allow a discharge to result in disparate localized impacts.

Principles Affecting the Offset Amounts

Offset amounts granted to individual dischargers should always involve an offset ratio of greater than 1:1, defined as the ratio of off-site mercury reduction proposed divided by the proposed exceedance of their TMDL-specified wasteload or load allocation. The Regional Water Boards shall also take into account at least the factors listed below.

1. Offset ratios will be based upon:

    a. The degree to which a discharger fails to meet its wasteload or load allocations; the ratio should be greater as the magnitude of the exceedance of the wasteload or load allocation increases;

    b. The projected cost savings from performing an offset;

    c. The expected length of time before the discharger complies with the wasteload or load allocation; the ratio should be greater for longer compliance schedules.

2. The types of projects that could qualify as offset projects include, but are not limited to: restoration of watersheds affected by mercury; stream bank stabilization; mass removal; mine remediation; removal of mercury contaminated sediments in impoundments; reduction of atmospheric deposition from local sources upwind of the discharge point (Bay Area Air Quality Management District coordination); reduction of in-Bay discharges of dredged material containing mercury; collection and appropriate disposal of mercury and mercury-containing objects from the public; and removal of legacy mercury.

Principles Affecting Implementation of Offsets

1. The Regional Water Board(s) shall review the individual offset amounts and projects at a frequency to ensure that the assigned offset is appropriate to the discharge and receiving water quality.

2. NPDES permit offset requirements must be fully enforceable. Enforcement actions should be taken, for example, if the discharge mass exceeds the offset-adjusted mass or concentration limits or if the offset is not completed.

3. Dischargers will be responsible for implementing offset projects and monitoring to demonstrate that the offset project is contributing to attainment of water quality standards. All such data must be readily available to the public. Monitoring should demonstrate that the project is meeting its stated objective of removing a specific load of mercury and not creating or contributing to disparate local impacts.

4. The Regional Water Board(s) shall consider request(s) to complete offset project(s) as part of the normal NPDES permit(s) renewal cycle(s) or at the discretion of the Regional Water Board(s).

5. Offset projects may not be approved if the mercury reduction to be achieved by the offset project is already the responsibility of some other party. An exception to this principle is for offset projects on public land where the public agency did not cause the mercury pollution.

CONSIDERATIONS REGARDING POLLUTANT TRADING

This Policy will not address pollutant trading; the State Water Board may consider the issue in the future. Establishing trading (market) provisions is exceedingly complex and, therefore, will be deferred. Pollutant trading generally refers to an exchange of either permitted discharge levels or required abatement levels between two or more dischargers, either in a formal commodities market or banking system or a less-structured exchange.

Considerations which make the introduction of trading provisions complex include: whether credits expire; whether credits could be traded more than once; and whether credits would be available on a spot market only, or as futures under specified conditions (e.g., for insurance in case of a spill or treatment malfunction).

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Arnold Schwarzenegger
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TO: Arthur G. Baggett, Jr.
Gary Wolff, P.E., Ph.D.

FROM: Michael A.M. Lauffer
Chief Counsel
OFFICE OF CHIEF COUNSEL

DATE: November 22, 2006

SUBJECT: UPDATED LEGAL AUTHORITY FOR OFFSETS, POLLUTANT TRADING, AND MARKET PROGRAMS TO SUPPLEMENT WATER QUALITY REGULATION IN CALIFORNIA'S IMPAIRED WATERS WITH ESTABLISHED TOTAL MAXIMUM DAILY LOADS

INTRODUCTION

This memorandum updates an October 2001 memorandum concerning a similar topic.[1] The original memorandum outlined the then-existing legal authority to employ offsets, pollutant trading, and other market programs to supplement water quality regulation in impaired waters. The original memorandum addressed both Total Maximum Daily Load (TMDL) and pre-TMDL impaired waters. In contrast, this memorandum only discusses the legal authority pertaining to those waters for which a TMDL has been established. In this regard, the memorandum updates the earlier memorandum to reflect changes in the Water Code concerning waivers and the State Water Resources Control Board's nonpoint source program. It is not intended to supersede the discussion in the original memo regarding the authority for offsets or other programs where no TMDL is in place.

Like its predecessor, this memorandum identifies the underlying legal authority for offsets and pollutant trading after developing a TMDL. It does not address the policy and legal considerations attendant to developing a specific offset program.

DISCUSSION

There is no fixed definition of "offsets," "pollutant trading," or "market programs." "Offsets" generally refer to independent abatement efforts by a discharger to remove a certain amount of pollutant discharge from other existing sources to compensate for the discharger's own discharge. "Pollutant trading" generally refers to an exchange of either permitted discharge

[1] See Memorandum from Craig M. Wilson (Chief Counsel) to Arthur G. Baggett (Chair) (Oct. 16, 2001), Legal Authority for Offsets, Pollutant Trading, and Market Programs to Supplement Water Quality Regulation in California's Impaired Waters.

levels or required abatement levels between two or more dischargers, either in a formal commodities market or banking system, or a less structured exchange.

In a situation where a TMDL has been established for an impaired water, offsets and trading mechanisms are permissible. The analysis in this memorandum is equally applicable for any market-type mechanism, be it offsets, pollutant trading, or another analogous system that would authorize one discharger to perform (or to encourage another to perform) additional abatement or restoration in lieu of meeting an otherwise applicable or more stringent discharge limitation or prohibition.

This memorandum should not be construed as delineating the universe of possible market scenarios that may be legal in a given circumstance. Each such system must be evaluated in its own context. However, this document is intended to discuss some of the legal issues that will arise in considering such systems.

In considering any of these approaches, a regional water quality control board (regional water board) should be cognizant of the State's legal obligation to adopt and implement hundreds of TMDLs for impaired waterbodies. Accordingly, any market system should only be contemplated under circumstances that will promote (and not hinder) attainment of water quality standards.

Whether a TMDL exists or not, federal law requires each point source to be subject to applicable technology-based effluent limitations

Section 402(b) of the Clean Water Act requires that all state-issued National Pollutant Discharge Elimination System (NPDES) permits contain applicable technology-based effluent limitations. (33 U.S.C. § 1342(b)(1)(A); see also 33 U.S.C. § 1311.) Effluent limitations based upon the best available technology are the "floor," the minimum that must be required of any NPDES-permitted discharge. Thus, no market system or offsets can be incorporated into NPDES permits that would afford relief from technology-based effluent limitations.

When a TMDL is in place, the Clean Water Act and Porter-Cologne Water Quality Control Act give latitude to develop means of achieving compliance with water quality standards, subject to certain limitations

Water quality-based effluent limitations (WQBELs) applicable to new or existing point sources can be adjusted in compliance with a TMDL

NPDES permits must incorporate "any requirements in addition to or more stringent than [technology-based effluent limitations] necessary to . . . [a]chieve water quality standards." (40 C.F.R. § 122.44(d)(1); see also 33 U.S.C. § 1311(b)(1)(C), *Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613, 626.) Unlike technology-based effluent limitations, WQBELs can be adjusted to be consistent with a TMDL. While the Clean Water Act's anti-backsliding provisions would ordinarily prohibit the State from changing a discharger's requirements to allow a less stringent effluent limitation, section 402(o) contains an express exception applicable when a TMDL is in place. (33 U.S.C. § 1342(o).) Specifically, if a water is impaired, existing WQBELs may be relaxed consistent with a TMDL if "the cumulative effect of all such revised

effluent limitations based on such total maximum daily load or waste load allocation will assure attainment of such water quality standard. . . ." (33 U.S.C. § 1313(d)(4)(A)(i).)

Federal regulations bolster these provisions. Under the regulations, WQBELs must be "consistent with the assumptions and requirements of any available wasteload allocation . . . ." (40 C.F.R. § 122.44(d)(1)(vii)(B).) Federal regulations do not require WQBELs to be "equivalent to" available waste load allocations. Accordingly, as long as the cumulative effect of all WQBELs for NPDES-permitted discharges to a water is consistent with the assumptions and requirements of an applicable TMDL, a regional water board may adjust WQBELs using a variety of mechanisms that are designed to achieve the attainment of water quality standards. An appropriately structured offset program would satisfy the requirements of the federal regulations.

This regulatory structure is also applicable to new sources. Generally, an NPDES permit for a new discharge is prohibited if the discharge "will cause or contribute to the violation of water quality standards." (40 C.F.R. § 122.4(i).) However, a WQBEL that otherwise would be applicable to a new source can be adjusted based upon a TMDL demonstrating there is sufficient pollutant load allocations available, whether through the use of offsets or other appropriate measures, that ensure attainment of water quality standards. (40 C.F.R. § 122.4(i)(1).) The new discharge must be consistent with the TMDL. This can be accomplished either by allowance for new sources (e.g., growth) as an assumption of the TMDL at the time of adoption, or by adjusting the allocations in the TMDL to allow for the new source. If the U.S. Environmental Protection Agency has adopted a "new source performance standard," the permit must require compliance with that standard. (40 C.F.R. § 122.44(a)(1).) CEQA review will also apply to NPDES permits for new sources for which there is a new source performance standard. (Wat. Code, § 13389.)

To avoid a claim that an NPDES permit utilizing offsets is inconsistent with a TMDL, if any such mechanisms are contemplated, a regional water board should consider incorporating pertinent details of the offset or market-based provisions into the TMDL implementation plan. Identifying the mechanisms in a program of implementation will allow for (1) rigorous consideration by all stakeholders, (2) identification of the parameters for using an offset or market-based program, and (3) clear legal authority for subsequent permitting actions that rely on offsets or market-based provisions. Alternatively, if sufficient details of offset or market approaches are not known at the time the implementation plan is adopted, a regional water board could retain some flexibility in translating waste load allocations (WLAs) into effluent limitations by including a provision like the following in the implementation plan:

> While individual WQBELs must be consistent with the assumptions and requirements of the available waste load allocations, load allocations, and the TMDL, individual WQBELs need not be equivalent to corresponding allocations as long as the cumulative effect of all WQBELs assures attainment of water quality standards as quantified by the TMDL. (33 U.S.C. § 1313(d)(4)(A); 40 C.F.R. § 122.44(d)(1)(vii)(B).) As such, offsets or other similar mechanisms will be an option available to dischargers to help them achieve their assigned waste load allocations.

Failure to include this language would not preclude flexibility in implementation. However, given the public-participation requirements, the better practice would be to minimize surprises by disclosing in the TMDL's implementation plan that the regional water board may employ alternative attainment mechanisms such as offsets. It will also afford a regional water board greater certainty and legal protection when implementing the offset or market-based program in future permitting actions.

TMDLs can recognize and incorporate offsets or trading mechanisms that address nonpoint source discharges

TMDLs must identify and assign allocations to all sources of pollution, including load allocations to nonpoint sources and other non-NPDES discharges. (40 C.F.R. § 130.2(i).) In appropriate circumstances (e.g., where load reductions can be calculated and enforced), offsets may be credited to nonpoint source abatement. The TMDLs, therefore, may provide that nonpoint sources can be candidates to offset discharges from point sources, in addition to or apart from other point-source abatement. Federal regulations explicitly authorize such tradeoffs: "If Best Management Practices (BMPs) or other nonpoint source pollution controls make more stringent load allocations practicable, then wasteload allocations can be made less stringent. Thus, the TMDL process provides for nonpoint source control tradeoffs." (40 C.F.R. § 130.2(i).)

Since the Clean Water Act does not directly regulate nonpoint sources, these discharges are subject primarily to state law restrictions. California's primary mechanism to protect water quality from impacts associated with non-NPDES discharges is through the issuance or conditional waiver of waste discharge requirements (WDRs) under Water Code sections 13263 and 13269. The extent to which offsets are available in this context is derived from the State's authority to issue WDRs generally.

> The requirements [for waste discharge] shall implement any relevant water quality control plans that have been adopted, and shall take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, the need to prevent nuisance, and the provisions of Section 13241 [identifying considerations in establishing water quality objectives].

(Wat. Code, § 13263, subd. (a).) Water Code section 13241 in turn requires consideration of, among other things, "[w]ater quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area." (Wat. Code, § 13241 subd. (c).) A basin plan must also include a program of implementation for achieving water quality objectives. (Wat. Code, § 13050, subd. (j)(3).)

For non-NPDES discharges, the Water Code generally does not dictate specific effluent limits. Instead, the focus is on implementing any relevant water quality control plan—this includes not only the water quality objectives but also the accompanying program of implementation. In fact, the general regulatory scheme provides flexibility to dischargers in choosing the methods they will implement to meet the requirements of the Porter-Cologne Act. (See, e.g., Wat. Code, § 13360 [preventing the water boards from specifying the manner of compliance].) Offsets can provide flexibility; they allow dischargers to implement waste-reduction strategies that are most

cost-effective and help to attain the required quality of the water body consistent with the basin plan.

Since the basin plans identify beneficial uses and water quality objectives necessary to protect beneficial uses, any non-NPDES WDRs issued must be protective of those uses and meet water quality objectives. Notably, a regional water board (1) is not required to allow the use of the full waste assimilation capacities of the receiving waters and (2) is authorized to use time schedules for compliance. (Wat. Code, § 13263, subds. (b)-(c).) These authorities demonstrate flexibility that a regional water board may exercise in attaining and maintaining the quality of the State's waters.

Traditionally, California's nonpoint sources have been regulated through general WDRs or conditional waivers of WDRs. In its Nonpoint Source Management Plan, the State specifies the control of nonpoint source pollution through voluntary BMP implementation, conditional waivers of WDRs, WDRs, or basin plan prohibitions. The most common and widely used means of regulating nonpoint sources is the conditional waiver of WDRs. Conditional waivers of WDRs are subject to the restriction that "that the waiver is consistent with any applicable state or regional water quality control plan and is in the public interest." (Wat. Code, § 13269, subd. (a).) If a TMDL and associated implementation plan is in place, and thus is part of the basin plan, and if it calls for offsets or trading, then an offset consistent with the TMDL's implementation plan would by definition be consistent with the basin plan.

Participation in an offset program that is part of a water quality attainment strategy (such as a TMDL) could be a proper condition upon which WDRs could be waived. Since the offset is part of a water quality attainment strategy, a regional water board could find that the waiver with the offset would be in the public interest. Notably, the authority to waive WDRs is qualified by the provision that a regional water board must "require compliance with the conditions pursuant to which waivers are granted. . . ." (Wat. Code, § 13269, subd. (e).) It would also be permissible to incorporate an offset as a condition in WDRs themselves, for the same purposes as set forth above. This does not mean that offsets would be required. Offsets would be one manner in which a discharger could choose to comply with its requirements.

CONCLUSION

The use of offsets, pollutant trading, or other market-based mechanisms to supplement water quality regulation in impaired waters is appropriate when implemented in the context of a TMDL. In fact, a TMDL provides a framework for substantial flexibility to achieve water quality standards through innovative offset, pollutant trading, or other market-based mechanisms.

Should you have any questions about this memorandum, please contact me at 341-5150, or Senior Staff Counsel Steven H. Blum at 341-5177 or sblum@waterboards.ca.gov.

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