NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT FACT SHEET FOR
STORM WATER DISCHARGES
ASSOCIATED WITH INDUSTRIAL ACTIVITIES
NPDES NO. CAS000001

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I. BACKGROUND

A. Purpose

The purpose of this Fact Sheet is to explain the legal requirements and technical rationale that serve as the basis for the requirements of this Order <Insert Order > (General Permit) on <Insert Date>. The requirements of this Order regulate operators of facilities subject to storm water permitting (Dischargers), that discharge storm water associated with industrial activity (industrial storm water discharges). This General Permit replaces Water Quality Order 97-03-DWQ**.**

B. History

The Federal Clean Water Act (CWA)[1] prohibits discharges from point sources to waters of the United States, unless the discharge is made in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. (CWA § 301(a).) In 1987, the CWA was amended to establish a framework for regulating municipal storm water discharges and discharges of storm water associated with industrial activity (industrial storm water discharges) under the NPDES program. (CWA § 402(p).) In 1990, the United States Environmental Protection Agency (U.S. EPA) promulgated regulations, commonly known as Phase I, establishing application requirements for storm water permits for specified categories of industries. (40 C.F.R. § 122.26.) In 1992, U.S. EPA revised the monitoring requirements for industrial storm water discharges. (40 C.F.R. § 122.44(i)(2), (4), (5).) In 1999, U.S. EPA adopted additional storm water regulations, known as Phase II. (64 Fed. Reg. 68722.) The Phase II regulations provide for, among other things, a conditional exclusion from NPDES permitting requirements for industrial activities that have no exposure to storm water.

Industrial storm water discharges are regulated pursuant to CWA section 402(p)(3)(A). This provision requires NPDES permits for industrial storm water discharges to implement CWA section 301, which includes requirements for Dischargers to comply with technology-based effluent limitations, as well as any more stringent limitations necessary to meet water quality standards (WQS). Technology-based effluent limitations applicable to industrial activities are best conventional pollutant control technology (BCT) for conventional pollutants, and best available technology economically achievable (BAT) for toxic and non-conventional pollutants. (CWA § 301(b)(1)(A) and (2)(A).) To ensure compliance with WQS, NPDES permits may also require a Discharger to implement best management practices (BMPs). 40 C.F.R. section 122.44(k)(4) requires the use of BMPs to control or abate the discharge of pollutants when numeric effluent limitations (NELs) are infeasible. The State Water Resources Control Board (State Water Board) has concluded that it is infeasible to establish NELs for storm water discharges associated with industrial activity at this time.

On April 17, 1997, the State Water Board issued NPDES General Permit for Industrial Storm Water Discharges, Excluding Construction Activities, Water Quality

[1] Federal Water Pollution Control Act of 1970 (also referred to as the Clean Water Act or CWA), 33 U.S.C. § 1201 et seq. All further statutory references herein are to the CWA unless otherwise indicated.

Order 97-03-DWQ (previous permit). This State Water Board Order <Insert Order> rescinds the previous permit and constitutes the statewide general permit for industrial storm water discharges. The State Water Board concludes that significant revisions to the previous permit were needed to make this General Permit more uniform in its application and more objective for enforcement. As fully discussed in this Fact Sheet, this General Permit requires Dischargers to:

- Eliminate unauthorized non-storm water discharges (NSWDs);
- Develop and implement storm water pollution prevention plans (SWPPP) that include BMPs;
- Implement minimum BMPs, and any advanced BMPs required to achieve compliance with the effluent limitations of this General Permit;
- Conduct monitoring, including visual observations and analytical storm water monitoring for indicator parameters;
- Compare monitoring results for all monitored parameters to numeric action levels (NALs) derived from the U.S. EPA 2008 Multi-Sector General Permit for Storm Water Discharges Associated with Industrial Activity (2008 MSGP) and other industrial storm water discharge monitoring data collected in California;
- Perform the appropriate Exceedance Response Actions (ERAs) if there are exceedances of the NALs; and
- Certify and submit all permit-related compliance documents via the Storm Water Multi Application Reporting and Tracking System (SMARTS). Dischargers shall certify and submit these documents which include, but are not limited to, Notices of Intent (NOIs), No Exposure Certifications (NECs), Permit Registration Documents (PRDs), Storm Water Pollution Prevention Plans (SWPPPs), Annual Reports, Notices of Termination (NOTs), Level 1 ERA Reports, and Level 2 ERA Technical Reports.

C. Blue Ribbon Panel of Experts (Panel)

In 2005 and 2006, the State Water Board convened a Blue Ribbon Panel of Experts (Panel) to address the feasibility of NELs in California's storm water permits. Specifically, the Panel was charged with answering the following questions:

> Is it technically feasible to establish numeric effluent limitations, or some other quantifiable limit, for inclusion in storm water permits? How would such limitations or criteria be established, and what information and data would be required? [2]

[2] State Water Board Storm Water Panel of Experts, The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities (June 19, 2006). <http://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/numeric/swpanel_final_report.pdf>. [as of July 3, 2013].

The Panel was directed to answer these questions for industrial storm water discharge general permits, construction storm water discharge general permits, and area-wide municipal storm water discharge permits. The Panel was also directed to address both technology-based and water quality based limitations and criteria.

In evaluating the establishment of numeric limitations and criteria, the Panel was directed to consider all of the following:

- The ability of the State Water Board to establish appropriate objective limitations or criteria;
- How compliance is to be determined;
- The ability of Dischargers and inspectors to monitor for compliance; and,
- The technical and financial ability of Dischargers to comply with the limitations or criteria.

Following opportunity for public comment, the Panel identified a number of water quality concerns public process issues, and other issues impacting program effectiveness. The Panel made the following specific recommendations regarding industrial storm water discharges:[3]

- Current monitoring data sets are inadequate; accordingly, the State Water Board should improve monitoring requirements in order to collect useful data for establishing NALs and NELs.
- Required parameters for future monitoring should be consistent with the type of industrial activity (i.e., monitor for heavy metals when there is a reasonable expectation that the industrial activity will result in greater heavy metals concentrations in storm water).
- Insofar as possible, the use of California data (or national data if it can be shown to be applicable to CA) is preferred when setting NELs and NALs.
- Industrial facilities that do not discharge to Municipal Separate Storm Sewer Systems (MS4s) should implement BMPs for their non-industrial exposure (e.g., parking lots, roof runoff) similar to BMPs implemented by commercial facilities in MS4 jurisdictions.
- In all cases, Dischargers should implement a suite of minimum BMPs, including but not limited to, good housekeeping practices, employee training, and preventing materials from exposure to rain.
- Standard Industrial Classification (SIC) code categories are not a satisfactory way of identifying industrial activities at any given site. The State Water

[3] See footnote 2.

Board should develop a better method of characterizing industrial activities that can impact storm water.

- Recognizing that implementing the Panel's suggested changes is a large task, the State Water Board should set priorities for implementation of the Panel's suggested approach in order to achieve the greatest reduction of pollutants statewide.

- The Panel noted that an increasingly number of industries have moved industrial activities indoors, preventing storm water pollution. The Panel recommended that these facilities should be granted some sort of regulatory relief from NALs and/or NELs, but should still be required to comply with MS4 permit requirements.

- The Panel recognized the need to make progress in monitoring and reducing pollutants in industrial storm water discharges, but urged the State Water Board to consider the total economic impact and not unduly penalize California industries when compared to industries outside of California.

With regards to the industrial activities component of its charge, the Panel limited its focus to the question of whether sampling data could be used to derive technology-based NELs. The Panel did not address other factors or approaches that may relate to the task of determining technology- and water quality-based NELs consistent with the regulations and law. Examples of these other factors are discussed in more detail later in this Fact Sheet. Additionally, in its final report the Panel did not clearly differentiate between the role of numeric and non-numeric effluent limitations, nor did it consider prior U.S. EPA procedures used to promulgate effluent limitations in 40 Code of Federal Regulations, Chapter I, Subchapter N (Subchapter N).

D. Summary of Significant Changes in this General Permit

The previous permit was issued on April 17, 1997 and has been administratively extended since 2002 until the adoption of this General Permit. Significant revisions to the previous permit were needed to make this General Permit consistent with recent regulatory changes pertaining to industrial storm water under the CWA. This General Permit is significantly different from the previous permit in the following areas:

1. Minimum Best Management Practices (BMPs)

   This General Permit requires Dischargers to implement a set of minimum BMPs. The minimum BMPs, in combination with any advanced BMPs (collectively, BMPs) necessary to reduce or prevent pollutants in industrial storm water discharges, serve as the basis for compliance with this General Permit's technology-based effluent limitations. Although there is great variation in industrial activities and pollutant sources between industrial sectors and, in some cases between operations within the same industrial sector, the minimum BMPs specified in this General Permit represent common practices that can be implemented by most facilities.

The previous permit did not require a minimum set of BMPs but rather allowed Dischargers to "consider" which non-structural BMPs should be implemented and which structural BMPs should be "considered" for implementation when non-structural BMPs are ineffective. There was no minimum BMP standard. This General Permit requires Dischargers to implement minimum BMPs (which are mostly non-structural BMPs) and advanced BMPs (which are mostly structural BMPs) when implementation of the minimum BMPs do not meet the requirements of the General Permit. Advanced BMPs consists of treatment control BMPs, exposure reduction BMPs, and storm water containment and discharge reduction BMPs. However, any BMP that exceeds the minimum BMP can be considered an advanced BMP.

The minimum and advanced BMPs in this General Permit compare favorably to those in the 2008 MSGP, guidance developed by the California Stormwater Quality Association, and recommendations by Regional Water Quality Control Board (Regional Water Board) inspectors. Dischargers are required to evaluate BMPs being implemented and determine an appropriate interval for the implementation or inspection of these BMPs.

2. Conditional Exclusion - No Exposure Certification (NEC)

   This General Permit applies U.S. EPA's Phase II regulations regarding a conditional exclusion for facilities where there is no exposure of industrial activities and materials to storm water. (40 C.F.R. § 122.26(g).) The previous permit required light industries to obtain coverage only if their activities were exposed to storm water. This General Permit implements current U.S. EPA rules allowing any type of industry to claim the conditional exclusion. In this General Permit, the NEC requires enrollment for coverage but conditionally excludes Dischargers from a majority of the requirements.

3. Electronic Reporting Requirements

   This General Permit requires Dischargers to submit and certify all reports via SMARTS. The previous permit used a paper reporting process, with electronic reporting as an option.

4. Training Expectations and Roles

   This General Permit requires that Dischargers arrange to have appropriately trained personnel implementing this General Permit's requirements at each facility. In addition, if a Discharger's facility enters Level 1 status, the Level 1 ERA Report must be prepared by a QISP. All Action Plans and Technical Reports required in Level 2 status must also be prepared by a QISP.

   Dischargers may appoint a staff person to take the QISP training or hire an outside contractor. QISP training is tailored to persons with a high degree of technical knowledge and environmental experience. Although QISPs do not need to be California licensed professional engineers, it may be necessary to involve a

California licensed professional engineer to perform certain aspects of the Technical Reports.

5. Numeric Action Levels (NALs) and NAL Exceedances

   Annual NALs are equal to, and function similarly to, the benchmark monitoring values provided in the 2008 MSGP. This General Permit contains two types of NALs. Instantaneous maximum NALs target hot spots or episodic discharges of pollutants. Instantaneous NALs for Total Suspended Solids (TSS) and Oil and Grease (O&G) were calculated based on California industrial storm water discharge monitoring data.

6. Exceedance Response Actions (ERA)

   This General Permit establishes ERAs, which must be implemented by Dischargers whenever an annual NAL or instantaneous maximum NAL exceedance occurs during a reporting year. The first time an annual NAL or instantaneous maximum NAL exceedance occurs for any one parameter, a Discharger's status is changed to Level 1 status, and the Discharger is required to review and revise, as necessary, its BMPs and submit a report prepared by a QISP. The second time an annual NAL or instantaneous maximum NAL exceedance occurs for the same parameter in each subsequent reporting year, the Discharger's status is changed to Level 2 status, and Dischargers are required to submit a Level 2 ERA Action Plan and a Level 2 ERA Technical Report. Dischargers who can demonstrate that:

   a. NAL exceedances are caused by non-industrial pollutant sources;

   b. Any additional BMPs required to eliminate NAL exceedances are not technologically available or economically achievable; or,

   c. NAL exceedances are solely attributable to pollutants from natural background sources are allowed to provide this information in the Level 2 ERA Technical Reports certified by the Discharger and prepared by a QISP. Unless not accepted by the State or Regional Water Board, the Discharger is excused from the obligation to perform additional ERA requirements for the parameter(s) involved.

7. CWA section 303(d) Impairment

   This General Permit requires Dischargers to monitor additional parameters if the discharge(s) from their facility contributes pollutants to receiving waters that are listed as impaired for those pollutants (303(d) listings). For example, if a Discharger discharges to a water body that is listed as impaired for copper, and the discharge(s) from their facility have the potential sources of copper, the Discharger must add copper to the list of parameters to monitor in their storm water discharge.

8. Design Storm Standards for Treatment Control BMPs

   For purposes of this General Permit, a design storm standard provides Dischargers the criteria to use in designing treatment control BMPs. This General Permit

requires Dischargers to match design storm standards, both volume- and flow-based, when treatment control BMPs is installed to reduce pollutants in runoff. Dischargers are not required to retrofit existing treatment control BMPs unless required to meet the technology-based effluent limits or WQS in this General Permit.

9. Qualifying Storm Event (QSE)

   This General Permit contains a different definition of a QSE than the previous permit in order to increase the number of QSEs eligible for sample collection, which will provide the Water Boards with higher quality data than the existing effluent characterization data from Dischargers available to the Water Board. A QSE is defined as a precipitation event that:

   a. Produces a discharge, and;

   b. Was preceded by 48 hours with no discharge from any drainage area.

10. Sampling Protocols

    This General Permit requires Dischargers to collect samples, during scheduled facility operating hours, from each drainage location within four hours of: (1) the start of the discharge from a QSE occurring during scheduled facility operating hours, or (2) the start of scheduled facility operating hours if the QSE occurred in the previous twelve (12) hours. The benefits of this sampling protocol: (a) allows a more reasonable amount of time to collect samples, (b) increases the likelihood for samples collected at discharge locations to be representative of the drainage area discharge characteristics, (c) increases the number of QSEs eligible for sample collection, and, (d) reduces the likelihood of Dischargers collecting samples with short-term concentration spikes.

    The previous permit required that Dischargers collect grab samples during the first hour of discharge that commenced during scheduled facility operating hours. These sample collection requirements were widely considered to be too rigid and out of step with other states' sample collection requirements. Since many storm events begin in the evening or early morning hours, numerous opportunities to collect samples were lost because Dischargers could not obtain samples during the first hour of discharge. Dischargers with facilities that have multiple discharge locations had difficulties collecting samples within such a short timeframe therefore affecting data quality.

11. Sampling Frequency

    This General Permit increases the sampling frequency by requiring the Discharger to collect and analyze storm water samples from each discharge location from two (2) QSEs within the first half of each reporting year (July 1 to December 31), and two (2) QSEs within the second half of each reporting year (January 1 to June 30). The increased sampling as compared to the previous permit's two samples during the wet season is more in line with the MSGP and that required of other states' permits and will help to better determine compliance with this General Permit. Eliminating

the wet season should increase the number of possible QSEs eligible for sample collection.

12. Compliance Groups

This General Permit does not include Group Monitoring. It contains a new option called "Compliance Groups and Compliance Group Leaders," which is intended to allow industrial facilities to more efficiently utilize knowledge and skills and share resources towards achieving General Permit compliance. Instead of the significant sampling reduction that was included in the previous permit's Group Monitoring requirements, Dischargers participating in a Compliance Group (Participants) are all required to sample twice a year, Compliance Group Leaders are required to be QISPs and inspect each facility once within each reporting year, and Compliance Group Leaders are required to prepare Level 1 and Level 2 ERA reports as necessary. The Compliance Group option is described in more detail in General Permit section XIV and in this Fact Sheet in the Section titled "Compliance Groups".

13. Discharges to Ocean Waters

This General Permit requires Dischargers with outfalls discharging to the ocean that are subject to the model monitoring provisions of the California Ocean Plan to develop and implement a monitoring plan in compliance with those provisions and any additional monitoring requirements established pursuant to Water Code section 13383. Dischargers who have not developed and implemented a monitoring program in compliance with the California Ocean Plan's model monitoring provisions by January 1, 2015 or seven (7) days prior to commencing operations, whichever is later, are ineligible to obtain coverage under this General Permit.

II. TECHNICAL RATIONALE FOR REQUIREMENTS IN THIS GENERAL PERMIT

A. Receiving General Permit Coverage

1. Types of Industrial Storm Water Discharges Covered by this General Permit

This General Permit (Section II of this General Permit) covers new or existing industrial storm water discharges and authorized NSWDs from:

a. Facilities required by federal regulations to obtain a permit;

b. Facilities designated by the Regional Water Boards; and,

c. Facilities with Dischargers that have been directed by the Regional Water Boards to obtain coverage under this General Permit. The Regional Water Board directs a Discharger to change General Permit coverage generally under two circumstances (1) switch from an individual NPDES permit to this General Permit, or (2) switch from the NPDES General Permit for Storm Water Discharges Associated with Construction And Land Disturbance Activities Order No 2009-0009-DWQ NPDES No CAS000002 (Construction General Permit) to this General Permit for activities that operate long-term and limited to activities at

construction sites that are similar to industrial activities (e.g. concrete batch plants).

40 Code of Federal Regulations section 122.26(b)(14) defines "storm water discharge associated with industrial activity" and describes the types of facilities subject to permitting (mostly by Standard Industrial Classification (SIC) code). This General Permit covers all facilities with industrial activities described in Attachment A where the covered industrial activity is the Discharger's primary industrial activity. In some instances, a Discharger may have more than one primary industrial activity occurring at a facility.

The 1987 SIC manual uses the term "establishment" to determine the primary economic activity of a facility. The manual instructs that where distinct and separate economic activities are performed at a single location, each activity should be treated as a separate establishment (and, therefore, separate primary activity). For example, the United States Navy (primary SIC code 9711) may conduct industrial activities subject to permitting under this General Permit, such as landfill operations (SIC code 4953), ship and boat building and repair (SIC code 3731, and flying field operations (SIC code 4581).

The SIC manual also discusses "auxiliary" functions of establishments. Auxiliary functions provide management or support services to the establishment. Examples of auxiliary functions are warehouses and storage facilities for the establishment's own materials, maintenance and repair shops of the establishment's own machinery, automotive repair shops or storage garages of the establishment's own vehicles, administrative offices, research, development, field engineering support, and testing conducted for the establishment. When auxiliary functions are performed at physically separate facilities from the establishment they serve, they generally are not subject to General Permit coverage. If auxiliary functions are performed at the same physical location as the establishment, then they are subject to General Permit coverage if they are associated with industrial activities.

This clarification does not change the scope of which facilities are subject to permitting relative to the 1997 IGP. The 1997 IGP Fact Sheet had used the term "auxiliary" to describe a facility's separate primary activities, which has caused confusion.

In 1997, the North American Industrial Classification System (NAICS) was published, replacing the SIC code system. The U.S. EPA has indicated that it intends to incorporate the NAICS codes into the federal storm water regulations but has not done so yet. The State Water Board recognizes that many Dischargers in newer industries were not included in the 1987 SIC code manual and may have difficulty determining their SIC code information. To address this transition, SMARTS has been modified to accept both SIC codes and NAICS codes, and NAICS codes are automatically translated into SIC codes. There may be instances of conflict between SIC and NAICS codes. The use of NAICS codes shall not

expand or reduce the types of industries subject to this General Permit as compared to the SIC codes listed in the General Permit. State Water Board Staff (Staff) will work closely with the applicant to resolve these conflicts in SMARTS as they become known to us. Dischargers should be aware that the use of an NAICS code which results in failure to submit any of the required PRDs under this General Permit remains a violation of the terms of this General Permit.

The facilities included in category one of Attachment A (facilities subject to Subchapter N) are subject to storm water ELGs that are incorporated into the requirements of this General Permit. Dischargers whose facilities are included in this category must examine the appropriate federal ELGs to determine the applicability of those guidelines. This General Permit contains additional requirements (Section XI.D) that apply only to facilities with storm water ELGs.

2. Types of Discharges Not Covered By this General Permit

   a. Discharges from construction and land disturbance activities that are subject to the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit).

   b. Discharges covered by an individual or general storm water NPDES permit. Some industrial storm water discharges may be regulated by other individual or general NPDES permits issued by the State Water Board or the Regional Water Boards (collectively, Water Boards). This General Permit shall not regulate these discharges. When the individual or general NPDES permits for such discharges expire, the Water Boards may authorize coverage under this General Permit or another general NPDES permit, or may issue a new individual NPDES permit consistent with the federal and state storm water regulations. Interested parties may request that the State Water Board or appropriate Regional Water Board issue individual or general NPDES permits for specific discharges that, in their view are not properly regulated through this General Permit. General permits may be issued for a particular industrial group or watershed area which would supersede this General Permit. To date, two Regional Water Board have issued such permits:

      i. The Lahontan Regional Water Board (Regional Water Board 6SLT) has adopted an NPDES permit and general Waste Discharge Requirements to regulate discharges from marinas and maintenance dredging (Regional Water Board Order R6T-2005-0015 - NPDES CAG616003) in the Lake Tahoe Hydrologic Unit.

      ii. The Santa Ana Regional Water Board adopted the Sector Specific General Permit for Stormwater Runoff Associated with Industrial Activities from Scrap Metal Recycling Facilities within the Santa Ana Region, Regional Water Board Order R8-2012-0012, NPDES Permit CAG 618001 (Scrap Metal Recycling Permit). The Scrap Metal Recycling Permit is applicable to facilities within the Santa Ana Region that are listed under Standard Industrial Classification (SIC) Code 5093 and engaged in the following types of activities: (1) automotive wrecking for scrap-wholesale (this category does not include facilities engaged in automobile dismantling for the primary purpose of selling second hard parts); (2) iron and steel scrap - wholesale; (3) junk and

scrap metal - wholesale; (4) metal waste and scrap - wholesale; and (5) non-ferrous metals scrap - wholesale. Other types of facilities listed under SIC Code 5093 and engaged in waste recycling are not required to get coverage under the Scrap Metal Recycling Permit. A list of covered facilities as of February 8, 2011 was included in Attachment A of the Scrap Metal Recycling Permit.

c. Discharges that the Regional Water Boards determine to be ineligible for coverage under this General Permit. In such cases, a Regional Water Board will require the discharges be covered by another individual or general NPDES permit. The applicability of this General Permit to such discharges is terminated when the discharge is subject to another individual or general NPDES permit.

d. Discharges that do not enter waters of the United States. These include:

   i. Discharges to municipal separate sanitary sewer systems;

   ii. Discharges to evaporation ponds, discharges to percolation ponds, and/or any other methods used to retain and prevent industrial storm water discharges from entering waters of the United States;

   iii. Discharges to combined sewer systems. In California, the only major combined sewer systems are located in San Francisco and downtown Sacramento. Dischargers who believe they discharge into a combined sewer system should contact the local Regional Water Board to verify discharge location; and,

   iv. Dischargers Claiming the “No Discharge” Option in the Notice of Non-Applicability (NONA) (Fact Sheet Section II.S).

e. Discharges from oil and gas facilities, unless:

   i. Discharges have resulted in a reportable quantity (RQ) for which notification is or was required pursuant to 40 C.F.R. sections 110, 117, and 301 at any time after November 19, 1987; or,

   ii. Discharges have caused or contributed to an exceedance of a WQS.

f. Discharges from mining facilities that do not come into contact with any overburden, raw materials, intermediate product, finished product, by-product, or waste product located at the facility. These facilities must obtain General Permit coverage if they have a new release of storm water resulting in a discharge of a RQ.

g. Discharges from facilities on Tribal Lands regulated by U.S. EPA.

3. Obtaining General Permit Coverage (Section II of this General Permit)

The State Water Board has developed the SMARTS online database system to handle registration and reporting under this General Permit. More information regarding SMARTS and access to the database is available online at https://smarts.waterboards.ca.gov. The State Water Board has determined that all documents related to general storm water enrollment and compliance must be certified and submitted via SMARTS by Dischargers.

This General Permit requires all Dischargers required to obtain coverage under this General Permit to electronically certify and submit PRDs via SMARTS to obtain coverage, or to certify that there are no industrial activities exposed to storm water at the facility and obtain coverage under the NEC provision of this General Permit. Facilities that were eligible to self-certify no exposure under the previous permit (see category 10 in Attachment 1 of the previous permit) are required to certify and submit via SMARTS PRDs for NOI or NEC coverage under this General Permit by July 1, 2014. Dischargers shall electronically certify and submit the PRDs via SMARTS for each individual facility. This requirement is intended to establish a clear accounting of the name, address, and contact information for each Discharger, as well as a description of each Discharger's facility.

All Dischargers who certify and submit PRDs via SMARTS on or after January 1, 2015 shall immediately comply with the provisions in this General Permit. Existing Dischargers who have submitted NOIs for coverage under this General Permit before January 1, 2015 shall:

a. Modify and implement SWPPPs and Monitoring Implementation Programs (MIPs) in compliance with this General Permit no later than January 1, 2015;

b. Continue storm water compliance activities in accordance with the previous general permit until this General Permit becomes effective on January 1, 2015; and

c. Submit PRDs for NEC coverage or a Notice of Termination (NOT) at any time after this General Permit has been adopted (if applicable).

4. General Permit Coverage for Landfills

This General Permit requires that landfills, land application sites, and open dumps that receive or have received industrial waste from any facility covered by this General Permit obtain coverage under this General Permit. Industrial storm water discharges from these facilities must be covered by this General Permit unless (1) they are already covered by another NPDES permit, or (2) the Regional Water Board has determined that an NPDES permit is not required because the site has been stabilized or required closure activities have been completed.

In most cases, it is appropriate for new landfill construction or final closure to be covered by the Construction General Permit, rather than this General Permit. Questions have arisen as to what constitutes new landfill construction at an existing landfill versus the normal planned expansion of a landfill. Similarly, questions have arisen about the type of closure activities that may be subject to the Construction General Permit versus the normal closure of "cells" that occurs during continued landfill operations and are not subject to the Construction General Permit. Other questions such as whether temporary or permanent newly graded/paved roads disturbing greater than one acre at a landfill are subject to the Construction General Permit. Landfill Dischargers have asked for clarity regarding these questions. The previous permit required Dischargers to contact the Regional Water Boards to determine permit appropriateness. Site specific circumstances continue to require Dischargers to contact Regional Water Boards for final determinations.

Based upon the State Water Board's storm water program history, there are only a handful of instances where an operating landfill has been simultaneously subject to both the construction and industrial permitting requirements. Normally, a landfill is subject to the construction permitting requirements during the time the landfill is initially constructed and prior to operation. It is subject to the industrial permitting requirements during landfill operations. Finally, it is subject to the construction permitting requirements during final closure activities.

Once a landfill begins operations, continued expansion or closure of landfill cells is authorized under the industrial permitting requirements since these are normal aspects of landfill operations. These expansion/closure activities occur within a limited timeframe (often taking less than 90 days from beginning to end) and are not separately subject to additional local approval (e.g., a new building permit). Any construction or demolition of temporary non-impervious roads directly related to landfill operations will be subject to the industrial permitting requirements.

The construction or closure of a separate section of the landfill that is either subject to additional permitting by the local authorities and/or lasts more than 90 days, is likely to require coverage under the Construction General Permit. Construction of any permanent facility structures such as buildings and impervious parking lots or roads that disturb greater than one acre would be subject to the Construction General Permit. Permanent facility structures are generally defined as any structural improvements designed to remain until the landfill is closed.

Site specific circumstances such as proximity to nearby waterways, extent of activities, pollutants of concern, and other considerations can impact any decision as to whether a particular activity is better managed under this General Permit or the Construction General Permit. Regional Water Boards will continue to exercise their discretion as necessary to protect the beneficial uses of the receiving water(s).

5. General Permit Coverage for Small Municipal Separate Storm Sewer Systems (MS4s)

   Section 1068 of the Intermodal Surface Transportation Efficiency Act of 1991 exempted municipal agencies serving populations of less than 100,000 from Phase I permit requirements other than sanitary landfills, power plants, and airports facilities. U.S. EPA's Phase II regulations eliminated the above exemption as of March 10, 2003. All facilities in Attachment A of this General Permit that are operated by a small municipal agency are subject to NPDES permitting requirements.

6. Changes to General Permit Coverage

   Dischargers who no longer operate a facility required to be covered under this General Permit (either NOI or NEC coverage) are required to electronically certify and submit via SMARTS a Notice of Termination (NOT). An NOT is required when there is a change in ownership of the industrial activities subject to permitting or when industrial activities subject to permitting are permanently discontinued by the Discharger at the site. When terminating NOI coverage, Dischargers may only submit an NOT once all exposure of industrial materials and equipment have been

eliminated. Dischargers may not submit NOTs for temporary or seasonal facility closures. The General Permit requires Dischargers implement appropriate BMPs to prevent or reduce pollutants in storm water discharges during the facility closure.

This General Permit allows Dischargers to change General Permit coverage, as appropriate, from NOI coverage to NEC coverage or from NEC coverage to NOI coverage. Dischargers changing coverage from NOI coverage to NEC coverage will not be required to pay the annual fee for NEC coverage until their next scheduled billing date. Dischargers changing from NEC coverage to NOI coverage are required to pay a prorated annual fee based upon the NOI coverage annual fee and the number of days until the next billing date that the Discharger will be under NOI coverage.

B. Discharge Prohibitions

This General Permit covers industrial storm water discharges and authorized NSWDs from facilities that are subject to this General Permit. This General Permit prohibits any discharge of materials other than storm water and authorized NSWDs (Section III of this General Permit). Authorized NSWDs are addressed in Section IV of this General Permit. It is a violation of this General Permit to discharge hazardous substances in storm water in excess of the reportable quantities established in 40 C.F.R. sections 117.3 and 302.4.

The State Water Board is authorized, under Water Code section 13377, to issue NPDES permits which apply and ensure compliance with all applicable provisions of the CWA, together with any more stringent effluent limitations necessary to implement water quality control plans, protect beneficial uses, or prevent nuisance.

C. Non-Storm Water Discharges (NSWDs)

A major element of the SWPPP is the identification and elimination of unauthorized NSWDs. Unauthorized NSWDs can contribute a significant pollutant load to receiving waters. Measures to control spills, leakage, and dumping can often be addressed through BMPs.

Unauthorized NSWDs can be generated from various pollutant sources. Depending upon their quantity and location where generated, unauthorized NSWDs can discharge to the storm drain system during dry weather as well as during a storm event (co-mingled with storm water discharge). These NSWDs can consist of, but are not limited to; (1) waters generated by the rinsing or washing of vehicles, equipment, buildings, or pavement, or (2) fluid, particulate or solid materials that have spilled, leaked, or been disposed of improperly.

Some NSWDs are not directly related to industrial activities and normally discharge minimal pollutants when properly managed. Section IV of this General Permit provides a limited list of NSWDs that are authorized if Dischargers implement BMPs to prevent contact with industrial materials prior to discharge. The list is similar to the list provided in the 2008 MSGP but does not include pavement and external building surfaces washing without detergents. These have been omitted because the Discharger is responsible to prevent or reduce pollutants in storm water discharges from paved areas

and buildings associated with industrial activities. Since industrial materials and non-industrial material would likely co-exist, the washing of paved areas and external building surfaces would discharge pollutants associated with industrial activities. In addition, washing activities generally occur during dry-weather periods when receiving water flows are lower than wet-weather periods. Wash waters are likely to discharge in higher concentrations than what would occur if these pollutants were naturally discharged during a storm event. The discharge of high concentration wash water during a time of dry-weather flows is inconsistent with the goal of protecting receiving waters. These discharges are, therefore, considered a unauthorized NSWDs. Similar to the 2008 MSGP, firefighting related discharges are not subject to this General Permit.

This General Permit's BMP requirements for NSWDs remain essentially unchanged from the previous permit other than the quarterly visual observations are now required monthly. See Section XI.A.1 of this General Permit.

D. Effluent Limitations

1. Technology-Based and Water Quality-Based Effluent Limitations

   The CWA requires that discharges from existing facilities must, at a minimum, meet technology-based effluent limitations reflecting, among other things, the technological capability of Dischargers to control pollutants in their discharges. Water quality-based effluent limitations (WQBELs) are required by CWA Section 301(b)(1)(C), and are discussed in depth in Section E of this Fact Sheet title "Receiving Water Limitations". Both technology-based and water quality-based effluent limitations are implemented through NPDES permits. (CWA sections 301(a) and (b).)

2. Types of Technology-Based Effluent Limitations

   All NPDES permits are required to contain technology-based effluent limitations (TBELs). (40 CFR §§122.44(a)(1) and 125.3.) These TBELs may take the form of effluent limitations guidelines (ELGs) established by U.S. EPA through regulation, or they may be developed by the permit writer on a case-by-case basis based on their Best Professional Judgment (BPJ).

   The CWA sets forth different standards for TBELs based upon the type of pollutant or the type of Discharger involved. The CWA establishes two levels of pollution control for existing sources. In the first stage, existing sources that discharge pollutants directly to receiving waters were initially subject to effluent limitations based on the "best practicable control technology currently available" (BPT). (33 U.S.C. § 1314(b)(1)(B).) BPT applies to all pollutants. In the second stage, existing sources that discharge conventional pollutants are subject to effluent limitations based on the "best conventional pollutant control technology" (BCT). (33 U.S.C. §1314(b)(4)(A); see also 40 C.F.R. §401.16 (list of conventional pollutants).) Existing sources that discharge toxic pollutants or "nonconventional" pollutants (i.e., pollutants that are neither "toxic" nor "conventional") are subject to effluent limitations based on "best available technology economically achievable" (BAT). (33 U.S.C. §1311(b)(2)(A); see also 40 C.F.R. §401.15 (list of toxic

pollutants).) The factors to be considered in establishing the levels of these control technologies are specified in section 304(b) of the CWA and in U.S. EPA's regulations at 40 CFR §125.3.

When establishing ELGs for an industrial category, U.S. EPA evaluates a wide variety of technical factors to determine BPT, BAT, and BCT. U.S. EPA considers the specific attributes of an industry such as pollutant sources, industrial processes, and the size and scale of operations. U.S. EPA evaluates the specific treatment, structural, and operational source control BMPs available to reduce or prevent pollutants in the discharges. The costs of implementing these BMPs are weighed against their effectiveness and ability to protect water quality. Finally, attributes such as industry economic viability, economies of scale, and retrofit costs are also considered. To date, U.S. EPA has: (1) not promulgated storm water ELGs for most industrial categories, (2) not established NELs within all ELGs that have been promulgated, and (3) has exempted certain types of facilities within an industrial category for which ELGs have been established from the requirement to comply with the ELG. The feedlot category (40 Code of Federal Regulations part 412) provides an example of several of these points. In that instance, U.S. EPA did not establish NELs but rather established a narrative effluent limitation requiring retention of all feedlot-related runoff from a 25 year, 24 hour storm, and limited application of the ELG to feedlots with a minimum number of animals. U.S. EPA also recently promulgated ELGs for the "Construction and Development (C&D)" industry, which included, among many other limitations, conditional NELs. Though the NELs in these ELGs were later stayed by U.S. EPA due to procedural problems, the ELGs exempted construction sites of less than 30 acres from the NELs.

40 Code of Federal Regulations, Chapter I, Subchapter N ("Subchapter N"), includes over 40 separate industrial categories where the U.S. EPA has established ELGs for new and existing industrial wastewater discharges to surface waters, discharges to publicly owned treatment works (pre-treatment standards), and storm water discharges to surface waters. Generally, U.S. EPA has focused its efforts on the development of ELGs for larger industries and those industries with the greatest potential to pollute. In total, the 40 categories for which ELGs have been established (not including construction) represent less than 10 percent of the types of facilities subject to this General Permit. Additionally, most ELGs focus on industrial process wastewater discharges and pre-treatment standards, and only 11 of the 40 categories establish numeric or narrative ELGs for industrial storm water discharges. Those that do include ELGs for industrial storm water discharges generally address storm water discharges that are generated from direct contact with primary pollutant sources at the subject facilities, and not the totality of the industrial storm water discharge from the facility, as the term "storm water discharge associated with industrial activity" is defined for purposes of the CWA. (40 C.F.R. § 122.26(b)(14).) Accordingly, some facilities may be required to obtain permit coverage under both an individual NPDES industrial wastewater permit and this General Permit.

Where U.S. EPA has not issued effluent guidelines for an industry, the State Water Board is required to establish effluent limitations for NPDES permits on a case-by-case basis based on their best professional judgment (BPJ). (33 U.S.C. §

1342(a)(1); 40 C.F.R. § 125.3(c)(2).) In this General Permit, most of the TBELs are based on BPJ decision-making because no ELG applies.

The TBELs in this permit represent the BPT (for conventional, toxic, and non-conventional pollutants), BCT (for conventional pollutants), and BAT (for toxic pollutants and non-conventional) levels of control for the applicable pollutants. When EPA has not promulgated ELGs for an industry, or if a Discharger is discharging a pollutant not covered by the otherwise applicable ELG, NPDES permit limitations may be based on the best professional judgment (BPJ) of the permit writer. (33 U.S.C. § 1342(a)(1); 40 CFR 125.3(c).) However, this General Permit also incorporates the limits included in the stormwater-specific ELGs listed in Attachment F of this General Permit, where applicable.

3. Authority to Include Non-Numeric Technology-Based Limits in NPDES Permits

The BPJ TBELs in this General Permit take the form of non-numeric ("narrative") technology-based effluent limitations expressed as Best Management Practices (BMPs). Federal regulations provide that permits must include BMPs to control or abate the discharge of pollutants when where "[n]umeric effluent limitations are infeasible." 40 CFR 122.44(k)(3).

Since 1977, courts have recognized that there are circumstances when numeric effluent limitations are infeasible and have held that EPA may issue permits with conditions (e.g., BMPs) designed to reduce the level of effluent discharges to acceptable levels. Natural Res. Def. Council, Inc. v. Costle, 568 F.2d 1369 (D.C.Cir.1977).

U.S. EPA has also interpreted the CWA to allow BMPs to take the place of numeric effluent limitations under certain circumstances. 40 C.F.R. §122.44(k), entitled "Establishing limitations, standards, and other permit conditions (applicable to State NPDES programs ...)," provides that permits may include BMPs to control or abate the discharge of pollutants when: (1) "[a]uthorized under section 402(p) of the CWA for the control of stormwater discharges"; or (2) "[n]umeric effluent limitations are infeasible." 40 C.F.R. § 122.44(k).

In 2006, The U.S. Court of Appeals for the Sixth Circuit held that the CWA does not require U.S. EPA to set numeric limits where such limits are infeasible. Citizens Coal Council v. United States Environmental Protection Agency, 447 F3d 879, 895-96 (6th Cir. 2006). The Citizens Coal court cited to Water keeper Alliance, Inc. v. EPA,399 F.3d 486, 502 (2d Cir. 2005), stating "site-specific BMPs are effluent limitations under the CWA." "In sum, the EPA's inclusion of numeric and non-numeric limitations in the guideline for the coal remaining subcategory was a reasonable exercise of its authority under the CWA." Additionally, the Sixth Circuit cited to Natural Res. Def. Council, Inc. v. EPA, 673 F.2d 400, 403 (D.C.Cir.1982) noting that "section 502(11) [of the CWA] defines 'effluent limitation' as 'any restriction' on the amounts of pollutants discharged, not just a numerical restriction." NPDES permit writers have substantial discretion to impose non-quantitative permit requirements pursuant to section 402(a)(1)), especially when the use of numeric

limits is infeasible. (NRDC v. EPA, 822 F.2d 104, 122-24 (D.C. Cir. 1987); 40 CFR 122.44(k)(3).)

4. Decision to Include Non-Numeric Technology-Based Effluent Limits in This General Permit

   The State Water Board does not currently have the information needed to develop NELs using the BPJ approach. Accordingly, it is infeasible for the State Water Board to include NELs in this General Permit.

   Previous versions of this General Permit required Dischargers to sample their industrial storm water discharges and report the results to the Regional Water Boards. Dischargers were not required to submit this data online into a statewide database; as a result, much of this data is still not available for analysis. Moreover, much of the data that are available for analysis are not of sufficient quality to make any conclusions or even perform basic statistical tests. The Blue Ribbon Panel of Experts, Staff, and many stakeholders have evaluated the State Water Board's current electronically-available storm water data set and have concluded that the data set has very limited value due to the limited pool of industrial facilities submitting electronic data, poor overall data quality, and extreme variance within the dataset.

   The poor quality of the existing data set is attributable a number of factors. For example, the previous permits have required Dischargers to sample during the first hour of discharge from two storm events a year. This sampling schedule was designed to catch what was considered to represent the higher end of storm water discharge concentrations for most parameters. The results from this type of sampling were thought to be an indicator of whether or not additional BMPs would be necessary. The sampling schedule was not designed, however, to estimate pollutant discharge loading, or to characterize the impact of the discharge on the receiving water. Doing so would normally require the use of more advanced sampling protocols such as flow meters, continuous automatic sampling devices, certified/trained sampling personnel, and other facility-specific considerations.

   Furthermore, there is currently no data which details the relationship between the BMPs implemented at each facility and the facility's sampling results. The SWPPPs required by the previous permits were not submitted to the Water Boards, but were kept onsite by Dischargers. Due to the limited availability of quality sampling data and "level of effort" information contained in SWPPPs, Staff is unable to exercise BPJ to make the connection between effluent quality (sampling results) and the level of effort, costs, and performance of the various technologies that is needed in order to express the TBELs in this General Permit numerically, as NELs.

   Some stakeholders have suggested that separating the data sets by industry type would lead to more reliable data with which to develop NELs. Advocates of this approach suggest that the variability of the data may be caused in part by the mixing of data from different industrial categories. Staff believes that the variation is primarily due to storm intensity, duration, time of year, soil saturation or some other factors. It is necessary to collect information related to those factors and BMPs

implemented in order to evaluate the variability attributable to those factors. There is currently too large of an information gap to begin the process of developing NELs for all industrial sectors not currently subject to ELGs.

The State Water Board has proposed NELs in past drafts of this General Permit. In comments, many stakeholders have highlighted the difficulty of developing statewide NELs that are applicable to all industry sectors, let alone NELs that cover any specific industry sectors. For example, stakeholders have commented that:

a. Background/ambient conditions in some hydrogeologic zones may contribute pollutant loadings that would significantly contribute to, if not exceed, the NEL values;

b. Some advanced treatment technologies have flow/volume limitations as well as economy of scale issues for smaller facilities;

c. Treatment technologies which require that sheet flows be captured and conveyed via discrete channels or basins, may not only result in significant retrofit costs, but may conflict with local ordinances that prohibit such practices as they can cause damage or erosion to down gradient property owners, or cause other environmental problems;

d. There is insufficient regulatory guidance and procedures to allow permit writers to properly specify monitoring frequency and sampling protocols (e.g., instantaneous maximum, 1-day average, 3-day average, etc.), and for Dischargers to obtain representative samples to compare to NELs for the purpose of strict compliance; and,

e. NELs must be developed with consideration of what is economically achievable for each industrial sector. These stakeholders point out how the U.S. EPA goes to great lengths evaluating the various BMP technologies available for a particular pollutant, the costs and efficiency of each BMP, and the applicability of the BMPs to the industry as a whole or to a limited number of industrial sites based upon the size of the facility, the quantity of material, and other considerations.

At this time, the State Water Board does not have the information (including monitoring data, industry specific information, BMP performance analyses, water quality information, monitoring guidelines, and information on costs and overall effectiveness of control technologies) necessary to promulgate NELs at this time. It is infeasible to include NELs in this statewide General Permit.

Many of the new requirements in this General Permit have been designed to address the shortcomings of previous permits and the existing storm water data set. Under this General Permit, sampling results must be certified and submitted into SMARTS by Dischargers, along with SWPPPs which outline the technologies and BMPs used to control pollutants at each facility. The ERA process will also collect information on costs and the engineering aspects of the various control technologies employed by each facility. Previous permit versions did not have a mechanism for

receiving this site specific information electronically, and only a small percentage of Dischargers submitted their Annual Reports via SMARTS. This General Permit will make this information more accessible, allowing the Water Boards to evaluate the relationship between BMPs and the ability of facilities to meet the NALs set forth in this General Permit. Finally, the new Qualified Industrial Stormwater Practitioner (QISP) training requirements of this General Permit have been designed in part to improve the quality of the data submitted.

5. Narrative Technology-Based Effluent Limitations (TBELs) and Best Management Practices (BMPs)

   The TBELs in this General Permit require Dischargers to implement BMPs to reduce or prevent discharges of pollutants in their storm water discharge in a manner that reflects best industry practice considering technological availability and economic achievability (Section V.A.). The requirement to "reduce or prevent" is equivalent to the requirement in the federal regulations that BMPs be used in lieu of NELs to "control or abate" the discharge of pollutants. (40 C.F.R. § 122.44(k).) These limits were developed using Best Professional Judgment (BPJ).

   BMPs are defined as the "scheduling of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants… includ[ing] treatment requirements, operating procedures, and practices to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage." (40 C.F.R. § 122.2.)

   This General Permit requires all Dischargers to implement minimum BMPs, as well as implement any advanced BMPs that are necessary to reduce or prevent pollutants in discharges to the extent feasible when implementation of the minimum BMPs will not adequately prevent or reduce pollutants in discharges (Section X.H.1through 2 of this General Permit). The minimum BMPs specified in this General Permit represent common practices that can be implemented by most facilities. This General Permit generally does not mandate the selection or specific mode of design, installation or implementation for the minimum BMPs at a Discharger's facility. It is up to the Discharger, in the first instance, to determine what must be done to meet the applicable effluent limits. For example, Section X.H.1.b.vi of this General Permit requires Dischargers to contain all stored non-solid industrial materials that can be transported or dispersed via wind or contact with storm water. How this is achieved will vary by facility: for some facilities, some or all activities may be moved indoors, while for others this will not be feasible. However, even for the latter, many activities may be moved indoors, others may be contained using tarps or a containment system, while still other activities may be limited to times when exposure to precipitation is not likely. Each of these control measures is acceptable and appropriate in some circumstances.

   BMPs can be actions (including processes, procedures, schedules of activities, prohibitions on practices and other management practices), or structural or installed devices to prevent or reduce water pollution. (40 C.F.R. § 122.2.) They can be just about anything that is effective at preventing pollutants from entering the environment, and for meeting applicable limits of this General Permit. In this

General Permit, Dischargers are required to select, design, install, and implement facility-specific control measures to meet these limits. Many industrial facilities already have such control measures in place for product loss prevention, accident and fire prevention, worker health and safety or to comply with other environmental regulations. Dischargers must tailor the BMPs detailed in this General Permit to their facilities, as well as improve upon them as necessary to meet permit limits. The examples detailed in this Fact Sheet emphasize prevention over treatment. However, sometimes more traditional end-of-pipe treatment may be necessary, particularly where a facility might otherwise cause or contribute to an exceedance of WQS.

Several of the BMPs in this General Permit require Dischargers to implement BMPs "to the extent feasible." Consistent with the control level requirements of the CWA, for the purposes of this General Permit, the requirement to implement BMPs "to the extent feasible" means to reduce and/or eliminate discharges of pollutants to the extent achievable using BMPs that represent BAT and BPT in light of best industry practice. [4] In other words, Dischargers are required to select, design, install and implement BMPs that reduce or eliminate discharges of pollutants in their storm water discharge in a manner that reflects best industry practice considering their technological availability and economic achievability.

To determine technological availability and economic achievability, Dischargers need to consider what control measures are considered "best" for their industry, and then select and design control measures for their site that are viable in terms of cost and technology. The State Water Board believes that for many facilities minimization of pollutants in storm water discharges can be achieved without using highly engineered, complex treatment systems. The BMPs included in this General Permit emphasize effective "low-tech" controls, such as regular cleaning of outdoor areas where industrial activities may take place, proper maintenance of equipment, diversion of stormwater around areas where pollutants may be picked up, and effective advanced planning and training (e.g., for spill prevention and response).

E. Receiving Water Limitations and Water Quality Standards (WQS)

Pursuant to CWA section 301(b)(1)(C) and Water Code section 13377, this General Permit requires compliance with WQS. Industrial storm water discharges shall not cause or contribute to an exceedence of an applicable WQS. Implementation of the BMPs required under Section V of this General Permit will typically result in compliance with WQS. However, if a facility's storm water discharge causes or contributes to an exceedance of a WQS, Dischargers must implement additional BMPs to ensure compliance. A Discharger that is notified by a Regional Water Board or who determines the discharge is causing or contributing to an exceedance of a WQS must comply with the Water Quality Based Corrective Actions found in Section XX.B of this General Permit.

[4] Because toxic and nonconventional pollutants are controlled in the first step by BPT and in the second step by BAT, and the second level of control is "increasingly stringent" (EPA v. National Crushed Stone, 449 U.S. 64, 69 (1980), for simplicity of discussion, the rest of this discussion will focus on BAT. Similarly, because the BAT levels of control in this General Permit are expressed as BMPs and pollution prevention measures, they will also control conventional pollutants. Therefore this discussion will focus on BAT rather than BCT or BPT for conventional pollutants.

Water Quality Based Corrective Actions are different from the Level 1 and Level 2 ERAs that result from effluent-based monitoring. It is possible for a Discharger to be engaged in Level 1 or Level 2 ERAs for one or more pollutants and simultaneously be required to perform Water Quality Based Corrective Actions for one or more other pollutants.

Failure to comply with these additional Water Quality Based Corrective Action requirements is a violation of this General Permit. If the additional operational source control measures do not adequately reduce the pollutants, Dischargers must implement additional measures such as the construction of treatment systems and/or overhead coverage. Overhead coverage is any structure or temporary shelter that prevents the vertical contact of precipitation with industrial materials or activities. If the Regional Water Board determines that the Discharger's selected BMPs are inadequate, the Regional Water Board may require implementation of additional BMPs and/or may take enforcement against Dischargers for failure to comply with this General Permit.

F. Total Maximum Daily Loads (TMDLs)

TMDLs are regulatory tools that relate the maximum amount of a pollutant that a water body can receive and still attain WQS to potential sources in the watershed. A TMDL is defined as the sum of the allowable loads of a single pollutant from all contributing point sources (the waste load allocations or WLAs) and non-point sources (load allocations or LAs), plus the contribution from background sources. (40 C.F.R. § 130.2, subd. (i).) Discharges covered by this General Permit are considered to be point source discharges, and therefore must comply with effluent limitations that are "consistent with the assumptions and requirements of any available waste load allocation for the discharge prepared by the State and approved by EPA pursuant to 40 C.F.R. section 130.7." (40 C.F.R. § 122.44, subd. (d)(1)(vii).) In addition, Water Code section 13263, subdivision (a), requires that waste discharge requirements implement any relevant water quality control plans. Many TMDLs contained in water quality control plans include implementation requirements in addition to WLAs. Attachment E of this General Permit lists the watersheds with U.S. EPA-approved and U.S. EPA-established TMDLs that include requirements, including WLAs, for Dischargers covered by this General Permit.

NPDES-regulated storm water discharges (which include industrial storm water) must be addressed by WLAs in TMDLs. (40 C.F.R. § 130.2(h).) NPDES permits must contain effluent limits and conditions consistent with the requirements and assumptions of the WLAs in TMDLs. (40 CFR § 122.44(d)(1)(vii)(B).)

To date, the relevant WLAs assigned to industrial storm water Dischargers are not directly translatable to effluent limitations. Many of the TMDLs lack sufficient facility specific information, discharge characterization data, implementation requirements, and compliance monitoring requirements. Accordingly, an analysis of each TMDL applicable to industrial storm water Dischargers needs to be performed to determine if it is appropriate to translate the WLA into a numeric effluent limit, or if the effluent limit is to be expressed narratively using a BMP approach. U.S. EPA recognizes that because storm water discharges are highly variable in frequency and duration and are not easily characterized, it is often not feasible or appropriate to establish numeric limits. Variability and the lack of data available make it difficult to determine with precision or

certainty actual and projected loadings for individual Dischargers or groups of Dischargers.

Whether the effluent limit is to be numeric or narrative, the existing WLAs must be carefully analyzed, and in many cases translated, to determine the appropriate effluent limitations. Issues of interpretation exist with all of the WLAs applicable to Dischargers, and these issues vary based on the TMDL. Below is an example of one of the simpler issues.

FIGURE 1: Example WLA that needs translation: Ballona Creek Estuary – Toxic Pollutants

Metals per Acre WLAs for Individual General Construction or Industrial Storm Water Permittees (grams/year/acre)				
Cadmium	Copper	Lead	Silver	Zinc
0.1	3	4	0.1	13
Metals per Acre WLAs for Individual General Construction or Industrial Storm Water Permittees (milligrams/year/acre)				
Chlordane	DDTs	Total Polychlorinated biphenyl (PCBs)	Total Polycyclic aromatic hydrocarbons (PAHs)	
0.04	0.14	2	350	

In order for the above WLAs to effectively be implemented as effluent limits under the General Permit, the Water Boards must (1) identify which Dischargers the WLAs apply to, (2) identify the acreages of the individual facilities, (3) convert the WLAs from grams/year/acre (or milligrams/year/acre) to grams/year (or milligrams/year) based on the acreage at each identified facility, (4) assign the effluent limits to the identified Dischargers, (5) determine appropriate monitoring to assess compliance with the effluent limits, and (6) develop a tracking mechanism for each identified facility and their individual effluent limits. A similar stepwise process is necessary for each TMDL with WLAs assigned to industrial storm water Dischargers. For TMDLs where effluent limits will be expressed as BMPs, analysis needs to be performed to determine which BMPs are appropriate, if the BMPs will be effective in meeting the WLA.

Some WLAs are already expressed as concentration based numbers. It may appear that it would be simple to incorporate these values into this General Permit as effluent limits, but the questions still remain regarding how to determine compliance. This General Permit's sampling requirements are not been designed to measure compliance with a numeric effluent limit or to measure the effect of a discharge on a receiving water body (see the discussion on monitoring requirements in Fact Sheet Section II.I). This General Permit requires sampling of four (4) storm events a year, with certain limitations as to when a discharge may be sampled. This method of sampling may not appropriately serve as TMDL compliance sampling since grab samples are only representative of the particular moment in time when the sample was taken. Since storm water is highly variable, four grab samples per year may not provide sufficient confidence that the effluent limit is being met. An alternative monitoring scheme may be necessary to determine the facility's impact on the receiving water and to determine compliance with any assigned effluent limits. Questions concerning whether sampling results should be grab samples, composite samples, flow-weighted averaged over all

drainage areas, etc. cannot be determined for each concentration-based TMDL without a more thorough analysis.

Additionally, monitoring and assessment requirements must be developed for all of the TMDLs to determine compliance with or progress towards meeting TMDL requirements. The proposed monitoring requirements in this General Permit were not designed to characterize effluent, assess pollutant loading, or determine compliance with effluent limits.

Due to the large number and variety of Dischargers subject to a wide range of TMDLs statewide, to prevent a severe delay in the adoption of this General Permit, TMDL-specific permit requirements for the TMDLs listed in Attachment E will be proposed by the Regional Water Boards. Since the WLAs and/or implementation requirements apply to multiple Dischargers in the region(s) the TMDL were developed, the development of TMDL-specific permit requirements is best coordinated at the Regional Water Board level. The development of TMDL-specific permit requirements is subject to notice and a public comment period.

Regional Water Board staff, with the assistance of State Water Board staff, will develop and submit the proposed TMDL-specific permit requirements for each of the TMDLs listed in Attachment E by July 1, 2015.[5] After conducting a 30-day public comment period, the Regional Water Boards will propose TMDL-specific permit requirements to the State Water Board for adoption into this General Permit. The Regional Water Boards may also include TMDL-specific monitoring requirements for inclusion in this General Permit, or may issue Regional Water Board orders pursuant to Water Code section 13383 requiring TMDL-specific monitoring. The Regional Water Boards or their Executive Officers may complete these tasks, and the proposed TMDL-specific permit requirements shall have no force or effect until adopted, with or without modification, by the State Water Board. Unless directed to do so by the Regional Water Board, Dischargers are not required to take any additional actions to comply with the TMDLs listed in Attachment E until the State Water Board reopens this General Permit and includes TMDL-specific permit requirements. This approach is consistent with the 2008 MSGP. TMDL-specific permit requirements are not limited by the BAT/BCT technology-based standards.

The Regional Water Boards will submit to the State Water Board the following information for each of the TMDLs listed in Attachment E:

- Proposed TMDL-specific permit requirements, any applicable effluent limitations, implementation timelines, additional monitoring requirements, reporting requirements, an explanation of how an exceedance of an effluent limitation or a violation of the TMDL will be determined, and required deliverables consistent with the TMDL(s);
- An explanation of how the proposed TMDL-specific permit requirements, timelines, and deliverables are consistent with the assumptions and requirements of applicable WLA(s) to implement the TMDL(s);

[5] Due to the work load associated with the implementation of this General Permit (e.g., Training program development, NEC outreach, electronic enrollment and reporting via SMARTS) it is believed that two years in necessary for Staff to complete a comprehensive analysis and stakeholder process for TMDLS applicable to Dischargers under this General Permit.

- Where a BMP-based approach is proposed, an explanation of how the proposed BMPs will be sufficient to implement applicable WLAs; and
- Where concentration-based monitoring is required, an explanation of how the required monitoring, reporting and calculation methodology for an exceedance of an effluent limitation or a violation of the TMDL(s) will be sufficient to demonstrate compliance with the TMDL(s).

Upon receipt of the information described above, the State Water Board will conduct a public comment period and reopen this General Permit to populate Attachment E, the Fact Sheet, and other provisions as necessary in order to incorporate these TMDL-specific permit requirements into this General Permit. Attachment E may also be reopened during the term of this General Permit to add additional TMDLs and corresponding implementation requirements.

G. Discharges Subject to the California Ocean Plan

1. Discharges to Ocean Waters

   On October 16, 2012 the State Water Board amended the California Ocean Plan (California Ocean Plan) to require industrial storm water Dischargers with outfalls discharging to ocean waters to comply with the California Ocean Plan's model monitoring provisions. The amended California Ocean Plan requires industrial storm water dischargers with outfalls discharging to ocean waters to comply with the California Ocean Plan's model monitoring provisions. These provisions require Dischargers to: (a) monitor runoff for specific parameters at all outfalls from two storm events per year, and collect at least one representative receiving water sample per year, (b) conduct specified toxicity monitoring at certain types of outfalls at a minimum of once per year, and (c) conduct marine sediment monitoring for toxicity under specific circumstances (California Ocean Plan, Appendix III). The California Ocean Plan provides conditions under which some of the above monitoring provisions may be waived by the Water Boards.

   This General Permit requires dischargers with outfalls that discharge to ocean waters to comply with the California Ocean Plan's model monitoring provisions and any additional monitoring requirements established pursuant to Water Code section 13383. Dischargers who have not developed and implemented a monitoring program in compliance with the California Ocean Plan's model monitoring provisions by January 1, 2015 or seven (7) days prior to commencing operations, whichever is later, are ineligible to obtain coverage under this General Permit.

2. Areas of Special Biological Significance (ASBS) Exception

   The State Water Board adopted the California Ocean Plan (California Ocean Plan) in 1972, and has subsequently amended the Plan. The California Ocean Plan prohibits the discharge of waste to designated ASBS. ASBS are ocean areas designated by the State Water Board as requiring special protection through the maintenance of natural water quality. The California Ocean Plan states that the State Water Board may grant an exception to California Ocean Plan provisions where the State Water Board determines that the exception will not compromise protection of ocean waters for beneficial uses and the public interest will be served.

On March 20, 2012, the State Water Board adopted Resolution 2012-0012 (ASBS Exception), which grants an exception to the California Ocean Plan prohibition on discharges to ASBS for a limited number of industrial storm water Discharger applicants. The ASBS Exception contains "Special Protections" to maintain natural water quality and protect the beneficial uses of the ASBS. In order to legally discharge into an ASBS, these Dischargers must comply with the terms of the ASBS Exception and obtain coverage under this General Permit. This General Permit incorporates the terms of the ASBS Exception and includes the applicable monitoring requirements for all Dischargers discharging to an ASBS under the ASBS Exception.

H. Training Qualifications

This General Permit and the previous permit both require Dischargers to ensure that personnel responsible for permit compliance have an acceptable level of knowledge. Stakeholders have observed that the previous permit did not adequately specify how to comply with various elements of the permit, such as selecting discharge locations representative of the facility storm water discharge and evaluating potential pollutant sources, nor did it provide a clearly outlined Discharger training program. Guidance that is available from outside sources can be complicated to understand or costly to obtain, which can result in many Dischargers developing and implementing deficient SWPPPs and conducting inadequate monitoring activities. Some Dischargers under the previous permit had the resources to hire professional environmental staff or environmental consultants to assist in compliance. Even in those cases, however, there was little certainty that Dischargers received training regarding implementation of the various BMPs being implemented and required monitoring activities under the previous permit. Through this General Permit, the State Water Board seeks to improve compliance and monitoring data quality, and expand each Discharger's understanding of this General Permit's requirements.

This General Permit establishes the Qualified Industrial Storm Water Practitioner (QISP) role. A QISP is someone who has completed a State Water Board sponsored or approved QISP training course and has registered in SMARTS. A QISP is required to implement certain General Permit requirements at the facility once it has entered Level 1 status in the ERA process as described in Section XII of this General Permit. However, in some instances it may be advisable for a facility employee to take the training prior to entering Level 1 status as the training will inform the student of the new permit requirements and how to perform certain tasks such as selecting discharge locations representative of the facility storm water discharge , evaluating potential pollutant sources, and identifying inadequate SWPPP elements.

Some industry stakeholders have claimed that their staff is already adequately trained. These employees may continue to perform the basic permit functions (e.g. prepare SWPPPs, perform monitoring requirements, and prepare Annual Reports) without receiving any additional training if the facility's sampling and analysis results do not exceed the NALs. This requirement is structured in a manner to reduce the costs of compliance for facilities that may not negatively impact receiving water quality.

California licensed professional civil, industrial, chemical, and mechanical engineers and geologists have licenses that have professional overlap with the topics of this General Permit. The California Department of Consumer Affairs, Board for Professional Engineers, Land Surveyors and Geologists (CBPELSG) provides the licensure and regulation of professional civil, industrial, chemical, and mechanical engineers and professional geologists in California. The State Water Board is developing a specialized self-guided State Water Board-sponsored registration and training program specifically for these CPBELSG licensed engineers and geologists in good standing with CBPELSG. The CBPELSG has staff and resources dedicated to investigate and take appropriate enforcement actions in instances where a licensed professional engineer or geologist is alleged to be noncompliant with CBPELSG's laws and regulations. Actions that result in noncompliance with this General Permit may constitute a potential violation of the CBPELSG requirements and may subject a licensee to investigation by the CBPELSG.

A QISP may represent one or more facilities but must be able to perform the functions required by this General Permit at all times. It is advisable that this individual be limited to a specific geographic region due to the difficulty of performing the needed tasks before, during, and after qualifying storm events may be difficult or impossible if extensive travel is required. Dischargers are required to ensure that the designated QISP has completed the appropriate QISP training course.

This General Permit contains a mechanism that allows for the Water Boards Executive Director or Executive Officer to rescind any QISP's who are found to be in adequately performing their duties as a QISP will no longer be able to do so. A QISP may appeal the decision made by the State Water Board Executive Director to rescind their QISP registration to the State Water Board. Table 1 of this Fact Sheet below describes the different roles that the QISP and California licensed professional engineers have in this General Permit.

TABLE 1: Role-Specific Permit Requirements

Qualifications	Task
QISP	Level 1 ERA evaluation and report, Level 2 ERA Action Plan, and Technical Report, and the Level 2 ERA extension
California licensed professional engineer	Inactive Mining Operation Certification, SWPPPs for inactive mining, and annual recertification of Inactive Mining Operation Certification, NONA Technical Reports, and Subchapter N calculations

I. Storm Water Pollution Prevention Plan (SWPPP)

1. General

   This General Permit requires that all Dischargers develop, implement, and retain a site-specific SWPPP onsite. The SWPPP requirements generally follow U.S. EPA's five-phase approach to developing SWPPPs, which has been adapted to reflect the requirements of this General Permit in Figure 2

of this Fact Sheet. This approach provides the flexibility necessary to establish appropriate BMPs for different industrial activities and pollutant sources.

This General Permit requires that Dischargers clearly describe the BMPs that are being implemented in the SWPPP. In addition to providing descriptions, Dischargers must also describe who is responsible for the BMPs, where the BMPs will be installed, how often and when the BMPs will be implemented, and identify any pollutants of concern. Table 2 of this Fact Sheet provides an example of how a Discharger could assess potential pollution sources and provide a corresponding BMPs summary.

This General Permit requires that Dischargers select an appropriate facility inspection frequency beyond the required monthly inspections if necessary, and to determine if SWPPP revisions are necessary to address any physical or operational changes at the facility or make changes to the existing BMPs (Section X.H.4.a.vii and Section XI.A.4 of this General Permit). Facilities that are subject to multi-phased physical expansion or significant seasonal operational changes may require more frequent SWPPP updates and facility inspections. Facilities with very stable operations may require fewer SWPPP updates and facility inspections.

Failure to develop or implement an adequate SWPPP, or update or revise an existing SWPPP as required, is a violation of this General Permit. Failure to maintain the SWPPP on-site and have it available for inspection is also a violation of this General Permit.

FIGURE 2: Five Phases for Developing and Implementing an Industrial Storm Water Pollution Prevention Plan (SWPPP)

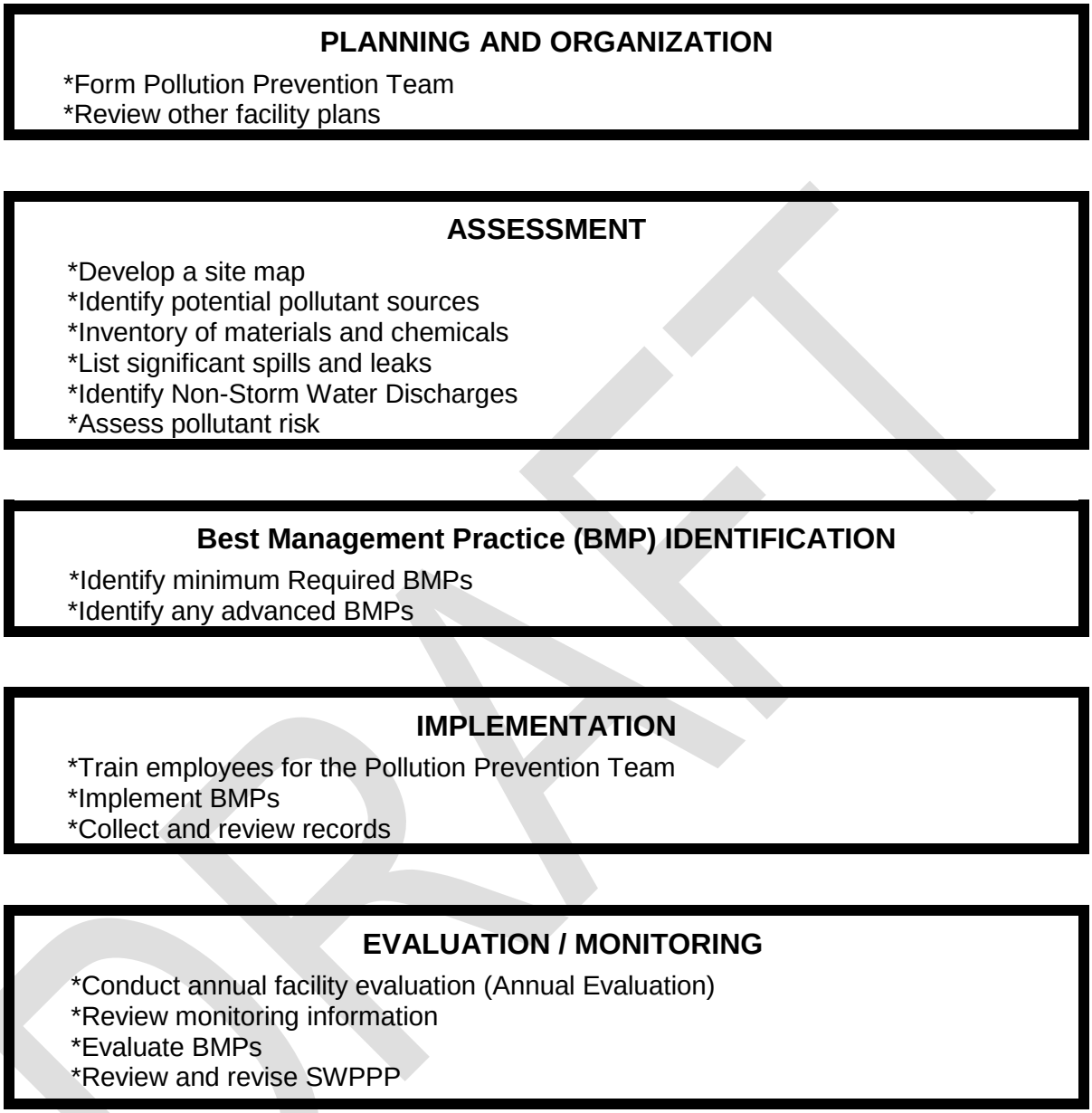


TABLE 2: Example - Assessment of Potential Industrial Pollution Sources and Corresponding BMPs Summary

Area	Activity	Pollutant Source	Industrial Pollutant	BMPs
Vehicle & Equipment Fueling	Fueling	Spills and leaks during delivery	Fuel oil	-Use spill and overflow protection
		Spills caused by topping off fuel tanks	Fuel oil	-Train employees on proper fueling, cleanup, and spill response techniques
		Hosing or washing down fuel area	Fuel oil	-Use dry cleanup methods rather than hosing down area -Implement proper spill prevention control program
		Leaking storage tanks	Fuel oil	-Inspect fueling areas regularly to detect problems
		Rainfall running off fueling area, and rainfall running onto and off fueling area	Fuel oil	-Minimize run-on of storm water into the fueling area, cover fueling area

2. Minimum and Advanced BMPs

Section V of this General Permit requires the Discharger to comply with technology-based effluent limitations. In this General Permit, those limitations take the form of BMPs which Dischargers must implement to prevent and reduce the presence of pollutants in their discharge. The BMP effluent limitations have been integrated into the Section X.H of this General Permit and are divided into two categories – minimum BMPs which are generally non-structural BMPs that all Dischargers must implement to the extent feasible, and advanced BMPs which are generally structural BMPs that must be implemented to the extent feasible if the minimum BMPs are inadequate. Section X of this General Permit includes both substantive control requirements in the form of the BMPs listed in Section X.H, as well as various reporting and recordkeeping requirements. The requirement to implement BMPs "to the extent feasible" allows Dischargers flexibility when implementing BMPs, by not requiring the implementation of BMPs that are not technologically available or economically achievable in light of best industry practices.

The 2008 MSGP requires Dischargers to comply with 12 non-numeric technology based effluent limits in Section 2.1.2 of the permit through the implementation of "control measures." This requirement was an expansion of the general considerations outlined in the previous MSGP adopted in 2000. The control measures specified by the U.S. EPA in the 2008 MSGP are as follows (they are in the order found in the 2008 MSGP):

1. Minimize Exposure
2. Good Housekeeping
3. Maintenance
4. Spill Prevention and Response Procedures
5. Erosion and Sediment Controls
6. Management of Runoff
7. Salt Storage Piles or Piles Containing Salt
8. Sector Specific Non-Numeric Effluent Limits
9. Employee Training
10. Non-Storm Water Discharges (NSWDs)
11. Waste, Garbage and Floatable Debris
12. Dust Generation and Vehicle Tracking of Industrial Materials

This General Permit addresses eleven of the above control measures from the 2008 MSGP Section 2.1.2 Non-Numeric Technology-Based Effluent Limits (BPT/BAT/BCT). Ten of the control measures (1, 2, 3, 4, 5, 6, 7, 9, 11 and 12) are addressed as minimum BMPs that the State Water Board has determined to be most applicable to California's Dischargers. Two of the above control measures (1, 6) are identified as advanced BMPs (Section X.H.2 of this General Permit).

The non-structural elements of control measure number 1 ("Minimize Exposure") is addressed in the minimum BMP Section X.H.1 of this General Permit while structural control elements are addressed in the advanced BMP Section of this General Permit. The on-site diversion elements of control measure number 1 are addressed as minimum BMPs.

The runoff reduction elements of control measure number 1 are included as advanced BMPs. Advanced BMPs that are required to be implemented when a Discharger has implemented the minimum BMPs to the extent feasible and they are not adequate to reduce or prevent pollutants in their storm water discharges. The advanced BMP categories are: (1) exposure minimization BMPs, (2) storm water containment and discharge reduction BMPs, (3) treatment control BMPs, and (4) other advanced BMPs needed to meet the effluent limitations of this General Permit. Advanced BMPs are generally structural control measures and can include any BMPs that exceed the minimum BMPs. Control measure #10 is addressed in both the discharge prohibitions (Section III) and authorized non-storm water discharges (Section IV) of this General Permit and essentially represents a minimum BMP.

This General Permit is not a sector-specific permit and it does not contain specific non-numeric effluent limitations. Accordingly, it does not address control measure

number 8. The BMPs in this General Permit that are related to the control measures found in the 2008 MSGP as follows:

a. Minimizing Exposure

Section 2.1.2.1 of the 2008 MSGP requires Dischargers to minimize the exposure of industrial materials and areas of industrial activity to rain, snow, snowmelt, and runoff. The 2008 MSGP mixes both structural and nonstructural BMPs and specifies particular BMPs to consider when minimizing exposure such as grading/berming areas to minimize runoff, locating materials indoors, spill clean up, contain vehicle fluid leaks or drain fluids before storing vehicles on-site, secondary containment of materials, conduct cleaning activities undercover, indoors or in bermed areas, and drain all wash water to a proper collection system.

This General Permit requires the evaluation of BMPs in the potential pollutant source assessment in the SWPPP (Section X.G.2). When these are not adequate to eliminate pollutants in their storm water discharges, Dischargers are required to implement advanced BMPs to the extent feasible (advanced BMP Section X.H.2).

b. Good Housekeeping

Section 2.1.2.2 of the 2008 MSGP requires that Dischargers keep all exposed areas that may be a potential source of pollutants clean and orderly. This General Permit (Section X.H.1.b) seeks to define “clean and orderly” by specifying a required set of nine (9) minimum good housekeeping BMPs, which include: observations of outdoor/exposed areas, BMPs for controlling material tracking, BMPs for dust generated from industrial materials or activities, BMPs for rinse/wash water activities, covering stored industrial materials/waste, containing all stored non-solid industrial materials, preventing discharge of rinse/wash waters/industrial materials, prevent non-industrial area discharges from contact with industrial areas of the facility, and prevent authorized NSWDs from non-industrial areas from contact with industrial areas of the facility.

c. Preventative Maintenance

Section 2.1.2.3 of the 2008 MSGP requires that Dischargers regularly inspect, test, maintain, and repair all industrial equipment to prevent leaks, spills and releases of pollutants that may be exposed to storm water discharged to receiving waters. This General Permit (Section X.H.1.c) incorporates this concept by requiring four (4) nonstructural BMPs which include: identification and inspection of equipment, observations of potential leaks in identified equipment, an equipment maintenance schedule, and equipment maintenance procedures.

d. Spill Response

Section 2.1.2.4 of the 2008 MSGP requires that Dischargers minimize the potential for leaks, spills and other releases that may be exposed to storm water. Dischargers are also required to develop a spill response plan which includes

procedures such as labeling of containers that are susceptible to a spill or a leakage, establishing containment measures for such materials, procedures for stopping leaks/spills, and provisions for notification of the appropriate personnel about any occurrence. This General Permit (Section X.H.1.d) requires implementation of four (4) BMPs to address spills. These BMPs include: developing a set of spill response procedures to minimize spills/leaks, develop procedures to minimize the discharge of industrial materials generated through spill/leaks, identifying/describing the equipment needed and where it will be located at the facility, and identify/training appropriate spill response personnel.

e. Erosion and Sediment Controls

Section 2.1.2.5 of the 2008 MSGP requires the use of structural and/or non-structural control measures to stabilize exposed areas and contain runoff. Also required is the use of a flow velocity dissipation device(s) in outfall channels where necessary to reduce erosion and/or settle out pollutants. This General Permit (Section X.H.1.f) requires the implementation of (5) BMPs to prevent erosion and sediment discharges. The erosion and sediment control BMPs include: implementing effective wind erosion controls, providing for effective stabilization of erodible areas prior to a forecasted storm event, site entrance stabilization/prevent material tracking offsite and implement perimeter controls, diversion of run-on and storm water generated from within the facility away from all erodible materials, and ensuring compliance with the design storm standards in Section X.H.6. U.S. EPA has developed online resources for erosion and sediment controls.[6]

f. Management of Runoff

Section 2.1.2.6 of the 2008 MSGP requires the diversion, infiltration, reuse, containment, or otherwise reduction of storm water runoff, to minimize pollutants in discharges. This General Permit requires Dischargers to divert run-on from non-industrial sources and manage storm water generated within the facility away from industrial materials and erodible surfaces. Runoff reduction is required as an advanced BMP when minimum BMPs are ineffective in reducing or preventing pollutants in storm water discharges. The 2008 MSGP encouraged Dischargers to consult with EPA's internet-based resources relating to runoff management.[7]

[6] U.S. EPA. 2008 MSGP. <http://cfpub.epa.gov/npdes/stormwater/msgp> [as of July 3, 2013].
U.S. EPA. National Menu of BMPs. <http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm>. [as of July 3, 2013].
U.S. EPA. National Management Measures to Control Nonpoint Source Pollution from Urban Areas <http://water.epa.gov/polwaste/nps/urban/index.cfm>. [as of July 3, 2013].

[7] U.S. EPA. Sector-Specific Industrial Stormwater Fact Sheet Series <www.epa.gov/npdes/stormwater/msgp>. [as of July 3, 2013].
U.S. EPA. National Menu of Stormwater BMPs <www.epa.gov/npdes/stormwater/menuofbmps> [as of July 3, 2013].
U.S. EPA. National Management Measures to Control Nonpoint Source Pollution from Urban Areas (and any similar State or Tribal publications) <www.epa.gov/owow/nps/urbanmm/index.html>. [as of July 3, 2013].

g. Salt Storage Piles or Piles Containing Salt

Section 2.1.2.7 of the 2008 MSGP requires salt storage piles/piles containing salt that may be discharged to be enclosed or covered and to use BMPs when the salt is being used. This General Permit does not have a minimum BMP specifically for salt storage, however it does require all stockpiled/stored industrial materials be managed in a way to reduce or prevent industrial storm water discharges of the stored/stockpiled pollutants. The good housekeeping (Section X.H.1.b) and material handling and waste management (Section X.H.1.e) minimum BMPs in this General Permit require that all materials readily mobilized by storm water be covered, the minimization of handling of industrial materials or wastes that can be readily mobilized by contact with storm water during a storm event, and the diversion of run-on from stock piled materials.

h. Sector Specific Non-Numeric Effluent Limits

Section 2.1.2.8 of the 2008 MSGP requires Dischargers to achieve any additional non-numeric limits stipulated in the relevant sector-specific section(s) of Part 8 of the 2008 MSGP. This General Permit is not a sector-specific permit and does not contain specific non-numeric effluent limitations like the 2008 MSGP. This General Permit does not require industrial sectors to implement sector-specific BMPs, however, Dischargers are required to select and implement feasible BMPs under the minimum BMPs for their specific facility to reduce or prevent industrial storm water discharges of pollutants.

i. Employee Training Program

Section 2.1.2.9 of the 2008 MSGP requires all employees engaged in industrial activities or the handling of industrial materials that may affect storm water to obtain training covering implementation of this General Permit. This General Permit (Section X.H.1.g) requires that necessary personnel are trained on compliance with the General Permit requirements. The five (5) minimum training BMPs include: ensuring that all personnel responsible for implementing the various compliance activities of this General Permit are adequately trained, preparing the proper training materials and manuals for employees, identifying which staff needs to be trained, providing a training schedule, and maintaining documentation on the training courses and which individuals received the training. This General Permit also requires a QISP to be assigned to each facility that reaches Level 1 status. One purpose of a QISP is to have an individual available that can provide compliance assistance with these training requirements. Any personnel involved with implementing permit requirements, the SWPPP, monitoring requirements, or BMPs is part of the Pollution Prevention Team.

j. NSWDs

Section 2.1.2.10 of the 2008 MSGP requires that unauthorized NSWDs are eliminated (Part 1.2.3 of the 2008 MSGP lists the NSWDs authorized by the 2008 MSGP). The minimum BMP good housekeeping Section X.H.1.b.ix of this

General Permit requires the prevention of authorized NSWDs from coming into contact with industrial areas of the facility. This General Permit also includes separate requirements for NSWDs (Section IV) outlines the NSWD authorized by this permit and unauthorized NSWD are prohibited discharges (Section III) in this General Permit.

k. Material Handling and Waste Management

Section 2.1.2.11 of the 2008 MSGP requires that Dischargers ensure waste, garbage, and floatable debris are not discharged into receiving waters. The 2008 MSGP identifies keeping areas clean and intercepting such materials as ways to minimize such discharges. This General Permit (Section X.H.1.e) requires Dischargers to implement six (6) general BMPs that address material handling and waste management. These BMPs include: preventing or minimizing handling of waste or materials during a storm event that could potentially result in a discharge, containing materials susceptible to wind erosion, covering waste disposal containers when not in use, diversion of run-on and storm water generated from within the facility away from all stock piled materials, cleaning and managing spills of such wastes or materials (in accordance with Section X.H.1.d of this General Permit), and conducting observations of outdoor areas and equipment that may come into contact with such materials or waste and become contaminated.

l. Waste, Garbage and Floatable Debris

Section 2.1.2.11 of the 2008 MSGP requires that waste, garbage, and floatable debris are not discharged to receiving waters by keeping exposed areas free of such materials or by intercepting them before they are discharged. This General Permit does not require the elimination of unauthorized minimum BMPs as a minimum BMP directly. Material handling and waste management BMPs are includes in Section X.H.1.e of this General Permit. Dischargers are required to: prevent handling of waste materials during a storm event that could result in a discharge, contain waste disposal containers when not in use, clean and manage spills from waste, and observe outdoor areas and equipment that may come into contact with waste and become contaminated.

m. Dust Generation and Vehicle Tracking of Industrial Materials

Section 2.1.2.12 of the 2008 MSGP requires that generation of dust and off-site tracking of raw, final, or waste materials is minimized. This General Permit does not require dust generation and vehicle tracking of industrial materials as a minimum BMP directly. Dust generation and vehicle tracking of industrial materials BMPs are included in Section X.H.1.b (“good housekeeping”) of this General Permit where Dischargers must prevent dust generation from industrial materials or activities and contain all stored non-solid industrial materials that can be transported or dispersed via wind or come in contact with storm water, and Section X.H.1.e. (“material handling and waste management”) of this General Permit, which requires Dischargers to contain non-solid industrial materials or

wastes that can be dispersed via wind erosion or come into contact with storm water during handling.

n. Quality Assurance and Record Keeping

Section 2.1.2 of the 2008 MSGP does not directly designate record keeping as a control measure. This General Permit (Section X.H.1.h) includes quality assurance and record keeping as a minimum BMP and requires Dischargers to implement three (3) general BMPs. These BMPs include: developing and implementing procedures to ensure that all elements of the SWPPP are implemented, develop a method of tracking and recording the implementation of all BMPs identified in the SWPPP, and a requirement to keep and maintain those records. This ensures that management procedures are designed and permit requirements are implemented by appropriate staff.

o. Implementation of BMPs in the SWPPP

Like the previous permit, this General Permit does not assign Dischargers a schedule to implement BMPs. Instead, this General Permit requires Dischargers to select the appropriate schedule to implement the minimum BMPs. In addition, this General Permit requires Dischargers to identify, as necessary, any BMPs that should be implemented prior to precipitation events. Although Dischargers are required to maintain internal procedures to ensure the BMPs are implemented according to schedule or prior to precipitation events, Dischargers are only required to certify in the Annual Report whether they complied with the BMP implementation requirements.

Dischargers are required to implement an effective suite of BMPs that meet the technology and water-quality based effluent limitations of this General Permit. Based upon Regional Water Board staff inspections, there is significant variation between Dischargers' interpretations of what BMPs constitute compliance, and consequently, what BMPs were necessary to comply with the previous permit. This General Permit establishes a new requirement that Dischargers must implement, to the extent feasible, specific minimum BMPs to reduce or prevent the presence of pollutants in their industrial storm water discharge. In addition, due to the wide variety of facilities conducting numerous and differing industrial activities throughout the state, this General Permit retains the requirement from the previous permit that Dischargers establish and implement additional BMPs beyond the minimum. Implementation of this General Permit's minimum BMPs, together with any necessary advanced BMPs, will result in compliance with the effluent limitations of this General Permit (Section V.A). All Dischargers must evaluate their facilities and determine the best practices within their industry to implement these minimum BMPs and any advanced BMPs

The State Water Board has selected minimum BMPs that are generally applicable at all facilities. The minimum BMPs are consistent with the types of BMPs normally found in properly developed SWPPPs and, in most cases, should represent a significant portion of the effort required for a Discharger to achieve compliance. Due to the diverse industries covered by this General Permit, the

development of a more comprehensive list of minimum BMPs is not currently feasible. The selection, applicability, and effectiveness of a given BMP is often related to industrial activity type and to facility-specific facts and circumstances. Advanced BMPs must be selected and implemented by Dischargers, based on the type of industry and facility-specific conditions, in order to comply with the technology-based effluent limitation requirements of this General Permit.

Failure to implement, to the extent feasible, any of these minimum BMPs, unless the Discharger has justified in the SWPPP that it is infeasible to fully implement a minimum BMP, is a violation of the General Permit. Dischargers must provide a justification for each minimum BMP that is not implemented in the SWPPP. Failure to implement advanced BMPs necessary to achieve compliance with either the technology or WQS requirements in this General Permit is a violation of this General Permit.

3. Design Storm Standards for Treatment Control BMPs

It is the State Water Board's intent to minimize the regulatory uncertainty and costs concerning treatment control BMPs in order to encourage the implementation of treatment control BMPs when appropriate. Section X of this General Permit specifies a minimum design storm standard for use when treatment controls BMPs are installed. There is both a volume-based and flow-based minimum design storm standard in this General Permit. Both are based on the 85th percentile 24-hour storm event. Without a minimum design storm standard, Dischargers have installed treatment controls using a wide variety of designs that were sometimes either unnecessarily stringent/expensive, or deficient in complying with the requirements of the relevant permit. Some Dischargers have been hesitant to consider treatment options because of the uncertainty concerning acceptable treatment design. The minimum design storm standards are generally expected to:

- Be consistent with the effluent limitations of this General Permit;
- Be protective of water quality;
- Be achievable for most pollutants and their associated treatment technologies; and,
- Reduce the costs associated with treating industrial storm water discharges that are unlikely to contain pollutant loadings that would exceed any of the NALs set forth in this General Permit.

This General Permit includes a new ERA Level 2 Technical Report requirement that is based upon NAL exceedances. Included in the Level 2 Technical Report is an option of submitting an Industrial Activity BMPs Demonstration. Under this option, a Discharger with Level 2 status must either implement BMPs to eliminate future NAL exceedances, or justify what BMPs must be implemented to comply with this General Permit but will not eliminate future exceedances. Dischargers who have implemented, or will be implementing, treatment control BMPs which vary from the

minimum design storm standard can justify their treatment control BMPs in the Industrial Activity BMP Demonstration comply with this General Permit.

This General Permit does not require Dischargers to retrofit existing treatment and/or structural controls that do not meet the minimum design storm standard until the Discharger has Level 2 status.

Once TMDL implementation requirements are introduced in this General Permit, those Dischargers subject to TMDLs will be required to design or retrofit treatment control BMPs to meet the TMDL implementation requirements.

To arrive at these minimum design storm standards, the State Water Board has relied heavily on previous State and Regional Water Board decisions concerning treatment efficacy for municipalities, published documents, stakeholder comments, and reasonableness. In 2000, the State Water Board issued State Water Board Order WQ 2000-11, which upheld Los Angeles Regional Water Board's permit requirements which mandated that all new development and redevelopment exceeding certain size criteria design treatment BMPs based on a specific storm volume: the 85th percentile 24-hour storm event. This design storm standard was based on research demonstrating that the standard represents the maximized treatment volume is cut-off at the point of diminishing returns for rainfall/runoff frequency. [8] On the basis of this equation, the maximized runoff volume for 85 percent treatment of annual runoff volumes in California can range from 0.08 to 0.86 inch depending on the imperviousness of the watershed area and the mean amount of rainfall. This design storm standard is referred to as the Standard Urban Storm Water Mitigation Plan's volumetric criterion and there are multiple acceptable methods of calculating this volume. For more information, see the California Stormwater Best Management Practices Handbook.[9]

The San Diego Regional Water Board first established both volumetric and flow-based design storm criteria for NPDES MS4 permits. It is generally accepted by civil engineers doing hydrology work to use twice the peak hourly flow of a specific storm event to use as the basis for flow-based design of BMPs. This General Permit therefore establishes the flow-based design storm standard to be twice the peak hourly flow of the 85th percentile 24-hour storm event.

The primary objective of specifying a design storm standard is to properly size BMPs to, at a minimum, effectively treat the first flush of run-off from all storm events. The economic impacts of treating all storm water from a facility verses the minimal environmental benefit of complete treatment justify the design storm approach. It is unrealistic to require each facility to do a cost benefit analysis of their treatment structures. To simplify the requirements for design, State Water Board staff

[8] California Regional Water Quality Control Board Los Angeles Region, Standard Urban Storm Water Mitigation Plans and Numerical Design Standards for Best Management Practices - Staff Report and Record of Decision (Jan. 18, 2000) < http://www.swrcb.ca.gov/rwqcb4/water_issues/programs/stormwater/susmp/susmp_final_staff_report.pdf>. [as of July 3, 2013].

[9] California Stormwater Quality Association, Stormwater Best Management Practice New Development and Redevelopment Handbook (2003) <http://www.casqa.org/>. [as of July 3, 2013].

reviewed research from the City of Portland[10] and the City of San Jose[11] to determine the volume of each rain event compared to the amount of events that occur for that volume. The results of their findings show an inflection point that is typically found at approximately the 80 to 85 percentile of recorded storm events.

In lieu of complying with the design storm standards for treatment control BMPs in this section, Dischargers may certify and submit a Level 2 ERA Technical Report, including an Industrial Activity BMPs Demonstration (Section XII.D.2.a) of this General Permit).

Dischargers who install any type of volume-based treatment device are encouraged to consider the BMPs in the California Department of Public Health's guidance manual published July 2012, "Best Management Practices for Mosquito Control in California":

http://www.cdph.ca.gov/HealthInfo/discond/Documents/BMPforMosquitoControl07-12.pdf.

4. Monitoring Implementation Plan (MIP)

Dischargers are required to prepare and implement a MIP (Section X.I of this General Permit). The MIP requirements are designed to assist the Discharger in developing a comprehensive plan for the monitoring requirements in this General Permit and to assess their monitoring program. The MIP includes a description of visual observation procedures and locations, as well as sampling procedures, locations, and methods. The MIP shall be kept with the SWPPP.

J. Monitoring

1. General Monitoring Provisions

This General Permit requires that Dischargers develop and implement a facility-specific monitoring program. Monitoring is defined as visual observations and sampling and analysis. The monitoring data is used to indicate:

a. Whether BMPs addressing pollutants in industrial storm water discharges and authorized NSWDs are achieving the effluent limitations of this General Permit,

b. The presence of pollutants in industrial storm water discharges and authorized NSWDs (and their sources) that may trigger the implementation of additional BMPs and/or SWPPP revisions; and,

[10] City of Portland Oregon. Portland Stormwater Management Manual Appendix E.1: Pollution Reduction Methodology E.1-1 (August 1, 2008). <http://www.portlandoregon.gov/bes/article/202909>. [as of July 3, 2013].

[11] California Stormwater Quality Association (CASQA). CASQA BMP Handbook (January 2003) New Development and Redevelopment (Errata 9-04) <http://www.casqa.org/>. [as of July 3, 2013].

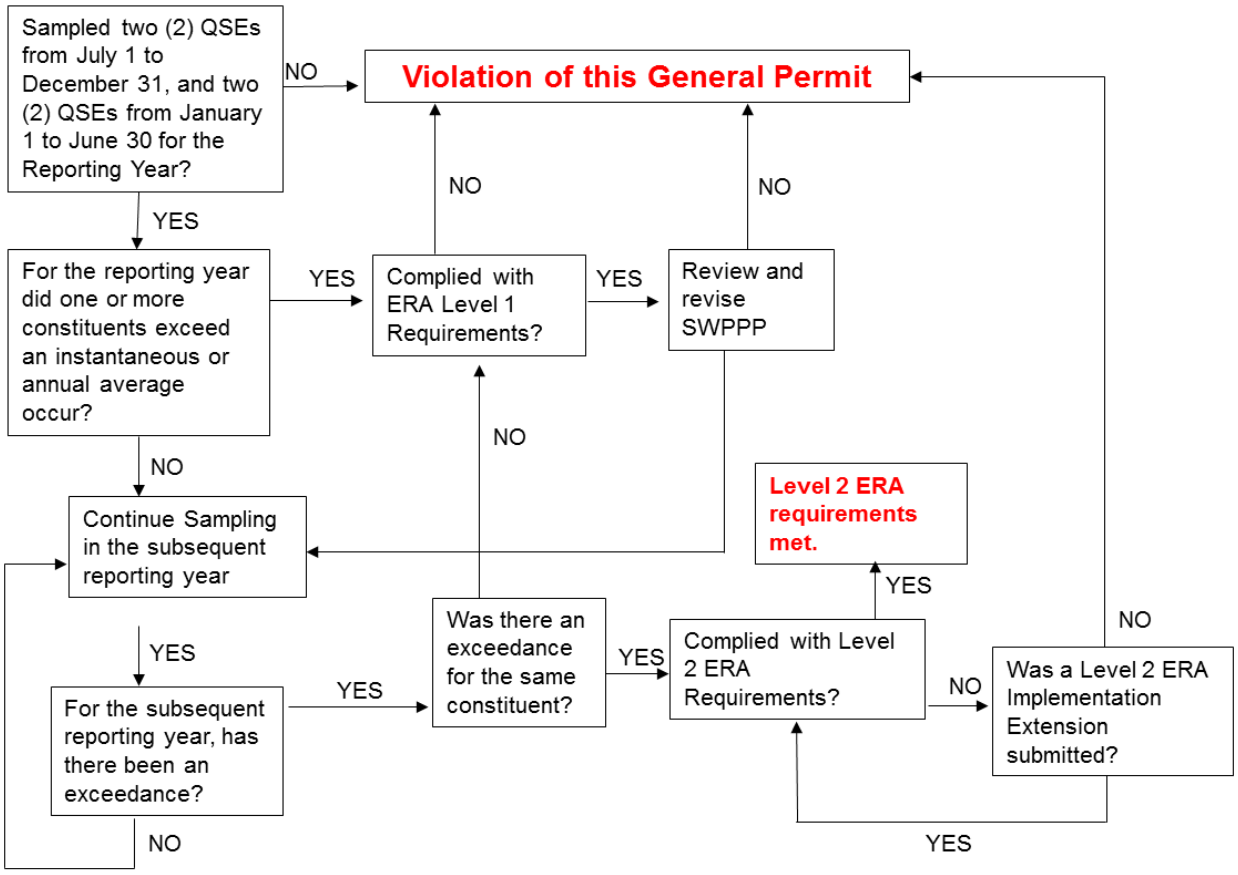
c. The effectiveness of BMPs to reduce or prevent pollutants in industrial storm water discharges and authorized NSWDs.

Effluent sampling and analysis information can often be useful to Dischargers when evaluating the need for improved BMPs. The monitoring requirements in this General Permit recognize the 2008 MSGP approach to visual observations as an effective monitoring method for evaluating the effectiveness of BMPs at most facilities. Section 6.2 of the 2008 MSGP limits its monitoring sampling requirements to certain industrial categories. Similar to the previous permit, this General Permit requires all Dischargers to sample unless they have obtained NEC coverage or have an inactive mining operation(s) certified as allowed under this General Permit Section XIII.

The State Water Board recognizes that each facility has unique physical characteristics, industrial activities, and/or variations in BMP implementation and performance which warrants the requirement that each facility demonstrate its compliance. Figure 3 of this Fact Sheet provides a summary of all the monitoring-related requirements of this General Permit. This General Permit's monitoring requirements include sampling and analysis requirements for specific indicator parameters that indicate the presence of pollutants in industrial storm water discharges. The "indicator parameters" are oil and grease (for petroleum hydrocarbons), total suspended solids (for sediment and sediment bound pollutants) and pH (for acidic and alkaline pollutants). Additionally, Dischargers are required to evaluate their facilities and analyze samples for additional facility-specific parameters. These monitoring program requirements are designed to provide useful, cost-effective, timely, and easily obtained information to assist Dischargers as they identify their facility's pollutant sources and implement corrective actions and revise BMPs as necessary (Section XI.A.4 of this General Permit).

This General Permit requires a combination of visual observations and analytical monitoring. Visual observations provide Dischargers with immediate information indicating the presence of many pollutants and their sources. Dischargers must implement timely actions and revise BMPs as necessary (Section XI.A.4) when the visual observations indicate pollutant sources have not been adequately addressed in the SWPPP. Analytical monitoring provides an additional indication of the presence and concentrations of pollutants in storm water discharge. Dischargers are required to evaluate potential pollutant sources and corresponding BMPs and revise the SWPPP appropriately when specific types of NAL exceedances occur as described below.

FIGURE 3: Compliance Flowchart



2. Visual Observations

There are two major revisions to the visual observation requirements in this General Permit, which include:

a. Monthly Visual Observations

The previous permit required separate quarterly visual observations for unauthorized and authorized non-storm water discharges. It did not require periodic visual observations of the facility to determine whether all potential pollutant sources were being adequately controlled with BMPs. Prior drafts of this General Permit proposed the addition of pre-storm inspections. This was met with great resistance by Dischargers because of the complexity and burden of determining when a QSE would occur. Many of these Dischargers recommended that monthly BMP and non-storm water discharge visual observations should replace the proposed pre-storm inspections. This General Permit merges all visual observations into a single monthly visual observation.

b. Sampling Event Visual Observations

The previous permit required monthly storm water visual observations. This required Dischargers to conduct visual observations for QSEs that were not

being sampled since only two QSEs were required to be sampled in the previous permit. As discussed below, the sampling requirement has been increased to four QSEs within each reporting year with two QSEs required in each half of the reporting year. We expect that this will result in more samples being collected and analyzed, since most of California experiences, on average, at least two QSEs per half year. This General Permit streamlines the storm water visual observation requirement by linking the visual observations to the time of sampling.

3. Sampling and Analysis

   a. General

      As part of the process for developing previous drafts of this General Permit, the State Water Board considered comments from numerous stakeholders concerning sampling and analysis. Sampling and analysis issues were the most dominant of all issues raised in the comments.

      The State Water Board received stakeholder comments that fall into three primary categories concerning sampling and analysis:

      i. Comments supporting an intensive water quality sampling and analysis approach (with the goal of producing more accurate discharge-characterizing and pollutant concentration data) as the primary method of determining compliance with effluent limitations and WQS: Since this approach requires large amounts of high quality data to accurately quantify the characteristics of the discharges referred to as the **quantitative** monitoring approach. Stakeholders supporting the quantitative approach generally support the use of stringent NELs to evaluate compliance with this General Permit;

      ii. Comments supporting only visual observations as the primary method of determining compliance: These stakeholders generally assert that storm water sampling is an incomplete and not very cost effective means of determining water quality impacts on the receiving waters; and,

      iii. Comments supporting a combination of visual observations and cost-effective water quality sampling and analysis approach (sampling and analysis that would produce data indicating the presence of pollutants) to determine compliance (similar to the previous permit's approach). Since this approach uses more qualitative information to describe the quality and characteristics of the discharges referred to as the qualitative monitoring approach.

      Within each of the three categories, there are various recommendations and rationales as to the exact monitoring frequencies, procedures and methods, required to implement the approach

      Stakeholders in favor of the quantitative monitoring approach commented that it is the only reliable and meaningful method of assuring that: (1) BMPs are effective in reducing or preventing pollutants in storm water discharge in compliance with BAT/BCT, and (2) the discharge is not causing or contributing to

an exceedance of a WQS. The stakeholders state that visual observations are not effective in measuring pollutant concentrations nor is it effective in determining the presence of colorless and/or odorless pollutants. The stakeholders state that qualitative monitoring (and the use of indicator parameters) will not provide results useful for calculating pollutant loading nor will it accurately characterize the discharge.

Stakeholders in favor of requiring only visual observations state that sampling and analysis is unnecessary because (1) the previous permit did not include NELs so the usefulness of sampling and analysis data is limited, (2) a significant majority of Dischargers should be able to develop appropriate BMPs without sampling and analysis data, (3) most pollutant sources and pollutants can be detected and mitigated through visual observations, (4) the costs associated with quantitative monitoring are excessive and disproportional to any benefits, (5) U.S. EPA's storm water regulations do not require sampling, (6) U.S. EPA's MSGP relies heavily on visual observations and requires only a limited number of specific industries to conduct sampling and analysis, and (7) the majority of Dischargers are small businesses and do not have sufficient training or understanding to perform accurate sampling and analysis.

Stakeholders in favor of requiring both visual observations and a cost-effective qualitative monitoring program state that (1) both are within the means and understanding of most Dischargers, and (2) monitoring results are useful for evaluating a Discharger's compliance without increasing burden on the Discharger and without subjecting Dischargers to non-technical enforcement actions.

The State Water Board finds that it is feasible for the majority of Dischargers to develop appropriate BMPs without having to perform large amounts of quantitative monitoring, which can be very costly. In the absence of implementing NELs, the State Water Board has determined that the infeasibility and costs associated with developing quantitative monitoring programs at each of thousands industrial facilities currently permitted would outweigh the limited benefits. The primary difficulty associated with requiring intensive quantitative monitoring lies with the cost and the difficulty of accurately sampling industrial storm water discharges.

Stakeholders that support quantitative monitoring believe the data is necessary to determine pollutant loading, concentration, or contribution to water quality violations. In order to derive data necessary to support those goals, however, the data must be of high quality, meaning it must be accurate, precise and have an intact chain of custody. Many industrial facilities do not have well-defined storm water conveyance systems for sample collection. Storm water frequently discharges from multiple locations through sheet flow into nearby streets and adjoining properties. Sample collection from a portion of the sheet flow is an inexact measurement since not all of the flow is sampled. Requiring every Discharger to construct well-defined storm water conveyances may cost anywhere from thousands to hundreds of thousands of dollars per facility depending on the size and nature of each industrial facility. At many facilities,

the construction of such conveyances may also violate local building codes, create safety hazards, cause flooding, or increase erosion. In addition, eliminating sheet flow at some facilities could result in increased pollutant concentrations.

The State Water Board has considered the complexity and costs associated with quantitative monitoring. Unlike continuous point source discharges (e.g., 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. The largest concentration of pollutants would be expected to discharge earlier in the storm event and taper off as discharges continue. Therefore, effective quantitative monitoring of storm water discharges would require that storm water discharges be collected and sampled until most or all of the pollutants have been discharged. Multiple samples would need to be collected over many hours. To determine the pollutant mass loading, the storm water discharge flow must also be measured each time a sample is collected.

For a quantitative monitoring approach to yield useful information, the installation of automatic sampling devices and flow meters at each discharge location would usually be necessary. In addition, qualified individuals would be needed to conduct the monitoring procedures, and to handle and maintain flow meters and automatic samplers are needed. A significant majority of storm water Dischargers under this General Permit do not possess the skills to manage such an effort. Dischargers will bear the cost of employing and/or training on-site staff to do this work, or the cost of contracting with environmental consultants and acquiring the required flow meters and automatic samplers. The cost to Dischargers to conduct quantitative monitoring varies depending on the number of outfalls, the number of storms, the length of each storm, the amount of staff training, and other variables.

To address these concerns, this General Permit includes a number of new items that bridge the gap between the previous permit's qualitative monitoring and the quantitative approach recommended by many commenters. This General Permit includes a requirement for all Dischargers to designate a QISP when they enter Level 1 status due to NAL exceedances. The QISP is required to be trained to: (1) more accurately identify discharge locations representative of the facility storm water discharge (2) select and implement appropriate sampling procedures (3) evaluate and develop additional BMPs to prevent and reduce pollutants in the industrial storm water discharges.

Dischargers that fail to develop and implement an adequate monitoring implementation plan (MIP) that includes both visual observations and sampling and analysis, are in violation of this General Permit. Dischargers that fail to comply with Level 1 status and Level 2 status ERA requirements, triggered by NAL exceedances, are in violation of this General Permit.

Water Code section 13383.5 requires that the State Water Board include in this General Permit: (1) standardized methods for collection of storm water samples,

(2) standardized methods for analysis of storm water samples, (3) a requirement that every sample analysis be completed by a State certified laboratory or in the field in accordance with Quality Assurance and Quality Control (QA/QC) protocols, (4) a standardized reporting format, (5) standardized sampling and analysis programs for QA/QC, and (6) method detection limits. The monitoring requirements in this General Permit (Section XI) address these requirements.

Under the previous permit, many Dischargers did not developed adequate sample collection and handling procedures, decreasing the quality of analytical results. In addition, Dischargers often selected inappropriate test methods, method detection limits, or reporting units. This General Permit requires Dischargers to undertake specific Exceedance Response Actions when sampling results indicate certain types of NAL exceedances. All Dischargers must identify discharge locations that are representative of industrial storm water discharges and develop and implement reasonable sampling procedures to ensure that samples are not mishandled or contaminated.

It is infeasible for the State Water Board to provide a single comprehensive set of sample collection and handling procedures/instructions due to the wide variation in storm water conveyance and collection systems in use at facilities around the state. As an alternative, Attachment H of this General Permit provides minimum storm water sample collection and handling instructions that pertain to all facilities. Dischargers are required to develop facility-specific sample collection and handling procedures based upon these minimum requirements. Table 2 in this General Permit provides the minimum test methods (and associated detection limits) that shall be used for a variety of common pollutants. Dischargers must be aware that use of more sensitive test methods (e.g., U.S. EPA Method 1631 for Mercury) may be necessary if they discharge to an impaired water body or are otherwise required to do so by the Regional Water Board.

The previous permit allowed Dischargers to reduce sampling analysis requirements for substantially similar drainage areas by either (1) combining samples for an unspecified maximum number of substantially similar drainage areas, or (2) sampling a reduced number of substantially similar drainage areas. The State Water Board provided this procedure to reduce analytical costs. The complexity associated with determining substantially similar drainage areas has led Dischargers to produce various, and sometimes questionable, analytical schemes. In addition, the previous permit did not establish a maximum number of samples that could be combined.

To standardize sample collection and analysis as required by Water Code section 13383.5, while continuing to offer a reduced analytic cost option, these requirements have been revised. Section XI.B.4 of this General Permit requires Dischargers to collect samples from all discharge locations regardless of whether the discharges are substantially similar or not. Dischargers may analyze each sample collected, or may analyze a combined sample consisting of equal volumes, collected from as many as four (4) substantially similar discharge locations. A minimum of one combined sample shall be analyzed for every one

(1) to four (4) discharge locations, and the samples shall be combined in the lab in accordance with Section XI.C.5 of this General Permit.

Representative sampling is only allowed for sheet flow discharges or discharges from drainage areas with multiple discharge locations. Dischargers shall select the appropriate location(s) to be sampled and intervals necessary to obtain samples representative of storm water associated with industrial activities generated within the corresponding drainage area. Dischargers are not required to sample discharge locations that have no exposure of industrial activities or materials as defined in Section XVII of this General Permit within the corresponding drainage area. However, Dischargers are required to conduct the monthly visual observations regardless of the selected locations to be sampled.

This General Permit defines a QSE as a precipitation event that produces a discharge from any drainage area that is preceded by 48 consecutive hours without a discharge from any drainage area. The previous permit did not include a QSE definition; instead, it utilized a different approach to defining the storm events that were required to be sampled. Under the previous permit, eligible storm events were storm events which occurred after three consecutive working days of dry weather. The three consecutive working days of dry weather definition in the previous permit led Dischargers to miss many opportunities to sample. Some Dischargers were unable to collect samples from two storm events in certain years under the previous definition. To resolve this difficulty, this General Permit increases the sampling requirements to four (4) QSEs per year, while decreasing the number of days without a discharge, resulting in additional opportunities for Dischargers to sample. Additionally, by eliminating the previous permit's reference to "dry weather," this General Permit allows some precipitation to occur between QSEs so long as there is no discharge from any drainage area. This change will result in more QSE sampling opportunities.

To improve clarity and consistency, the definitions contained in other storm water permits were considered with the goal of developing a standard definition for 'dry weather' for this General Permit. The 2008 MSGP sets a "measurable storm event" as one that produces at least 0.1 inches of precipitation and results in an actual discharge after 72 hours (three days) of dry weather. The State of Washington defines a "qualifying storm event" as a storm with at least 0.1 inches of precipitation preceded by at least 24 hours of no measurable precipitation, mirroring the definition found in the previous MSGP (2000 version). The State of Oregon requires that samples be taken in the first 12 hours of discharge and no less than 14 days apart. Review of other permits concludes that there is not a single commonly used approach to triggering sampling in industrial general permits. Therefore an enforceable sampling trigger is included in this General permit to provide Dischargers the opportunity to sample four storm events within each reporting year.

b. Effluent Water Quality Sampling and Analysis Parameters

Dischargers are required to sample and analyze their effluent for certain parameters. "Parameter" is a term used in laboratory analysis circles to represent a distinct, reportable measure of a particular type. For example, ammonia, hexavalent chromium, total nitrogen and chemical oxygen demand are all parameters that a laboratory can analyze storm water effluent for and report a quantity back. A parameter is also an indicator of pollution. In this General Permit, pH, total suspended solids and chemical oxygen demand are examples of indicator parameters. They are not direct measures of a water quality problem or condition of pollution but can be used to indicate a problem or condition of pollution. Indicator parameters can also be used to indicate practices and/or the presence of materials at a facility to bring forth information for compliance evaluation processes, like annual report review and inspection. For example, chemical oxygen demand concentrations can indicate the presence of dissolved organic compounds, like residual food from collected recycling materials.

Minimum parameter-specific monitoring is required for Dischargers, regardless of whether additional facility-specific parameters are selected. This General Permit requires some parameters to be analyzed and reported for the duration of permit coverage to develop comparable sampling data over time and over many storm events and to demonstrate compliance. The Regional Water Boards may use such data to evaluate individual facility compliance and assess the differences between various industries. Accordingly, the parameters selected correspond to a broad range of industrial facilities, are inexpensive to sample and analyze, and have sampling and analysis methods which are easy to understand and implement. Some analytical methods for field measurements of some parameters, such as pH, may be performed using relatively inexpensive field instruments and provides an immediate alert to possible pollutant sources.

The following three selected minimum parameters are considered indicator parameters, regardless of facility type. These parameters typically provide indication and/or the correlation of whether other pollutants are present in storm water discharge. These parameters were selected for the following reasons:

i. pH is a numeric measurement of the hydrogen-ion concentration. Many industrial facilities handle materials that can affect pH. A sample is considered to have a neutral pH if it has a value of 7. At values less than 7, water is considered acidic; above 7 it is considered alkaline or basic. Pure rain water in California typically has a pH value of approximately7.

ii. Total Suspended Solids (TSS) is an indicator of the un-dissolved solids that are present in storm water discharge. Sources of TSS include sediment from erosion, and dirt from impervious (i.e., paved) areas. Many pollutants adhere to sediment particles; therefore, reducing sediment will reduce the amount of these pollutants in storm water discharge.

iii. Oil and Grease (O&G) is a measure of the amount of O&G present in storm water discharge. At very low concentrations, O&G can cause sheen on the

surface of water. O&G can adversely affect aquatic life, create unsightly floating material, and make water undrinkable. Sources of O&G include, but are not limited to, maintenance shops, vehicles, machines, and roadways.

The previous permit allowed Dischargers to analyze samples for either O&G or Total Organic Carbon (TOC). This General Permit requires that all Dischargers analyze samples for O&G since virtually all Dischargers with outdoor activities operate equipment and vehicles that potentially can generate insoluble oils and greases. Dischargers with water-soluble based organic oils may be required to also test for TOC. The TOC and O&G tests are not synonymous, duplicative or interchangeable.

This General Permit removes the requirement to analyze for specific conductance as part of the minimum analytic parameters. Specific conductance is not required by U.S. EPA for any industry type. Additionally, stakeholder comments indicate that there are many non-industrial sources that may cause high specific conductance and interfere with the efficacy of the test. For example, salty air deposition that occurs at facilities in coastal areas may raise the specific conductance in water over 500 micro-ohms per centimeter (µhos/cm). Dischargers are not prevented from performing a specific conductance test as a screening tool if it is useful to detect a particular pollutant of concern as required (e.g. salinity). However, because this General Permit does not include an NAL for specific conductance, Dischargers will need to contact the Regional Water Board to determine if there is an applicable and appropriate annual NAL exceedance value for use in applying this General Permit's ERA requirements.

This General Permit requires Dischargers subject to Subchapter N ELGs for pH to analyze for pH using approved test methods in accordance with 40 Code of Federal Regulations part 136. These federal regulations specify that analysis of pH must take place within 15 minutes of sample collection. All other Dischargers may screen for pH with using wide range litmus pH paper or other equivalent pH test kits within 15 minutes of sample collection. If in any reporting year a Discharger has two or more pH results outside of the range of 6.0 – 9.0 pH units, Dischargers are required to comply with the approved test methods in 40 Code of Federal Regulations part 136 in subsequent reporting years.

For almost all Dischargers, obtaining laboratory analysis within 15 minutes is logistically impossible. For many Dischargers, maintaining a calibrated pH meter is difficult, labor intensive, and error prone. Screening for pH will limit the number of additional Dischargers who will be required to comply with 40 Code of Federal Regulations part 136 methods to only those that have pH outside the range of 6.0-9.0 pH units. The use of wide range litmus pH paper or other equivalent pH test kits is not as accurate as a calibrated pH meter, however litmus paper is allowed in the 2008 MSGP, and when used properly it can provide an accurate measure of pH.

Review of available monitoring data shows that pH has not appeared to be a problem for most Dischargers and for most industry types. There are specific

types of industries, like cement or concrete manufacturers, that have shown a trend of pH values very close to 9.0 pH units. Rather than require all industries as a whole to comply with 40 Code of Federal Regulations part 136 methods, this General Permit establishes a triggering mechanism for these more advanced pH screening methods. The Regional Board's retain their authority to require more accurate test methods. Once a Discharger triggers the requirement to use the more accurate screening method, the Discharger may not revert back to screening for pH for the duration of coverage under this General Permit.

Table 1 in this General Permit contains analytical parameters organized by SIC codes taken from the 2008 MSGP. In the early 1990s, U.S. EPA, through its group application program, evaluated nationwide monitoring data and developed the listed parameters and SIC associations. The 2008 MSGP requires that Dischargers analyze storm water effluent for the listed parameters under certain conditions. In addition to the parameters in Table 1 of this General Permit, Dischargers are required to select additional facility-specific analytical parameters based upon the types of materials that are both exposed to and mobilized by contact with storm water. Dischargers must, at a minimum, understand how to identify industrial materials that are handled outdoors and which of those materials can easily dissolve or be otherwise transported via storm water.

The Regional Water Boards have the authority to take actions to revise the monitoring requirements for an individual facility or group of facilities based on factors such as geographic location, industry type, potential to pollute, etc. For example, The Los Angeles Regional Board required all dismantlers (SIC Code 5015) within their jurisdiction to analyze for copper and zinc instead of aluminum and iron during most of the previous permit. SMARTS will be programmed to incorporate any monitoring revisions required by the Regional Water Boards. Dischargers will receive notification via E-mail that a monitoring revision was made and their SMARTS analytical reporting input screen will display the revisions. Dischargers may add, but not otherwise modify, the sampling parameters on their SMARTS input screen.

Dischargers are also required to identify pollutants that may cause or contribute to an existing exceedance of any applicable WQS for the receiving water. This General Permit requires that Dischargers select additional analytical parameters that are representative of materials handled at the facility (regardless of the degree of storm water contact or relative mobility), because these materials may be related to pollutants that are causing an exceedance of a WQS.

4. Methods and Exceptions

   a. Storm Water Discharge Locations

      Dischargers are required to visually observe and collect samples of industrial storm water discharges from each drainage area at all discharge locations. These samples must be representative of the storm water discharge in each drainage area. This is a change from the previous permit which allowed a

Discharger to reduce the number of discharge locations sampled if two or more discharge locations were substantially similar.

Dischargers are required to identify, when practicable, alternate discharge locations if: (1) the facility's industrial drainage areas are affected by storm water run-on from surrounding areas that cannot be controlled, or (2) discharge locations are difficult to observe or sample (e.g. submerged discharge outlets, dangerous discharge location accessibility).

b. Representative Sampling Reduction (RSR)

Some stakeholders have indicated that there are unique circumstances where the collection of samples from a limited number of representative discharge locations are appropriate and would not undermine the sampling results in characterizing the facility's storm water discharges. For the most part, stakeholders provided examples related to a drainage areas with multiple discharge locations where sampling only a subset of these discharge locations would produce results which are representative of that drainage area's storm water discharges. In such situations, this General Permit allows Dischargers to reduce the number of discharge locations. For each drainage area with multiple discharge locations (e.g., roofs with multiple downspouts, loading/unloading areas with multiple storm drain inlets), the Discharger may reduce the number of discharge locations to be sampled if the conditions in Section XI.C.4 of this General Permit are met.

c. Qualified Combined Samples (QCS)

Dischargers may combine samples from up to four (4) discharge locations if the industrial activities within each drainage area and each drainage area's physical characteristics (grade, surface materials, etc.) are substantially similar.

Dischargers are required to provide documentation in the MIP supporting that the above conditions have been evaluated. A Discharger may combine samples from more than four (4) discharge locations only with approval from the appropriate Regional Water Board.

d. Sample Collection and Visual Observation Exceptions

Dischargers are not required to collect samples or conduct visual observations during dangerous weather conditions such as flooding or electrical storms, or outside of scheduled facility operating hours. A Discharger is not precluded from conducting sample collection activities or visual observations outside of scheduled facility operating hours.

In the event that a Discharger is unable to collect the required samples or conduct visual observations due to these exceptions, the Discharger must include an explanation in the Annual Report.

e. Sampling Frequency Reduction (SFR)

Facilities that do not have NAL exceedances for four (4) consecutive QSEs are unlikely to pose a significant threat to water quality. If these facilities are otherwise in full compliance with this General Permit, they are eligible for a reduction in sampling frequency. The SFR allows Dischargers to go from four (4) samples within each reporting year to collecting just the one (1) QSE within the first half of each reporting year (July 1 to December 31), and one (1) QSE within the second half of each reporting year (January 1 to June 30). If a Discharger has a subsequent NAL exceedance they must comply with the normal sampling requirements. Dischargers who have satisfied the Level 1 status and Level 2 status ERA requirements are also eligible for this sampling and analysis reduction.

A Discharger seeking to reduce their sampling frequency shall certify and submit an SFR Report via SMARTS. The SFR Report shall include documentation that the General Permit conditions for the SFR have been satisfied.

Dischargers who participate in a Compliance Group and certify a SFR are only required to collect and analyze storm water samples from one (1) QSE within each reporting year. These Dischargers receive year-round assistance from their Compliance Group Leader and are expected to perform the requirements of this General Permit at the highest level.

5. Facilities Subject to Federal Storm Water Effluent Limitation Guidelines (ELGs)

Federal regulations at Subchapter N establish ELGs for industrial storm water discharges from facilities in eleven industrial sectors. For these facilities, compliance with the ELGs constitutes compliance with the technology standard of BPT, BAT, BCT, or NSPS provided in the ELG for the specified pollutants, and compliance with the technology-based requirements in this General Permit for the specified pollutant.

K. Exceedance Response Actions (ERAs)

1. General

The previous permit did not incorporate the MSGP benchmarks or any other NALs that Dischargers were to use when evaluating sampling results. Unlike the requirements for industrial storm water discharges that cause or contribute to an exceedance of a WQS, the previous permit did not provide definitions, procedures or guidelines to assess sampling results. Many Regional Water Boards have formally or informally notified Dischargers that exceedances of the MSGP benchmarks should be used to determine whether additional BMPs are necessary. However, there was considerable confusion as to the extent to which a Discharger would be expected to implement actions in response to exceedances of these values, and what timelines had to be met to avoid enforcement actions. The lack of specificity with regards to what constituted an exceedance, and what actions are required in response to an exceedance, have been identified as a problem by the Water Boards, industry and environmental stakeholders.

This General Permit contains two (2) types of NALs. Annual NALs function similarly to, and are based upon, the values provided in the 2008 MSGP. Instantaneous maximum NALs target hot spots or episodic discharges of pollutants and were calculated based on California industrial storm water discharge monitoring data. When the Discharger exceeds an NAL they are required to perform ERAs. The ERAs are divided into two levels of responses and can generally be differentiated by the number of years in which a facility's discharge exceeds an NAL trigger. These two levels are explained further in Section XII of this General Permit. This ERA system provides Dischargers with an adaptive management-based process to develop and implement cost-effective BMPs that are protective of water quality and compliant with this General Permit. This system is also designed to provide Dischargers with a more defined pathway towards a compliance end-point.

The ERA requirements in this General Permit were developed through staff's best professional judgment and experience with the shortcomings of the previous permit's compliance procedures. Staff also considered comments received during hearings on the 2002, 2005, 2011 and 2012 draft permits. NPDES industrial storm water discharge permits from other states with well-defined ERA requirements were also considered by the State Water Board.

The State Water Board presumes that any single NAL exceedance for a particular parameter is not a clear indicator that a facility's discharge may be causing or contributing to a water quality violation. This presumption recognizes the highly variable nature of storm water discharge and the limited value of a single quarterly grab sample to characterize a facility's storm water discharge for an entire storm event and all other non-sampled storm events. This presumption also avoids requiring costly actions that may not be warranted.

2. NALs and NAL Exceedances

   a. This General Permit contains two types of NAL exceedances as follows:

      i. Annual NAL exceedance - the Discharger is required to calculate the average concentration for each parameter using the results of all the sampling and analytical results for the entire facility for the reporting year (i.e., all "effluent" data) and compare this to the corresponding Annual NAL values in Table 2 of this General Permit. For Dischargers using composite sampling or flow measurement in accordance with standard practices, the average concentrations shall be calculated in accordance with the U.S. EPA Guidance Manual for the Monitoring and Reporting Requirements of the NPDES Multi-Sector Storm Water General Permit.[12] An annual NAL exceedance occurs when the average of all the analytical results for a parameter from samples taken within a reporting year exceeds the annual NAL value for that parameter listed in Table 2 of this General Permit;

      ii. Instantaneous maximum NAL exceedance - the Discharger is required to compare all sampling and analytical results from each distinct sample

[12] U.S. EPA. NPDES Storm Water Sampling Guidance Document. Web. July 1992. <http://www.epa.gov/npdes/pubs/owm0093.pdf>. [as of July 3, 2013].

(individual or combined) to the corresponding instantaneous maximum NAL values in Table 2 of this General Permit. An instantaneous maximum NAL exceedance occurs when two or more analytical results from samples taken for any parameter within a reporting year exceed the instantaneous maximum NAL value (for TSS and O&G), or are outside of the instantaneous maximum NAL range (for pH).

b. Instantaneous maximum NAL analysis

The Blue Ribbon Panel of Experts (Panel) made several, specific recommendations for how to set numeric values in future industrial storm water general permit(s). For sites not subject to TMDLs, the Panel suggested that the numeric values be based "upon industry types or categories, with the recognition that each industry has its own specific problems and financial viability."

Furthermore, the Panel continued to state:

> 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 because of inconsistencies in monitoring or compliance with monitoring requirements. The Board needs to reexamine the existing data sources, collect new data as required and for additional water quality parameters (the current permit requires only pH, conductivity, total suspended solids, and either total organic carbon or oil and grease) to establish practical and achievable Numeric Limits.

The State Water Board received comments on the January 2011 draft General Permit, suggesting that it is problematic to calculate NAL values based on the existing data set (Water Board dataset).

The Panel suggested an alternative method that would allow the use of the Water Board dataset to establish action levels: the "ranked percentile" method. As the Panel explained:

> The ranked percentile approach (also a statistical approach) relies on the average cumulative distribution of water quality data for each constituent developed from many water quality samples taken for many events at many locations. The Action Level would then be defined as those concentrations that consistently exceed some percentage of all water quality events (i.e. the 90^{th} percentile). In this case, action would be required at those locations that were consistently in the outer limit (i.e. uppermost 10th percentile) of the distribution of observed effluent qualities from urban runoff.

After performing various data analysis exercises with the Water Board dataset, Staff has determined that the Water Board dataset is not adequate to calculate instantaneous NAL values using this method for all of the parameters that have annual NAL values based on the U.S. EPA benchmarks. Therefore, the Water

Board dataset was not used to calculate instantaneous NAL values for all parameters.

Since all Dischargers were required to sample for TSS and O&G/TOC under the previous permit, the dataset for these parameters was of sufficient quality to calculate NAL values. Staff also found that this data was less prone to what appear to be data input errors. The final dataset used to calculate instantaneous NALs had outlier values eliminated from the dataset by using approved test method detection limits ranges. The methods and detection limits ranges used to screen outliers are:

- O&G - EPA 413.1 Applicable Range: 5-1,000 mg/L
- O&G - EPA 1664 Applicable Range: 5-1,000 mg/L
- TSS - EPA 160.2 Applicable Range: 4-20,000 mg/L

The intent of the instantaneous maximum NAL is to identify specific drainage areas of concern or episodic sources of pollution in industrial storm water that may indicate inadequate storm water controls and/or water quality impacts. In the effort to add this type of NAL exceedance to the ERA process, Staff explored different options for the development of an appropriate value (e.g., percentile approach, benchmarks times a multiplier, confidence intervals). California Storm Water Quality Association's comments on the previous draft permit included a proposed method for calculating NAL values using a percentile approach. Staff researched and evaluated this methodology and determined it is the most appropriate way to directly compare sample results from the Water Board dataset that used available electronic sampling data from Dischargers under the previous permit. This percentile approach was used to set the instantaneous maximum NALs, and sampling results will be directly compared to these values to identify drainage areas of concern.

The percentile approach is a non-parametric approach identified in many statistical texts for determining highly suspect values. Highly suspect values are defined as values that exceed the limits of the outer fences of a box plot. Upper limits of the outer fence are calculated by adding three times the inter-quartile range (25th to 75th percentiles) to the upper-end of the inter-quartile range (the 75th percentile). The California Storm Water Quality Association included in their comments to the State Water Board a value of 401 mg/L for TSS using the percentile approach and based on the Water Board dataset. Staff performed this analysis with the same Water Board dataset and calculated a slightly different value of 396 mg/L; therefore, the instantaneous maximum NAL value for TSS was set at 400 mg/L. Repeating this method on the O&G data, Staff set the instantaneous maximum NAL value for O&G at 25 mg/L.

Staff compared the sampling data to the instantaneous maximum NAL values. It was found that 7 percent of the total samples exceeded the highly suspect value for TSS and 7.8percent exceeded the highly suspect value for O&G. These results suggest that the instantaneous maximum NAL values are adequate to

identify drainage areas of concern statewide since they are not regularly exceeded. It is Staff's best professional judgment that an exceedance of these values twice within a reporting year is unlikely to be the result of storm event variability or random BMP implementation problems.

Due to issues with the ranges of concentrations and the logarithmic nature of pH, statistical methods cannot be applied to pH in the same ways as other parameters. Review of storm water sampling data by the State Water Board and other stakeholders has shown that pH is not typically a parameter of concern for most industrial facilities. Staff has decided to use a range of concentrations that has already been established in the Basin Plans of many of the Regional Water Boards in California for the instantaneous maximum NAL values. Most Basin Plans set a water quality objective of 6.0 - 9.0 pH units for water bodies, an exceedance outside the range of 6.0 - 9.0 pH units would be consistent with the idea that the discharge locations that are sampled represent a drainage area of concern. Rain water generally has a pH close to neutral, and with proper BMP implementation the pH of industrial storm water discharges should be within the range of 6.0 - 9.0 pH units.

High concentrations of TSS, O&G, or pH in a discharge may also be an indicator of potential problems with other pollutants with parameters that do not have an instantaneous maximum NAL value. Staff may decide to develop instantaneous maximum NAL values for other parameters based on data collected during this General Permit's term.

The percentile methodology is considered by many to be the best way to evaluate BMP performance and general effluent quality in a community or population where the vast majority of the facilities are implementing sufficient pollutant control measures. The State Water Board's current dataset provides no way of evaluating actual BMP implementation at each facility when analyzing the data, so the values reported cannot be linked to technology-based standards. Staff hopes to use this General Permit term to evaluate the percentile approach and improve the quality of the data for other parameters as well as further develop an understanding of how reported data relates to implemented control technologies.

Dischargers are required to enter Level 1 status ERA requirements follow the first occurrence of a specific NAL exceedance. Level 2 status ERA requirements follow the second occurrence of a specific NAL exceedance for the same parameter in a subsequent reporting year. This ERA system provides Dischargers with an adaptive management-based process to develop and implement cost-effective BMPs that are protective of water quality and compliant with this General Permit. At the same time, this General Permit's ERA system is designed to have a well-defined compliance end-point. It is not a violation of the permit to exceed the NAL values. It is a violation of the permit, however, to fail to comply with the Level 1 status Level 2 status ERA requirements in the event of NAL exceedances.

The State Water Board is well aware that storm water discharge concentrations are often highly variable and dependent upon numerous circumstances such as storm size, the time elapsed since the last storm, seasonal activities, and the time of sample collection. Since there are consequences for failure to comply with this General Permit's ERA process, the State Water Board has defined NAL exceedances with the goal that only Dischargers with recurring exceedances (annual NAL scenario) or drainage areas that produce recurring and high value exceedances (instantaneous maximum NAL scenario) will be subject to the ERA requirements.

If NALs exceedances do not occur, it is presumed that the Discharger has implemented sufficient BMPs. When NAL exceedances do occur, however, the potential that the Discharger may not have implemented appropriate and/or sufficient BMPs increases, and the Discharger is required to implement escalating levels of ERAs. The first time an NAL exceedance occurs for a specific parameter, the Discharger is required to comply with the Level 1 status ERA requirements. If an additional NAL exceedance occurs for the same parameter in a subsequent reporting year, the Discharger must comply with the Level 2 status ERA requirements that require additional BMPs be added to the BMPs being implemented, or if there are such BMPs existing, they may need to be improved/reevaluated.

3. Baseline Status

   At the beginning of a Discharger's NOI Coverage under this General Permit, all Dischargers have Baseline status. Dischargers who are already demonstrating compliance with this General Permit and remain at Baseline status will not have to complete Level 1 status and Level 2 status ERAs requirements.

4. Level 1 Status

   Within 60 days of entering Level 1 status, Dischargers are required to appoint a QISP and complete a Level 1 Evaluation. The Level 1 Evaluation will include a review the facility's SWPPP for compliance with the effluent limitations of this General Permit, an evaluation of the industrial pollutant sources at the facility that are or may be related to the NAL exceedance(s), and identification of any additional BMPs that will eliminate future exceedances. A Discharger does not enter Level 1 status until July 1 of the subsequent reporting year.

   When conducting the Level 1 Evaluation, Dischargers should insure that all potential pollutant sources that could be causing the NAL exceedance(s) have been fully characterized, that the current BMPs are adequately described, that employees responsible for implementing BMPs are appropriately trained, and that internal procedures are in place to track that BMPs are being implemented as designed in the SWPPP. Dischargers are required to evaluate the need for additional BMPs. Level 1 ERAs are designed to give the Discharger the opportunity to improve or add additional BMPs already required by this General Permit.

   By January 1 of the subsequent reporting year, Dischargers are required to certify and submit via SMARTS a Level 1 ERA Report prepared by a QISP. The Level 1

ERA Report must contain a summary of any new or revised BMPs included in the SWPPP, and implementation schedule for any BMPs that need to be implemented structural.

5. Level 2 Status

Level 2 ERAs are required during any subsequent reporting year in which the same parameter(s) has an NAL exceedance (annual average or instantaneous maximum). Dischargers with Level 2 status must further evaluate BMP options for their facility. Dischargers may have to implement additional BMPs, which may include physical, structural, or mechanical devices or facilities that are intended to prevent pollutants from contacting storm water. Examples of such controls include, but are not limited to:

- Enclosing and/or covering outdoor pollutant sources within a building or under a roofed or tarped outdoor area.
- Physically separating the pollutant sources from contact with run-on of uncontaminated storm water.
- Devices that direct contaminated storm water to appropriate treatment BMPs (e.g., discharge to sanitary sewer as allowed by local sewer authority).
- Treatment BMPs including, but not limited to, detention ponds, oil/water separators, sand filters, sediment removal controls, and constructed wetlands.

Dischargers may select the most cost-effective BMPs to control the discharge of pollutants in industrial storm water discharges. Where appropriate, BMPs can be designed and targeted for various pollutant sources (e.g., providing overhead coverage for one potential pollutant while discharging to a detention basin for another source may be the most cost-effective solution).

a. Level 2 ERA Action Plans

The State Water Board recognizes that there may be circumstances that make it difficult, if not impossible, for Dischargers to immediately implement additional BMPs. For example, it can take time to get a contract for construction in place, obtain any necessary building permits, and design and construct the BMPs. Dischargers may also suspect that pollutants are from a non-industrial or natural background source and need time so study their site. The Level 2 ERA Action Plan requires Dischargers to propose actions necessary to complete the Level 2 ERA Technical Report and propose a time frame for implementation.

b. Level 2 ERA Technical Reports

The Level 2 ERA Technical Report requirements contain three different options that require Dischargers to submit demonstrations showing why the Discharger may have exceeded the NALs. This General Permit requires Dischargers to appoint a QISP to develop the Level 2 ERA Technical Reports. The State Water

Board acknowledges that there may be cases where a combination of the demonstrations may be appropriate. Dischargers may combine any of the three demonstrations in their Level 2 ERA Technical Report when appropriate.

i. Industrial Activity BMPs Demonstration

The Industrial Activity BMPs Demonstration is for the following:

- Dischargers who need to implement BMPs that are expected to eliminate future NAL exceedance(s) and that have been and/or will be implemented in order to achieve compliance with this General Permit; or,

- Dischargers who need to implement additional BMPs that are not expected to eliminate future NAL exceedance(s) and that have been and/or will be implemented in order to achieve compliance with this General Permit.

This demonstration may not be available for Dischargers who are subject to TMDLs or Water Quality Based Corrective Actions.

When preparing the Industrial Activity BMPs Demonstration, the QISP shall specifically identify and evaluate all pollutant source(s) associated with industrial activity that are causing an NAL exceedance and all designed, installed, and implemented BMPs that are required to reduce or prevent pollutants in industrial storm water discharges in compliance with this General Permit.

If an Industrial Activity BMPs Demonstration is submitted as the Level 2 ERA Technical Report, additional BMPs have been implemented, and the Discharger is able to show reductions in pollutant concentrations below the NALs for four (4) subsequent consecutive QSEs, the Discharger returns to Baseline Status. Dischargers who submit an Industrial Activity BMPs Demonstration but have or will not install additional BMPs that are not expected to eliminate future NAL exceedance(s) will remain with Level 2 status but are not subject to any additional ERAs unless directed by the Regional Water Board.

ii. Non-Industrial Pollutant Demonstration

The Non-Industrial Pollutant Demonstration is for Dischargers that can demonstrate that the pollutants responsible for the NAL exceedances are not related to industrial activities conducted at the facility, so that additional BMPs would be ineffective in lowering pollutant concentrations.

Dischargers including the Non-Industrial Pollutant Demonstration in their Level 2 ERA Technical Report shall have a QISP specifically determine that the sources of non-industrial pollutants in storm water discharges are not from industrial activity or natural background sources within the facility.

Sources of non-industrial pollutants that are discharged separately and are not co-mingled with storm water associated with industrial activity are generally not considered subject to this General Permit's requirements. When pollutants from non-industrial sources are co-mingled with storm water associated with industrial activity, the Discharger is responsible for all the pollutants in the combined discharge unless the technical report can clearly demonstrate that the pollutants contained in the combined discharge are solely attributable to the non-industrial sources. In most cases, the Non-Industrial Pollutant Demonstration will need to contain sampling data and analysis distinguishing the pollutants from non-industrial sources from the pollutants generated by industrial activity.

Once the Level 2 ERA Technical Report, including this demonstration is certified and submitted via SMARTS by the Discharger, the Discharger has satisfied all the requirements necessary for that pollutant for NAL/ERA purposes. Dischargers that submit this type of demonstration remain with Level 2 status but are not subject to any additional ERAs unless directed by the Regional Water Board.

iii. Natural Background Demonstration

The Natural Background Demonstration is for Dischargers that can demonstrate that pollutants causing the NAL exceedances are not related to industrial activities conducted at the facility, and are solely attributable to the presence of those pollutants in natural background. Natural background pollutants include those substances that are naturally occurring in soils or groundwater. Natural background pollutants do not include legacy pollutants from earlier activity on a site, or pollutants in run-on from neighboring sources which are not naturally occurring. Dischargers are not required to reduce concentrations for pollutants in the effluent caused by natural background sources if these pollutants concentrations are not increased by industrial activity.

The background concentration of a pollutant in runoff from a non-human impacted reference site in the same watershed should be determined by evaluation of ambient monitoring data or by using information from a peer-reviewed publication or a local, state, or federal government publication specific to runoff or storm water in the immediate region. Studies that are in other geographic areas, or are based on clearly different topographies or soils, are not sufficient. When no such data are available, and there are no known sources of the pollutant, the background concentration should be assumed to be zero.

In cases where historic monitoring data from a site are used for generating a natural background value, and the site is no longer accessible or able to meet reference site acceptability criteria, then there must be documentation (e.g., historic land use maps) that the site did meet reference site criteria (such as indicating the absence of human activity) during the time data collection occurred.

Once the Level 2 ERA Technical Report, including this demonstration is certified and submitted via SMARTS by the Discharger and meets the conditions in Section XII.D.2.c of this General Permit, the Discharger is not responsible for the identified parameters(s) in the drainage area(s) identified. Dischargers that submit this type of demonstration will remain with Level 2 status but are not subject to any additional ERAs unless directed by the Regional Water Board.

c. Level 2 ERA Implementation Extension

The State Water Board recognizes that there may be circumstances that make it difficult, if not impossible, for Dischargers to implement all necessary actions required in the Level 2 ERAs by the deadlines established in this General Permit. In such circumstances Dischargers may request additional time by submitting a Level 2 ERA Implementation Extension. The Level 2 ERA Implementation Extension will automatically allow Dischargers up to an additional six (6) months to complete the tasks identified in the Level 2 ERA Action Plans while remaining in compliance with this General Permit. If additional time is needed beyond the initial six (6) month extension, another Level 2 ERA Implementation Extension may be submit but must be approved by their Regional Water Board.

L. Inactive Mining Operations

Some inactive mining sites may need coverage under this General Permit. Inactive mining operations are mining sites, or portions of sites, where mineral mining and/or dressing occurred in the past with an identifiable Discharger, but have no active operations. Inactive mining sites do not include sites where mining claims are being maintained prior to disturbances associated with the extraction, beneficiation, or processing of mined materials. Dischargers under this General Permit have the option to have a SWPPP for an inactive mine certified by a California licensed professional engineer in lieu of performing certain identified permit requirements This General Permit requires an annual inspection of the site and recertification of the SWPPP.

M. Compliance Groups and Compliance Group Leaders

Group Monitoring, as defined in the previous permit, has been eliminated in this General Permit and replaced with a new compliance option called Compliance Groups. The Compliance Group option differs from Group Monitoring as it requires (1) that all Compliance Group Participants sample two QSEs each year, (2) that Compliance Group Leaders inspect each Participant's facility within each reporting year, (3) that Compliance Group Leaders must be a QISP, and (4) that the Compliance Group Leader prepare Consolidated Level 1 ERA Reports, and individual Level 2 ERA Action Plans and Technical Reports. The Compliance Group option is similar to Group Monitoring as it retains a mechanism that allows Dischargers of the same industry type to share resources to obtain compliance and achieve cost savings.

This General Permit emphasizes sampling and analysis as a means to evaluate BMP performance and overall compliance, and the significant reduction of sampling

previously afforded to Group Monitoring Participants (two samples within a five-year period) would interfere with this goal. However, a moderate reduction in sampling is included as an incentive for Compliance Group Participants while still providing enough individual facility sampling data to determine compliance. Since the Compliance Group Leaders are required to be QISPs, it is expected that they will provide the necessary sampling training and guidance to the Compliance Group Participants. This should result in increased sampling data quality that will offset the decreased number of sampling events.

Participation in Compliance Groups is expected to result in additional cost savings for Dischargers in the preparation of the Consolidated Level 1 ERA Reports and Compliance Group Leader assistance in preparing the Level 2 ERA Action Plans and the individual Level 2 ERA Technical Reports. It is likely that many of the pollutant sources causing NAL exceedances, as well as the corresponding BMP cost evaluation and selection, when appropriate, will overlap for groups of facilities in a similar industry type. When these overlaps occur, a Compliance Group Leader should be able to more efficiently evaluate the pollutant sources and BMP options, and prepare the reports.

After the initial Compliance Group registration, Compliance Group Leaders are required to update their list of Compliance Group Participants via SMARTS. There are no additional administrative documents that are required. The previous permit required group leaders to provide annual group evaluation reports and a letter of intent to continue group monitoring. These items required a great deal of Staff resources to adequately manage the group monitoring program, but also placed an unnecessary administrative burden on group leaders. The Compliance Group requirements should reduce the administrative burden on both the Compliance Group Leaders and Staff.

The State Water Board believes that the effluent data, BMP selection, cost, and performance information, and other industry specific information provided in Compliance Group reports will be useful for the next reissuance of this General Permit in evaluating sector-specific permitting approaches and the use of NALs. The Compliance Group requirements were devised with these interests in mind.

N. Annual Evaluation

Federal regulations require Dischargers in the NPDES industrial storm water program to evaluate their facility and SWPPP annually. Generally, this requires an inspection of the facility to ensure that the SWPPP site map is up to date and that all potential pollutant sources have been included in the SWPPP, and a review of sampling data and visual observation records to determine if the proper BMPs are being implemented. As Dischargers are required to conduct monthly visual observation that partially overlap with the actions required by the annual evaluation requirements, Dischargers may perform the annual evaluation inspection concurrent with a monthly visual observation.

O. Annual Report

All Dischargers shall certify and submit via SMARTS an Annual Report no later than July 15 within each reporting year. The reporting requirements for this General Permit's Annual Report are much more streamlined in comparison to the previous permit. The

Annual Report now consists of two primary parts: (1) Dischargers must complete a compliance checklist indicating which permit requirements were completed and which were not (e.g. a Discharger who completes the required sampling of four QSEs during the reporting year, versus a Discharger who is only able to sample two QSEs during the reporting year), and (2) Dischargers must provide an explanation for any items on the compliance checklist that were incomplete. Unlike the previous permit, the Annual Report does not require Dischargers to provide the details of each visual observation (such as name of observer, time of observation, observation summary, corrective actions, etc.) or provide the details of the Annual Comprehensive Site Evaluation. Dischargers, however, will continue to be required to retain those records and have them available upon request. The Annual Report is further simplified because sampling data and copies of the original laboratory reports must be uploaded via SMARTS subsequent to receiving the laboratory reports instead of being included in the Annual Report.

The Annual Report requirements have been simplified because Staff have determined that the previous permit's Annual Report requirements included the submission of data which are of limited utility in assessing Dischargers' compliance with the terms of the permit and do not directly advance the State Water Board's regulatory objectives. This General Permit requires Dischargers to submit their SWPPPs and any SWPPP revisions via SMARTs; accordingly, any BMP revisions made in response to an observed compliance problem will be included in the revised SWPPP uploaded to SMARTS.

P. Conditional Exclusion - No Exposure Certification (NEC) Requirements

This General Permit's conditional exclusion requirements are substantially similar to those provided in 40 C.F.R. section 122.26(g)(3). Some minor modifications were added to clarify the types of "storm resistant shelters" and the periods when "temporary shelters" may be used in order to avert regulatory confusion. The Discharger shall certify and submit complete PRDs for NEC coverage via SMARTS.

The Discharger must annually inspect the facility to ensure that it continues to meet the NEC requirements and re-certify and submit an NEC via SMARTs. Based on its regulatory experience, the State Water Board has determined that a five-year maximum NEC re-certification period is inadequate. A significant percentage of facilities may revise, expand, or relocate their operations in any given year. Furthermore, a significant percentage of facilities experience turnover of staff knowledgeable of the NEC requirements and limitations. Accordingly, the State Water Board believes that annual NEC evaluation and re-certification requirements are appropriate to continually assure adequate program compliance.

Q. Special Requirements - Plastic Materials

Water Code section 13367 requires the Water Boards to implement measures that control discharges of preproduction plastic from point and nonpoint sources.

Preproduction plastics used by the plastic manufacturing industry are small in size and have the potential to mobilize in storm water. Preproduction plastic washed into storm

water drains can move to waters of the United States where it contributes to the growing problem of plastic debris in inland and coastal waters.

Water Code section 13367 outlines five mandatory BMPs that are required for all facilities that handle preproduction plastic. These mandatory BMPs are included in this General Permit.

The State Water Board has received comments regarding the Water Code requirements that plastic facilities to install a containment system for on-site storm drain locations that meet 1mm capture and 1-year 1-hour storm flow requirement standards.

As a result, this General Permit includes the option under Water Code section 13367 that allows a plastics facility to propose an alternative BMP or suite of BMPs that can meet the same performance and flow requirements as a 1mm capture and 1-year 1-hour storm flow containment system standards. These alternative BMPs are to be submitted to the Regional Water Board for approval. This alternative is intended to allow the facility to develop BMPs that focus on pollution prevention measures that can perform as well as, or better than, the containment system otherwise required by the statute.

The State Water Board also included two additional containment system alternatives that are considered to be equivalent to, or better than, the 1mm capture and 1-year 1-hour storm flow requirements:

- An alternative allowing plastic facilities to implement a suite of eight (8) Staff recommended BMPs addressing the majority of potential sources of plastic discharges. This suite of BMPs is based on industry and U.S. EPA recommendations and Staff's experience with storm water inspections, violations, and enforcement cases throughout California.

- An alternative allowing a facility to operate in a manner such that all preproduction plastic materials are used indoors and pose no potential threat for discharge off-site. The facility is required to notify the Regional Water Board of the intent to seek this exemption and of any changes to the facility or operations that may disqualify the facility for the exemption. The exemption may be revoked by the Regional Water Board at any time.

Plastic facilities may use preproduction plastic materials that are less than 1mm in size, or produce materials, byproducts, or waste that is smaller than 1mm in size. These materials will bypass the 1mm capture containment system required by Water Code section 13367. Plastic facilities with sub-1mm materials must design a containment system to capture the smallest size material onsite with a 1-year 1-hour storm flow requirement, or propose alternative BMPs for Regional Water Board approval that meet these same requirements.

The remaining BMPs required by Water Code section 13367 are generally consistent with recommendations for handling and clean-up of preproduction plastics found in the American Chemistry Council publication, *Operation Clean Sweep* and U.S. EPA's publication *Plastic Pellets in the Aquatic Environment: Sources and Recommendations*.

R. Regional Water Board Authorities

The Regional Water Boards retain discretionary authority over many issues that may arise from discharges within their respective regions. This General Permit emphasizes the authority of the Regional Water Boards as they relate to specific requirements of this General Permit.

S. Special Conditions: Requirements for Dischargers Claiming the "No Discharge" Option in the NONA

1. General

Entities that operate facilities generating storm water associated with industrial activities that is not discharged to waters of the United States are not required to obtain General Permit coverage. Entities who have contacted the Water Boards to inquire what is necessary to avoid permit coverage have received inconsistent guidance. This resulted in regulatory inconsistency and Entities were uncertain as to whether they are in compliance if they operate without General Permit coverage. Depending upon how each Regional Water Board office handles "No Discharge" claims, some facilities with advanced containment design may be required to obtain General Permit coverage while other facilities with less advanced containment design may be allowed to operate without General Permit coverage. Some stakeholders have complained that this type of regulatory inconsistency puts some facilities at a competitive disadvantage given the costs associated with permit compliance.

U.S. EPA regulations do not provide a design standard, definition, or guidance as to what constitutes "No Discharge." And unlike Conditional Exclusion requirements, U.S. EPA regulations do not require an Entity to submit technical justification or certification that the facility does not discharge to waters of the United States (U.S.). Entities that have previously been allowed to self-determine that their facilities do not discharge to water of the U.S. using whatever containment design standard they wish to use. It is doubtful that most Entities have adequately performed hydraulic calculations to determine the frequency of discharge corresponding to their containment controls or had these hydraulic calculations reviewed by a California licensed professional engineer. Although U.S. EPA makes clear that an unpermitted discharge to waters of the U.S. is a violation of the CWA, this leaves the regulatory agencies with the impossible task of knowing when a facility discharges in order to carry-out enforcement actions.

In 1998, the Water Code was amended to require Entities who are requested by the Water Boards to obtain General Permit coverage, but that have a valid reason to not obtain General Permit coverage, to submit a Notice of Non Applicability (NONA). (Wat. Code, § 13399.30, subd. (a)(2)). The NONA covers multiple reasons why an Entity is not required to be permitted including (1) facility closure, (2) not the legal owner, (3) incorrect SIC code, (4) eligible for the Conditional Exclusion (No Exposure Certification), and (5) the facility does not discharge to water of the U.S. ("No Discharge"). The previous permit contains definitions, requirements, and guidance that Entities may reference to determine whether they are eligible to select any of the first four NONA reasons for not obtaining General Permit coverage.

However, there is nothing in the previous permit or Water Code that provide definitions, requirements, and guidance for Entities to determine whether they are eligible to indicate "No Discharge" on the NONA as a reason for not obtaining General Permit coverage.

This General Permit addresses and resolves the issues discussed above by establishing consistent, statewide eligibility requirements in Section XX.C for Entities submitting NONAs indicating "No Discharge". When requested by the Water Boards to obtain General Permit coverage, Entities must meet these "No Discharge" eligibility requirements or obtain General Permit coverage. The Water Boards retain their enforcement authority if a facility subsequently discharges.

2. "No Discharge" Eligibility Requirements

The Entity must submit and certify in SMARTS a NONA Technical Report prepared by a California licensed professional engineer that contains the analysis and details of the containment design that support the "No Discharge" eligibility determination. Because containment design will require hydraulic calculations, soil permeability analysis, soil stability calculations, appropriate safety factor consideration, and the application of other general engineering principles, state law requires the technical report be prepared by a California licensed professional engineer.

The State Water Board has selected a containment design target that, if properly applied will result in few, if any, discharges. The facility must either be:

a. Engineered and constructed to contain all storm water associated with industrial activities based upon maximum historic precipitation data from the nearest rain gauges as provided by the National Oceanic and Atmospheric Administration's (NOAA) website, or other nearby precipitation data available from other government agencies. At a minimum, Dischargers must ensure that the containment design addresses maximum 1-hour, 24-hour, weekly, monthly, and annual precipitation data for the duration of the exclusion.

   Design storm events are generally specified as a one-time expected hydraulic failure over a reoccurrence of years for a specified storm event. For example, if a design storm standard is a 100 year 24-hour event, then a facility's containment system designed to contain the maximum volume of water would be expected to fall in 24 hours once every 100 years. Design standards vary dependent upon the regulatory program and the level of protection needed. Since California has considerable variations in climate/topography/soil conditions across the state, the "No Discharge" NONA eligibility requirements have been created so that each facility's containment design can incorporate unique site specific circumstances to meet the requirement that discharges will not occur based upon past historical precipitation data. Facilities that are not designed to not meet the "No Discharge" eligibility requirements must obtain General Permit coverage.

b. Located in basins or other physical locations that are not hydrologically connected to waters of the United States.

The State Water Board considered allowing Entities to review United States Army Corp of Engineer maps to determine, without a California licensed professional engineer, whether their facility location was within a basin and other physical location that are not hydrologically connected to waters of the United States. The State Water Board believes that this determination can be difficult in some cases, or is likely to be performed incorrectly. In addition, there may be areas of the state that are not hydrologically connected to waters of the United States, but are not on United States Army Corps of Engineer maps. Therefore, all "No Discharge" Technical Reports must be prepared by a California licensed professional engineer.

3. Additional Considerations

The "No Discharge" determination does not cover storm water containment systems that transfer industrial pollutants to groundwater. Entities must determine whether designs that incorporate infiltration may discharge to and contaminate groundwater. If there is a threat to groundwater, Entities must contact the Regional Water Boards prior to construction of infiltration design elements.

Entities that have not eliminated all discharges that are subject to General Permit coverage (NOI Coverage or NEC Coverage) are ineligible to submit NONAs indicating "No Discharge".