



# COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY

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File No. 31-370-40.4A

**Construction General  
Permit - Stormwater  
Deadline: 5/4/07 5pm**



Ms. Song Her, Clerk to the Board  
State Water Resources Control Board  
P.O. Box 100  
Sacramento, CA 92812-0100

Dear Ms. Irvin:

**County Sanitation Districts of Los Angeles County's Comments Relating  
to the Preliminary Draft NPDES General Permit for  
Discharges of Storm Water Associated with Construction Activity (General Permit)**

The County Sanitation Districts of Los Angeles County (Districts)<sup>1</sup> thank the State Water Resources Control Board (SWRCB) for the opportunity to submit comments on the Preliminary Draft NPDES General Permit for Discharges of Storm Water Associated with Construction Activity (General Permit). The Districts are a confederation of special districts, which operate and maintain regional wastewater and solid waste management systems for approximately 5 million people who reside in 78 cities and unincorporated areas in Los Angeles County. The Districts operate 11 wastewater treatment plants and six landfills, a refuse-to-energy facility and three materials recovery/transfer facilities. In addition to these facilities, the Districts also are responsible for maintaining approximately 1,300 miles of sewer lines, which convey flows from industries and municipalities within our service areas to our wastewater treatment plants. The purpose of this letter is to express the Districts' concern regarding the impact of the proposed General Permit on construction activities associated with these facilities. The Districts most significant concerns are with the following:

- Numeric Effluent Limits
- Action Levels
- Sediment Transport Risk Approach
- Public Review Period
- Hydromodification
- Phase-in for Existing Projects

Our detailed comments on these and other issues are presented below.

<sup>1</sup> The Districts are County Sanitation District Nos. 1, 2, 3, 5, 8, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 28, 29, 34, Santa Clarita Valley Sanitation District, and the South Bay Cities Sanitation Districts of Los Angeles County. The ownership and operation of the Solid Waste System is proportionally shared among the signatory parties to the Districts' Solid Waste Management System Agreement effective February 21, 1996.

**1. It is premature to incorporate Numeric Effluent Limits into the General Permit.**

The General Permit proposes technology based numeric effluent limits (TBELs) for pH, turbidity, and toxicity (page 11, Fact Sheet page 9). Although the Districts understand that the State Water Board is trying to improve accountability and ensure that water quality will be improved, the use of numeric limits is premature at this time. For the reasons discussed below, the Districts is opposed to including "numeric effluent limits (NELs)," even if limited only to situations where active treatment systems (ATS) are in place. In addition, the General Permit fact sheet does not provide the technical foundation or references to justify NELs for pH or those set for the ATS.

- **It has not been demonstrated that TBELs are necessary, especially in light of the enhancement of the General Permit with the use of Action Levels.**

Although the report entitled, "The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial, and Construction Activities," (Blue Ribbon Panel Report), June 2006 stated that active treatment technologies make numeric limits technically feasible, they also noted that "Whether the use of Numeric Limits is prudent, practical, or necessary to more effectively achieve nonpoint pollution control is a separate question that needs to be answered, but is outside of the scope of this Panel" (page 15).

Thus, the Blue Ribbon Panel did not determine whether the use of TBELs was "practical, prudent, or necessary" at this time. However, State Board staff seem to have determined that TBELs are necessary without the supporting technical justification and without the time necessary to determine if ALs will be effective.

Page 20 of the Fact Sheet identifies that selected TBELs will be used to supplement the AL approach and that "...this will allow for lessons learned about how both the NEL and AL approach work. If the AL approach does not work well, an NEL approach can be considered. Second, using a few NELs will create an incentive for dischargers to make the AL approach work." This suggests that staff are not really sure how effective the NELs will be, but that they will encourage the dischargers to accept the Action Levels (ALs). Since the dischargers will have to expend significant resources trying to comply with the TBELs and face fines if they are unable to comply, the supporting rationale and technical justification for the inclusion of the TBELs within the General Permit must be more robust and technically sound. In addition, this type of rationale (*i.e.* "let's try it and see if it works") should not form the basis of the regulatory approach for this General Permit, especially given the significance of such a regulatory shift.

Lastly, TBELs should not be considered "necessary" unless State Board staff have determined that ALs, which are a significant enhancement to the General Permit, have not been effective and additional regulatory requirements are necessary.

- **Before technology based numeric effluent limits can be appropriately derived and incorporated into storm water permits, the processes to derive the limits must be fully developed and incorporate a scientifically sound and defensible methodology similar to what EPA uses when they develop TBELs.**

If the State Board deems that TBELs are appropriate for regulating storm water discharges for construction sites, then the State Board needs to develop the TBELs following a similar process used by USEPA when developing national technology-based effluent guidelines and should consider those concerns/issues posed by the Blue Ribbon Panel. Any proposed TBELs should be developed based on scientifically developed protocols and data gathering programs.

However, the TBELs were not developed with a defined process such as the EPA methods that account for a number of considerations including specific industry information, technology assessment, regulatory options, and economics. In addition, based on the EPA methods, there is

currently not enough information to derive appropriate numeric effluent limits for construction dischargers.

As a result, the Districts recommend that the regulatory approach for the General Permit continue to be based on the BMP-based approach (enhanced with the use of Action Levels) to improve the quality of stormwater discharges from construction sites

**2. Action Levels are supported within the General Permit if they are defined consistent with the Blue Ribbon Panel Report and derived in accordance with that definition**

The General Permit proposes ALs for pH, turbidity, and TPH. However, consistent with the Blue Ribbon Panel Report, the Districts supports the use of ALs that identify upset conditions.

- **Definition Should Reflect Blue Ribbon Panel Definition**

The AL definition within the General Permit is inconsistent with the Blue Ribbon Panel Report.

On page 8 the Blue Ribbon Panel Report identified an Action Level as an "upset" value that is clearly above the normal observed variability and is an interim approach that would allow the identification of "bad actors" to receive additional attention. However, the General Permit defines AL as (page 32) "The Action Level is used to determine if best management practices are effective; it is not an effluent limit." Therefore, the definition needs to be revised so that the ALs reflect "upset" values.

- **The ALs need to be derived to reflect "upset values"**

Consistent with the above comment, the ALs need to be recalculated so that they represent an upset value and, when recalculating them, the Districts recommends that the State Board use a consistent methodology. Lastly, since this is a State-wide permit, the Districts recommend that additional data, representing construction projects from all regions of the state be used.

**3. The Action Levels should be revised in accordance with the definition and qualified to be consistent with the Blue Ribbon Panel Report.**

- pH and Turbidity - While pH and turbidity are appropriate for measuring common construction site pollutants and enable the use of field meters to make in-field assessment, the proposed pH AL (outside 6.6-8.5 pH units) does not take into account background variability and soil chemistry, and one standard deviation is not adequate to identify a statistical outlier. The Districts recommends that the pH and turbidity ALs be revised to identify upset values and take into account the concerns that the Blue Ribbon Panel identified.
- TPH - The use of TPH as an AL does not have the same degree of suitability as pH and turbidity, especially since it requires the use of an analytical laboratory which means results may not be available for several days after sample submission. As a result, this parameter does not allow for timely feedback into the construction process that is achieved by pH and turbidity measurements. Therefore, the Districts recommends that the TPH AL be deleted from the General Permit

The Districts also recommend that the General Permit recognize that, given the uncertainty regarding the achievability of the ALs, that they are subject to change based on additional field data that is gathered during the permit term.

**4. The General Permit does not address the concerns identified within the Blue Ribbon Panel Report.**

While the Blue Ribbon Panel Report concluded that NELs and/or ALs are technically feasible for construction storm water discharges, the conclusion was conditioned upon the State Board applying the NELs and ALs in accordance with the panel's recommendations. However, the General Permit and fact sheet do not address many of the issues/concerns raised by the Panel including:

- The use of active treatment systems may be more cost-effective for larger construction sites (> 5 acres) while the Blue Ribbon Panel Report found that numeric effluent limitations are technically

feasible when ATS is implemented, they also identified that ATS has only been implemented at larger construction sites (Panel Report page 15). For this reason, the Panel Report concluded that “technical practicalities and cost-effectiveness may make these technologies less feasible for smaller sites, including small drainages within a large site, as these technologies have seen limited use at small construction sites.” This concern was not raised in the General Permit’s findings, and was not accounted for in Sections IV. (Effluent Limitations) and Section IX.G. (requirement for ALS based on soil type, not size of construction site).

- NELs and ALs may need to be different for water quality limited water bodies for sediment and turbidity - The Blue Ribbon Panel Report recommended that the State Board “set different Action Levels that consider the site’s climate region, soil condition, and slopes, and natural background conditions (e.g., vegetative cover) as appropriate and as data is available,” noting that the “one size fits all” approach may pose detrimental water quality impacts (“active treatment systems could result in turbidity and TSS levels well below natural levels, which can also be a problem for receiving waters”). Again, these issues were not discussed in the findings, and were not incorporated into the General Permit.
- A design storm should be established for NELs and ALs - The Panel Report recommended that numeric limits and Action Levels not apply to storms of unusual event size and/or pattern (e.g., flood events). However, the General Permit and Fact Sheet do not address the need to establish a design storm. In fact, Finding 11 (page 4) states “This General Permit includes a NEL for pH because it is feasible, regardless of storm size event, for the discharger to isolate, contain and, if necessary, treat storm water that comes into contact with any of these construction materials”.

#### **5. The General NPDES Permit should apply only to discharges to waters of the United States.**

Since the General Permit is an NPDES permit issued pursuant to the federal Clean Water Act, violation of which is civilly and criminally enforceable under the Clean Water Act and state laws implementing the Clean Water Act, as well as by third parties under the citizen suit provision of the Clean Water Act, the District requests that the “**water of the state**” language in the General Permit (e.g., in Attachment F, Question 1) be changed to “**water of the United States**.” If the State Board is intending to also cover discharges to waters of the “state,” the Districts request that the State Board issue two separate permits (one an NPDES permit applicable to discharges to “waters of the United States”, and one a Waste Discharge Requirement (WDR) applicable to discharges solely to “waters of the state”) so that discharges solely to waters of the state do not inappropriately become subject to, and enforceable by, the federal Clean Water Act.

#### **6. The risk-based approach, while supportable in concept, will be ineffective if, as proposed, most projects are deemed medium or high risk.**

The Sediment Transport Risk Worksheet is intended to identify whether storm water runoff from a site with construction activity is either a “low,” “medium,” or “high” risk. Storm water that falls into the “medium” or “high” categories is subjected to more stringent requirements. Based on State Board staff’s statements at the public workshops, the State Board has indicated that most construction activity will fall under the low or medium risk category. The worksheet point system, however, appears to be skewed toward making very few sites qualify as low risk.<sup>2</sup> This coupled with the predominance of fine-grained materials in the alluvial valleys of southern California will likely result in most of the Districts’ construction sites being categorized as high risk sites despite the fact that many will likely not constitute a significant threat to receiving water quality as long as BMPs are implemented.

The point system should be modified to either eliminate or significantly reduce the points for discharge to surface waters since an NPDES permit would not be necessary if there were no discharge to surface waters. The system should also be modified for sewer construction projects where excavation and grading is limited to

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<sup>2</sup> To qualify as a low risk, the permittee must possess a score of equal to or less than 100. However, any project of greater than 5 acres (assigned 50 points) which discharges to surface waters (another 50 points) is likely going to amass at least an additional point and be classified as at least a medium risk project.

a trench in an existing paved area, and all excavated soils are temporarily stockpiled prior to return to the trench. In particular, the calculation should allow credit for limiting the size of excavation at any one time, implementation of BMPs that minimize exposure and runoff, time of year that construction is taking place, and whether the project is designed to detain runoff during construction.

The Districts also question the use of Natural Resources Conservation Service (NRCS) data for determining risk. NRCS soil data is generally fairly general and does not have enough detail to reflect the spatial variability in soil types at most sites. The NRCS website acknowledges this fact stating "...these maps are suited for general information exploration and are not intended for site-specific investigations."

#### **7. The proper venue for public review is at the permit issuance stage, not after submittal of individual PRDs.**

The General Permit includes, at Section XIII.2. (entitled "Regional Water Quality Control Board Authorities"), a single reference<sup>3</sup> to a 90-day public review and comment period applicable to the Permit Registration Documents (PRDs) submitted to the State Board, which include the Notice of Intent (NOI), Storm Water Pollution Prevention Plan (SWPPP), and SWPPP Compliance Checklist. No further explanation of the 90-day public review and comment period is included in either the General Permit or the accompanying Fact Sheet. No details are provided as to what the 90-day public review period is (*e.g.*, is acceptance of the PRDs by the State Board withheld until this period concludes without comments, or the comments have been addressed?), the action triggering the commencement of the review period (*e.g.*, submission of the PRDs? permit fee received? PRDs accepted by the State Board?), the time by which the appropriate regional board must respond to comments, or what construction activities may or may not proceed during the review period (*e.g.*, are permittees expected not to commence construction activities until after the public review and comment period closes, or risk costly project interruption and/or potential modification?).

After successfully obtaining all project approvals and complying with CEQA (or withstanding CEQA challenges), and presumably after construction has commenced, the new 90-day public review period authorizes wholly new challenges to a project that may last for months, if not longer, after the submission of PRDs. Notwithstanding the questionable necessity of the 90-day public review and comment period, as discussed below, the practical implications are significant, and include: (1) the creation of a new forum to challenge a project; (2) the potential for redesign of projects and reduction in project size; (3) the potential for increased administrative and construction costs after financial commitments and budgets are set; (4) increased risks and uncertainty associated with potential challenges; (5) increased carrying costs during project delays; and (6) overall project delays, which may be especially problematic if construction schedules are proceeding pursuant to separately imposed waste discharge requirements, NPDES permits, or related enforcement orders (*e.g.*, time schedule or cease and desist orders).<sup>4</sup>

The General Permit also mentions the actions a regional board may take based on comments received and/or based on its own independent review, which include "rescinding permit coverage, requiring public hearings or formal regional board permit approvals, requesting dischargers to revise their SWPPP and Monitoring Programs within a specified time period, or take no action." See Preliminary Draft Construction General Permit at section XIII.2. Reference to these actions raise numerous additional questions. For example, with respect to rescinding permit coverage, will rescission be immediate? Is a hearing required? Without a well-defined process for public review and regional board action, the public review and comment period is vague and uncertain, and presents a substantial administrative burden to prospective permittees.

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<sup>3</sup> This single reference states that regional boards "shall review comments provided from the public on a new permit application within the 90-day public review period."

<sup>4</sup> The Fact Sheet does not include the 90-day public review and comment period in the summary of significant changes to the Preliminary Draft Construction General Permit. See Fact Sheet at Section I.D. The Districts can only conclude that the State Board does not yet recognize the substantial burden a 90-day public review and comment period would place on existing and/or prospective permittee's.

The Districts also question the genesis of the 90-day public review and comment period, and believe that no additional public review and comment period is necessary for the PRDs for the following reasons: (1) neither the Clean Water Act, the Porter-Cologne Water Quality Control Act, nor caselaw require an additional public review and comment period for PRDs where the General Permit that requires submission of PRDs contains prescriptive requirements and detailed management practices, and PRDs are submitted simply to demonstrate compliance; and (2) the General Permit is already subject to lengthy public review and comment, beyond that prescribed by law.

As to the Districts' first point, the State Board appears to concur with the Districts' position, stating in the Fact Sheet:

"The rulings by the Ninth and Second Circuits were based on the minimal permitting requirements contained in USEPA's regulations for Phase II storm water and CAFO discharges, and the fact that permittees essentially 'wrote their own permits' in the associated management plans. ***This General Permit has many more specific requirements than the minimum requirements in USEPA's regulation. It includes action levels (ALs), numeric effluent limitations (NELs), and very detailed management practices. The SWPPPs are much more limited, and are meant to demonstrate compliance with the detailed permit requirements.*** Thus, it cannot be said that dischargers subject to this General Permit 'write their own permits.' ... Finally, neither of these court cases is directly applicable to states who implement the USEPA regulations. Rather, they are directed at USEPA who must revise its regulations."

See Fact Sheet at section I.B.3. The two cases the State Board references are federal Courts of Appeals decisions, *Environmental Defense v. U.S. EPA*, 344 F.3d 832 (9th Cir. 2003) (holding that NOIs submitted under EPA's Phase II general permitting regulations for small MS4s and construction discharges from one to five acre projects are subject to public review and public hearing provisions of the Clean Water Act because the regulations defer the establishment of substantive permit requirements to the SWPPPs submitted with the NOIs) and *WaterKeeper Alliance v. U.S. EPA.*, 399 F.3d 486 (2d Cir. 2005) (holding that nutrient management plans submitted under EPA's regulation of confined animal feeding operations are subject to public review and public hearing provisions of the Clean Water Act). However, as the Fact Sheet observed, those two cases addressed instances in which the regulated entities "wrote their own permits," whereas the General Permit in this case contains numerous specific requirements, and the SWPPPs are simply meant to "demonstrate compliance with the detailed permit requirements." *Id.*

In 2005, the Seventh Circuit Court of Appeals specifically addressed the issue of public participation with regard to NOIs and SWPPPs submitted under the EPA's construction general permit. See *Texas Ind. Prod. & Royalty Owners Assn. v. EPA*, 410 F.3d 964 (7th Cir. 2005). In that case, the court upheld EPA's interpretation that NOIs and SWPPPs are not "permits" or "permit applications" and, therefore, not subject to the public participation requirements of the Clean Water Act. See *Texas Ind. Prod.*, 410 F.3d at 978. The Seventh Circuit noted the Ninth Circuit's holding in *Environmental Defense Center*, and stated that, "the statutory language at issue addresses only "permit applications" and fails to include any mention of NOIs, SWPPPs, or other so-called 'functional equivalents.'" *Id.*

As to the Districts' second point, pursuant to section 1342 of the Clean Water Act (33 U.S.C. §1342), 40 C.F.R. Part 124, and Cal. Water Code sections 13167.5 and 13384, the State Board's issuance of the General Permit is already the subject of a lengthy public review and comment period process (in fact, these comments are being submitted as part of the "preliminary" process, the formal adoption process has not yet commenced). The proper venue for public participation is at the permit issuance stage, not after submittal of individual PRDs. See *Texas Ind. Producers*, *supra*. Furthermore, the regional boards already have the authority to review SWPPPs (and to respond to any request by a member of the public to review a SWPPP), require revisions to SWPPPs, conduct compliance inspections, and take enforcement action. The Clean Water Act also allows any member of the public to file a citizen suit for alleged violation of the permit. See 33 U.S.C. §1365. For these reasons, the proposed additional layer of public review and comment of PRDs is unnecessary, and should be removed.

The additional layer of review would also place a significant burden upon the regional boards to review and approve multiple elements of the General Permit and at the same time may impact the dischargers ability to proceed with construction. There are many elements that must be reviewed and/or approved by the regional boards including:

- Permit Registration Documents (PRDs) - PRDs must be "accepted" by the regional boards (page 12)
- Post PRDs for 90 day public review, respond to public review comments and provide direction to dischargers (page 30)
- Review and approve supplemental Active Treatment System (ATS) reports prior to discharge (page 19)
- Discharger shall obtain regional board approval for the use of any structural control measures used to comply with the new development/re-development requirements (page 24)

If the regional boards are unable to provide sufficient staffing to accommodate the number of construction projects and resulting reviews and approvals, significant economic impacts will occur to both public and private entities as a result of project delays.

Given that no federal or state statute requires the additional public review and comment process, the inapplicability of the Ninth and Second Circuit decisions, and the existence of caselaw on point, stating specifically that the public participation requirements do not apply to NOIs and SWPPPs, the Districts believe the 90-day public review and comment process is unnecessary and burdensome, and should be removed. If the State Board continues to require a public review and comment period for the PRDs, the State Board should lessen the number of days provided for public review and comment to no later than thirty (30) days from submission of the PRDs (consistent with Water Code section 13167.5 and 40 C.F.R. Part 124), and should more carefully define the requirements and procedures for such a process (*e.g.*, maximum time period by which a regional board must respond after receiving a comment, and if no response provided, permittee deemed covered by the General Permit and can proceed). Moreover, the language should be clarified to allow construction to proceed once all the required documentation is submitted, with the condition similar to the Order 99-08-DWQ that an adequate SWPPP has been developed, certified, and implemented.

**8. The receiving water limitations should be modified to be consistent with the general requirements of Basin Plans.**

The General Permit imposes seven (7) Receiving Water Limitations (RWLs), two of which apply only to medium and high risk construction projects, or projects employing ATS. *See* RWLs at Section VI.1 – 7. These two limitations contain pH requirements that are inconsistent with most Basin Plans. Further, any specific limitation concerning pH would be redundant with requirements in RWL 2, which state that the discharge shall not cause or contribute to an exceedance of any applicable water quality objectives.

**9. Hydromodification should be addressed during the project planning phase of a project rather than in the construction phase.**

The Districts appreciate the concern of the State Board with respect to hydromodification and sustainability but believe the General Permit is the wrong forum to address it. The major tenets of the General Permit address water quality concerns via specific SWPPP requirements, BMPs and sampling and monitoring requirements. However, the General Permit attempts to address water quantity using narrative requirements for new development. Other regulatory mechanisms such as Phase I and Phase II MS4 permits, CEQA planning, and other local plan and development approvals are all more appropriate means of regulating these impacts. They have the further advantage of addressing these issues in the planning phase, rather than the construction and post-construction phases.

In some cases conflicting regulatory requirements will make it difficult, if not impossible, to comply with the hydromodification requirements of the General Permit. Construction of lined reservoirs, as required for certain of the Districts' outlying treatment plants will not increase runoff (storm water will be retained in the reservoirs), but will alter percolation (no percolation will occur in the reservoir footprint) and natural

ephemeral watercourses that may be considered first order streams. Alteration of adjacent property to increase percolation and offset these effects may be impractical due to land availability or other factors. CEQA and other planning regulations can take these and other considerations that are beyond the scope of this permit, into consideration.

**10. The standard provisions should be modified to reflect discharges from construction sites.**

The General Permit includes "Standard Provisions for All NPDES Permits" in Attachment B. The Standard Provisions appear to be the same standard provisions used in the State Board's Permit Template for individually issued NPDES permits regulating municipal and industrial wastewater discharges. For this reason, some of the provisions are awkwardly out of place (e.g., references to managing and disposing of "sewage sludge" in several provisions) or inapplicable to the storm water discharges sought to be regulated by the General Permit. The Districts suggest that the following provisions be deleted or modified:

- a. I.A.2.: remove "...standards for sewage sludge use or disposal under Section 405(d) of the CWA..."
- b. I.C.: remove "... or sludge use or disposal..."
- c. II.B.: eliminate the "Duty to Reapply" section, or modify the section to more appropriately address the general permitting scenario.
- d. III.B.: remove "...or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503..."
- e. IV.A.: remove "Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by Part 503),..."
- f. V.C.2.: remove "...or forms provided or specified by the Regional Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices."
- g. V.C.3.: remove "...or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503..."
- h. VII.A.: eliminate the "Non-Municipal Facilities" section, or modify the section to reflect that Reports of Waste Discharge are not submitted under the Preliminary Draft Construction General Permit.

**11. The General Permit should clarify that landfill construction is to be covered under the General Industrial Permit, not the Construction Permit.**

The Fact Sheet, page 16, states that "landfill construction is subject to the General Industrial permit" is not covered. However, the General Permit itself, in defining projects not covered (pages 8-9), does not include this exemption. The Districts request that this exemption be specified in the General Permit.

**12. Toxicity limits and testing requirements should be removed from the General Permit.**

In addition to issues brought forth above regarding the inappropriateness of inclusion of NEL's in the General Permit, the Districts request significant changes be made in Section IV, Effluent Limitations, part 4, to make it consistent with USEPA toxicity testing requirements. The Districts also suggest that the NELs be replaced with narrative requirements that trigger toxicity investigations (essentially ALs) until more data can be developed to determine if dischargers are able to comply with the toxicity standard and identify the source of toxicity.

The USEPA defines the functions of toxicity testing for monitoring purposes is to 1) identify the existence of toxicity, 2) identify sources of toxicity and 3) eventually identify the toxicity-causing constituent(s) so that pollution control can be conducted.<sup>5</sup> The toxicity testing required in the General Permit will likely not effectively accomplish any of these objectives as currently written.

*Numeric Effluent Limits (NELs) for toxicity are inappropriate.*

Contrary to the misconception that numeric limits “will assure the protection of water quality,” NELs for toxicity are inappropriate to protect water quality within the State. Instead, the use of narrative limits with prescriptive accelerated monitoring and toxicity reduction evaluation (TRE) triggers should be required. Since toxicity is a characteristic and not a chemical constituent, its unique properties limit the functionality of numeric limits. Additionally, because the cause of toxicity often cannot be determined without follow-up investigations, establishment of NELs will not assist the discharger in determining what chemical(s) need to be removed and/or reduced at the construction site or how to effectively modify the ATS to avoid failing a toxicity test. An appropriate alternative is to require a step-wise approach using accelerated testing and TRE triggers consistent with guidance from the USEPA at both the national<sup>6</sup> and regional<sup>7</sup> levels and a national expert advisory panel<sup>8</sup> funded by USEPA, and the State Water Resources Control Board Toxicity Task Force<sup>9</sup> specifically assembled to provide guidance on the regulatory use of toxicity tests within the State. The stepwise approach is also consistent with the WDRs for many of the Districts’ water reclamation plants adopted by the Los Angeles Regional Water Quality Control Board.

*Hypothesis testing for toxicity tests is inappropriate and inadequate.*

The toxicity testing methodology in the General Permit will place the discharger in potential noncompliance due to the high percentage of false positive results which are inherent to the method. A false positive determination, or “Type I” error, is defined as the identification of a statistically significant difference between the control and test group(s) when in fact no difference exists. In the case of toxicity testing, a false positive determination occurs when toxicity is identified where no toxicity is present. In the General Permit, it is stated to use a t-test for acute toxicity and a NOEC determination for chronic toxicity, which are both conducted by using hypothesis testing. The probability of committing a false positive determination when using hypothesis testing is empirically set in the promulgated protocols at 5% ( $\alpha = 0.05$ ), which correlates to 1 in 20 non-toxic samples being erroneously identified as being toxic. Thus, the use of NELs would cause a false-positive determination of non-compliance. In essence, the discharger is likely to exceed numeric toxicity limits and be labeled a toxic polluter 5% of the time even if the discharge is non-toxic. This problem becomes more serious when considering the evidence indicating that the actual false positive rate of some biological endpoints may be much higher than the theoretical 5% assigned to the hypothesis test design. For example, false positive rates exceeding 40% for the reproduction endpoint of the *Ceriodaphnia dubia* test have been published in a peer-reviewed journal.<sup>10</sup>

Recognizing the shortcomings of hypothesis testing, USEPA method protocols recommend against the use of hypothesis testing for NPDES compliance: “For the NPDES permit program, the point estimation techniques are the preferred statistical methods in calculating endpoint points for effluent toxicity tests.”<sup>11,12</sup> Further recommendations that false positives can be significantly reduced by using point-estimation to analyze

<sup>5</sup> USEPA. 1991. Technical Support Document for Water Quality-based Toxics Control (USEPA TSD). EPA/505/2-90-001.

<sup>6</sup> USEPA TSD (1991).

<sup>7</sup> Regions 9 and 10 Guidance for Implementing Whole Effluent Toxicity Testing Programs, U.S. EPA, May 31, 1996, pp. 2-1, 4-1, and 5-2.

<sup>8</sup> Society of Environmental Toxicology and Chemistry and WET Expert Advisory Panels, <http://www.setac.org/wettre.html>, Sections 1 and 4.

<sup>9</sup> Memo to Members of the State Water Resources Control Board from the Toxicity Task Force, September 27, 1995. Recommendations 2, 5, 9, and 10.

<sup>10</sup> T.F. Moore, S.P. Canton, and M. Grimes. 2000. Investigating the incidence of Type I errors for chronic whole effluent toxicity testing using *Ceriodaphnia dubia*. *Environmental Toxicology and Chemistry* 19 (1):118-122.

<sup>11</sup> USEPA. 2002. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. Fourth Edition. EPA-821-R-02-013.

<sup>12</sup> USEPA. 2002. Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms. Fifth Edition. USEPA-821-R-02-012.

toxicity data can be found in the USEPA Whole Effluent Toxicity (WET) final rule<sup>13</sup> and the Technical Support Document (USEPA TSD).<sup>14</sup> Point estimate techniques for toxicity analyses will not prevent all false positive determinations, but could greatly reduce their occurrence, and should be utilized instead of hypothesis tests as recommended by USEPA.

For acute testing, the USEPA recommends the use of a 48-hour LC50 (concentration of test sample that causes a lethal effect on 50% of the species population after 48 hours). Many NPDES permits issued in the State use an alternative point estimate of the percent survival of the species in the undiluted test sample. In this case, a numeric acute toxicity trigger should be specified as a multi-test average not to fall below 90% survival in 100% effluent.

For chronic testing, the USEPA recommends the use of point estimates. An appropriate point estimate threshold for the lethal endpoint would be an LC50. For the sub-lethal endpoint, the point estimation technique would need to be species/method specific and rely on the effect that the test sample has on the test species as compared to the control sample. For example, using the *Ceriodaphnia dubia* species, a minimum 47% effect from the undiluted test sample on the reproduction endpoint would trigger further toxicity testing<sup>15</sup>. Similarly, a minimum 30% effect from the test sample on the *Pimephales promelas* growth endpoint would trigger further toxicity testing<sup>16</sup>. If hypothesis testing was continued to be used, the numeric chronic toxicity trigger should be a multi-test median TUC not to exceed 1.0 TUC with the TUC calculated as 100 divided by the EC or IC25, where EC and IC25 values are derived from point estimate techniques. In the event that a trigger is exceeded, a TRE program could be initiated.

#### *Identifying the source of toxicity*

The General Permit as currently written requires that the discharger monitor for toxicity and by setting an NEL for it, effectively requires the discharger to eliminate toxicity to remain in compliance. There appears to be little available toxicity data related to stormwater discharges from ATS to reliably determine that compliance is achievable for dischargers. If toxicity is observed, identifying the source of toxicity will likely be problematic. Because no further monitoring or TRE is required upon determining an NEL exceedance occurred, the implication is that the chemicals used in the ATS are the source of toxicity. If the discharger determines there is toxicity in the discharge, the ATS can then be modified to eliminate it. On the other hand, if toxicity is the result of other contributors on the site that are not addressed by BMPs and the ATS, the discharger could be faced with continual non-compliance despite best faith efforts.

Identification of the source of toxicity at a construction site covered under the General Permit is likely to be unachievable in some cases. The purpose of a TRE is to investigate the causes of toxicity and to identify corrective actions for effluent toxicity (e.g., modify ATS and/or SWPPP to add protection from source toxic constituents, if appropriate). Within the TRE, toxicity identification evaluation (TIE) testing is conducted on samples suspected of being toxic. However, due to the inherent nature of a storm event, conventional TIE testing may be impractical or will need to be modified. Storm durations and intensity and hence ATS discharges can vary significantly and the toxicant, if present, will achieve peak levels and dramatically decrease during the storm's duration. If a TRE were to be triggered, additional sampling during the same storm event could miss the toxic constituent that has been washed away by the stormwater flow. Similarly, additional sampling from the next storm event could also result in samples without the same toxic constituent or confound testing with the presence of different constituents than previous detected. Another problem is encountered when the flow of the storm event is not sufficient to allow the collection of enough sample volume to conduct initial and follow-up toxicity tests. Until the regulated community gains experience regarding toxicity source identification and reduction associated with stormwater, it is premature to set NELs.

In summary, the Districts suggest that the General Permit be modified to require the discharger upon the determination of toxicity attempt to evaluate (TRE) and eliminate the source (by modification of the SWPPP

<sup>13</sup> Federal Register Vol. 67, No. 223; Tuesday, November 19, 2002.

<sup>14</sup> USEPA TSD (1991).

<sup>15</sup> Minimum Significant Difference (MSD) threshold level provided by the USEPA (EPA-821-R-02-013).

<sup>16</sup> MSD threshold level provided by the USEPA (EPA-821-R-02-013).

and/or ATS) to the maximum practicable extent but include a finding recognizing that source identification methods associated with stormwater dischargers may not be practicable at all times.

**13. The requirement for training should be deferred until the State Board has approved a training program.**

The Districts support the requirement for training and recognizes that the proposed General Permit will include this as a phased-in requirement, due to the lack of any established training program in the State at this time. The Districts would prefer to see the training requirements addressed more specifically after a training program is established. The proposed General Permit should consider including language that states the State Board's intention to fund or facilitate the development of a training program that will meet the State Board's approval, prior to including such a requirement in the General Permit. The State Board is encouraged to work with existing organizations, recognized by regulators and developers alike, such as CASQA, to develop a training and certification program.

**14. The phase-in period for existing projects should be longer than 90 days and should be dependent upon site acreage and other factors.**

The General Permit requires that projects covered under the existing General Permit come into compliance with the new General Permit within 90 days of adoption. The Districts recommend a longer phase-in schedule be incorporated into the General Permit. As a public agency, construction work as well as compliance with stormwater regulations is dictated by legal contracts between the licensed contractor and the agency. Compliance with the new General Permit will likely require changes in the SWPPP for the project which will be outside of the contract terms. Requirements for high risk sites will also require much more aggressive systems such as ATS be implemented. These will impact the timing and costs of the contract as well as potentially the contractor's entire worksite. The time and cost impacts to the contract will need to be evaluated, the contract modified, a revised SWPPP prepared and implemented all within 90 days which is not feasible. The Districts request the phase-in period be modified to a minimum of 180 days for sites of less than 5 acres and 240 days for larger sites. Furthermore, for those projects subject to other regulatory action from local agencies or CEQA compliance for land development changes, a year or more may be necessary.

**15. The General Permit should include a provision exempting emergency construction and maintenance projects.**

Although the Districts strive to maintain all its facilities in good working order and complete construction work in a proactive manner, emergency construction and maintenance needs do arise from time to time. Most of these will not be subject to the General Permit due to their relatively small size, but there is a potential for the need for General Permit coverage. Completing a SWPPP and seeking coverage under the General Permit will not be practical in an emergency situation. The Districts requests the State Board modify the General Permit to include a provision exempting emergency construction and maintenance projects as long as the project owner implements appropriate BMPs as the work progresses.

**16. The requirements for Active Treatment Systems should be limited to high risk projects adjacent to sensitive waters.**

Since the widespread use of ATS systems in California would be a significant new requirement and they are expensive, their use should either be limited to situations that truly constitute a high risk to water quality or the State Board should pilot test them in areas throughout the state to identify if they will achieve the intended environmental benefits commensurate with the costs. As discussed earlier in this letter, the need for ATS should be based on a variety of factors, not just soil particle size. One of the key factors should be whether runoff from the construction site will be discharged to a sensitive water body or to one that is impaired due to sediments. In addition, the State should ensure that there aren't unintended consequences that may result from their use such as potential toxicity concerns.

**17. Prior to developing the next draft of the General Permit, the State Board should provide the public and Board Members with an assessment of the estimated costs, economic impacts, and environmental benefits of the draft General Permit.**

The current General Permit appears to be based on an assumption that the costs associated with permit compliance will be relatively minor compared to the water quality benefits. But, no analysis has been done to support this assumption. Only with an accurate assessment of the costs, economic impacts, and water quality benefits can the State Board fulfill its duty to regulate so as to attain the highest water quality which is reasonable, considering economics and other public interest factors specified in Water Code 13000.

**18. The State Board should clarify the use of certain terminology in the next draft of the General Permit**

- The General Permit at Section VIII.B.2 requires that all "fill material" brought to a site shall be characterized using ASTM D-422. It is not clear in the General Permit how this information is to be used. In addition, the words "fill material" are not defined and are therefore open to a very broad interpretation. For instance, washed gravel, rip rap, bricks, concrete and asphalt used to form structures and pavement could all be considered "fill material". Further, potting soil used in planters could also be interpreted as "fill material". The Districts suggest that the words "fill material" be replaced with "soil used for structural fill".
- The General Permit at Section VIII.I.2.b requires clarification. The words "sanitation facilities" are not defined and could be interpreted to mean sewer lines, wastewater treatment plants, pump stations etc. The words "sanitation facilities" should be replaced with the words "portable toilets and urinals". There should not be any requirement that portable toilets and urinals be bermed, as long as they are water tight, serviced as needed, and secured. In some cases, it would be extremely impractical to berm portable toilets and urinals (e.g. for sewer slip-lining construction projects where all of the work occurs in a paved public street).
- The General Permit at Section VIII.I.4.b requires clarification. The words "landscape material" are not defined and could be interpreted to mean sod and plants. There should be no restriction regarding when sod and plants are used, since these very "landscape materials" will help to reduce suspended solids in runoff. As long as the contractor can adequately cover top soil or other types of "landscape materials" with sod, vegetation or other types of covers, there should be no restriction regarding the application of landscape materials except during actual rain events.
- The General Permit at Section XII.2.a requires clarification. The words "self-sustaining" are not defined and could be interpreted to mean that the vegetation can sustain itself without supplemental irrigation or care. If this is the case, only vegetation native to the particular region might be able to be "self-sustaining" for the construction site. If many regions, this could preclude all development that uses vegetation, since some native vegetation is prone to fires, and local fire codes require a minimum amount of offset for certain types of vegetation from structures. The words "The vegetative cover is self-sustaining and" should be deleted.

**19. Minor modifications proposed to The General Permit**

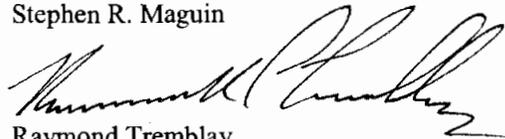
- The General Permit, at Section VIII.B requires that the percentage of particles less than .02 mm be determined using ASTM D-422. However, ASTM D-422 is only applicable for particle sizes greater than or equal to 0.075 mm. In order to determine the percentage of particles less than 0.02 mm, ASTM D-422 must be used in conjunction with ASTM D-1140.
- The citation in the General Permit at Section VIII.G.1 regarding source control procedures should be changed to "...described in Section VIII.H." from "...described in Section VIII.G"
- Regarding Section IX.F.2, the contractor may not have access rights to inspect and clean all access roads that receive storm water discharges from the project. Further, there may be days when construction activities and rain do not occur. Inspections should not be required on such days.

- The General Permit at Section VIII.H.1.e should be modified to allow for implementation of BMPs other than vegetated buffer strips. For example, it would be extremely impractical to use vegetated buffer strips for construction projects such as sewer slip-lining that occur entirely within a paved street.
- In Section IX.E.c.i.(b): the Survival and Reproduction Test Method 1002.0 refers only to using *Ceriodaphnia dubia* and not to the other species. This section should read: "The method to be used in the chronic toxicity testing shall be Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, USEPA-821-R-02-013" for Fathead minnow, *Pimephales promelas* or Rainbow trout, *Oncorhynchus mykiss* may be used as a substitute for fathead minnow, Daphnid, *Ceriodaphnia dubia*, and an algal species".

If you have any questions concerning this letter, please contact the undersigned at (562) 908-4288, extension 2801.

Yours very truly

Stephen R. Maguin



Raymond Tremblay  
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Monitoring Section

RT:FG:lmb

