ORANGE COUNTY
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Our Community. Our Commitment.

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December 8, 2009

David Gibson, Executive Officer
California Regional Water Quality Control Board
San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123-4340

Re: Tentative Order No. R9-2009-0002, NPDES CAS0108740
Comments on Draft Updates & Errata to August 12, 2009 Public Release Draft

Dear Mr. Gibson:

The Updates & Errata document represents a considerable improvement over the approach to regulation of non-stormwater dry weather discharges proposed at the November 18 Board hearing. The expedited production of these new and extensive provisions in just a few days did not allow any time for consultation with the Permittees as we had discussed during our recent meeting. As a result, the revised document has a number of problematic issues that should be corrected. The comments below and the attached edits to the proposed text were prepared in consultation with the County's Permittees including Aliso Viejo, Dana Point, Laguna Hills, Laguna Niguel, Laguna Woods, Lake Forest, Mission Viejo, Rancho Santa Margarita, San Clemente and San Juan Capistrano. It is our earnest hope to meet with you before the hearing to discuss these recommended changes in more detail.

Our comments primarily focus on three issues:

- The non-stormwater dry weather action levels (NALs) themselves and how they were derived.
- The need to clarify the considerations for prioritizing Copermittee's responses to exceedances of the NALs.
- What actions the Permittees must take if the source of an exceedance is determined to be (i) natural in origin and conveyance, (ii) an illicit discharge, or (iii) an exempt category of non-stormwater discharge.

We believe the changes we propose will result in non-stormwater regulation that is more cost effective, less susceptible to legal challenge, and as protective of water quality as the approach proposed in the Updates & Errata document.

Notwithstanding our general support for the approach you have taken regarding NALs, as expressed previously we continue to have some significant concerns with the draft permit as a whole. These concerns include the fact that the Board has not adequately considered economic and other factors (e.g., the cost to implement the NALs and other new program elements; whether the proposed conditions are reasonably achievable; etc.).

1. Expert-Developed Action Levels

While staff has responded to the Board's direction to change the non-stormwater dry weather numeric effluent limitations to action levels, the action levels themselves, and the manner in which they were derived, has not been modified. This is problematic for several reasons.

First, notwithstanding that the Updates & Errata document expressly provides that the proposed NALs are not numeric effluent limitations (NELs), the manner in which the NALs have been derived and the levels themselves are the same as the previous NELs. By using the same methodology that the SIP[1] mandates for deriving water-quality based effluent limitations, staff may have inadvertently opened the door to an argument (contrary to the Board's directive) that the NALs are in fact NELs by virtue of the process of derivation. The County suggests that this argument could be avoided by deleting the discussion of the SIP in the Updates & Errata document (e.g., pages 23-28). Because the NALs are not intended to be NELs, as acknowledged by the Updates & Errata document, there is no need to calculate the NALs in the same manner as NELs.

Second, the use of water quality objectives (WQOs) as the basis for the NALs is inappropriate. WQOs ensure that beneficial uses in receiving waters are protected. The NALs on the other hand, are proposed to assist in determining if the Permittees are effectively prohibiting non-stormwater discharges into the MS4. Just as the Stormwater Action Levels (SALs) proposed in the Tentative Order are based on a statistical analysis of concentrations of constituents discharged from the MS4, the NALs should be based on an analysis of the constituents in dry weather non-stormwater discharges and be protective of the WQOs.

The County suggests that rather than using receiving water WQOs for end of pipe action levels, Permittees engage an expert panel or other third-party such as the Southern California Coastal Water Research Project (SCCWRP) to develop scientifically-based numeric action levels and an implementation strategy. The Permittees would submit to the Executive Officer the expert-developed NALs and implementation strategy within 18 months of permit adoption. If the Permittees failed to meet the 18-month deadline, action levels based on the WQOs[2] as well as the implementation approach provided in the Updates & Errata document would become effective by default.

The attached redline of the Updates & Errata document reflects the County's proposed changes.

2. Prioritization

The Updates & Errata document proposes to allow the Permittees flexibility in prioritizing how they respond to exceedances of the NALs. Proposed Directive C.2.f provides:

[1] The State Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California.

[2] Rather than use the levels proposed in the Updates & Errata document, which were derived in the same manner as water quality-based effluent limitations, the County proposes that the default NALs be set equal to WQOs as set forth in the Basin Plan.

> If any Permittee identifies a significant number of exceedances of NALs that prevent them from adequately conducting source investigations in a timely manner, then the Permittees may submit a prioritization plan and timeline that identifies the timeframe and planned actions to investigate and report their findings on all of the exceedances.

The County appreciates the flexibility that this provision would allow. However, we believe the provision should be clarified. As currently proposed, while Permittees would have flexibility to prioritize their response when there are a significant number of exceedances of an NAL, this provision does not currently take the frequency or magnitude of exceedances into account when prioritizing the responses. In other words, the Permittees would have to spend scarce resources investigating even a single and minor exceedance of an NAL.

The County suggests that a better use of resources would be to allow the Permittees the flexibility to prioritize when the ***frequency*** of exceedances and the ***magnitude*** of an exceedance is significant. This approach would be consistent with the approach that is established for the Tentative Order's section on SALs. There, Permittees are to take the "magnitude, frequency, and number of constituents exceeding the SAL(s)" when determining how to respond to the exceedance(s).[3]

This same approach should be incorporated into the NAL Provision by revising Provision C as provided in the attached redline of the Updates & Errata document. This prioritization approach would be reflected in the expert-developed implementation strategy discussed above. For clarity, to the extent the default implementation measures provided in Provision C.2 become effective, the County proposes that Provision C.2.f be revised consistent with the SAL approach. This would allow Permittees to prioritize efforts so that we can spend our limited resources on significant water quality problems.

3. Natural Sources, Illicit Discharges and Exempt Non-Stormwater Categories

The proposed revisions to Directive C of the Tentative Order carry over several problematic provisions from the previous version. First, proposed Directive C.2.a applies only to sources of NAL exceedances that are natural in origin ***and conveyance.*** Second, in proposed Directive C.2.b, if a Permittees determines that the source of an NAL exceedance is an illicit discharge, the Permittees must eliminate the discharge to the MS4. Finally, in proposed Directive C.2.c, if a Permittees determines that an NAL exceedance is due to a discharge from an exempt category of non-stormwater discharge, the entire category of non-stormwater discharge apparently loses its exempt status. The County suggests that these provisions must be revised.

A. Natural Sources

Proposed Directive C.2.a applies when a Permittee determines that the source of an exceedance is natural in origin and conveyance. However, because the MS4s themselves generally are not natural conveyances, a constituent that is natural in origin may not be considered to be natural in conveyance once discharged from the MS4. Accordingly, as written, proposed Directive C.2.a might never apply; Permittees will never be able to establish that the source of an exceedance is natural in both origin and conveyance.

[3] Tentative Order, Directive D.1.

To give this provision meaning, the word "conveyance" simply needs to be deleted. Alternatively, the phrase "natural in origin and conveyance" could be revised to read "natural in origin or conveyance." The phrase "natural in origin and conveyance" is a carryover from former section C.3 which stated: "This Permit does not regulate natural sources and conveyances of constituents…"[4] In other words, neither natural sources nor natural conveyances of constituents are regulated. In order to show that a discharge is ***not*** regulated, Permittees must show that the source of constituents in the discharge are natural in origin ***or*** conveyance. Permittees do not have to show that the source is natural in origin ***and*** conveyance.

B. Illicit Discharges

Proposed Directive C.2.b would have Permittees eliminate illicit discharges when they determined that the discharge was a source of an NAL exceedance. Because there may be illicit discharges that are impossible to eliminate all of the time, and some illicit discharges may be less serious than others, the County suggests that the language in Directive C.2.b be tied to Directive F.4.f (the Illicit Discharge Detection and Elimination section) which provides:

> Each Copermittee must take immediate action to initiate steps necessary to eliminate all detected illicit discharges, illicit discharge sources, and illicit connections after detection. Elimination measures may include an escalating series of enforcement actions for those illicit discharges that are not a serious threat to public health or the environment. Illicit discharges that pose a serious threat to the public's health or the environment must be eliminated immediately.

This would clarify Permittees' obligations when they determined the source of an NAL exceedance was an illicit discharge.

C. Exempt Non-Stormwater Categories

The County previously has commented on removing entire categories of exempt non-stormwater discharges from the Tentative Order simply because a single discharge in that category is determined to be a source of pollutants in receiving waters. The regulations and guidance are clear that only the specific discharge that is the source of the pollutants must be addressed; the entire category of discharge does not lose its exempt status.[5] Accordingly, proposed Directive C.2.c should be revised as indicated in the attached redline of the Updates & Errata document.

This simple change will reflect federal requirements and will allow Permittees to address only actual sources of pollutants rather than entire categories of discharges that may pose no risk to water quality.

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[4] This important statement regarding the regulation (or non-regulation) of natural sources and conveyances apparently was inadvertently omitted in the Errata and Updates document. As reflected in the attached redline, it should be included in the Tentative Order.

[5] *See* County of Orange Comment Letter dated September 28, 2009, Attachment A, Section I.B.

If you have any questions regarding our comments, please do not hesitate to contact Chris Crompton at (714) 955-0630 or Richard Boon at (714) 955-0670.

Sincerely,

Mary Anne Skorpanich, Director
OC Watersheds

Attachment

cc: James Smith, California Regional Water Quality Control Board - San Diego Region
Ben Neill, California Regional Water Quality Control Board - San Diego Region
South Orange County Permittees

California Regional Water Quality Control Board
San Diego Region

ADDITIONAL
DRAFT UPDATES & ERRATA

to the
AUGUST 12, 2009 PUBLIC RELEASE DRAFT

of the

Waste Discharge Requirements for Discharges of Runoff from the Municipal Separate Storm Sewer Systems (MS4s) Draining the Watershed of the County of Orange, the Incorporated Cities of Orange County, and the Orange County Flood Control District within the San Diego Region

Tentative Order No. R9-2009-0002
NPDES NO. CAS0108740

ADDITIONAL ERRATA & UPDATES A S OF
16 December 2009

This document represents additional tentative updates and errata to the August 12, 2009 release of Tentative Order No. R9-2009-0002. These updates and errata are in addition to those provided to the Regional Board at the November 18, 2009 meeting as Supporting Document No. 2. The errata represent minor clarifications and reference mistakes identified by Staff on the August 12, 2009 public release of draft Tentative Order No. R9-2009-0002. The updates include changes made at the Board's direction from the November 18, 2009 meeting.

Permit Errata

Pg. 38, Section F.1.d.(7) references "watershed equivalent BMP(s) consistent with Section F.1.c.(8)" should reference Section F.1.d.(11).

Permit Changes

Page 2, C. Discharge Characteristics, Additional Findings C. 3 and C.4:

3. This order is intended to regulate the discharge of pollutants from MS4s from anthropogenic (generated from human activities) sources and/or activities within the jurisdiction and control of the Copermittees and is not intended to address background or naturally occurring pollutants or flows.

4. The Copermittees may lack legal jurisdiction over certain discharges into their systems from some state and federal facilities, utilities, and special districts, Native American tribal lands, waste water management agencies and other point and non-point source discharges otherwise permitted by the Regional Board. The Regional Board recognizes that the Copermittees should not be held responsible for such facilities and/or discharges. Similarly, certain activities that generate pollutants may be beyond the ability of the Copermittees to eliminate. Examples of these include operation of internal combustion engines, atmospheric deposition, brake pad wear, tire wear and leaching of naturally occurring minerals from local geography.

Page 17, Finding E.12:

12. This Order requires each Copermittee to effectively prohibit all types of unauthorized discharges of non-storm water into its MS4. However, historically pollutants have been identified as present in dry weather non-storm water discharges from the MS4s through 303(d) listings, monitoring conducted by the Copermittees under Order No. R9-2002-0001, and there are others expected to be present in dry weather non-storm water discharges because of the nature of these discharges. This Order includes action levels for pollutants in non-storm water, dry weather, discharges from the MS4 designed to ensure that the requirement to effectively prohibit all types of unauthorized discharges of non-storm water in the MS4 is being complied with. Action levels in the Order are based upon numeric or narrative water quality objectives and criteria as defined in the Basin Plan, and the Water Quality Control Plan for Ocean Waters of California (Ocean Plan). NALs are not numeric effluent limitations.

Deleted:), and the State Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP)

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Exceedance of an action level requires specified responsive action by the Copermittees. This Order describes what actions the Copermittees must take when an exceedance of an action level is observed. Exceedances of non-storm water action levels do not alone constitute a violation of this Order; however they could indicate that more must be done to comply with the requirement to effectively prohibit all types of unauthorized non-storm water discharges into the MS4 or other prohibitions established in this Order. Failure to undertake required source investigation and elimination action following an exceedance of an non-storm water action level (NAL or action level) is a violation of this Order. However, establishing NALs at levels appropriate to protect water quality standards is expected to lead to the identification of significant sources of pollutants in dry weather non-storm water discharges.

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Pg. 22 – Section C:

C. NON-STORM WATER DRY WEATHER ACTION LEVELS

1. Copermittees shall engage the Southern California Coastal Water Research Project (SCCWRP) to develop non-storm water dry weather action levels (NALs). The purpose of the NALs shall be to establish numeric action levels for pollutants in non-storm water, dry weather, discharges to ensure that the Copermittees effectively prohibit unauthorized discharges of non-storm water into their MS4s and to protect water quality. Copermittees shall also engage SCCWRP to develop an NAL implementation plan, consistent with this section, that specifies the actions the Copermittees will take in response to NAL exceedances. The implementation plan shall take into account the magnitude, frequency, and number of constituents exceeding the NALs. Copermittees shall submit the proposed NALs and implementation plan to the Executive Officer within 18 months of the Order effective date[1]. Once approved by the Executive Officer, the NALs shall become effective immediately. Should the Copermittees fail to submit the NALs and implementation plan within 18 months, the action levels provided in Section C.6 shall become effective and Copermittees shall respond to NAL exceedances as provided in Section C.2.

Deleted: Each Copermittee, beginning no later than the one year following adoption of this Order, shall implement the non-storm water dry weather action level (NAL) monitoring as described in Attachment E of this Order.

2. In response to an exceedance of a NAL, each Copermittee must investigate and identify the source of the exceedance in a timely manner. Following the source investigation and identification, the Copermittees must submit an action report dependant on the source of the pollutant exceedance as follows:

   a. If the Copermittee identifies the source of the exceedance as natural (non-anthropogenic) in origin; then the Copermittee shall report their findings and documentation of their source investigation to the Regional Board within thirty days of the source identification.

   b. If the Copermittee identifies the source of the exceedance as an illicit discharge or connection, then the Copermitees consistent with Section

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[1] During the interim, Copermittees shall continue to implement the existing Dry Weather Reconnaissance Program

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F.4.f must eliminate or permit the discharge to their MS4 and report the findings, including any follow up and/or enforcement action(s) taken, and documentation of the source investigation to the Regional Board within thirty days. If the Copermittee is unable to eliminate or permit the source of discharge within thirty days, then the Copermittee must submit, as part of their action report, their plan and timeframe to eliminate or permit the source of the exceedance. Those dischargers seeking to continue such a discharge must become subject to a separate NPDES permit prior to continuing any such discharge. Where the source is a non-point discharge whose complete and consistent elimination is demonstrated not to be feasible, the Copermittee must submit their plan for ongoing control programs and numeric measurements of progress, with status reports to be submitted annually.

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c. If the Copermittee identifies the source of the exceedance as an exempted category of non-storm water discharges, then the Copermittees must determine if this is an isolated circumstance or if the category of discharges must be addressed through the prevention or prohibition that category of discharge as an illicit discharge. The Copermittee must submit their findings including a description of the steps taken to address the discharge or the category of discharge, to the Regional Board with the next subsequent annual report or thirty days, whichever is later. Such description shall include relevant updates to or new ordinances, orders, or other legal means of addressing the category of discharges. The Copermittees must also submit a summary of their findings with the Report of Waste Discharge.

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d. If the Copermittee identifies the source of the exceedance as a non-storm water discharge in violation or potential violation of an existing separate NPDES permit (e.g. the groundwater dewatering permit), then the Copermittee must report, within five business days, the findings to the Regional Board including all pertinent information regarding the discharger.

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e. If the Copermittee is unable to identify the source of the exceedance after taking and documenting reasonable steps to do so, then the Copermittee must identify the pollutant as a high priority pollutant of concern in the tributary subwatershed, perform additional focused sampling and update their programs within a year to reflect this priority. The Copermittee's annual report shall include these updates to their program including, where applicable, updates to their watershed workplans (Section G.2), retrofitting consideration (Section F.3.d) and/or program effectiveness work plans (Section J.4).

f. If any Copermittee identifies a significant number of exceedances of NALs that prevent them from adequately conducting source investigations in a timely manner, then the Copermittees may submit a prioritization plan and timeline that

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identifies the timeframe and planned actions to investigate and report their findings on all of the exceedances.

4. An exceedance of an NAL does not alone constitute a violation of the provisions of this Order, however, an exceedance of an NAL may indicate that the Copermittees need to do more to meet the requirement to effectively prohibit unauthorized non-storm water discharges into the MS4 or other prohibitions set forth in Sections A and B of this Order. Failure to timely implement required actions specified in this Order following an exceedance of an NAL constitutes a violation of this Order. However, neither compliance with NALs nor compliance with required actions following observed exceedances, relieves the Copermittees from the requirement to effectively prohibit all types of unauthorized non-storm water discharges into the MS4s or any non-compliance with the prohibitions in Sections A and B of this Order. During any annual reporting period in which one or more exceedances of NALs have been documented the Copermittee must submit with their next scheduled annual report, a report describing whether and how the observed exceedances did or did not result in a discharge from the MS4 that caused, or threatened to cause or contribute to a condition of pollution, contamination, or nuisance in the receiving water.

5. Monitoring of effluent will occur at the end-of-pipe prior to discharge into the receiving waters, with a focus on Major Outfalls, as defined in 40 CFR 122.26(B 5-6) and Attachment E of this Order. The Copermittees must develop their monitoring plans to sample a representative percentage of major outfalls and identified stations within each hydrologic subarea. At a minimum outfalls that exceed any NALs once during any year must be monitored in the subsequent year unless the likely and expected cause of the exceedance is not anthropogenic in nature and is documented in accordance with paragraph C2.a; or the discharge is demonstrated not to cause or contribute to a condition of pollution, contamination, or nuisance in the receiving water. Any station that does not exceed any NALs for 3 years may be replaced with a different station.

6. If the Copermittees fail to submit the NALs and implementation plan within 18 months of the Order effective date pursuant to C.1, then the default non-storm water dry weather action levels shall be the water quality objectives contained within the Basin Plan or Ocean Plan as applicable for the following constitutents:

Discharges to Inland Surface Waters

- Fecal coliform
- Enterococci
- Turbidity
- pH
- Dissolved oxygen
- Total Nitrogen
- Total Phosphorous
- Methylene Blue Active Substances
- Cadmium
- Copper
- Chromium III
- Chromium VI (hexavalent)
- Lead
- Nickel
- Silver
- Zinc

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Discharges to bays, harbors, and lagoons/estuaries

- Total coliform
- Fecal coliform
- Enterococci
- Turbidity
- pH
- Priority pollutants

Discharges to the surf zone

- Total coliform
- Fecal coliform
- Enterococci

[BASIN PLAN OR OCEAN PLAN OBJECTIVES TO BE INSERTED]

Pg. 71, Section F.4.e. Illicit Discharge Detection and Elimination; Investigation/Inspection and Follow-Up:

Each Copermittee must implement procedures to investigate and inspect portions of the MS4 that, based on the results of field screening, analytical monitoring, or other appropriate information, indicate a reasonable potential of containing illicit discharges, illicit connections, or other sources of pollutants in non-storm water.

(1) Develop response criteria for data: Each Copermittee must develop, update, and use numeric criteria action levels (or other actions level criteria where appropriate) to determine when follow-up investigations will be performed in response to water quality monitoring. The criteria must include non-storm water action levels (see Section C) and a consideration of 303(d)-listed waterbodies and environmentally sensitive areas (ESAs) as defined in Attachment C.

Attachment E: Monitoring and Reporting

Pg. 12, C. Non-Storm Water Dry Weather Action Levels

Each Copermittee must collaborate with the other Copermittees to conduct, and report on a year-round watershed based Dry Weather Non-storm Water MS4 Discharge Monitoring Program. The monitoring program implementation, analysis, assessment, and reporting must be conducted on a watershed basis for each of the hydrologic units. The monitoring program must be designed to identify unauthorized non-storm water discharges through the use of non-storm water dry weather action levels in section C of this Order, adopted dry weather Total Maximum Daily Loads Waste Load Allocations and assessment of the contribution of dry weather flows to 303(d) listed impairments. The monitoring program must include the following components;

Each Copermittee's program must be designed to determine levels of pollutants in effluent discharges from the MS4 into receiving waters. Each Copermittee must conduct the following dry weather field screening and analytical monitoring tasks:

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a. Action levels for discharges to inland surface waters:¶
The NALs for Cadmium, Copper, Chromium (III), Lead, Nickel, Silver and Zinc will be developed on a case-by-case basis because the freshwater criteria are based on site-specific water quality data (receiving water hardness). For these priority pollutants, the following equations (40 CFR 131.38.b.2) will be required:

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a. Dry Weather Non-storm Water Effluent Analytical Monitoring Stations

(1) Stations must be major outfalls. Major outfalls chosen must include outfalls discharging to inland surface waters; to bays, harbors and lagoons/estuaries; and to the surf zone. Other outfall points (or any other point of access such as manholes) identified by the Copermittees as potential high risk sources of polluted effluent or as identified under Section C.3.e shall be sampled.

(2) Each Copermittee must clearly identify each dry weather' effluent analytical monitoring station on its MS4 Map as either a separate GIS layer or a map overlay hereafter referred to as a Dry Weather Non-storm Water Effluent Analytical Stations Map.

b. Develop Dry Weather Non-storm Water Effluent Analytical Monitoring Procedures

Each Copermittee must develop and/or update written procedures for effluent analytical monitoring (these procedures must be consistent with 40 CFR part 136), including field observations, monitoring, and analyses to be conducted. At a minimum, the procedures must meet the following guidelines and criteria:

(1) Determining Sampling Frequency: Effluent analytical monitoring must be conducted at major outfalls and identified stations. The Copermittees must sample a representative number of major outfalls and identified stations. The sampling must be done to assess exceedances of the dry weather non-storm water action levels pursuant to section C of this Order. All monitoring conducted must be preceded by a minimum of 72 hours of dry weather.

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(2) If ponded MS4 discharge is observed at a monitoring station, make observations and collect at least one (1) grab sample. If flow is evident a 1 hour composite sample may be taken. Record flow estimation (i.e., width of water surface, approximate depth of water, approximate flow velocity, flow rate).

(3) Effluent samples shall undergo analytical laboratory analysis for constituents in: *Table 1. Analytical Testing for Mass Loading, Urban Stream Bioassessment, and Ambient Coastal Receiving Waters Stations* and for those constituents with action levels under Section C of this Order. Effluent samples must also undergo analysis for Chloride, Sulfate and Total Dissolved Solids.

(4) If the station is dry (no flowing or ponded MS4 discharge), make and record all applicable observations.

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(5) Develop and/or update criteria for dry weather non-storm water effluent analytical monitoring:

(a) Criteria must include action levels in Section C of this Order.hk

(b) Criteria must include evaluation of LC_{50} levels for toxicity to appropriate test organisms

(6) Develop and/or update procedures for source identification follow up investigations in the event of exceedances of dry weather non-storm water action level analytical monitoring result criteria. These procedures must be consistent with procedures required in section F.4.d and F.4.e. of this Order.

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(7) Develop and/or update procedures to eliminate detected illicit discharges and connections. These procedures must be consistent with the non-storm water dry weather action levels in section C and with each Copermittees' Illicit Discharge and Elimination component of its Jurisdictional Runoff Management Plan as discussed in section F.4 and F.4.e. of this Order.

c. Conduct Dry Weather Non-storm Water Effluent Analytical Monitoring

The Copermittees must commence implementation of dry weather effluent analytical monitoring under the requirements of this Order no later than one year following adoption of this Order. If monitoring indicates an illicit connection or illegal discharge, conduct the follow-up investigation and elimination activities as described in submitted dry weather field screening and analytical monitoring procedures and found in sections C.F.4.d and F.4.e of Order No. R9-2009-0002.

Until the dry weather non-storm water effluent analytical monitoring program is implemented under the requirements of this Order, each Copermittee must continue to implement dry weather field screening and analytical monitoring as it was most recently implemented pursuant to Order No. 2002-01.

Attachment F – Source Data
Page 1 and 9,

II. NON-STORM WATER ACTION LEVELS

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Tentative Order Fact Sheet

Page 20, Discussion on Finding A.1:

As a means for achieving those water quality objectives, Porter-Cologne (section 13243) further authorizes the Regional Water Quality Control Boards to establish waste discharge requirements (WDRs) to prohibit waste discharges in certain conditions or areas. Since 1990, the San Diego Regional Board has issued area-wide MS4 NPDES permits. The Order will renew Order No. R9-2002-01 to comply with the CWA and attain water quality objectives in the Basin Plan by limiting the contributions of pollutants conveyed by storm water and by including numeric action levels for dry weather non-storm water discharges designed to ensure that the Copermittees comply with the requirement to effectively prohibit unauthorized non-storm water discharges into their MS4s. Further discussions of the legal authority associated with the prohibitions and directives of the Order are provided in section VII this document.

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Page 45, Discussion on Finding C.14:

As explained in the discussion of Finding C.15., below, the Copermittees' reliance on BMPs for the past 19 years has not resulted in compliance with applicable water quality standards. The Regional Board has evaluated (in accordance with 40 CFR 122.44(d)(1)) past and existing controls (BMPs), non-storm water effluent monitoring results, the sensitivity of the species in receiving waters (e.g. endangered species), and the potential for effluent dilution, and has determined that existing BMPs to control pollutants in storm water discharges are not sufficient to protect water quality standards in receiving waters and the existing requirement that Copermittees effectively prohibit unauthorized non-storm water discharges into the MS4 historically results in the discharge of pollutants to the receiving waters. Thus, numeric action levels for non-storm water, dry weather, discharges from the MS4 and required actions following observed exceedances of numeric action levels have been established. For further discussion regarding the development of action levels please see Finding E.12 and discussion.

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Dry weather action levels are applicable to non-storm water discharges of effluent from the MS4 system. Non-storm water effluent discharges from the MS4 are those which occur during dry weather conditions. These action levels are not applied to storm water discharges, as defined within the Order. Storm water discharges regulated by the Order are required to meet the MEP standard and related iterative process and have separate action levels.

Dry weather action levels are applicable to non-storm water discharges from the MS4 system into receiving waters. Non-storm water discharges are already required to be prohibited unless specifically exempted or covered under a separate NPDES permit. Dry weather action levels apply to non-storm water discharges of effluent from a point source into receiving waters. The MS4 is not a receiving water. Should a discharger wish to discharge a non-exempt category to the MS4 system, such discharges require a separate NPDES permit pursuant to sections 402 and 301 of the CWA. It is also

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infeasible to monitor and sample every discharge into the MS4, as such discharges are diffuse by nature and may vary spatially and temporally.

Finding E.12 This Order requires each Copermittee to effectively prohibit unauthorized non-storm water discharges into its MS4. However, pollutants have been identified in dry weather non-storm water discharges from the MS4s through 303(d) listings, and monitoring conducted by the Copermittees under Order No. R9-2002-0001. This Order includes action levels for pollutants in non-storm water, dry weather, discharges from the MS4 designed to assist in determining if the requirement to effectively prohibit unauthorized discharges of non-storm water in the MS4 is being met. Action levels in the Order are based upon numeric or narrative water quality objectives and criteria as defined in the Basin Plan, and the Water Quality Control Plan for Ocean Waters of California (Ocean Plan). An exceedance of an action level requires a specified responsive action by the Copermittees. This Order describes what actions the Copermittees must take when an exceedance of an action level is observed. Exceedances of non-storm water action levels do not constitute a violation of this Order, however, it could indicate that the Copermittee may need to do more to meet the requirement to effectively prohibit unauthorized non-storm water discharges into the MS4 or other prohibitions established in this Order. Failure to undertake the required responsive actions such as source investigations and/or elimination actions following an exceedance of a non-storm water action level (NAL or action level) is a violation of this Order. Establishing NALs at levels appropriate to protect water quality standards is expected to lead to the identification of significant sources of pollutants in dry weather non-storm water discharges.

Discussion of Finding E.12. This Order includes the existing requirement that Copermittees effectively prohibit unauthorized non-storm water discharges in the MS4s. It also includes the following prohibition set forth in the Basin Plan: "The discharge of waste to waters of the state in a manner causing, or threatening to cause a condition of pollution, contamination or nuisance as defined in California Water Code section 13050 is prohibited." (Prohibition A.1.) As discussed in the Order's Findings on discharge characteristics, e.g., C.2., C.4., C.6., C.7., C.9., C.14. , and C.15., the Copermittee's reliance on BMPs for the past 19 years has not resulted in compliance with applicable water quality standards or compliance with the requirement to effectively prohibit unauthorized discharges of non-storm water in the MS4. The Regional Board has evaluated (in accordance with 40 CFR 122.44(d)(1)) past and existing control (BMPs), non-storm water effluent monitoring results, the sensitivity of the species in receiving waters (e.g. . endangered species), and the potential for effluent dilution and has determined that existing BMPs to control pollutants in storm water discharges are not sufficient to protect water quality standards in receiving waters and the existing requirement that Copermittees effectively prohibit unauthorized non-storm water discharges into the MS4 historically results in the discharge of pollutants to the receiving waters.

It is appropriate to establish dry weather non-storm water action levels protective of water quality standards to measure pollutants levels in the discharge of dry weather non-storm water that could indicate non-compliance with the requirement to effectively

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prohibit unauthorized non-storm water discharges into the MS4 and/or that these discharges are causing, or threatening to cause, a condition of pollution, contamination or nuisance in the receiving waters. NALs are not numeric effluent limitations. An exceedance of an NAL requires the Copermittees to initiate a series of source investigations and/or elimination actions to address the exceedance. Results from the NAL monitoring are to be used in developing the Copermittees annual work plans. Failure to undertake required source investigation and/or elimination actions in a timely manner following an exceedance of an NAL is a violation of this Order. Please see further discussion in the directives section C of the fact sheet.

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A purpose of monitoring, required under this and previous Orders, as stated in the Monitoring and Reporting Program is to "detect and eliminate illicit discharges and illicit connections to the MS4" and to answer the following core management questions:

1. Are conditions in receiving waters protective, or likely to be protective, of beneficial uses?

2. What is the extent and magnitude of the current or potential receiving water problems?

3. What is the relative MS4 discharge contribution to the receiving water problem(s)?

4. What are the sources of MS4 discharge that contribute to receiving water problem(s)?

5. Are conditions in receiving waters getting better or worse?

For the past 4 permit cycles (19 years), Copermittees have utilized their IC/ID program to identify and eliminate non-storm water discharges that are sources of pollutants to the MS4. The Copermittees are also subject to the requirement to effectively prohibit unauthorized discharges of non-storm water into the MS4s. Historically, discharges of unauthorized non-storm water do occur, resulting in the discharge of pollutants to the receiving waters. NALs have been included in this Order to assist the Copermittees in complying with the requirement to effectively prohibit unauthorized non-storm water discharges that are a source of pollutants in the receiving waters.

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C. Non Storm Water Dry Weather Action Levels

The following legal authority applies to Section C:

Broad Legal Authority: CWA section 402, 402(p)(3)(B)(ii), CWC §13377, 40 CFR 122.26(d)(2)(i)(B, C, E, and F), and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority:

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The Clean Water Act section 402(p)(3)(B)(ii) provides that MS4 permits "shall include a requirement to effectively prohibit non-storm water discharges into the storm sewers."

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B) provides that the proposed management program "shall be based on a description of a program, including a schedule, to detect and remove (or require the discharger to the municipal storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(1) provides that the Copermittee include in its proposed management program "a program, including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the municipal storm sewer system; this program description shall address all types of illicit discharges, however the [listed exempt] category of non-storm water discharges or flows shall be addressed where such discharges are identified by the municipality as sources of pollutants to waters of the United States."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(2) provides that the Copermittee include in its proposed management program "a description of procedures to conduct on-going field screening activities during the life of the permit, including areas or locations that will be evaluated by such field screens."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(3) provides that the Copermittee include in its proposed management program "procedures to be followed to investigate portions of the separate storm sewer system that, based on the results of the field screen, or other appropriate information, indicate a reasonable potential of containing illicit discharges or other sources of non-storm water."

Section C establishes non-storm water dry weather action levels (see also Finding C.14, Finding E.12 and the Discussion for those sections).

Non-exempted, non-storm water discharges are to be effectively prohibited from entering the MS4 or become subject to another NPDES permit (see Federal Register, Vol. 55, No. 222, pg. 47995). Conveyances which continue to accept non-exempt, non-storm water discharges do not meet the definition of MS4 and are not subject to section 402(p)(3)(B) of the CWA unless the discharges are issued separate NPDES permits. Instead, conveyances that continue to accept non-exempt, non-storm water discharges that do not have a separate NPDES permit are subject to sections 301 and 402 of the CWA (see Federal Register, Vol. 55, No. 222, pg. 48037).

The Order requires the sampling of a representative percentage of major outfalls and other identified stations within each hydrologic subarea. While it is important to assess all major outfall discharges from the MS4 into receiving waters, to date the Copermittees have implemented a dry-weather monitoring program that has identified major outfalls that are representative of each hydrologic subarea and have randomly sampled other major outfalls. Thus, it is expected that the Copermittees will utilize past

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dry weather monitoring in the selection and annual sampling of a representative percentage of major outfalls in accordance with the requirements under Section C.4.

Background and Rationale for Requirements

The Regional Board developed the requirements for dry weather non-storm water action levels based upon an evaluation of existing controls, monitoring and reporting programs (effluent and receiving water), special studies, and based upon Findings C.1 C.3, C.4, C.6, C.7 and C.14.

Water Quality Control Plan

Section 303(C) of the Clean Water Act requires the state to establish Water Quality Standards (WQS). WQS define the water quality goals of a waterbody, or part thereof, by designating their use or uses to be made of the water and by setting criteria necessary to protect those uses.

The Regional Board's Water Quality Control Plan for the San Diego Basin (Basin Plan) designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the Basin Plan. The Basin Plan was adopted by the Regional Board on September 08, 1994, and was subsequently approved by the State Board on December 13, 1994. Subsequent revisions to the Basin Plan have also been adopted by the Regional Board and State Board.

State Board Resolution No. 88-63 establishes state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal and domestic supplies. Requirements of this Order do not include effluent limitations reflecting municipal and domestic supply use as all waters within the County of Orange under this Order are specifically exempted from municipal and domestic supply as a Beneficial Use.

The State Board adopted the Water Quality Control Plan for Ocean Waters of California (Ocean Plan) in 2005, it was approved by USEPA, and became effective on February 14, 2006. The Ocean Plan establishes Water Quality Objectives, general requirements for management of waste discharged to the ocean, effluent quality requirements, discharge provisions, and general provisions. Limitations derived from the Ocean Plan have been included in this Order to protect the Beneficial Uses of enclosed bays and estuaries because their Beneficial Uses are similar

National Toxics Rule (NTR) and California Toxics Rule (CTR)

The USEPA adopted the NTR on December 22, 1992, which was amended on May 04, 1995, and November 09, 1999. The CTR was adopted by USEPA on May 18, 2000, and amended on February 13, 2001. These rules include water quality criteria for priority pollutants and are applicable to non-storm water discharges from the MS4. Criteria for 126 priority pollutants are established by the CTR. USEPA promulgated this rule to fill a gap in California water quality standards that was created in 1994 when a

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California court overturned the State's water quality control plans containing criteria for priority toxic pollutants. The federal criteria are legally applicable in the State of California for inland surface waters, enclosed bays and estuaries for all purposes and programs under the CWA.

Antidegradation Policy

Section 131.12 of 40 CFR requires that the State water quality standards include an antidegradation policy consistent with the federal policy. The State Board established California's antidegradation policy in State Board Resolution No. 68- 16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Regional Boards' Basin Plans implement, and incorporate by reference, both the State and federal antidegradation policies. Permitted non-storm water discharges from the MS4 are consistent with the antidegradation provision of 40 CFR section 131.12 and State Board Resolution No. 68-16.

Monitoring and Reporting

40 CFR Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Sections 13267 and 13383 of CWC authorize the Regional Boards to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement state and federal regulations. The Monitoring and Reporting Program can be found as Attachment E of the Order.

Dilution or Mixing Zones

In order to protect the Beneficial Uses of receiving waters from pollutants as a result of non-storm water MS4 discharges, this Order does not provide for a mixing zone or a zone of initial dilution except when the discharge is to the surf zone.

The San Diego Region has predominately intermittent and ephemeral rivers and streams (Inland Surface Waters) which vary in flow volume and duration at spatial and temporal scales. Therefore, it is assumed that any non-storm water discharge from the MS4 into the receiving water is likely to be of a quantity and duration that does not allow for dilution or mixing. For ephemeral systems, non-storm water discharges from the MS4 are likely to be the only surface flows present within the receiving water during the dry season.

MS4 discharge points to bays, estuaries and lagoons are not designed to achieve maximum initial dilution and dispersion of non-storm water discharges. Thus, initial dilution factors for non-storm water discharges from the MS4 into bays, estuaries, and lagoons are conservatively assumed to equal zero.

It is appropriate to base numeric action levels for dry weather non-storm water discharges on these considerations.

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California Ocean Plan

A discharge to a surf zone occurs when the non-storm water discharge point from the MS4 discharges:

a) Directly into the ocean in a wave induced area subject to long-shore conditions; or

b) Across a primarily sandy substrate beach and subsequently directly into a wave induced area subject to long-shore conditions;

Establishment of Action levels

Action levels in the Order are based upon numeric or narrative water quality objectives and criteria as defined in the Basin Plan and the Water Quality Control, Plan for Ocean Waters of California (Ocean Plan). The Regional Board recognizes that use of action levels will not necessarily result in detection of all unauthorized sources of non-storm water discharges because there may be some discharges in which pollutants do not exceed established action levels.

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In June of 2006, the California Water Board's Blue Ribbon Storm Water Panel released it's report titled 'The Feasibility of Numerical Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities.' The report only examined numerical limits as applied to storm water and not non-storm water. In the recommendations, the Blue Ribbon panel proposed storm water action levels which are computed using statistical based population approaches. For example, Section D of the Permit uses a recommended statistical approach to develop storm water action levels. The Blue Ribbon panel did not examine the efficacy of action levels or recommendations for development of action levels for non-storm water discharges.

For discharges to inland surface waters, action levels are based on the EPA water quality criteria for the protection of aquatic species, the EPA water quality criteria for the protection of human health, water quality criteria and objectives in the applicable State plans, effluent concentration available using best available technology, and 40 CFR 131.38. Since the assumed initial dilution factor for the discharge is zero and a mixing zone is not allowed, a non-storm water discharge from the MS4 could not cause an excursion from numeric receiving water quality objectives if the discharge is below the action levels contained in the Order. Likewise, discharges below action levels to the surf zone cannot cause excursions from water quality objectives.

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Dry weather monitoring of non-storm water MS4 effluent conducted under the previous Order (R9-2002-001), which relies on BMPs as controls to protect water quality standards, has identified pollutants that are found in non-storm water discharges. Monitoring of pH, Dissolved Oxygen, Phosphorus, Nitrate, Turbidity and Methylene Blue Active Substances (MBAS) in non-storm water MS4 discharges has shown that the effluent concentrations are above state water quality criteria. Therefore, it is appropriate to establish numeric action levels for these pollutants to assist the Copermittees in

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meeting the requirement to effectively prohibit unauthorized non-storm water discharges into the MS4s.

Water Quality Limited Segments on the current 303(d) list (2006) within the jurisdiction of this Order have been identified due to exceedances of Sulfate, Chloride and Total Dissolved Solids criteria from a source which is currently unknown (see Table 2a). These pollutants are not monitored for under the current non-storm water MS4 effluent monitoring program. This Order now requires non-storm water MS4 discharge monitoring to include monitoring for Sulfates, Chlorides and Total Dissolved Solids.

Priority pollutants analyzed included Cadmium, Copper, Chromium, Lead, Nickel, Silver and Zinc. These priority pollutants are likely to be present in non-storm water MS4 discharges (see Finding C.3) and dissolved metal effluent monitoring is available from the previous Order. The most stringent applicable water quality criteria have been identified for these seven metals and, excluding Chromium (VI), and all are dependent on receiving water hardness. The conversion factors for Cadmium and Lead are also water hardness dependent (40 CFR 131.38(b)(2)). These levels are established as the action levels for these constituents.

While effluent monitoring is available from the previous Order, the monitoring was done for dissolved concentrations and lacked a measurement of receiving water hardness. Due to the multiple point source discharges of non-storm water from the MS4, a discharge may enter a receiving water whose hardness will vary temporally. In addition, hardness may vary spatially within and among receiving waters.

However, other information is available to determine the appropriateness of an action level. Existing effluent monitoring concentrations absent of receiving water data, no dilution credit or mixing zone allowance, current 303(d) listings of receiving waters for other pollutants, receiving water monitoring data, and the classification of waters as critical habitat for endangered and species of concern, provide evidence that NALs are appropriate for these priority pollutants at this time in order to assist the Copermittees in meeting the requirement to effectively prohibit unauthorized non-storm water discharges into the MS4s.

Existing effluent data (see attachment F), absent receiving water hardness, provides evidence that it is appropriate to include NALs based on a conservative hardness level. Absent receiving water hardness, all analyzed metals, are discharged at concentrations which may be in exceedance of CTR criteria depending on receiving water hardness. Chromium effluent data that is available is in the form of total Chromium. However, Chromium criteria are for Chromium III and Chromium VI. Therefore, the total Chromium measurement is inadequate, but can be used as an estimate of Chromium III and VI concentrations.

As discussed, inland surface waters, enclosed bays, and estuaries have conservatively been allotted a mixing zone and dilution credit of zero. As discussed in Finding C.7 and discussion, multiple receiving waters within the County of Orange are 303(d) listed for a number of pollutants, including toxicity. The 303(d) listing of a waterbody as impaired

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provides evidence that the receiving water(s) are already experiencing negative impacts. These water quality limited segments are more susceptible to degradation from the synergistic addition of more pollutants, even from upstream discharges. It is therefore appropriate to include numeric action levels designed to ensure that the Copermittees are complying with the requirement to effectively prohibit unauthorized discharges of non-storm water into the MS4s.

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Copermittees have monitored the receiving waters for MS4 discharges pursuant to requirements under Order R9-2002-0002. Dry weather receiving water data indicates poor conditions within waters receiving non-storm water MS4 discharges. Urban stream bioassessment conducted under the Order (2002-2008) has documented all non-reference sites as consistently having poor or very poor Index of Biotic Integrity (IBI) scores, in part due to receiving water toxicity.[2]

Receiving waters within the jurisdiction of this Order are classified as critical habitat, including being designated with the RARE beneficial use, for endangered, threatened and species of concern including, but not limited to, *O. mykiss irideus, E. newberryil, A. marmorata pallida and G. orcutti*.

The Regional Board evaluated discharges to the surf zone per the California Ocean Plan, Appendix VI and in accordance with 40 CFR 122.44(d). Indicator bacteria, pH, turbidity (NTU), and metals were analyzed for the purpose of determining the levels of these constituents in non-storm water discharges from the MS4.

The Regional Board has determined that there is not sufficient information at this time to develop action levels for pH, turbidity and metals. While non-storm water MS4 effluent data is available, the data collected is for discharges to inland surface waters, enclosed bays and estuaries. Preliminary receiving water data and limited non-storm water MS4 discharge data collected under the Ambient Coastal Receiving Water Monitoring indicates some exceedances of criteria for metals in the discharge, and toxicity in receiving waters[3]. However, the Regional Board believes the level of data available is insufficient, and is requiring additional monitoring of pH, turbidity and metals in non-storm water MS4 discharges to ocean waters (discharges to the surf zone).

Water Quality Limited Segments on the current 303(d) list (2006) for the Pacific Ocean shoreline within the jurisdiction of this Order have been identified due to exceedances of Indicator Bacteria criteria whose known source includes non-storm water discharges from the MS4. These 303(d) listed segments support extensive REC-1 beneficial uses and are located within State Marine Reserves and Conservation Areas. The listing of receiving waters as 303(d) listed for bacteria supports the inclusion of action levels to ensure that the Copermittees are complying with the requirement to effectively prohibit all types of unauthorized non-storm water discharges into the MS4. In addition, no dilution credit or mixing zone allowance is included in developing numeric action levels for the discharge of a pollutant to waters which are 303(d) as impaired for that pollutant.

[2] 2006-07 and 2007-08 Unified Annual Progress Reports.
[3] 2007-08 Unified Annual Progress Report.

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Compliance with Permit

Compliance with Section C shall be determined as follows:

Dischargers shall be deemed to be out of compliance with this Order if the Copermittee failed to take the prescribed responsive actions in response to an exceedance of a numeric action level. Regardless of the Copermittee's actions in response to an exceedance, they are still subject to the prohibitions found in Sections A and B of the Order.

When determining to take an action in response to the NALs and more than one sample result is available in a month, the discharger shall consider the frequency, magnitude, and number of constituents exceeding the NALs.

Page 155, Section F.4.e. Illicit Discharge Detection and Elimination (Investigations)

The Copermittees currently use action levels to facilitate the determination of when source investigation studies are warranted based on data from the dry-weather monitoring program. One set of criteria is based on regional averages of constituent concentrations that were developed based on randomly selected storm drains. Another set of criteria is based on trends at a particular station. These are reasonable criteria if decision-makers are properly trained and action levels set by the County are in compliance with dry weather non-storm water action levels as required in Section C. The ability of the local managers to interpret dry-weather monitoring data collected by the County has greatly improved in the last two years, and continued training is required in section F.4.i.

Page 178, Section T. Attachment E – Receiving Waters and MS4 Discharge Monitoring and Reporting Program

Considering the benefits described above, the Receiving Waters Monitoring and Reporting Program (MRP) has been designed to determine impacts to receiving water quality and beneficial uses from storm water runoff and to use the results to refine the Copermittees' storm water runoff management programs for the reduction of storm water pollutant loadings to the MEP. For non-storm water discharges, monitoring has been designed for the identification of prohibited illicit discharges and to determine appropriate actions to take in response to dry weather non-storm water action levels. Additionally, the results from dry weather non-storm water monitoring can be used to evaluate exempted non-storm water discharges as a source or conveyance of pollutants. The primary goals of the MRP include:

Page 186,

Dry Weather Non-storm Water Action Levels

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On the basis of the foregoing discussion, the NALs were calculated with the following considerations and assumptions:¶
No dilution credit is considered for the discharge. Therefore, the discharge must comply with the Water Quality Objective at the point of discharge.¶
For NALs based on CTR, implementation was done using the procedure list as outlined in the SIP (see below example).¶
NAL CTR/SIP Calculation – Zinc Example: ¶
Criteria for Priority Toxic Pollutants in the State of California is described in the CTR table listed in 40 CFR 131.38.¶
Insert Table¶
These criteria are expressed in terms of the dissolved fraction of the metal in the water column. [See footnote "m" to Table in paragraph (b)(1) of 40 CFR 131.38].¶
40 CFR 122.45(c) requires that this Order include effluent limitations as total recoverable concentration; therefore it is appropriate to include action levels also as total recoverable concentration.¶
The SIP requires that if it is necessary to express a dissolved metal value as a total recoverable and a site-specific translator has not yet been developed, the Regional Board shall use the applicable conversion factor from 40 CFR 131.38.¶
The term "Conversion Factor" (CF) represents the recommended conversion factor for converting a metal criterion expressed as th … [2]

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Section II.C of the MRP describes the monitoring to be conducted by the Copermittees to determine exceedances of dry weather non-storm water action levels.

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Section II.B.3 has been changed by removal of the Dry Weather Field Screening and Analytical Monitoring and subsequent replacement with section II.C for Dry Weather Non-Storm Water Action Level Monitoring.

This change is required to assess exceedances of action levels for non-storm water discharges from the MS4 into receiving waters. The required sampling frequency has been changed to allow Copermittees to sample a representative number of discharge points and the sampling methodology has been changed to grab sampling. This is expected to allow Copermittees to maintain a cost-neutral dry weather monitoring program that is similar to their existing IC/ID monitoring program.

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Page 189, U. Attachment F – Source Data

Attachment F contains data utilized for the development of Storm Water Action Levels and Non-storm Water Action Levels.

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Cadmium (Total Recoverable)	= exp(0.7852[in(hardness)] – 2.715)
Chromium III (Total Recoverable)	= exp(0.8190[in(hardness)] + 6848)
Copper (Total Recoverable)	= exp(0.8545[in(hardness)] – 1.702)
Lead (Total Recoverable)	= exp (1.273[in(hardness)] – 4.705)
Nickel (Total Recoverable)	= exp (.8460[in(hardness)] + 0.0584)
Silver (Total Recoverable)	= exp (1.72[in(hardness)] – 6.52)
Zinc (Total Recoverable)	= exp (0.8473[in(hardness)] + 0.884)

b. Action levels for discharges to bays, harbors and lagoons/estuaries:

Insert Table 4.b: General Constituents

c. Action levels for discharges to the surf zone:

Insert Table 4.c: General Constituents

Page 17: [2] Deleted **Author**

Calculations for Discharges to Inland Surface Waters, Enclosed Bays, and Estuaries.

On the basis of the foregoing discussion, the NALs were calculated with the following considerations and assumptions:

No dilution credit is considered for the discharge. Therefore, the discharge must comply with the Water Quality Objective at the point of discharge.

For NALs based on CTR, implementation was done using the procedure list as outlined in the SIP (see below example).

NAL CTR/SIP Calculation – Zinc Example:

Criteria for Priority Toxic Pollutants in the State of California is described in the CTR table listed in 40 CFR 131.38.

Insert Table

These criteria are expressed in terms of the dissolved fraction of the metal in the water column. [See footnote “m” to Table in paragraph (b)(1) of 40 CFR 131.38].

40 CFR 122.45(c) requires that this Order include effluent limitations as total recoverable concentration; therefore it is appropriate to include action levels also as total recoverable concentration.

The SIP requires that if it is necessary to express a dissolved metal value as a total recoverable and a site-specific translator has not yet been developed, the Regional Board shall use the applicable conversion factor from 40 CFR 131.38.

The term “Conversion Factor” (CF) represents the recommended conversion factor for converting a metal criterion expressed as the total recoverable fraction in the water column to a criterion expressed as the dissolved fraction in the water column.

Total recoverable concentration * CF = Dissolved concentration criterion

or

Total recoverable concentration = Dissolved concentration criterion/ CF

Insert Table

<u>Effluent Variability multiplier and Coefficient of Variation (CV)</u>

For each concentration based on an aquatic life criterion, the long-term average (LTA) is calculated by multiplying the concentration with a factor that adjusts for effluent variability. The multiplier can be found in Table 1 of the SIP. Since this Order does not have existing data to properly conduct a variability analysis in accordance with the SIP, the CV has been set equal to 0.6 per SIP requirements. The current effluent data is limited due to the small number of representative outfalls sampled, the lack of outfalls discharging to representative waterbodies within the Region, and the targeted nature of the sampling design.

Based upon a CV of 0.6, Table 1 of the SIP requires an effluent variability as follows:

Acute Multiplier = 0.321

Chronic Multiplier = 0.527

The long-term average (LTA) is calculated by multiplying the total recoverable concentrations for zinc with the acute and chronic multipliers:

LTA Acute = 95 ug/L * 0.321 = 30.5

LTA Chronic = 86 ug/L * 0.527 = 45.3

The MDAL and AMAL will be based on the most limiting of the acute and chronic LTA, in the case for copper the most limiting LTA is the acute of 30.5 ug/L

NALs are calculated by multiplying the most limiting LTA with a multiplier that adjusts for the averaging periods and exceedance frequencies of the criteria and the effluent limitations. The multiplier can be found in Table 2 of the SIP. Since

this Order has insufficient data, the CV has been set to 0.6 and since sampling frequency is four times a month or less, n has been set equal to 4 per the SIP.

Insert Table 2.

Therefore, from Table 2 of the SIP, the LTA multipliers will be as follows:

MDAL Multiplier = 3.11

AMAL Multiplier = 1.55

The MDAL and AMAL limits are calculated by multiplying the LTA with an LTA multiplier for each limit:

MDAL = 30.5 ug/L * 3.11 = 95 ug/L

AMAL = 30.5 ug/L * 1.55 = 47 ug/L

Calculations for Discharges to the Surf Zone

The Average Monthly and Maximum Daily NALs were calculated with the following considerations and assumptions:

No dilution credit is considered for the discharge. Therefore, the discharge must comply with the Water Quality Objective at the point of discharge. Whole Effluent Toxicity (WET) Testing Requirements

A WET limit is required if a discharge causes, has a reasonable potential to cause, or contributes to an exceedance of applicable water quality standards, including numeric and narrative. Since these types of discharges are prohibited under this Order, WET limits are not applicable.

Discussion of AMALs, MDALs and Instantaneous Maximums

Where practical, action levels in this Order have been expressed as both AMALs and MDALs. Certain action levels may not practicably be expressed as AMALs and MDALs due to specific BPO language, sampling requirements and/or a lack of Criteria. Based upon the likely sampling frequency of the Copermittees, the frequency of sampling will occur such that grab samples are taken once per sampling day. This single sample would then be subject to MDALs and Instantaneous Maximum levels. In this case, the more conservative action level would apply. In addition, it is expected that some effluent monitoring will occur less than or equal to once per month. In this scenario, the MDAL, AMAL and Instantaneous Maximum levels would need to be met based upon one sample, unless sampling did not occur. For some BPOs, AMALs have been excluded and only MDALs/Instantaneous Maximums set to prevent redundancy in action levels.

compute the arithmetic mean unless the data set contains one or more reported determinations of DNQ or ND. In those cases, the discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

(1) The data set shall be ranked from low to high, reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

(2) The median value of the data set shall be determined. If the data set has an odd number of data points then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of those points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.