Public Comment
Draft IGP
Deadline: 4/29/11 by 12 noon

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Chair Hoppin, and Members of the Board
State Water Resources Control Board
1001 I Street
Sacramento, CA 95814

Subject: Comment Letter -- Draft Industrial General Stormwater Permit

The Western States Petroleum Association (WSPA) is a non-profit trade association representing twenty-six companies that explore for, produce, refine, transport and market petroleum, petroleum products, natural gas and other energy supplies in California, Arizona, Nevada, Oregon, Washington and Hawaii.

WSPA is providing comments on the State Water Resources Control Board's (State Board) administrative draft Statewide General National Pollutant Discharge Elimination System (NPDES) Permit for the Discharge of Storm Water Associated with Industrial Activities issued for public comment on January 28, 2011 (draft IGP).

We appreciate the State Board's decision to make this preliminary version of the draft IGP, which is incomplete in several significant respects, available for early public comment on critical issues. We understand that the draft IGP will be revised in response to the initial round of public comments and re-noticed for further public comment before being considered by the State Board for adoption.

WSPA members operate hundreds of facilities in California, including petroleum refineries, bulk terminals, tank farms, oil and gas production fields, and pipeline distribution facilities which discharge storm water associated with these industrial operations. In most cases these discharges are covered by the existing Industrial General Permit (WQO No. 97-03-DWQ) which, consistent with the USEPA's Multi-Sector General Permit for Storm Water Discharges Associated with Industrial Sources (MSGP) and long-standing federal policy, requires the development and implementation of iterative Best Management Practices (BMPs) to minimize pollutants in storm water runoff.

In addition to our submittal, we support and endorse the comments submitted by the California Stormwater Quality Association (CASQA), including CASQA comments on design storm, the

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Storm Water Pollution Prevention Plan (SWPPP), and the Qualified SWPPP Developer and Practitioner and sampling/monitoring. We also incorporate by reference our previous comments to the State Board, dated February 18, 2005, regarding the previous public review draft of the IGP, which discussed the same issues relating to the infeasibility of establishing Numeric Effluent Limits (NELs) for storm water discharges and appropriateness of continued reliance on iterative BMPs.

Stormwater Must Be Regulated Differently than Traditional Point Sources

As the State Board has acknowledged in the past, storm water discharges are very different from traditional process wastewater discharges and cannot be regulated utilizing the technical guidance and other permit policies and procedures typically used to regulate non-storm water discharges. Unlike discharges of process water which tend to be relatively stable in their composition, volume, and flow, storm water discharges vary widely in their timing, duration, quantity, flow and in their background levels of contamination.

For this reason, USEPA and the State Board have consistently and repeatedly found that the development of NELs for storm water discharges is infeasible. The scientific predicate for these prior decisions remains unchanged. In fact the recent USEPA 2009 MSGP again uses the iterative BMP approach (described below). Accordingly, consistent with existing law, incorporation of iterative BMPs for an Industrial General Permit remains the most scientifically sound and legally proper approach.

However, the January 2011 preliminary version of the Draft IGP proposes a new Numeric Action Level (NAL)/Corrective Action scheme that imposes the NALs as enforceable NELs after iterative efforts to achieve the NALs have been unsuccessful. WSPA strongly opposes this NAL/NEL scheme and believes that adoption of the draft IGP in its present form would be arbitrary, capricious and unsupported by the record.

Necessary Data is Currently Unavailability

In the comments below, we describe the type and quality of data that the State Board's administrative record must contain in order to support development of defensible NALs and NELs. These data do not exist today. Consequently, as described below, WSPA recommends that until the appropriate data are collected and evaluated to develop appropriate NALs and NELs, the iterative BMP approach in the existing Industrial General Permit be incorporated into the draft permit and the NAL/NEL scheme be deleted.

As the State Board is well aware, having relied on the BMP approach in its prior Industrial General Permit, the NPDES regulations expressly authorize the use of BMPs when "numeric effluent limitations are infeasible." 40 C.F.R. 122.44(k)(3). As EPA emphasized when it adopted the first MSGP (see 65 Fed. Reg. 64746, 64759 (October 30, 2000)), this standard for imposing BMPs was recognized in Natural Resources Defense Council v. Costle, 568 F.2d 1369, 1380 and n. 21 (D.D.C. 1977):

> *"Congress did not regard numeric effluent limitations as the only permissible limitation on a discharge. . . . [W]hen numerical effluent limitations are infeasible, EPA may issue permits with conditions designed to reduce the level of effluent discharges to acceptable levels."*

The issue therefore turns on whether the calculation of NELs for storm water is a scientifically feasible or infeasible task. The evidence, repeatedly considered by both USEPA and the State Board, demonstrates that such calculation has been and remains infeasible.

The key point demanding recognition in considering the current Draft IGP's NAL/NEL scheme is that fundamental facts and data gaps which led both EPA and the State Board to rely on the BMP approach in previous storm water general permits have not changed. Storm flows exhibit highly variable flow rates and flow volumes (see Figure 1), and constituent concentrations in storm flows can vary by an order of magnitude or more on timescales of an hour or less (Buffleben et al. 2002; Flow Science Incorporated 2005; Yoon and Stein 2008).

Constituent concentrations can vary widely between storm events, at any given time between relatively closely located sites, and even at different times within individual storm events (Currier et al. 2006; Flow Science Incorporated 2008; Lee et al. 2004).

Both State Board staff and USEPA acknowledge the unique nature of storm water:

> *"Unlike continuous point source discharges (like from Publicly Owned Treatment Works), storm water discharges are variable in intensity and duration. The concentration of pollutants discharged at any one time is dependent on many complex variables."* (p. 26 of the Fact Sheet to the Draft IGP)

> *"Stormwater discharges can be highly intermittent, are usually characterized by very high flows occurring over relatively short time intervals, and carry a variety of pollutants whose source, nature and extent varies."* (p. 38 of the Fact Sheet to the 2008 MSGP)

Constituent concentrations in storm flows typically cannot be characterized using normal or log-normal statistical distributions, which are commonly used to develop effluent limitations for point-source discharges (National Research Council 2008; USEPA 1991). Stormwater data distributions may also be characterized as "heavy-tailed" or as "extreme value distributions" (see Figure 2).

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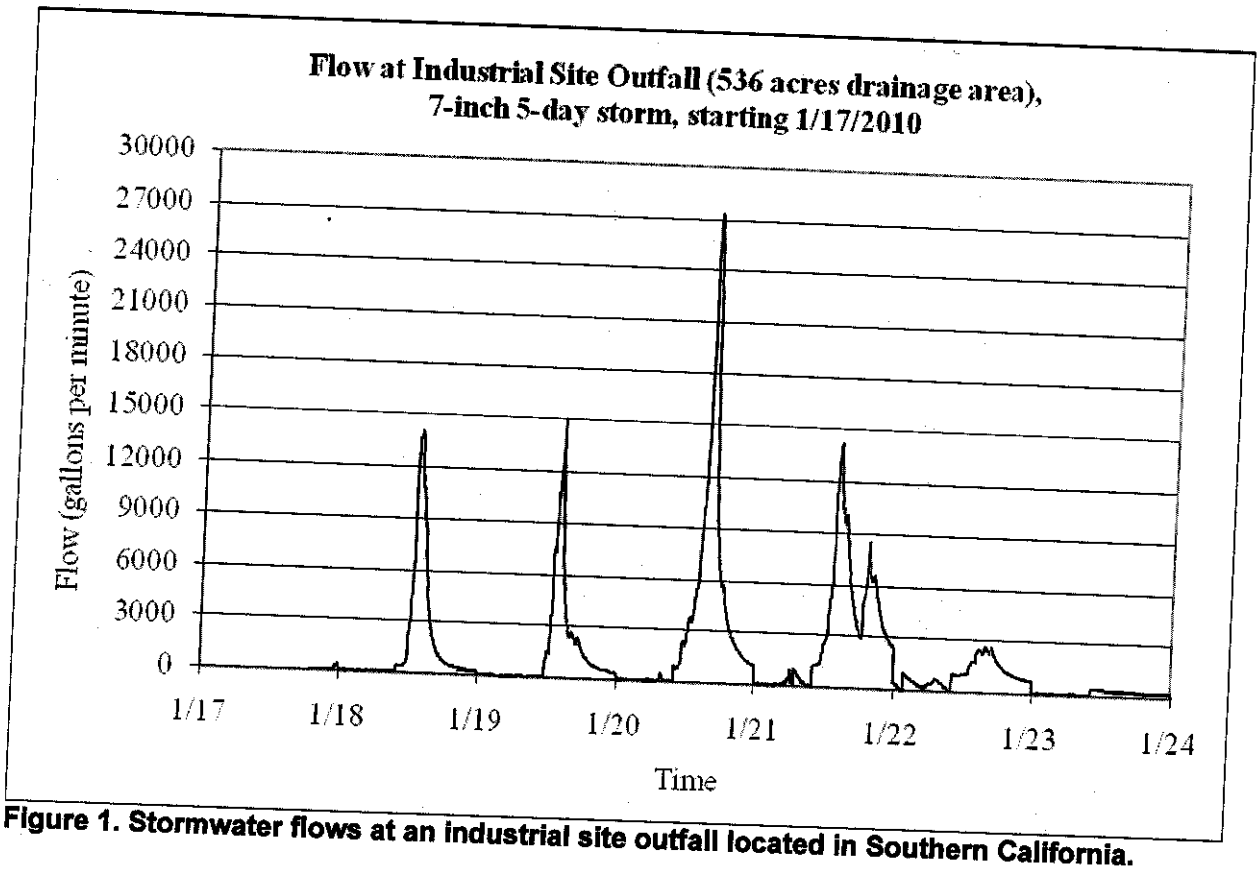

Figure 1. Stormwater flows at an industrial site outfall located in Southern California.

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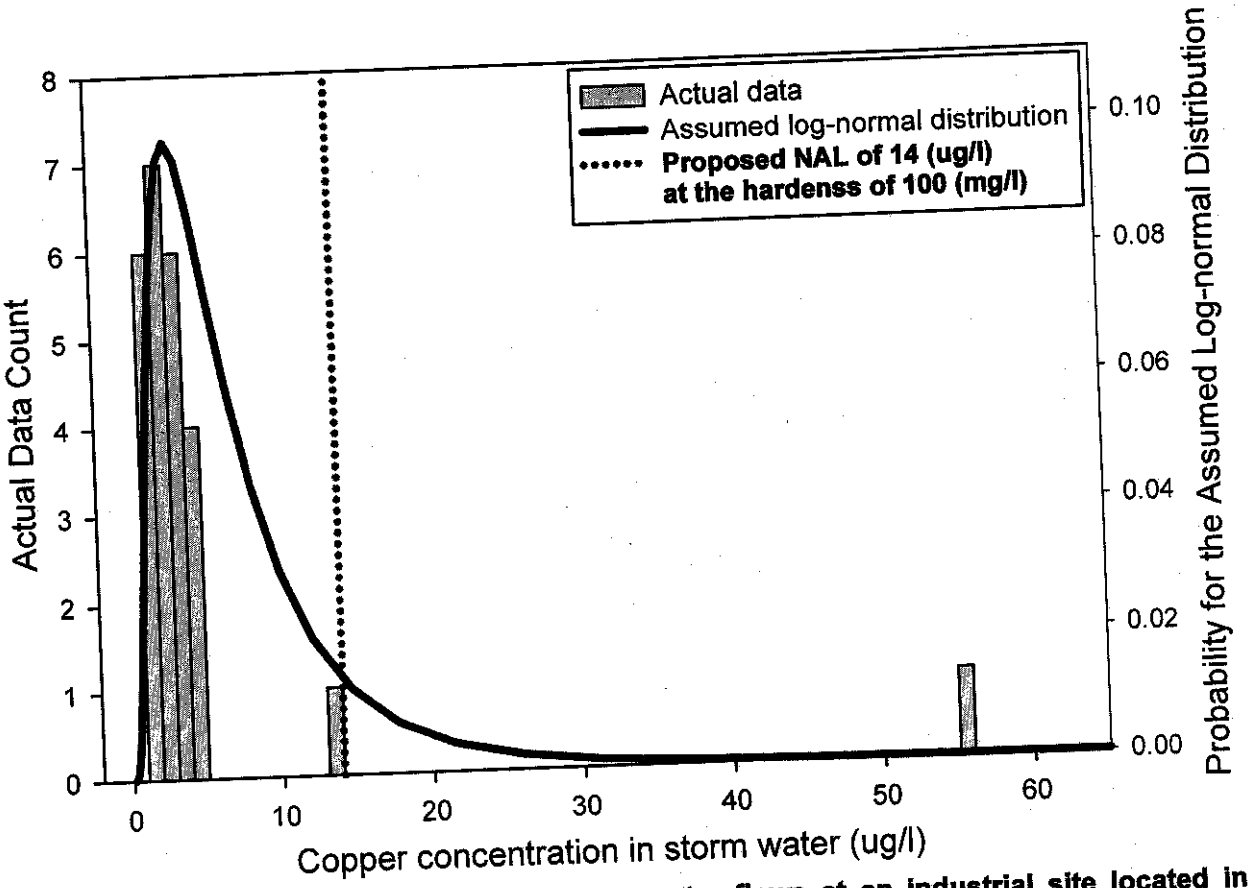

Figure 2. Copper concentrations in storm water flows at an industrial site located in Southern California.

(Data for Figure 2 represent 25 data points for total copper. The theoretical log-normal distribution shown was calculated from the dataset, although the data in Figure 2 do not fit a log-normal distribution, as determined by a Kolmogorov-Smirnoff test on log-transformed data. In fact, the probability of the highest data value (55 ug/L) coming from the log-normal distribution shown in Figure 2 is 0.06%.)

As a result of this variability, storm flows must be regulated differently than other types of discharges, and standard methods of developing effluent limitations do not apply. The methods used in the State Board's Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP) and USEPA (1991) assume that data are log-normally distributed, and thus should not be used to calculate effluent limitations for any dataset that is not log-normally distributed. Thus, new methodologies are required to develop NALs and NELs.

As detailed fully in Attachments A and B[1], development of technology-based NALs and/or NELs will require data to characterize storm flow rates and volumes, constituent concentrations, and

[1] No new data or information has become available since WSPA provided Attachments A and B in comments on the prior Draft IGP in 2005 and correspondence to the State Board in 2006. We again submit these attachments for inclusion in the record of this permit proceeding.

the capabilities of BMPs and treatment technologies. Water quality-based effluent limitations would require further information on receiving water flow rates and constituent concentrations, and to characterize the mixing between storm water discharges and the receiving water that inevitably occurs. Any action levels or effluent limitations derived for storm water will also need to account for extreme events (e.g., large storm events or high rainfall intensities) and background sources (atmospheric deposition, site soils, building materials, etc.), and will need to be developed in concert with the actions that would be triggered by an exceedance.

These facts should be well known to the State Board as they were relied on in adopting the BMP approach in the current Industrial General Permit. The only new development which the Draft IGP Fact Sheet (pp. 2-3) recites to support the conclusion that it is now technically feasible to establish NELs (when previously it was not) is the report prepared by the "Blue Ribbon Panel" of experts convened by the State Board in 2005-2006 to address these issues: "The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities", June 2006 (Panel Report).

The Panel Report did note that for a limited category of activities (involving primarily construction-like land disturbance, rather than operations at industrial facilities such as those of WSPA members), there may be data "that may make Numeric Limits feasible for new facilities." (Panel Report, p. 21.)

Nevertheless, the Panel Report strongly emphasized the present lack of information that is prerequisite for any technically supportable determination of NELs:

> *"To establish Numeric Limits for industrial sites requires a reliable database, describing current emissions by industry types or categories, and performance of existing BMPs. The current industrial permit has not produced such a database for most industrial categories. . . . The Board needs to reexamine the existing data sources, collect new data as required and for additional water quality parameters. . . to establish practical and achievable Numeric Limits. . . . The Panel recognizes the inadequacy of current monitoring data sets and recommends improved monitoring to collect data useful for establishing Numeric Limits and Action Levels. . . . Insofar as possible, the Panel prefers the use of California data (or National data if it can be shown to be applicable to CA) in setting Numeric Limits and Action Levels. . . . The Panel recognizes that this is a large task and recommends prioritizing the implementation of this approach to achieve the greatest reduction of pollutants statewide."* (Panel Report, pp. 19-21; see also Draft IGP Fact Sheet, p. 3.)

None of this data collection or evaluation has occurred since the Panel reached this conclusion in 2006. On the contrary, instead of undertaking the measurable task recommended by the Panel Report or complying with any of the legal requirements for establishing technology-based effluent limitations, the State Board has simply co-opted the USEPA MSGP's benchmarks to serve as NALs and NELs (as discussed in more detail below). Accordingly, nothing in the record indicates that the task of developing legitimate NELs has recently changed from being infeasible to feasible.

Summary of State's NAL/NEL Proposal

The Draft IGP uses benchmarks developed by EPA for the national Multi-Sector General Permit (MSGP) as numeric action levels (NALs) and, eventually, as numeric effluent limitations (NELs). The Draft IGP proposal is summarized in Table 1.

Based on our review, it appears that if a discharger is unable to meet the NALs (despite sustained best efforts over a three-year period), the NALs are converted to enforceable NELs, as if the discharger were now somehow magically able to comply in order to avoid the imposition of penalties or threat of citizen suits.

Table 1

Permit Level	Compare monitoring data to NALs and triggers?	Compare monitoring data to NELs?	Number of QSEs/quarter	Compliance impact of exceedance[2]	Required actions
0	Yes	No	1	Move to Level 1	Minimum BMPs, SWPPP, inspection, monitoring and reporting requirements
1	Yes	No	1	Move to Level 2	As above, plus must review BMPs and SWPPP and implement upgrades if necessary
2	Yes	No	2	Move to Level 3	As above, plus must implement structural and/or treatment controls
3	No	Yes	All	Permit violation	Must continue to implement controls until NELs are met; may consider natural background or run-on only in Level 3

Use of USEPA MSGP Benchmarks as NALs/NELs is Scientifically and Legally Unsound
The NALs and NELs proposed for use in the Draft IGP are identical to the benchmarks used in the MSGP (see Table 2). The MSGP specifies that annual average concentrations (calculated from quarterly monitoring data) are to be compared to the MSGP benchmark values, and that background concentrations may be considered in assessing exceedances of benchmark values, which are used for the purpose of evaluating Storm Water Pollution Prevention Plan (SWPPP) performance.

[2]The "Levels of Corrective Action Schematic", a diagram that accompanies the Draft IGP, contains "a fast track" under which an exceedance(s) can move a discharger from Level 1 to Level 3 without going through Level 2. No details are provided to describe the conditions that will lead to the fast track advance to Level 3.

By contrast, the draft IGP requires that individual samples (or daily averages of multiple samples, if available) be compared to NALs or triggers based on the NELs, without consideration of background contributions or run-on.

The draft IGP similarly requires that implementation actions, including treatment and/or structural controls, be implemented continuously until the NAL/NEL levels are met. The draft IGP specifies that failure to implement these controls constitutes a permit violation, and does not allow consideration of background sources unrelated to a site's industrial activity until a facility reaches Level 3.

Within Level 3, the NALs become NELs, and an exceedance of an NEL constitutes a permit violation. Thus, the NALs and NELs used in the draft IGP are applied very differently, and the actions and consequences triggered by an exceedance are far more stringent, than in the MSGP. (The issue of background sources is discussed further below.)

Finding 42 in the draft IGP states, *"[t]he State Board finds that the USEPA benchmarks serve as an appropriate set of technology based effluent limitations that demonstrate compliance with BAT/BCT."* The draft IGP Fact Sheet (pp. 1, 8) further explains that the NALs/NELs are technology-based values, representing staff's best professional judgment (BPJ) on best available technology economically achievable (BAT) for toxic and non-conventional pollutants and best practicable control technology currently achievable (BCT) for conventional pollutants.

The Fact Sheet on page 1 also asserts that the State Board has considered the factors set forth in 40 C.F.R. Section 125.3 for determining BAT and BCT based on BPJ.[3]

On the contrary, the NALs/NELs were not developed through evaluation of BAT and BCT, considering the Section 125.3 factors, but for the most part are simply copied directly from USEPA's benchmark values from the Multi-Sector General Permit.

The MSGP Fact Sheet (2008) in turn indicates that the MSGP benchmark values for zinc, copper, lead, aluminum, iron, total phosphorus, ammonia, cadmium, nickel, mercury, selenium, and silver are taken directly from water quality criteria and are not based on technology at all (see Table 2).

[3] This statement in the Fact Sheet is presumably a placeholder since the State Board has not, in fact, yet considered these factors (as discussed below).

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Table 2: 2011 Draft IGP NAL/NEL Values and Sources for the NAL/NEL Values
(modified from Table 4 at p. 34 of the Fact Sheet to the Draft IGP. Highlighted rows indicate NAL values derived directly from water quality criteria.)

Parameters	Unit	NAL	Values are sector specific BM or ELG from	Original source for values*
pH	pH units	6.0-9.0	ELG in MSGP 2008	4
Suspended Solids (TSS), Total	mg/L	100	BM in MSGP 2008	7
Specific Conductance (S/C)	umhos/cm	200	Not in the MSGP 2008	Unknown
Oil & Grease (TOG), Total	mg/L	15	ELG in MSGP 2008.	40 CFR Subchapter N Part 419
Organic Carbon(TOC), Total	mg/L	110	Not in the MSGP 2008	40 CFR Subchapter N Part 419
Zinc, Total (H)	mg/L	0.26**	BM in MSGP 2008	1
Copper, Total (H)	mg/L	0.0332**	BM in MSGP 2008	1
Lead, Total (H)	mg/L	0.262**	BM in MSGP 2008	3
Chemical Oxygen Demand	mg/L	120	BM in MSGP 2008	5
Aluminum, Total (pH 6.5-9.0)	mg/L	0.75	BM in MSGP 2008	1
Iron, Total	mg/L	1	BM in MSGP 2008	3
Nitrate + Nitrite Nitrogen	mg/L as N	0.68	BM in MSGP 2008	7
Total Phosphorus	mg/L as P	2	BM/ELG in MSGP 2008	6
Ammonia	mg/L	19	BM in MSGP 2000	14
Magnesium, total	mg/L	0.0636	BM MSGP 2008	8
Arsenic, Total (c)	mg/L	0.16854	BM in MSGP 2000	8
Cadmium, Total (H)	mg/L	0.0053**	BM in MSGP 2008	1
Nickel, Total (H)	mg/l	1.02**	BM in MSGP 2008	1
Mercury, Total	mg/L	0.0024	BM in MSGP 2000	1
Selenium, Total	mg/L	0.2385	BM in MSGP 2000	3
Silver, Total (H)	mg/L	0.0183**	BM in MSGP 2008	1
Biochemical Oxygen Demand	mg/L	30	BM in MSGP 2008	4

* The original sources are provided at p. 106 of the Fact Sheet to the MSGP 2008.
**These pollutants are dependent on water hardness. The NAL value listed is based on a hardness of 250 mg/L.
1. "National Recommended Water Quality Criteria." Acute Aquatic Life Freshwater (EPA-822-F-04-010 2006-CMC)
2. "EPA Recommended Ambient Water Quality Criteria for Beryllium." LOEL Acute Freshwater (EPA-440- 5-80-024 October 1980)
3. "National Recommended Water Quality Criteria." Chronic Aquatic Life Freshwater (EPA-822-F-04-010 2006-CCC)
4. Secondary Treatment Regulations (40 CFR 133)
5. Factor of 4 times BOD5 (5 day biochemical oxygen demand) concentration - North Carolina Benchmark
6. North Carolina stormwater Benchmark derived from NC Water Quality Standards
7. National Urban Runoff Program (NURP) median concentration
8. Minimum Level (ML) based upon highest Method Detection Limit (MDL) times a factor of 3.18
9. Combination of simplified variations on Stormwater Effects Handbook, Burton and Pitt, 2001 and water quality standards in Idaho, in conjunction with review of DMR data.
10. "National Ambient Water Quality Criteria." Acute Aquatic Life Freshwater. This is an earlier version of the criteria document that has subsequently been updated. (See source #1)
11. "National Ambient Water Quality Criteria." Chronic Aquatic Life Freshwater. This is an earlier version of the criteria document that has subsequently been updated. (See source #3)
12. "National Ambient Water Quality Criteria." Human Health For the Consumption of Organism Only (EPA-822-F-01-010 2006)
13. Consistent with many state numeric Water Quality Criteria. This Benchmark was agreed to in negotiations for the 1998 modification to the 1995 MSGP (63 FR 42534).
14. "Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses." USEPA Office of Water (PB85-227049 January 1985).

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The MSGP benchmark levels were not intended by USEPA to function as technology-based effluent limitations, but rather to serve as a point of reference for dischargers seeking to evaluate the effectiveness of BMPs. In originally developing the benchmarks, EPA stated:

> *"The benchmark concentrations are not effluent limitations and should not be interpreted or adopted as such. These values are merely levels which EPA has used to determine if storm water discharge from any given facility merits further monitoring to ensure that the facility has been successful in implementing a SWPPP."* (Preamble to Final Multi-Sector General Permit, 65 Fed. Reg. 64746, 64767, October 30, 2000).

In its 2008 Multi-Sector General Permit (section 6.2.1), USEPA reiterated:

> *"The benchmark concentrations are not effluent limitations; a benchmark exceedance, therefore, is not a permit violation. Benchmark monitoring data are primarily for your use to determine the overall effectiveness of your control measures and to assist you in knowing when additional corrective action(s) may be necessary to comply with the effluent limitations in Part 2."*

Neither USEPA nor the State Board has assessed whether or not available treatment and control technologies are capable of meeting the benchmarks imposed as NELs. In fact, the Fact Sheet for the draft IGP (p. 8) acknowledges that:

> *"The State Water Board must consider a number of factors including the cost of achieving effluent reductions in relation to the effluent reduction benefits, the age of the equipment and facilities, the processes employed and any required process changes, engineering aspects of the control technologies, non-water quality environmental impacts (including energy requirements), and other such factors ... This analysis and rationale is still under development at this time."*

This list from the Fact Sheet recites the legally required considerations for the development of technology-based effluent limitations implementing BAT and BCT in the first place. [Clean Water Act section 304(b); 40 C.F.R. § 125.3(d)(2), (3)].

In theory, that process, consistent with law and the Blue Ribbon Panel's recommendations, could ultimately result in a supportable set of NELs as the outcome. Yet what the draft IGP proposes is the opposite procedure — to develop a future analysis and rationale as an after-the-fact justification for the decision arbitrarily to designate the USEPA benchmarks as BAT and BCT.

Indeed, it is perplexing that the State Board has already identified the NELs in this Draft IGP, yet later intends to develop the analysis and rationale that should have been used *to determine them. This retroactive approach falls short for at least three reasons:* the benchmark NELs (i) have already been identified and (ii) are purportedly technology-based, yet are simply copied from water quality and other non-technological criteria, and (iii) have been incorporated without any survey of technologies or consideration of the required factors including costs, energy requirements and non-water quality environmental impacts.

While "case-by-case" BPJ determinations allow the State Board and permit writers considerable flexibility, such post-hoc rationalization is not permitted by the Clean Water

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Act, regulations and guidance. As explained in detail in EPA's 2010 NPDES Permit Writers' Manual (pp. 5-46 - 48):

> *"The regulations also require that, in setting case-by-case limitations, the permit writer consider several specific factors established in § 125.3(d) to select a model treatment technology and derive effluent limitations on the basis of that treatment technology. . . . [T]echnology-based controls in NPDES permits are performance-based measures. . . . When developing a case-by-case limitation, permit writers can use an approach consistent with the statistical approach EPA has used to develop effluent guidelines. . . . Permit writers will need to document the development of case-by-case limitations in the NPDES permit fact sheet. The permit writer should clearly identify the data and information used in developing these effluent limitations and how that information was used. . . The information in the fact sheet should provide the NPDES permit applicant and the public a transparent, reproducible, and defensible description of how the BPJ limitations comply with the CWA and EPA regulations."*

Had the State Board undertaken the proper exercise of reviewing the performance of available and achievable technologies, conducting the statistical analyses and considering the required factors to establish technology-based limits, it would have found that available evidence demonstrates that even state-of-the-art treatment technologies cannot consistently meet the proposed NAL/NELs in the draft IGP.

Field testing performed by the Washington Department of Ecology (Taylor Associates 2008) resulted in the adjustment of the originally-proposed benchmark value for copper of 14 ug/L upward to a seasonal average benchmark of 50 ug/L and a daily average benchmark of 147 ug/L.

In effect, the State of Washington concluded that best available technologies were not capable of achieving a benchmark value of 14 ug/L for copper in storm water discharges. The draft IGP includes NAL/NEL values for total copper that range from 3.8 to 33.2 ug/L (depending on the hardness of the receiving water). The data from Taylor Associates (2008) demonstrate that the three treatment technologies tested by the State of Washington would be unable to consistently attain these values.

USEPA has similarly concluded in numerous analyses that it was infeasible to develop numeric effluent limits for stormwater discharges from industrial facilities. Most recently USEPA reiterated this evaluation and conclusion in developing the 2008 MSGP, stating (2008 MSGP Fact Sheet at p. 39):

> *"The variability of effluent and efficacy of appropriate control measures makes setting uniform effluent limits for stormwater extremely difficult. The record for this permit indicates that there is a high level of variability among discharges, in terms of both flow rates and volumes and levels of pollutants, since the volume and quality of stormwater discharges associated with industrial activity depend on a number of factors, including the industrial activities occurring at the facility, the nature of precipitation, and the degree of surface imperviousness. ... These factors create a situation where, at this time, it is generally not feasible for EPA to calculate numeric effluent limitations."*

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Storm Water Regulation, including NALs/NELs, Must Consider Background Pollutant Sources

Atmospheric deposition is one of primary sources of metals (e.g., copper and zinc) in stormwater runoff from urban watersheds (Sabin et al. 2005). Abrasion dusts from brake pads and tires contributed significantly to copper and zinc in storm water runoff in urban areas (Iijima et al. 2007). In addition to the atmospheric deposition, metals also exist naturally in soil and natural background levels in receiving water could be high depending on geological characteristics.

Industrial facilities near the ocean will receive salt spray and deposition, which will increase the specific conductance (salinity) of storm water discharges and result in exceedances of the proposed criteria, completely independent of the industrial activity at the site.

An example of a storm event at one site from a Southern California study (Yoon and Stein 2008) is shown in Figure 4. As part of this study, flow rates and concentrations of total copper were measured in storm water, and results show that the background levels of total copper concentrations in storm water from an undeveloped natural area were greater than 50 µg/L.

The hardness-dependent NAL for copper in the draft IGP ranges from 3.8 to 33.2 µg/L. As shown in Figure 4, the natural background concentration of total copper in storm water from this natural background location in the Southern California study would have exceeded both the NALs and the draft IGP triggers for total copper.

Attachment C contains information provided to the State Board during the Construction General Permit adoption process. This report includes detailed information describing natural background concentrations for total suspended solids (TSS) and pH for California rivers and streams.

These data demonstrate that natural conditions can result in exceedances of the proposed NAL/NEL values for these parameters in the draft IGP. TSS concentrations in storm water runoff from undeveloped watersheds can exceed 100,000 mg/L. The pH of rainwater can range as low as 4.5, yet values in some California streams can range as high as 9.3. These data clearly indicate that the proposed values in the draft IGP can be exceeded under natural conditions, demanding that background conditions and constituent concentrations must be considered when interpreting monitoring data obtained for storm water.

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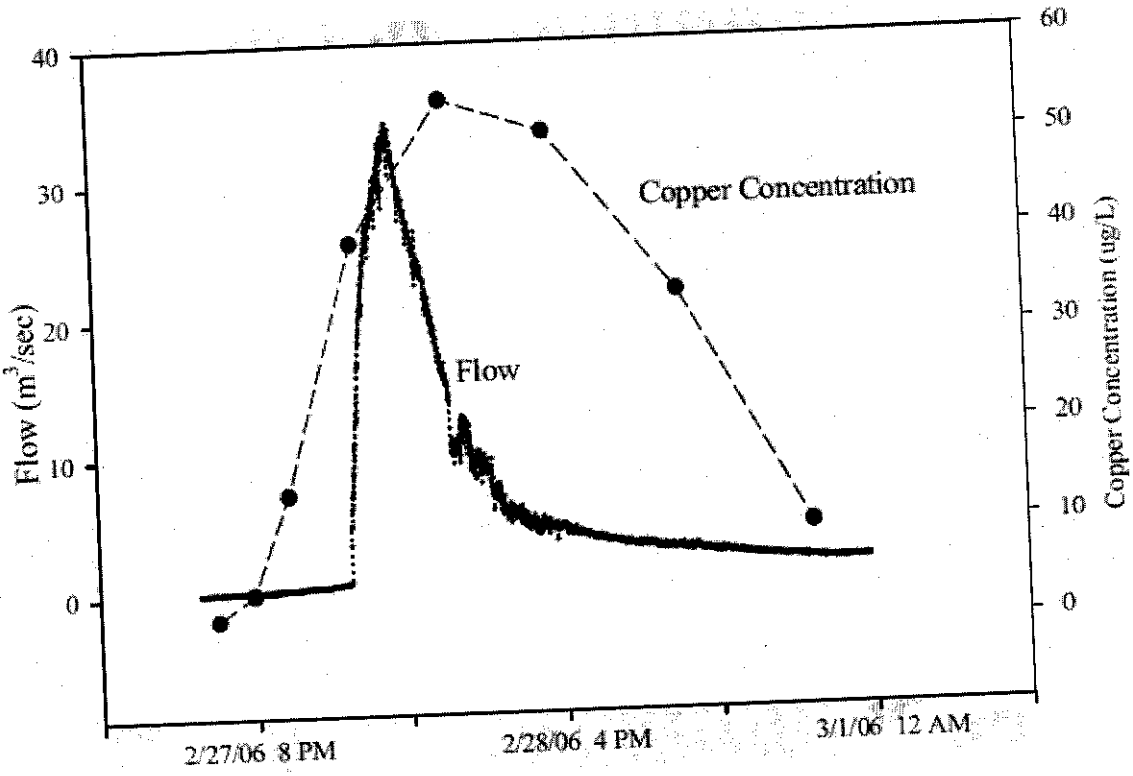

Figure 4. Variation of total copper concentrations in stormwater runoff for storm events at Piru Creek in Ventura County, CA (natural undeveloped site) from February 27 through March 1, 2006 (Yoon and Stein 2008).

Data Needs for Supportable NALs and NELs

The State Board convened a "Blue Ribbon Panel" in 2006 to solicit advice on the development of NELs for use in storm water permits. The Blue Ribbon Panel concluded that numeric limits are feasible for some industrial categories, but stated that establishing numeric limits for industrial facilities,

> *"requires a reliable database, describing current emissions by industry types or categories, and performance of existing BMPs."*
>
> *"the current industrial permit has not produced such a database."* (Panel Report, p. 19.)

The Blue Ribbon Panel made a number of recommendations in recognition of the "inadequacy of current monitoring data sets," including "improved monitoring to collect data useful for establishing Numeric Limits and Action Levels," use of California data, and use of methods other than SIC categories to characterize industrial activities. (Id., p. 21.) Moreover, we note that the Panel also made a recommendation with which WSPA strongly concurs,

> *"urge[d] the Board to consider the total economic impact and not unduly penalize California industries with respect to industries outside California"* (id.)

Since the Blue Ribbon Panel issued its findings in 2006, the State Board to our knowledge has not required additional data collection of permittees, has not implemented its own data collection program, and has not conducted additional research to develop appropriate methods for calculating effluent limitations or action levels.

Available data are clearly insufficient to support the development of numeric effluent limitations, including both technology-based and water quality-based effluent limitations.

To date, there has not been a comprehensive, controlled program of data collection that would allow comparison of water quality concentrations between facility types, regions, or in response to hydrologic influences, or in consideration of storm size and intensity, site conditions, and BMPs in place.

The type and quantity of data that would be needed to support development of effluent limitations are dependent upon the type of limit to be developed, the methodology to be used to calculate limits, and the monitoring and compliance strategies to be used after limits are established. In any case, additional data would be required to describe:

- BMP options, unit design, and performance
- Design criteria (such as a "design storm")
- Industrial facility flow rates and constituent concentrations (sufficient to characterize variability)
- For Water Quality-Based Effluent Limitations, receiving water flow rates and constituent concentrations, and information on mixing of discharges with receiving water

Attachments A and B to our comments provide additional detail on the data requirements and procedures that should be considered in developing a program to collect data and develop methods to support calculation of numeric action levels and effluent limitations for storm water runoff from industrial facilities.

We look forward to the opportunity for further discussion with the State Board and stakeholders, and to the issuance of a revised draft Industrial General Permit which we hope will address these issues.

Sincerely,

Kevin Buchan

Enclosures: Attachments A, B, and C

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