

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

DRAFT

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I. BACKGROUND

A. History

The Federal Clean Water Act (CWA)¹ prohibits discharges from point sources to waters of the United States, unless 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 (US EPA) promulgated regulations establishing application requirements for storm water permits for specified categories of industries. (40 C.F.R. § 122.26.) In 1992, US EPA revised the monitoring requirements for industrial storm water discharges. (40 C.F.R. § 122.44(i)(2), (4), (5).) In 1999, US EPA adopted additional storm water regulations, known as Phase II. (64 Fed.Reg. 68722.) The Phase II regulations provide for, among other things, exclusions from NPDES permits 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 practicable control technology currently achievable (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 strict compliance with WQS, NPDES permits can require a Discharger to implement best management practices (BMPs), narrative effluent limitations, and/or numeric effluent limitations (NELs). (CWA §§ 301(b), 402; 40 C.F.R. §§ 122.26, 122.28, 125.3.) 40 C.F.R. section 122.44(k)(4) requires the use of BMPs to control or abate the discharge of pollutants when NELs are infeasible. The State Water Resources Control Board (State Water Board) concludes that it is infeasible to require compliance with NELs at this time.

On April 17, 1997, the State Water Board issued a statewide general permit for industrial storm water discharges, excluding construction activities, Water Quality Order No. 97-03-DWQ (previous permit). State Water Board Order No. **[INSERT ORDER NO. HERE]** (General Permit) 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 in its enforcement. As more fully discussed below, this General Permit requires Dischargers to:

- Implement minimum BMPs.

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.

- 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 US EPA's 2008 Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity (2008 MSGP) and California industrial storm water discharge monitoring data.
- Perform the appropriate Exceedance Response Actions (ERAs) if there are exceedances of the NALs.
- Develop and implement storm water pollution prevention plans (SWPPP) that include BMPs that will achieve BAT/BCT and compliance with WQS.
- Eliminate unauthorized non-storm water discharges (NSWDs).
- Certify and submit via the Stormwater Multi Application Reporting and Tracking System (SMARTS) all permit-related compliance documents. The Discharger's Legally Responsible Person (LRP) 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), SWPPPs, Annual Reports, Notices of Termination (NOTs), Level 1 ERA Reports, Level 2 ERA Technical Reports, and Level 2 ERA Demonstration Technical Reports.

B. 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 to respond to the following questions:²

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?

The Panel was directed that the answers should address industrial storm water discharge general permits, construction storm water discharge general permits, and area-wide municipal storm water discharge permits. The answers should also address both technology-based limitations or criteria and water quality-based limitations or criteria.

In evaluating establishment of any objective 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;

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/numeric.shtml> (as of July 11, 2012).

- How compliance determinations would be made;
- 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, public process, and other problems impacting program effectiveness. Specifically, the Panel made the following recommendations regarding industrial storm water discharges³:

- 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) would be 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, the 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 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 increasingly, a 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.

³ See footnote 2.
July 16, 2012

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

The scope of the Panel was limited to the question of whether sampling data could be used to derive NELs. The Panel was not asked to evaluate, nor did it address, other factors that potentially could be involved with determining NELs consistent with the regulatory standard of best practicable control technology currently available (BPT), BAT, and BCT. The Panel did not differentiate between numeric and non-numeric effluent limitations, nor did it consider prior US EPA procedures used to promulgate effluent limitations in 40 C.F.R. Chapter I Subchapter N (Subchapter N).

Subchapter N includes over 40 separate industrial categories where the US EPA has established effluent limitation guidelines (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, the US EPA develops these ELGs for the larger or potentially dirtier industries. In total, these 40 categories (not including construction) represent less than 10% of the facilities subject to this General Permit. Most ELGs focus on industrial process wastewater discharges and pre-treatment standards. Only 11 of the categories have ELGs (numeric or narrative) for industrial storm water discharges. Those that do include ELGs for industrial storm water discharges generally address those 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 as defined by the 1987 CWA amendments. It is for this reason that many facilities are required to obtain permit coverage under an individual NPDES permit and this General Permit.

When establishing ELGs for industry, US EPA evaluates a wide variety of technical factors to determine BPT, BAT, and BCT. US EPA considers the specific attributes of an industry such as pollutant sources, industrial processes, and the size or scale of operations. US 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 versus their effectiveness and protection of water quality are assessed. Finally, attributes such as industry economic viability, economies of scale, and retrofit costs are also considered. To date, US EPA has (1) not promulgated storm water ELGs for most industries, (2) not set NELs for all of those that have been promulgated, and (3) exempted certain types of smaller facilities within an industrial category from complying with the ELGs. The feedlot category (40 C.F.R. section 412) provides a good example of an instance where US EPA did not establish NELs but rather determined a narrative effluent limitation defined as the 25 year, 24 hour design storm. This standard only applied to feedlots with a minimum number of animals. The US EPA recently promulgated ELGs for the "construction and development (C&D)" industry, including, among many other limitations, conditional NELs. Though the NELs in these ELGs were stayed by US EPA due to procedural problems, these ELGs exempted construction sites of less than 30 acres from NELs.

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

The Panel, the State Water Board, and many stakeholders have evaluated the electronically available storm water data set and have concluded that the existing data set has very limited value due to the limited pool of industrial facilities submitting electronic data, poor data quality, and extreme variance. Furthermore, there is no knowledge of the relationship between the BMPs implemented at each facility and the facility's sampling results. Some have speculated 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 or partially caused by mixing differing industrial categories. For instance, one can conclude from the monitoring data that discharges from landfills are somewhat higher in TSS than discharges from most industrial categories. However, the variability within the data set for landfills is not significantly different than that of the entire data set. There are many examples that show, for the same facility (assuming it implements a similar set of BMPs), TSS concentrations that appear to go up and down randomly. This may be due to storm intensity, duration, time of year, or soil saturation but there is no technical way to evaluate these factors without collecting this type of information as well as information on the BMPs being implemented. There currently is too large of an information gap to begin a process to develop technology-based NELs for all industrial sectors not currently subject to ELGs.

The State Water Board has proposed NALs as well as NELs in the past draft permits. In comments received, many stakeholders have illustrated the difficulty of developing statewide NELs that are applicable to all industry sectors, let alone NELs that cover specific industry sectors. Stakeholders have pointed out, for example, that:

- Background/ambient conditions in some hydrogeologic zones may contribute pollutant loadings that would significantly contribute to, if not exceed, the NAL/NEL concentrations;
- Some advanced treatment technologies have flow/volume limitations as well as economy of scale issues for smaller facilities;
- Treatment technologies require that sheet flows be captured and conveyed via discrete channels or basins, which not only can result in significant retrofit cost, but many local ordinances prohibit such a practice as it can cause damage or erosion to down gradient property owners or cause other environmental problems; and,

- NELs must be developed with consideration of what is economically achievable for each industrial sector. These stakeholders point out how the US 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.

Because of the above reasons, the State Water Board does not believe it has the information and resources necessary (monitoring, industry specific, BMP performance, water quality information, monitoring guidelines, costs, and overall effectiveness) to promulgate NELs at this time. The State Water Board is committed to pursuing such an approach in future general permits (or through a set of industry specific permits) and has included enhancements in this General Permit that will provide State Water Board Staff (Staff) with significant information that will provide a path forward towards that goal. The two major requirements added in this draft permit that provide this new information are (1) the new training requirements (Qualified Industrial Storm Water Practitioners (QISPs) I, II, III) and, (2) the new ERA framework that requires the submittal of Level 2 ERA Technical Reports, and Level 2 ERA Demonstration Technical Reports (Section XVII.E of this General Permit), which are designed to provide the State Water Board with information that will assist in determining the best approach towards developing effluent limitations in subsequent reissuances of this General Permit.

C. Legal Challenges and Court Decisions

Two recent federal court opinions have vacated US EPA rules that denied meaningful public review of NPDES permit conditions. On January 14, 2003, the Ninth Circuit Court of Appeals held that certain aspects of US EPA's Phase II regulations governing MS4s were invalid primarily because the permit did not contain explicit requirements for public participation. (*Environmental Defense Center v. US EPA* (9th Cir. 2003) 344 F.3d 832.) Specifically, the court determined that applications for general permit coverage (including the NOI) and Storm Water Management Programs must be made available to the public, the applications must be reviewed and determined to meet the applicable standard by the permitting authority before coverage commences, and there must be a process to accommodate public hearings. (*Id.* at 852-54.) Similarly, on February 28, 2005, the Second Circuit Court of Appeals held that US EPA's confined animal feeding operation rule violated the CWA because it allowed Dischargers to write their own nutrient management plans without public review. (*Waterkeeper Alliance v. US EPA* (2d Cir. 2005) 399 F.3d 486.) Although neither decision involved the issuance of industrial storm water discharge permits, the State Water Board's Office of Chief Counsel has recommended that the new General Permit address the courts' rulings where feasible⁴.

⁴ In *Texas Independent Producers and Royalty Owners Assn. v. US EPA* (7th Cir. 2005) 410 F.3d 964, the Seventh Circuit Court of Appeals held that the US EPA's construction general permit was not required to provide the public with the opportunity for a public hearing on the Notice of Intent or Storm Water Pollution Prevention Plan. The Seventh Circuit briefly discussed why it agreed with the Ninth Circuit's dissent in *Environmental Defense Center*, but generally did not discuss the substantive holdings in *Environmental Defense Center* and *Waterkeeper Alliance*, because neither court addressed the initial question of whether the plaintiffs had standing to challenge the permits at issue. However, notwithstanding the Seventh Circuit's decision, it is not binding or controlling on the State Water Board because California is located within the Ninth Circuit.

The CWA and US EPA's regulations provide states with the discretion to formulate permit terms, including specifying BMPs to achieve strict compliance with WQS. (*Natural Resources Defense Council v. US EPA* (9th Cir. 1992) 966 F.2d 1292, 1308.) Accordingly, this General Permit establishes specific minimum BMPs as well as NALs in order to meet these minimum federal standards. In addition, this General Permit requires SWPPPs to be developed and additional site-specific BMPs to be implemented. By requiring Dischargers to implement these specific BMPs and meet NALs, this General Permit ensures that Dischargers do not write their own permits. As a result, this General Permit does not require approval for every SWPPP. However, the public maintains a meaningful opportunity to participate in the permitting process. The public can access compliance information online, and this General Permit enables public review and hearings on permit applications when appropriate.

D. Summary of Significant Changes in this General Permit

This General Permit is significantly different from the previous permit in the following areas:

1. Minimum BMPs

This General Permit requires Dischargers to implement a set of minimum BMPs unless they are determined to be inapplicable, infeasible, or inappropriate. The minimum BMPs, in combination with additional facility specific BMPs, serve as the basis for compliance with BAT and BCT. 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. These BMPs also represent a minimum and enforceable level of environmental protection. The previous permit did not require a minimum set of BMPs but rather allowed Dischargers to "consider" which BMPs to select and implement without regard to any common standard. The minimum BMPs in this General Permit compare favorably to that of 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 appropriate intervals to implement the BMPs, and may revise any minimum BMP that is determined by the Discharger to be infeasible.

2. Conditional Exclusion - No Exposure Certification (NEC)

This General Permit applies US EPA's Phase II rules regarding a conditional exclusion for facilities where there is no exposure of industrial activities and materials to storm water. The previous permit mandated that light industries obtain coverage only if their activities were exposed to storm water. This General Permit meets US 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 each facility have one staff person or outside personnel in charge of permit compliance trained as a QISP to perform certain critical functions and actions necessary to achieve permit compliance. The requirements establish three levels of QISP training and allow certain task to be performed by each level QISP. There are also occasional requirements to use a California licensed professional engineer.

5. Numeric Action Levels (NALs) and NAL Exceedances

This General Permit contains two types of NALs. Annual NALs function similar to and are equal to 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. The two types of NAL exceedances are defined below:

- a. Annual NAL exceedance: the Discharger shall determine 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 6. For Dischargers using composite sampling or flow-weighted measurements in accordance with standard practices, the average concentrations shall be calculated in accordance with the US EPA Guidance Manual for the Monitoring and Reporting Requirements of the NPDES Multi-Sector Storm Water General Permit.⁵ An annual NAL exceedance occurs when the average of all the analytical results for a parameter from samples taken within a reporting year exceeds an annual NAL value for that parameter listed in Table 6 (or is outside the NAL pH range);
- b. Instantaneous maximum NAL exceedance: the Discharger shall compare all sampling and analytical results from each distinct sample (individual or combined) to the corresponding instantaneous maximum NAL values in Table 6. An instantaneous maximum NAL exceedance occurs when two or more analytical results for TSS, O&G or pH from samples taken within a reporting year exceed the instantaneous maximum NAL value (or is outside the NAL pH range).

6. Exceedance Response Actions (ERA)

This General Permit establishes ERAs, which must be implemented by the Discharger whenever NAL exceedances occur within a reporting year. The first time an NAL exceedance occurs for any one constituent, the Discharger's status is

⁵ US EPA, Guidance Manual for the Monitoring and Reporting Requirements of The NPDES Multi-Sector Storm Water General Permit (January 1999)

<[http://yosemite.epa.gov/r10/water.nsf/34090d07b77d50bd88256b79006529e8/99535c0504eb034988256ace006a00e4/\\$FILE/MSGP%20monitoring%20&%20reporting%20guidance.pdf](http://yosemite.epa.gov/r10/water.nsf/34090d07b77d50bd88256b79006529e8/99535c0504eb034988256ace006a00e4/$FILE/MSGP%20monitoring%20&%20reporting%20guidance.pdf)> (as of July 11, 2012).

changed to Level 1 ERA status, and the Discharger is required to review and revise, as necessary, operational source controls in compliance with BAT/BCT. The second time an NAL exceedance occurs for the same constituent (during a subsequent reporting year of this General Permit), the Discharger's status is changed to Level 2 ERA status, and the Discharger is required to design and implement treatment and/or structural controls in compliance with BAT/BCT. Dischargers who can prove that (1) NAL exceedances are solely attributable to non-industrial pollutant sources, or (2) additional treatment and/or structural controls that would eliminate NAL exceedances are beyond what is required to achieve BAT/BCT, or (3) NAL exceedances are solely attributable to constituents from natural background sources are allowed to provide Level 2 ERA Demonstration Technical Reports certified by the Discharger and prepared by a QISP III that, if accepted, would exclude them from some of ERA requirements for the constituent(s) involved.

7. CWA 303(d) Impairment and Total Maximum Daily Loads (TMDLs)

This General Permit requires Dischargers to monitor additional parameters if they contribute 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 Discharger has potential sources of copper, the Discharger must add copper to the list of parameters they monitor in their storm water discharge.

8. Design Storm Standards for Treatment Control BMPs

This General Permit requires Dischargers to match design storm standards, both volume- and flow-based, when treatment control BMPs are utilized to reduce pollutants in runoff.

9. Qualifying Storm Event (QSE)

This General Permit defines a qualifying storm event⁶ as one that occurs:

- a. From a storm event that has produced a minimum of 1/10th inch of rainfall within the preceding 24 hours as measured by an on-site rainfall measurement device, and;
- b. From a storm event that was preceded by three consecutive days of dry weather. Dry weather is defined as 72 consecutive hours of less than 1/10th inch of rainfall as measured by an on-site rainfall measurement device.

10. Sampling Protocols

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

⁶ A Discharger shall collect samples from all storm water drainage areas within four hours after a discharge from a qualified storm event has occurred, and this requirement only applies during scheduled facility operating hours. For visual observations of qualified storm events, Dischargers shall visually observe the discharge of stored or contained storm water at the time of discharge during scheduled facility operating hours.

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. Facilities with multiple discharge locations had difficulties collecting samples within such a short timeframe therefore affecting data quality. There was also confusion as to whether discharges from very light showers should be sampled, since those events often produced discharge samples that were not representative of the drainage area. This General Permit requires Dischargers to collect samples 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. This allows a more reasonable amount of time to collect samples while increasing the likelihood for samples to be representative of the drainage area discharge characteristics. Overall, the sampling requirements have been tailored to capture the overall impact of storm water discharges on receiving waters and not the short term (peak) impact.

11. Sampling Frequency

This General Permit increases the sampling frequency to quarterly by requiring one storm event be sampled per quarter at a facility. The quarters are defined as follows:

1st Quarter = January, February, March

2^d Quarter = April, May, June

3^d Quarter = July, August, September

4th Quarter = October, November, December

12. Compliance Groups

This General Permit does not include a Group Monitoring option. Compliance Groups are a new way for industrial facilities to more efficiently utilize knowledge and skills and share resources towards compliance efforts. Instead of the reduced sampling that was included in the previous permit's Group Monitoring option, Compliance Group Leaders are allowed to assist group participants in complying with many of this General Permit's requirements. The Compliance Group option is described further in the General Permit and in this Fact Sheet in the section titled "Compliance Groups".

II. RATIONALE

A. Requirements for Receiving General Permit Coverage

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

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 whose operators seek coverage under this General Permit with the permission of the Regional Water Boards.

40 C.F.R. section 122.26(b)(14) defines "storm water 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 whether the industrial activity is the Discharger's primary or secondary industrial function.

In 1997, the North American Industrial Classification System (NAICS) was published, replacing the SIC code system. The US EPA has indicated that it intends to incorporate the NAICS codes into the 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. The NOI in SMARTS has been modified to accept both SIC codes and NAICS codes. NAICS codes are automatically translated into SIC codes. It has come to our attention, however, that there can 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. As these conflicts arise, we will try 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 file any of the required PRDs under this General Permit remains a violation.

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 (see Section XI.E) that apply only to facilities with storm water ELGs.

2. Types of Discharges Not Covered By this General Permit

The following types of discharges are not covered by this General Permit:

- a. Discharges from construction and land disturbance activities that are subject to the 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 petition the State Water Board or appropriate Regional Water Board to issue

individual or general NPDES permits. General permits may be issued for a particular industrial group or watershed area, which would supersede this General Permit. Two Regional Water Board issued permits in particular are:

- i. Industrial storm water discharges and authorized non-storm water discharges from marinas and maintenance dredging in the Lake Tahoe Hydrologic Unit (El Dorado and Placer Counties). The Lahontan Regional Water Board has adopted an NPDES permit and a general waste discharge requirement permit to regulate discharges from marinas and maintenance dredging (Regional Water Board Order No. R6T-2005-0015 - NPDES CAG616003) in the Lake Tahoe Hydrologic Unit (Regional Water Board 6SLT).
- ii. Industrial storm water discharges and authorized non-storm water discharges from facilities that are engaged in metals recycling within the Santa Ana Region. 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 No. R8-2012-0012 NPDES CAG 618001 (Scrap Metal Recycling Permit). The Scrap Metal Recycling Permit is applicable to facilities 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 hand 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 wastes recycling are not required to get coverage under the Scrap Metal Recycling Permit. A list of applicable facilities as of February 8, 2011 has been 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 States⁷. 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; and
 - 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

⁷ To avoid discharging without a permit, violating the CWA, and facing possible enforcement action, Dischargers should be certain that no discharge of storm water to waters of the United States could occur under any circumstances. Such Dischargers should contact the Regional Water Board with any zero discharge exemption questions.

sewer system should contact the local Regional Water Board to verify discharge location.

- 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 contributed to a violation 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 US EPA.

3. Conditions for Permit Coverage

The State Water Board has developed the SMARTS online database system to handle enrollment under this General Permit and reporting required by this General Permit. More on 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 should be certified and submitted via SMARTS by the Discharger's LRP.

This General Permit requires all Dischargers who operate facilities described in Attachment A (that are not permitted by another storm water NPDES permit) to designate an LRP to electronically certify and submit PRDs via SMARTS to obtain coverage under this General Permit, 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 self-certified no exposure under the previous permit (category 11) are required to designate an LRP to certify and submit via SMARTS PRDs for NOI or NEC coverage under this General Permit. The LRP 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.

Dischargers who did not apply for permit coverage under the previous permit because their facilities were classified as "light industries" under the prior Phase I regulations, shall designate an LRP to certify and submit via SMARTS PRDs by the effective date of this General Permit (July 1, 2013).

All PRDs being certified and submitted via SMARTS by the Discharger's LRP on or after July 1, 2013 shall immediately comply with the provisions in this General Permit. Existing Dischargers who have submitted NOIs before July 1, 2013 shall:

- a. Modify and implement SWPPPs and Monitoring Implementation Programs (MIPs) in compliance with this General Permit no later than July 1, 2013;

- b. Continue storm water compliance activities in accordance with the previous general permit until this General Permit becomes effective on July 1, 2013; 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. Conditions for Permit Coverage - Landfills

This General Permit provides coverage for inactive, active, or closed landfills that have received industrial wastes. 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 are completed.

In most cases, it is appropriate for new landfill construction or 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.

Normally, continued expansion or closure of landfill areas that occurs during active landfill operations is authorized under permits approved by a local municipal agency. 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. These activities will generally be allowed under this General Permit. Construction/removal of new or re-located temporary roads related to landfill operations (whether paved or not) will also generally be allowed under this General Permit. The construction or closure of a separate section of the landfill that is either subject to additional permitting by the local authorities 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, parking lots, or roads that disturb greater than one acre would also be subject to the Construction General Permit. Permanent facility structures are defined as any structural improvement 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 environment.

5. Conditions For Permit Coverage – 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 for most facilities they operate (although certain facilities, including uncontrolled sanitary landfills, power plants, and airports, were still required to be permitted). The Phase II regulations eliminated the above exemption as of March 10, 2003, and subjected these facilities to the permitting requirements. These facilities are required to obtain coverage under this General Permit.

B. Discharge Prohibitions

This General Permit covers industrial storm water discharges and authorized NSWDs from facilities that are subject to this General Permit (Section IV). This General Permit prohibits any discharge of materials other than storm water and authorized NSWDs (Section III). 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 that protect beneficial uses and prevent nuisances (see Section III of this General Permit).

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 (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 do not normally contain pollutants when properly managed. Section IV of this General Permit lists NSWDs that are authorized when Dischargers satisfy certain conditions.

The General Permit's requirements for authorized and non-authorized discharges remain essentially unchanged from the previous permit(s).

D. Effluent Limitations

1. NPDES permits for industrial storm water discharges must meet all applicable provisions in CWA sections 301 and 402. These provisions require the use of BAT/BCT to prevent and reduce pollutants, and more stringent controls when

necessary to meet WQS. This General Permit requires Dischargers to reduce or prevent the discharge of pollutants in industrial storm water discharges and authorized NSWDS by developing and implementing BMPs that constitute compliance with BAT/BCT. This requirement applies to all Dischargers regardless of their ERA status and whether or not NAL exceedances have occurred.

2. Subchapter N of the federal regulations establish ELGs for industrial storm water discharges from facilities in eleven industrial sectors. There are four ELG standards directly applicable to industrial storm water discharges, and they are described in subsection 3 below. For these facilities, if the ELG was developed to meet BAT/BCT, compliance with the ELG constitutes compliance with BAT and BCT in this General Permit for the specified pollutants only. For Dischargers complying with ELGs set forth in Subchapter N that meet BPT only, compliance under this General Permit means that the applicable ELG requirements have been met.

3. Developing Technology Based Effluent Limitations (TBELs)

NPDES permits generally contain technology-based effluent limitations (TBELs). US EPA has established some ELGs for specific industrial categories which are used to set TBELs. These regulations were established following an analysis of treatment technologies available for those industries (see Subchapter N). US EPA has not established ELGs for many of the industries covered by this General Permit. Therefore, Staff must use best professional judgment (BPJ) in establishing effluent limitations. When using the BPJ approach, the CWA requires that TBELs be established based on BPT, BAT, and BCT and the following corresponding factors:

- a. BPT represents the average of the best performance by plants within an industrial category or subcategory. BPT standards apply to toxic, conventional, and non-conventional pollutants. When determining effluent limitations based on BPT the following factors must be considered:
 - i. The total cost of application of technology in relation to the effluent reduction benefits to be achieved from such application;
 - ii. The age of equipment and facilities involved;
 - iii. The process employed;
 - iv. The engineering aspects of the application of various types of control techniques;
 - v. Process changes; and,
 - vi. Non-water quality environmental impact (including energy requirements).

- b. BAT represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and nonconventional pollutants. When determining effluent limitations based on BAT the following factors must be considered:
 - i. The age of equipment and facilities involved;
 - ii. The process employed;
 - iii. The engineering aspects of the application of various types of control techniques;
 - iv. Process changes;
 - v. The cost of achieving such effluent reduction; and,
 - vi. Non-water quality environmental impact (including energy requirements).

- c. BCT represents the control from existing industrial point sources of conventional pollutants including Biological Oxygen Demand (BOD), Total Suspended Solids (TSS), fecal coliform, pH, and oil and grease (O&G). The BCT standard is established after considering the “cost reasonableness” of the relationship between the cost of attaining a reduction in effluent discharge and the benefits that would result, and also the cost effectiveness of additional industrial treatment beyond BPT. When determining effluent limitations based on BCT the following factors must be considered:
 - i. The reasonableness of the relationship between the costs of attaining a reduction in effluent and the effluent reduction benefits derived;
 - ii. The comparison of the cost and level of reduction of such pollutants from the discharge from publicly owned treatment works to the cost and level of reduction of such pollutants from a class or category of industrial sources;
 - iii. The age of equipment and facilities involved;
 - iv. The process employed;
 - v. The engineering aspects of the application of various types of control techniques;
 - vi. Process changes; and,
 - vii. Non-water quality environmental impact (including energy requirements).

- d. New Source Performance Standards (NSPS) represent the best available demonstrated control technology standards. The intent of NSPS guidelines is to set limitations that represent state-of-the-art treatment technology for new

sources (new facility).⁸ NSPS standards are not and cannot be developed by Staff using the BPJ approach. EPA establishes all NSPS. Industries with NSPS applicable to the General Permit are found in the NSPS Table in Attachment E.

4. TBELs and BPJ

It is infeasible for the State Water Board to develop numeric TBELs for discharges covered by this General Permit at this time. The State Water Board does not have the information and resources needed to develop them using the BPJ approach. Specifically, the State Water Board does not have the information and resources needed to consider the many factors that must be considered when developing TBELs based on BPT, BAT, and BCT. Previous versions of the general permit required Dischargers to sample effluent 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 is available for analysis (and probably much of that which is not) is not of sufficient quality to make any conclusions or even perform basic statistical tests. Also, 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 needed in order to determine BPT, BAT, and BCT.

The reporting and sampling requirements in this General Permit are designed to collect a majority of the information that is necessary to develop numeric TBELs in the future. Sampling results must be certified and submitted via SMARTS by the Discharger's LRP 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 control technologies. Previous versions of the general permit 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 structural/non-structural BMPs and the ability of facilities to meeting the NALs set forth in this General Permit. This information is critical for development of numeric TBELs for Dischargers under this General Permit.

CWA sections 301(b) and 122.44(d) require that permits include more stringent limitations than applicable federal technology-based requirements when necessary to achieve applicable WQS. TMDLs have been developed for a number of water bodies that do not meet WQS. Federal regulations require the inclusion of effluent limits that are consistent with the assumptions and requirements of any available Waste Load Allocation (WLA) in a TMDL (40 C.F.R. § 122.44(d)(1)(vii)(B)).

⁸New source means any building, structure, facility, or installation from which there is or may be a "discharge of pollutants," the construction of which commenced: (1) after promulgation of standards of performance under CWA section 306 which are applicable to such source, or (2) after proposal of standards of performance in accordance with CWA section 306 which are applicable to such source, but only if the standards are promulgated in accordance with CWA section 306 within 120 days of their proposal as defined in 40 C.F.R section 122.26.

Dischargers are required to meet any water quality based effluent limits (WQBELs) consistent with the corresponding WLAs. There are no WQBELs in this General Permit at this time, but WQBELs may be developed by the Regional Water Boards and incorporated into this General Permit when implementation requirements for the applicable TMDLs are developed.

5. The use of BMPs to control or abate the discharge of pollutants is allowed by 40 C.F.R. section 122.44 (k)(3) when NELs are infeasible, and such BMPs are necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA. (40 C.F.R. § 122.44(k)(4).) It is the State Water Board's intent to require Dischargers to implement BMPs, including treatment controls when necessary, in lieu of numeric TBELs and in order to support attainment of WQS. Dischargers are subject to the narrative technology-based standard for BMP implementation in accordance with BAT and BCT for their industry.

E. Receiving Water Limitations

Pursuant to CWA section 301 and Water Code section 13377, this General Permit requires strict compliance with WQS. Industrial storm water discharges shall not cause or contribute to a violation of an applicable WQS. Implementation of BMPs that comply with BAT/BCT will usually result in compliance with WQS. Therefore, if a facility's storm water discharge causes or contributes to an exceedance of a WQS, the Discharger 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.

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, the Discharger must implement additional measures such as the construction of treatment systems and/or overhead coverage. If the Regional Water Board determines that the selected BMPs are inadequate, the Regional Water Board may require implementation of additional BMPs and/or may take enforcement against the Discharger for failure to comply with this General Permit.

F. Total Maximum Daily Load (TMDL) Requirements

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 D of this General Permit lists the watersheds with US EPA-approved and US EPA-established TMDLs that include requirements, including WLAs, for Dischargers covered by this General Permit.

The State Water Board recognizes that it is appropriate to develop TMDL-specific permit requirements derived from each TMDL's WLA and implementation requirements, in order to provide clarity to Dischargers regarding their responsibilities for compliance with applicable TMDLs. The development of TMDL-specific permit requirements is subject to notice and a public comment period. Given the number and variety of Dischargers subject to a wide range of TMDLs, it is not possible to develop TMDL-specific permit requirements for every TMDL listed in Attachment D without severely delaying the reissuance of this General Permit. Because most of the TMDLs were established by the Regional Water Boards, and because some of the WLAs and/or implementation requirements may be shared by multiple Dischargers, the development of TMDL-specific permit requirements is best coordinated at the Regional Water Board level.

The Regional Water Boards staff, with the assistance of State Water Board staff, will develop proposed TMDL-specific permit requirements for each of the TMDLs listed in Attachment D by July 1, 2015.⁹ After conducting a 30-day public comment period, the Regional Water Boards will submit to the State Water Board proposed TMDL-specific permit requirements for adoption by the State Water Board 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. Consistent with the 2008 MSGP, Dischargers are not required to take any additional actions to comply with the TMDLs listed in Attachment D until the State Water Board reopens this General Permit and includes TMDL-specific permit requirements, unless notified otherwise by a Regional Water Board. 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 D:

- Proposed TMDL-specific permit requirements, including any timelines and deliverables consistent with the TMDLs;
- An explanation of how the proposed TMDL-specific permit requirements, timelines, and deliverables are consistent with the assumptions and requirements of any applicable WLA and implement each TMDL; and,

⁹ 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 is 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.

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 D, the Fact Sheet, and other provisions as necessary in order to incorporate these TMDL-specific permit requirements into this General Permit. Attachment D may also be reopened from time to time to incorporate additional TMDLs into Attachment D.

G. Requirements for Dischargers Who Have Been Granted an Ocean Plan Exception for Discharges to Areas of Special Biological Significance (ASBS)

The State Water Board adopted the California Ocean Plan (Ocean Plan) in 1972, and has subsequently amended the plan on a number of occasions. The 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 Ocean Plan states that the State Water Board may grant an exception to 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 No. 2012-0012, granting an exception from the Ocean Plan prohibition on discharges to ASBS to a limited number of industrial storm water Discharger applicants (ASBS Exception). 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 Permit. This Permit incorporates the terms of the ASBS Exception and includes the applicable monitoring requirements for all Dischargers who discharge to ASBS under the ASBS Exception.

H. Training Qualifications

The previous permit did not include comprehensive training requirements. Stakeholders have observed that the previous permit did not adequately specify how to comply with various elements of the permit, such as selecting proper sampling locations, 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 there was little certainty that the Discharger actually received training covering how to implement the various site-specific BMPs and monitoring activities required. This General Permit seeks to improve compliance and sampling data, as well as expand each Discharger's understanding of all General Permit requirements.

This General Permit requires all Dischargers to ensure that personnel responsible for compliance have attained an acceptable level of training and knowledge. This General

Permit establishes the following three roles associated with the development and implementation of this General Permit for any given facility:

- Qualified Industrial Storm Water Practitioner I (QISP I):

A QISP I can perform basic permit functions, such as developing and implementing a SWPPP, and can perform the monitoring required by this General Permit. A QISP I can represent either one facility or multiple facilities with substantially similar industrial activities. The QISP I training is designed for an individual with little or no environmental background or experience. This person is expected to understand and apply the concepts taught in a State Water Board approved training course on how to comply with this General Permit at their facility or a similar facility. A QISP I shall be a person (owner/operator, manager, or employee) at the facility who is in charge of complying with the General Permit.

- Qualified Industrial Storm Water Practitioner II (QISP II):

A QISP II can perform more advanced permit functions and duties, such as preparing the No Exposure Certification (NEC), the Sampling Frequency Reduction (SFR) Report, and Sampling Location Reduction (SLR) Report. A QISP II can represent multiple facilities with any type of industrial activity. The QISP II training is designed for an individual that has some environmental background and experience. This person is expected to understand and apply the concepts taught in a State Water Board approved training course for multiple facilities and industrial activities. The training for a QISP II will build on the training in the QISP I program and is geared toward those whose primary job functions and experience relate to environmental compliance. Persons taking the training will be provided the knowledge and capacity to successfully develop SWPPPs for multiple facilities and train compliance personnel at each represented facility. A QISP II may be an on-site employee or off-site personnel such as a consultant or a regional manager. Dischargers that have chosen to designate a QISP II will not, in most cases, have had the QISP I training and, therefore, are more dependent on the QISP II for compliance assistance. When problems arise, QISP II's should be near enough to provide on-site assistance when necessary.

- Qualified Industrial Storm Water Practitioner III (QISP III):

A QISP III can perform some of the most advanced permit functions and duties. A QISP III can represent multiple facilities with any type of industrial activity. The QISP III training is the most advanced training required by this General Permit and is designed for environmental professionals. This person is expected to understand and apply the concepts taught in a State Water Board approved training course on advanced topics regarding BAT/BCT demonstrations and background determinations for multiple types of industrial activities and/or facilities. A QISP III may be an on-site employee or off-site personnel such as a consultant or a regional manager. The QISP III shall be designed for employees or outside entities that wish to develop the technical documentation required in this General Permit. Preparation of these documents may also require a California licensed professional engineer for any of the engineering work performed.

- A QISP I, QISP II, or QISP III may represent one or more facilities but must be able to perform the function mandated by this General Permit during all times. It is advisable that this individual be limited to a specific geographic region due to the fact that performing the needed role(s) before, during, and after storm events can be significantly difficult when travel is required.
- Dischargers are required to ensure that the designated QISP has completed the appropriate QISP training course (QISP I, QISP, II, or QISP III) to perform the tasks required under this General Permit, or is a California licensed professional civil engineer, professional geologist or a certified engineering geologist (collectively, Licensees). Licensees have professional overlap with the topics of this General Permit and are not required to take the QISP training to obtain the status of being a QISP.

I. Storm Water Pollution Prevention Plan (SWPPP) Requirements

1. General

This General Permit requires that all Dischargers develop, implement, and retain a facility-specific SWPPP onsite. The SWPPP must be prepared by a QISP and implementation must be overseen by such an assigned person. The SWPPP requirements generally follow US EPA's five-phase approach to developing SWPPPs, as described in Figure 1. 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 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 the BMPs will be implemented, and identify the pollutants of concern.

This General Permit requires that Dischargers select an appropriate facility inspection frequency, and determine if SWPPP revisions are necessary to address any physical or operational changes at the facility or make changes to the existing BMPs. Facilities that are subject to multi-phased physical expansion or significant seasonal operational changes may require more frequent SWPPP inspections. Facilities with very stable operations may require very few SWPPP inspections.

Failure to develop, implement, or update an adequate SWPPP is a violation of this General Permit. As part of their enforcement authority, the Regional Water Board may find a Discharger in violation of this General Permit's ERA Levels (as described in Section XII 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.

2. Minimum BMPs

The 2008 MSGP requires Dischargers to comply with 12 non-numeric technology based effluent limits in Section 2.1.2 of the permit¹⁰ through implementation of control measures. This requirement was an expansion of the general considerations outlined in the MSGP adopted in 2000. The control measures specified by the EPA are as follows:

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 incorporates six (6) of the above control measures more directly because the Water Boards have found them to be the most applicable to California's Dischargers. Other control measures, such as minimizing exposure, are integrated into this General Permit more indirectly. The following summarizes the requirements in this General Permit that are related to the control measures found in the 2008 MSGP:

a. Good Housekeeping

Part 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.2.a) seeks to define "clean and orderly" by specifying a required set of seven (7) minimum good housekeeping BMPs, which include observations of outdoor/exposed areas, BMPs for controlling material tracking, BMPs for rinse/wash water activities, preventing discharge of rinse/wash waters/industrial materials, covering stored industrial materials/waste, containing all stored non-solid industrial materials, and diverting storm water from industrial process areas.

b. Preventative Maintenance

Part 2.1.2.3 of the 2008 MSGP requires that Dischargers regularly inspect, test, maintain, and repair all industrial equipment so that leaks, spills and releases to receiving waters via storm water due to these sources are avoided. This General Permit (Section X.H.2.b) incorporates this concept by requiring four (4) nonstructural BMPs which include: identification and inspection of equipment, observations of

¹⁰ US EPA. 2008 Multi Sector General Permit, Section 2.1.2 (Nov. 4, 2009), available at http://www.epa.gov/npdes/pubs/msgp2008_finalpermit.pdf.

potential leaks in identified equipment, an equipment maintenance schedule, and equipment maintenance procedures.

c. Spill Response

Part 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.2.c) requires implementation of three (3) general BMPs that facilities can incorporate into their industrial activities to address spills. These BMPs include: developing a set of spill response procedures, identifying/describing the equipment needed and where it will be located at the facility, and identify/training appropriate spill response personnel.

d. Material Handling and Waste Management

Part 2.1.2.3 of the 2008 MSGP requires that Dischargers ensure waste, garbage and floatable debris are not discharged into receiving waters. The 2008 MSGP identifies that keeping areas clean and intercepting such materials are ways to minimize such discharges. This General Permit (Section X.H.2.d) requires Dischargers to implement five (5) 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, clean and manage spills of such wastes or materials in accordance with Section X.H.2.d, and conducting observations of outdoor areas and equipment that may come into contact with such materials or waste and become contaminated.

e. Employee Training Program

Part 2.1.2.9 of the 2008 MSGP requires that 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.2.e) requires that necessary personnel are trained on compliance with the General Permit requirements. The four (4) minimum training BMPs include: 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 develop the SWPPP. The 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.

f. Erosion and Sediment Controls

Part 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. US EPA has developed some online resources for erosion and sediment controls that can be found at the 2008 MSGP's website (<http://cfpub.epa.gov/npdes/stormwater/msgp>), which includes their National Menu of BMPs (<http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm>) and the National Management Measures to Control Nonpoint Source Pollution from Urban Areas (<http://water.epa.gov/polwaste/nps/urban/index.cfm>).

Another valuable resource for BMP research is the California Storm Water Quality Association's Industrial and Commercial BMP Handbook (<http://www.cabmphandbooks.com/Industrial.asp>).

The erosion and sediment controls provisions in this General Permit are in Section X.H.2.g.

g. Record Keeping and Quality Assurance

Part 2.1.2 of the 2008 MSGP does not assign control measures directly to record keeping. This General Permit (Section X.H.2.f) has directly enforceable minimum reporting BMPs that require Dischargers to keep and maintain records. This ensures that management procedures are designed and permit requirements are implemented by appropriate staff.

h. SWPPP BMP Implementation

Part 2.1.2 of the 2008 MSGP does not assign a schedule to implement BMPs. This General Permit requires Dischargers to select the appropriate intervals to implement the various minimum BMPs. Although Dischargers are required to maintain internal procedures to ensure the BMPs are implemented according to schedule, in the Annual Report Dischargers are only required to certify whether they complied with the schedule.

The Discharger is required to implement an effective suite of BMPs that meet the BAT/BCT standard for their facility. Based upon Regional Water Board Staff inspections, there is significant variation between Dischargers' interpretations of what BMPs constitute BAT/BCT, and consequently, what BMPs were necessary to comply with the previous permit. This General Permit establishes a new requirement that Dischargers must implement specific minimum BMPs in their SWPPP unless they are inappropriate or infeasible. 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 to establish and implement facility-specific BMPs that reflect BAT/BCT beyond the minimum BMPs in this General Permit. These minimum BMPs, together with the more comprehensive facility-specific BMPs, will constitute compliance with BAT/BCT. All Dischargers must evaluate their facilities to determine the best practices necessary to implement these minimum BMPs and the additional, facility-

specific BMPs. By requiring minimum BMPs, the number of compliance violations identified during Regional Water Board inspections should be reduced.

The State Water Board has selected minimum BMPs that are generally applicable and necessary 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 a Discharger's BAT/BCT compliance. Because of the diverse industries covered by this General Permit, the development of a more comprehensive list of minimum BMPs, that would constitute full compliance with BAT/BCT for all Dischargers, is not currently feasible. The selection, applicability, and effectiveness of a given BMP is very often related to industrial activity type and to facility-specific facts and circumstances. These additional, facility-specific BMPs must be selected and implemented by the Dischargers, based on the type of industry and facility-specific conditions, in order to achieve BAT/BCT.

The failure to implement any of these minimum BMPs, unless the Discharger has justified in the SWPPP that they are inappropriate or infeasible, is a violation of the General Permit. An example of how a Discharger would demonstrate that a minimum BMP does not apply to their facility operations would be a statement in the SWPPP, for example, that the facility has no waste disposal containers¹¹ that need to be covered. The failure to implement facility-specific BMPs that are necessary to achieve compliance with BAT/BCT and to meet applicable WQS is also a violation of this General Permit.

3. Design Storm Standards for Treatment Control BMPs

This General Permit specifies a design storm standard for use when treatment control BMPs are installed. This shall give Dischargers certainty as to the minimum storm water volumes and flows subject to treatment that will be presumed to satisfy compliance with BAT/BCT. Dischargers who treat less volume or flow, or have installed treatment and/or structural controls which do not prevent exceedances of the NAL values, are required to complete an ERA Level 2 Technical Report justifying that treatment BMPs that do not satisfy the design standards are compliant with BAT/BCT. This General Permit does not necessarily require a Discharger to retrofit existing treatment and/or structural controls that do not meet the design storm standard, unless the Discharger is required to do this in order to meet either the technology or water-quality based limitations in this General Permit.

There are two basic types of treatment control methods. One is batch treatment, where the volume of water treated (e.g., gallons, cubic meters, etc.) is the controlling design factor. The other is flow-through, where the maximum flow of water to be treated (e.g., gallons per minute, cubic meters per second, etc.) is the controlling design factor.

The State Water Board made a precedential decision in 2000 with State Water Board Order No. WQ 2000-11, which upheld the Los Angeles Regional Water Board's permit requiring all new development and redevelopment exceeding certain

¹¹ See this General Permit Section IX.H.1.d.iii
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size criteria to design treatment BMPs based on a specific storm volume: the 85th percentile of annual runoff volumes for a 24 hour period. This criterion is based on research demonstrating that the maximized treatment volume is cut-off at the point of diminishing returns for rainfall/runoff frequency.¹² 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 rainfall. This is referred to as the Standard Urban Storm Water Mitigation Plan's volumetric criterion and there are multiple acceptable methods of calculating this volume (see the California Stormwater Best Management Practices Handbook).¹³

The San Diego Regional Water Board first established volumetric and flow-based design storm criteria for NPDES MS4 permits. The accepted flow-based criterion is now considered to be twice the peak hourly flow of the 85th percentile storm event (24 hour basis).

The design standards for treatment control BMPs in this General Permit are generally expected to be consistent with BAT/BCT, to be protective of water quality, to be achievable for most pollutants and their associated treatment technologies, and to eliminate the need for most Dischargers to treat industrial storm water discharges that are unlikely to contain pollutant loadings that would exceed any of the NALs set forth in this General Permit.

a. Design Storm Standards for Treatment Control BMPs

All treatment control BMPs employed by Dischargers shall be designed to comply with design storm standards as follows:

- i. Volume-based BMPs: Dischargers shall, at a minimum, design volume-based, treatment control BMPs to effectively treat the storm water volume generated from the 85th percentile 24-hour storm event. Dischargers shall calculate¹⁴ the volume to be treated using one of the following methods:
 - 1) The volume of runoff produced from an 85th percentile storm event. Isopluvial maps for the 85th percentile storm event are available on the internet;
 - 2) The volume of runoff produced by the 85th percentile storm event, determined as the maximized capture runoff volume for the facility, from

¹² 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 11, 2012).

¹³ California Stormwater Quality Association, Stormwater Best Management Practice New Development and Redevelopment Handbook (2003) <<http://www.cabmphandbooks.com/Development.asp>> (as of July 11, 2012).

¹⁴ All hydrologic calculations shall be certified by a California licensed professional engineer in accordance with the Professional Engineers Act (Bus. & Prof. Code § 6700 et seq).

the formula recommended in the Water Environment Federation's Manual of Practice;¹⁵ or,

- 3) The volume of annual runoff based on unit basin storage volume, to achieve 90% or more volume treatment by the method recommended in the latest edition of California Stormwater Best Management Practices Handbook.¹⁶
- ii. Flow-based BMPs: storm water flow-based BMPs shall be designed to treat an hourly flow of no less than two times the maximum hourly flow of an 85th percentile 24-hour storm. Dischargers shall calculate the flow needed to be treated using one of the following methods:
 - 1) The maximum flow rate of runoff produced from a rainfall intensity of 0.2 inch/hr for each hour of a storm event;
 - 2) The maximum flow rate of runoff produced by the 85th percentile hourly rainfall intensity, as determined from local historical rainfall records, multiplied by a factor of two; or,
 - 3) The maximum flow rate of runoff, as determined using local historical rainfall records, that achieves approximately the same reduction in pollutant loads and flows as achieved by mitigation of the 85th percentile hourly rainfall intensity multiplied by a factor of two.
 - b. In lieu of complying with the design storm standards for treatment control BMPs in this section, Dischargers may certify and submit a BAT/BCT Compliance Demonstration Technical Report (Section XII.E.3).
 - c. The State Water Board Deputy Director of the Division of Water Quality may revise the treatment design storm standard provided in this General Permit in writing for a Discharger or group of Dischargers based upon sampling data indicating that a revised design storm standard would be protective of water quality, or upon the Deputy Director's determination that the treatment technology associated with the revised design storm standard meets BAT/BCT.
4. Monitoring Implementation Plan (MIP)
- Dischargers are required to prepare a MIP (Section X.I of this General Permit) to assist the Discharger in developing a comprehensive plan for the monitoring requirements in this General Permit. The MIP includes a description of visual observation procedures and locations, as well as sampling procedures, locations, and methods.

¹⁵ Water Environment Federation, Manual of Practice No. 23: Urban Runoff Quality Management (1998), page 175, Equation 5.2. See also ASCE Manual of Practice No. 87: Urban Runoff Quality Management (1998).

¹⁶ See footnote 13

FIGURE 1 US EPA's Five Phases for Developing and Implementing Industrial SWPPPs

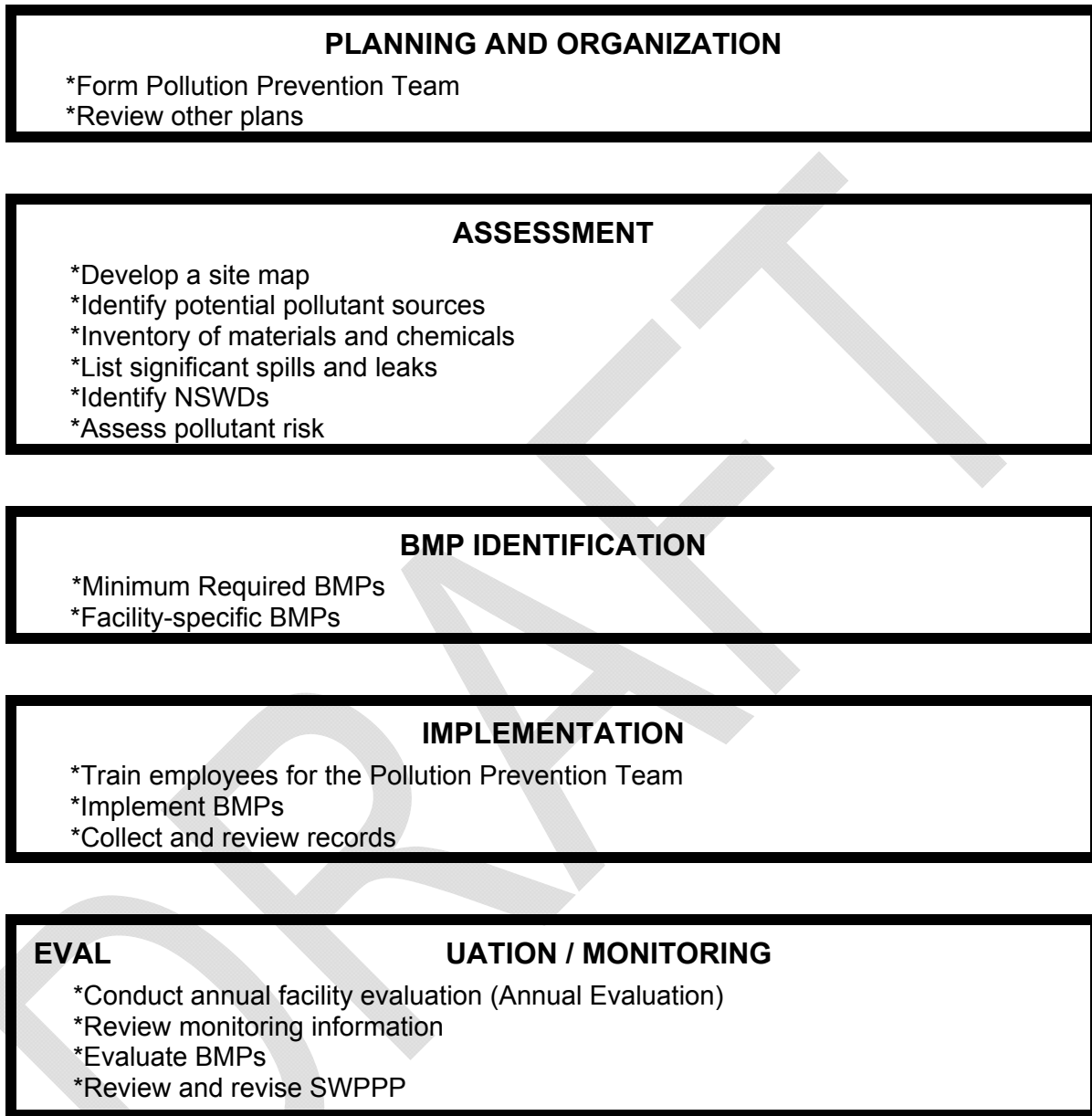


TABLE 1 Example - Assessment of Potential Industrial Pollution Sources and Corresponding BMPs Summary

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

J. Monitoring Requirements

1. General

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 in compliance with BAT/BCT,
- b. The presence of pollutants (and their sources) in industrial storm water discharges and authorized NSWDS that may require immediate ERAs, additional BMP implementation, or SWPPP revisions; and,
- c. The effectiveness of BMPs to prevent or reduce pollutants in industrial storm water discharges and authorized NSWDS.

Effluent sampling and analysis information can often be useful to the Discharger while evaluating the need for improved BMPs. This General Permit’s monitoring requirements are consistent with US EPA guidance that emphasizes visual observations as the most effective monitoring method for evaluating the effectiveness of BMPs at most facilities. US EPA limits sampling to certain industrial categories (for the most part the “heavy” industries under the Phase I regulation nomenclature) and does not generally require sampling from industries in the “light” industry categories. As was the case with the previous permit, the State

Water Board requires all Dischargers to sample unless they satisfy the sampling exemption (NEC) provided in this General Permit. The State Water Board believes that each facility may have unique physical characteristics, industrial activities, and/or variation in BMP performance that warrants a requirement that each facility demonstrate its compliance. Figure 3 (below) provides a summary of all the monitoring-related requirements of this General Permit. This General Permit's monitoring requirements also include sampling and analysis for specific parameters that would indicate the presence of pollutants in industrial storm water discharges. Dischargers are also required to evaluate their facilities and analyze samples for additional facility-specific parameters and constituents. The monitoring program requirements are designed to provide useful, cost-effective, timely, and easily obtained information to assist Dischargers to identify pollutant sources, implement corrective actions, and revise BMPs as necessary.

This General Permit requires a combination of visual observations and analytical monitoring. Visual observations provide Dischargers with immediate information indicating the presence of most pollutants and their sources. Dischargers must implement timely actions and revise BMPs as necessary when the visual observations indicate pollutant sources have not been adequately addressed in the SWPPP. Analytical monitoring can provide an indication of the presence and relative concentrations of pollutants in storm water discharge. Dischargers are required to evaluate potential pollutant sources and corresponding BMPs and make appropriate SWPPP revisions when specific types of NAL exceedances occur as described below.

2. Visual Observations

All Dischargers (with the exception of some Dischargers subject to the inactive mining operation certification requirements) are required to:

- a. Visually observe authorized and unauthorized NSWDS.
- b. Visually observe the facility before every anticipated storm event to locate and manage obvious pollutant sources.
- c. Perform pre-storm visual observations to identify and correct potential pollutant sources before a storm event. This requirement, which is similar to that required in the Construction General Permit, should result in reduced pollutant discharges. Facilities with good SWPPPs and good BMP implementation may detect irregular or non-routine pollutant sources that might not have been otherwise mitigated in time to prevent contact with storm water.

3. Sampling and Analysis

a. General

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

The comments received concerning these issues fall into three primary categories:

- i. Those supporting an intensive water quality sampling and analysis approach (sampling and analysis that would produce accurate discharge-characterizing and pollutant concentration data) as the primary method of determining compliance with WQS. Since this approach requires large amounts of very high quality data to more accurately quantify the characteristics of the discharges we refer to this as the **quantitative** monitoring approach. Commenters supporting the quantitative approach generally support the use of stringent NELs such as California toxics rule values to evaluate compliance with this General Permit;
- ii. Those supporting only visual observations as the primary method of determining compliance. These commenters 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. Those 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, much like the previous permit's approach. Since this approach uses more qualitative information to describe the quality and characteristics of the discharges we refer this as the **qualitative** monitoring approach.

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

Those in favor of the quantitative monitoring approach argued 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. They believe that visual observations are not effective in measuring pollutant concentrations nor is it effective in determining the presence of colorless/odorless pollutants. They argue that qualitative monitoring (and the use of indicator parameters) will not provide results useful for calculating pollutant loading nor accurately characterize the discharge.

Those in favor of requiring only visual observations argue 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) US EPA's storm water regulations do not require sampling, (6) US EPA's nationwide permit relies heavily on visual observations and only requires 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.

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

The State Water Board believes that a majority of Dischargers should be able to develop appropriate BMPs without having to perform large amounts of quantitative monitoring, which can be very costly. NELs are particularly difficult to calculate because of factors such as variation in storm water discharge duration, QSE intensity, and seasonal variation. Without NELs, the State Water Board has determined that the difficulty and costs associated with developing quantitative monitoring programs at each of the 9,468 industrial facilities currently permitted would outweigh the limited benefits.¹⁷ The primary difficulty associated with requiring quantitative monitoring lies with the cost and the difficulty of accurately sampling industrial storm water discharges. Those who 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. Most 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 Dischargers to construct well-defined storm water conveyances could cost anywhere from thousands to hundreds of thousands of dollars depending on the size and nature of each industrial facility. At many facilities, the construction of such conveyances could also violate local building codes, threaten safety, 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 for facilities with a well-defined storm water conveyance system. 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 it would probably require the installation of automatic sampling devices and flow meters at each discharge location. In addition, it would require qualified individuals to conduct the

¹⁷ SMARTS was queried for this information on XXXX by State Water Board staff.
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monitoring procedures and to handle and maintain flow meters and automatic samplers. A significant majority of storm water Dischargers under this General Permit do not possess the skills to manage such an effort. Such Dischargers would bear the cost of employing and/or training on-site staff to do this work or of contracting with environmental consultants in addition to the cost of renting or buying the flow meters and automatic samplers. The cost to Dischargers to conduct quantitative monitoring will depend 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, who will be trained to identify sample locations representative of storm water discharge, select and implement appropriate sampling procedures, and evaluate and develop additional BMPs to reduce pollutants in the industrial storm water discharges using BAT/BCT.

Failure to develop and implement an adequate monitoring plan, including both visual observations and sampling and analysis, is a violation of this General Permit. Failure to comply with ERA Level 1 and Level 2 requirements that are a result of NAL exceedances is a 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) minimum detection limits. The monitoring requirements in this General Permit (Section XI) include many revisions that address these requirements.

Many Dischargers have not developed adequate sample collection and handling procedures, which affect the quality of analytical results. In addition, Dischargers often select inappropriate test methods, detection limits, or reporting units. This permit requires specific response actions when sampling results indicate certain types of NAL exceedances. Therefore, Dischargers must identify sampling 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. The types of storm water conveyance and collection systems are numerous and varied so the State Water Board is unable to provide a single comprehensive set of sample collection and handling procedures/instructions. As an alternative, Attachment B 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 5 in this General Permit provides the minimum test methods (and associated detection limits) that shall be used for a variety of common pollutants. Dischargers should be aware that more sensitive test methods (i.e., US 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 (Section B.7.d) allowed the Discharger to assess whether drainage areas were substantially similar and then to reduce sample analysis either by (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 interpretations and analytic schemes. In addition, there was no maximum number of samples that could be combined. In order to make sample collection and analysis more standardized as required by Water Code section 13383.5, while continuing to offer a reduced analytic cost option, these requirements have been revised. The mandatory QISP training will include a heavy emphasis on sampling locations, sampling procedures, and guidance on how to assess substantially similar drainage areas. Section XI.B requires Dischargers to collect samples from all drainage areas. The Discharger may analyze each sample collected, or may analyze a combined sample consisting of equal volumes of samples collected from as many as four (4) substantially similar drainage areas. A minimum of one combined sample shall be analyzed for every one (1) to four (4) drainage areas, and they shall be combined in the lab as required in Section XI.C.4. Dischargers are not required to collect samples from roofed areas if the roofed areas have no exposure to industrial pollutants or industrial activities.

Representative sampling is allowed for sheet flow discharges. The Discharger shall determine the appropriate sampling location(s) and intervals representative of storm water associated with industrial activities generated within the corresponding drainage area.

The visual observations and sampling requirements in this General Permit define dry weather as 72 consecutive hours of combined rainfall of less than 1/10th inch as measured by an on-site rainfall measurement device. This definition differs from the previous permit's definition of "3 working days." The three working days definition in the previous permit led Dischargers to miss many storm events. Often, Dischargers were unable to collect even one sample per year. The State Water Board has looked at other storm water permits with the goal of developing a standard interpretation for dry weather for this General permit. A standard definition would improve sampling frequency and provide clarity. The 2008 MSGP sets a "measurable storm event" as one that results in an actual discharge after 72 hours (three days). 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 14 days apart. This definition is also consistent with the Construction General Permit, which defines a Qualifying Rain Event as any event that produces 0.5 inches or more precipitation with a 48 hour or greater period between rain events. Staff of the State Water Board have determined that 1/10th of an inch is more appropriate for this General Permit (as opposed to the 0.5 inch standard used in the Construction General Permit)

because many industrial facilities have impervious areas and will generate runoff faster than a construction site.

b. Sampling and Analysis Parameters

Minimum parameter monitoring requirements are necessary for Dischargers, regardless of whether additional site-specific parameters are selected, to develop comparable sampling data over time and over many storm events to demonstrate compliance. The Regional Water Boards may also use such data to evaluate individual facility compliance and assess the differences between various industries. Selection of appropriate indicator parameters is difficult due to the various materials handled at industrial facilities. 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 some parameters, such as pH, may be performed using relatively inexpensive field instruments, therefore providing an immediate alert to possible pollutant sources.

The three selected minimum parameters are considered indicator parameters. In other words, regardless of the facility type, these parameters are nonspecific and general enough to usually provide some indication whether pollutants are present in storm water discharge. The following briefly explains why these parameters were selected:

- 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, the water is considered acidic; above 7 it is considered alkaline or basic. Pure rain water in California usually has a pH value of a little less than 7.
- 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 can adhere to sediment particles; therefore, reducing sediment can 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 which 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. This change was made primarily because (1) specific conductance is not required by US EPA for any industry type and there is no benchmark (and no NAL), and (2) stakeholder comments indicate that there are many non-industrial sources that can cause high specific conductance and interfere with the efficacy of the test. For example, salty air deposition for that occurs at facilities in coastal areas can easily raise the specific conductance to beyond 500 $\mu\text{hos/cm}$. Dischargers are not prevented from performing a specific conductance test as a screening tool if they believe it is useful to detect a particular pollutant of concern as required. However, because this General Permit does not include an NAL for specific conductance, Dischargers will need to contact the Regional Water Board to determine an appropriate exceedance level for use in the ERA requirements.

The Monitoring Program in this General Permit contains a table (Table 2) of analytical parameters organized by SIC codes taken from the 2008 MSGP. In the early 1990s, US 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. A new analytical requirement has been added to complement the parameters in Table 2. Dischargers are required to select additional site-specific analytical parameters based upon the types of materials that are both exposed to and mobilized by contact with storm water. Dischargers are expected 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.

Dischargers are also required to identify pollutants that may cause or contribute to an existing violation 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. Sample Storm Water Discharge Locations

Dischargers are required to visually observe and collect samples of industrial storm water discharges from all drainage areas associated with industrial activity. The storm water discharge collected and observed must be representative of the storm water discharge in each drainage area.

Dischargers are required to identify, when practicable, alternate visual observations and sample collection locations if the facility's drainage areas are affected by storm water run-on from surrounding areas. The storm water discharge collected and observed must be representative of the facility's storm water discharge in each drainage area.

If locations are difficult to observe or sample (e.g. submerged discharge outlets, dangerous discharge location accessibility), the Discharger may identify other alternative locations representative of the facility's industrial storm water discharges.

b. Sample Location Reduction (SLR)

Some commenters have indicated that there are unique circumstances where the collection of samples from a limited number of representative sampling locations are appropriate and would not undermine the accuracy of the sampling results. For the most part, the examples provided relate to a drainage area or sub-drainage area with multiple discharge locations where sampling only a subset of sampling locations would be statistically sound. In such situations, this General Permit allows Dischargers to reduce the number of sampling locations. For each drainage area (or sub-drainage areas) with multiple discharge locations (e.g., roofs with multiple downspouts, equipment storage areas with multiple storm drain inlets), the Discharger may reduce the number of sample locations if the conditions in Section XI.C.3 of this General Permit are met.

c. Qualified Combined Samples

- i. The Discharger may combine samples from as many as four (4) drainage areas if the industrial activities within each drainage area and each drainage area's physical characteristics (grade, surface materials, etc.) are substantially similar.
- ii. Dischargers are required to provide documentation supporting that the above conditions have been evaluated. A Discharger may combine samples from more than four (4) drainage areas only with approval from the appropriate Regional Water Board.

d. Sample Collection and Visual Observation Exceptions

- i. Dischargers are not required to collect samples or conduct visual observations under the following conditions:
 - 1) During dangerous weather conditions such as flooding or electrical storms; or,
 - 2) Outside of scheduled facility operating hours. Please note, the Discharger is not precluded from sample collection or visual observations outside of scheduled facility operating hours.
- ii. In the event that a Discharger is unable to collect the required samples or conduct visual observations during any quarter 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 over eight (8) consecutive quarters, where a QSE occurred and produced a discharge are not likely 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. This General Permit allows Dischargers to go from quarterly sampling to collecting just the first qualifying storm after October 1 of each reporting year. If a Discharger has an NAL exceedance they must comply with the normal, quarterly sampling requirements. Dischargers who have satisfied the ERA Level 1 and Level 2 requirements are also eligible for this sampling and analysis reduction.

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

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 for the specified pollutants, and compliance with the technology-based requirements in this General Permit for the specified pollutant.

TABLE 2 Overview of Key Monitoring Requirements

Requirement	Description	General Permit Section Location	Frequency	Restrictions	
Visual Observations	Visually observe industrial storm water discharges. Record and maintain observations, dates, locations, and responses. Discharger shall visually observe industrial storm water discharges from the first QSE as defined in Section XI.A	XI.A All	storm water discharge locations	Once per month that produces a discharge from one or more discharge locations.	The Discharger shall conduct visual observations during scheduled facility operating hours and within the first four (4) hours of: a. The start of discharge, or b. The start of facility operations if the QSE occurs within the previous 12 hour period (storms that begin the previous night).
NSWDs Visual Observations	Visually observe drainage areas for the presence/absence of indications of prior unauthorized NSWDs and their sources	XI.A.1 Each	drainage area	Quarterly	Except as provided for storage and containment (Section XI.A.2.b), conduct NSWD visual observations quarterly
QSEs – No Discharge	Prior to completing the monthly visual observations required in XI.A.2.e the Discharger shall record any QSEs that occurred that did not produce a discharge from any drainage area.	XI.A.2.e-f. All	drainage areas	NA	
Pre-Storm Visual Observations	Prior to an anticipated QSE, visually observe all storm water drainage and containment areas for spills and leaks or materials exposed to storm water.	XI.A.2.d All	storm water drainage areas	Prior to anticipated storm events	These visual observations are only required during scheduled facility operating hours and are not required more than once within in any fourteen (14) day period. An anticipated QSE is any weather pattern that is forecasted by the National Weather Service Forecast Office to have a 50% or greater probability of producing precipitation in the facility's weather zone.
Storm Water Storage and Containment Area Inspections	Visually inspect storm water storage and containment areas.	XI.A.2.b Storm	Water storage and containment areas	Prior to discharge or at time of discharge	If the discharge is likely to occur between scheduled facility operating hours (based upon rainfall forecasts and containment freeboard), the Discharger shall visually observe the contained storm water prior to discharge.
Storm Water Sample Collection and analysis	Collect samples of industrial storm water discharges and submit for laboratory analyses from one QSE per quarter.	XI.B All	storm water discharge locations	Once per Quarter	Dischargers shall sample within four hours of: The start of the discharge, or The start of facility operations if the QSE occurs within the previous 12 hour period (storms that begin the previous night). Sample collection is only required during scheduled facility operating hours and when sampling conditions are safe.

K. Exceedance Response Actions (ERAs)

1. General

The previous permit did not include 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 relative to assessing 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 is considerable confusion as to what extent a Discharger is expected to implement actions in response to exceedances of these values, and what the timelines are that must be met to avoid enforcement actions. The lack of specificity with regards to what constitutes an exceedance, and what actions are required in response to an exceedance, have been identified as a problem by the State Water Board, 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 a facility's discharge exceeds an NAL trigger. These two levels are explained further in this General Permit, Section XVII. 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 a more defined pathway towards a compliance end-point.

The ERA requirements in this General Permit were developed through Staff's BPJ and the experience obtained through the shortcomings of the previous permit's compliance procedures. Staff also considered comments received during hearings on the draft 2002 and 2005 permits. NPDES industrial storm water discharge permits for 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 permit contains two types of NAL exceedances as follows:

- i. Annual NAL exceedance - the Discharger is required to determine 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 4. For Dischargers using composite sampling or flow measurement in accordance with standard practices, the average

concentrations shall be calculated in accordance with the US EPA Guidance Manual for the Monitoring and Reporting Requirements of the NPDES Multi-Sector Storm Water General Permit¹⁸. An annual NAL exceedance occurs when the average of all the analytical results for a parameter from samples taken within a reporting year exceeds an annual NAL value for that parameter listed in Table 4 (or is outside the NAL pH range);

- ii. Instantaneous maximum NAL exceedance - the Discharger is required to compare all sampling and analytical results from each distinct sample (individual or composite) to the corresponding instantaneous NAL values in Table 4. An instantaneous maximum NAL exceedance occurs when two or more analytical results for TSS, O&G, or pH from samples taken within a reporting year exceed the instantaneous NAL value (or is outside the NAL pH range).

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 went on to say:

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.

Staff generally agrees with this assessment and recommendation. The State Water Board also 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). Staff recognizes that is BMP performance data is not currently collected and that there are significant data quality problems with the existing effluent characterization Water Board dataset. Specifically, we think the Water Board dataset suffers from poor QA/QC during sample collection and analysis and poor QA/QC during entry of results into the State Water Board’s SMARTS database.

¹⁸ US EPA, Guidance Manual for the Monitoring and Reporting Requirements of The NPDES Multi-Sector Storm Water General Permit (January 1999) <[http://yosemite.epa.gov/r10/water.nsf/34090d07b77d50bd88256b79006529e8/99535c0504eb034988256ace006a00e4/\\$FILE/MSGP%20monitoring%20&%20reporting%20guidance.pdf](http://yosemite.epa.gov/r10/water.nsf/34090d07b77d50bd88256b79006529e8/99535c0504eb034988256ace006a00e4/$FILE/MSGP%20monitoring%20&%20reporting%20guidance.pdf)> (as of July 11, 2012). The target audience of this guidance document are operators of facilities subject to the US EPA MSGP; however, much of the guidance contained in this manual is directly applicable towards this General Permit.

One alternative method to using the Water Board dataset that was suggested by the Panel is 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 90th 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 US EPA benchmarks. Therefore, instantaneous NAL values were not calculated for all parameters.

Since all Dischargers were required to sample for TSS and O&G/TOC under the previous permit, a robust dataset exists with enough data points to perform some QA/QC on the data and calculate numeric values. Staff also found that this data was less prone to what appear to be data input errors. Staff used the following test methods and ranges of acceptable values to screen outliers from the Water Board dataset:

- 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 our effort to add this type of NAL exceedance to the ERA process, Staff explored different options for the development of an appropriate value (i.e. 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 to some number (no statistics, assumptions about distributions involved, etc.). 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% of the total samples exceeded the highly suspect value for TSS and 7.8% 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 BPJ 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. Therefore, Staff has decided to use a range of concentrations that has already been established for storm water discharges in California for the instantaneous NAL values. The State Water Board's Construction General Permit established an NEL range of 6.0 - 9.0 pH units. These NELs were challenged in court and do not currently apply to the Construction General Permit. These values are being used as NALs, not NELs. An exceedance of an NAL, in and of itself, is not a violation of this General Permit. The Construction General Permit established a more stringent NAL range of 6.5 - 8.5 pH units; accordingly, an exceedance outside the range of 6.0 - 9.0 pH units would be consistent with the idea of that the sampled drainage area represents an 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 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 permit term.

Level 1 ERAs are for the first occurrence of an exceedance of an NAL. Level 2 ERAs are required following the second occurrence of an 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 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 ERA Level 1 and 2 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 ERA Level 1 and 2 consequences for exceedances built into the permit, 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 is likely complying with BAT/BCT and continued compliance with the General Permit is all that is required. When NAL exceedances do occur, however, the potential that the Discharger may not be in compliance with BAT/BCT increases, and the Discharger is required to implement escalating levels of ERAs. The first time an NAL exceedance occurs, the Discharger is required to comply with the Level 1 ERAs. Level 1 ERAs emphasizes operational source control BMPs such as better good housekeeping practices, minimizing pollutant exposure, better training, etc. If the same NAL exceedance re-occurs for the same parameter, the Discharger must comply with the Level 2 ERAs that require the consideration of structural source control BMPs (additional overhead coverage, containment of certain areas, etc.) and treatment control BMPs.

Since NAL exceedances are not considered NELs, discharges with NAL exceedances are not considered to be in violation of this General Permit. However, a Discharger that does not comply with specified ERA requirements following an NAL exceedance is considered to be in violation of this General Permit.

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 would not have to complete any of the ERAs in Level 1 and Level 2.

4. Level 1 Status - Operational Source Controls

Dischargers subject to Level 1 ERAs are required to review their SWPPPs for compliance with BAT/BCT and implement appropriate additional BMPs. This requirement is consistent with standard NPDES permit conditions described in 40 C.F.R. section 122.22. Dischargers should insure that all potential pollutant sources 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. Although nothing prevents a Discharger from considering treatment/structural controls if it is obviously necessary to comply with BAT/BCT, Level I ERAs are designed to give the Discharger the opportunity to improve or add additional operational source control BMPs already required by the permit.

Normally, operational source controls are less expensive than structural/treatment BMPs, although they can be labor intensive.

5. Level 2 Status - Structural Source Control and/or Treatment BMPs

Level 2 ERAs are required during a subsequent year in which the same parameter(s) have the same NAL exceedance type (annual or instantaneous maximum). Dischargers must include consideration and implementation of structural source controls and/or treatment BMPs. Structural source controls are 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:

- a. Enclosing and/or covering outdoor pollutant sources within a building or under a roofed or tarped outdoor area.
- b. Physically separating the pollutant sources to prevent run-on of uncontaminated storm water.
- c. Devices that direct contaminated storm water to appropriate treatment BMPs (e.g., discharge to sanitary sewer as allowed by local sewer authority).
- d. 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., overhead coverage of one potential pollutant while discharging to a detention basin for another source may be the most cost-effective solution).

4. Demonstration Technical Reports

The Level 2 ERA requirements contains three different outlets that allow Dischargers to submit a Demonstration Technical Report that describes how the Discharger is already complying with BAT/BCT but have NAL exceedances, or demonstrates that the pollutants in the Discharger's storm water discharges are solely attributable to non-industrial or natural background sources.

This General Permit requires Dischargers to appoint a QISP III to develop any of the three Demonstration Technical Reports. The State Water Board acknowledges that there may be cases where a combination of the Demonstrations may be appropriate. Dischargers may combine the three Demonstrations when appropriate.

All Dischargers must ensure they comply with BAT/BCT and receiving water limitations. If a Discharger successfully makes a Non-Industrial Pollutant Demonstration or Natural Background Demonstrations they must still ensure they comply with BAT/BCT and receiving water limitations. If a Discharger successfully makes a BAT/BCT Compliance Demonstration they must ensure they comply with receiving water limitations.

- a. BAT/BCT Compliance Demonstration Technical Report

The BAT/BCT Compliance Demonstration Technical Report is for Dischargers who can demonstrate that their current BMPs (operational, structural, and treatment) satisfy BAT/BCT and that additional BMPs that would lower pollutant concentrations below the NALs would exceed those that are economically achievable. This demonstration may not be available for Dischargers who are subject to TMDLs or Water Quality Based Corrective Actions.

When preparing the BAT/BCT Compliance Demonstration, the QISP III 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 operational source control, treatment, and/or structural source control BMPs that are required to reduce or prevent pollutants in industrial storm water discharges in compliance with BAT/BCT.

Once this Demonstration is certified and submitted via SMARTS by the Discharger's LRP, the Discharger automatically returns to Baseline Status for that pollutant for NAL/ERA purposes. If a BAT/BCT Compliance Demonstration is submitted, the Discharger remains responsible for compliance with receiving water limitations for the identified parameter(s) in the drainage area(s) in the BAT/BCT Compliance Demonstration Technical Report. This Discharger would be subject to the alternative NAL and the BAT/BCT conditions identified in their BAT/BCT Compliance Demonstration Technical Report.

b. Non-Industrial Pollutant Demonstration Technical Report

The Non-Industrial Source Pollutant Demonstration Technical Report 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 operational source control BMPs would be ineffective in lowering pollutant concentrations.

When preparing the Non-Industrial Pollutant Demonstration Technical Report, the QISP III shall specifically determine that the sources of non-industrial pollutants in storm water discharges are not from natural background sources within the facility.

Sources of non-industrial pollutants that are discharged separately and 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 Demonstration Technical Report will need to contain sampling data and analysis distinguishing the pollutants from non-industrial sources from the pollutants generated by industrial activity.

Dischargers with industrial sources of pollutants that may contribute to the NAL exceedance will have more difficulty demonstrating that their industrial pollutant sources are not contributing to NAL exceedances. More elaborate on-site sampling,

temporary storm water diversion, and other techniques (i.e. statistical determinations) will need to be employed to distinguish the pollutant loading.

Once a Non-Industrial Pollutant Demonstration Technical Report is certified and submitted via SMARTS by the Discharger's LRP, the Discharger automatically returns to Baseline Status for that pollutant for NAL/ERA purposes. The Discharger remains responsible for compliance with BAT/BCT and receiving water limitations for the identified parameter(s) in the drainage area(s) in the Non Industrial Pollutant Demonstration Technical Report. Dischargers are subject to the alternative NALs and the BAT/BCT conditions provided in their Non-Industrial Pollutant Demonstration Technical Report.

c. Natural Background Demonstration Technical Report

Natural Background Demonstration Technical Report is for Dischargers that can demonstrate that pollutants causing the NAL exceedances are not related to industrial activities conducted at the facility, but are solely attributable to 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 constituents in the effluent caused by natural background sources if these constituent 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 eligible. When no 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 (indicating absence of human activity) during the time data collection occurred.

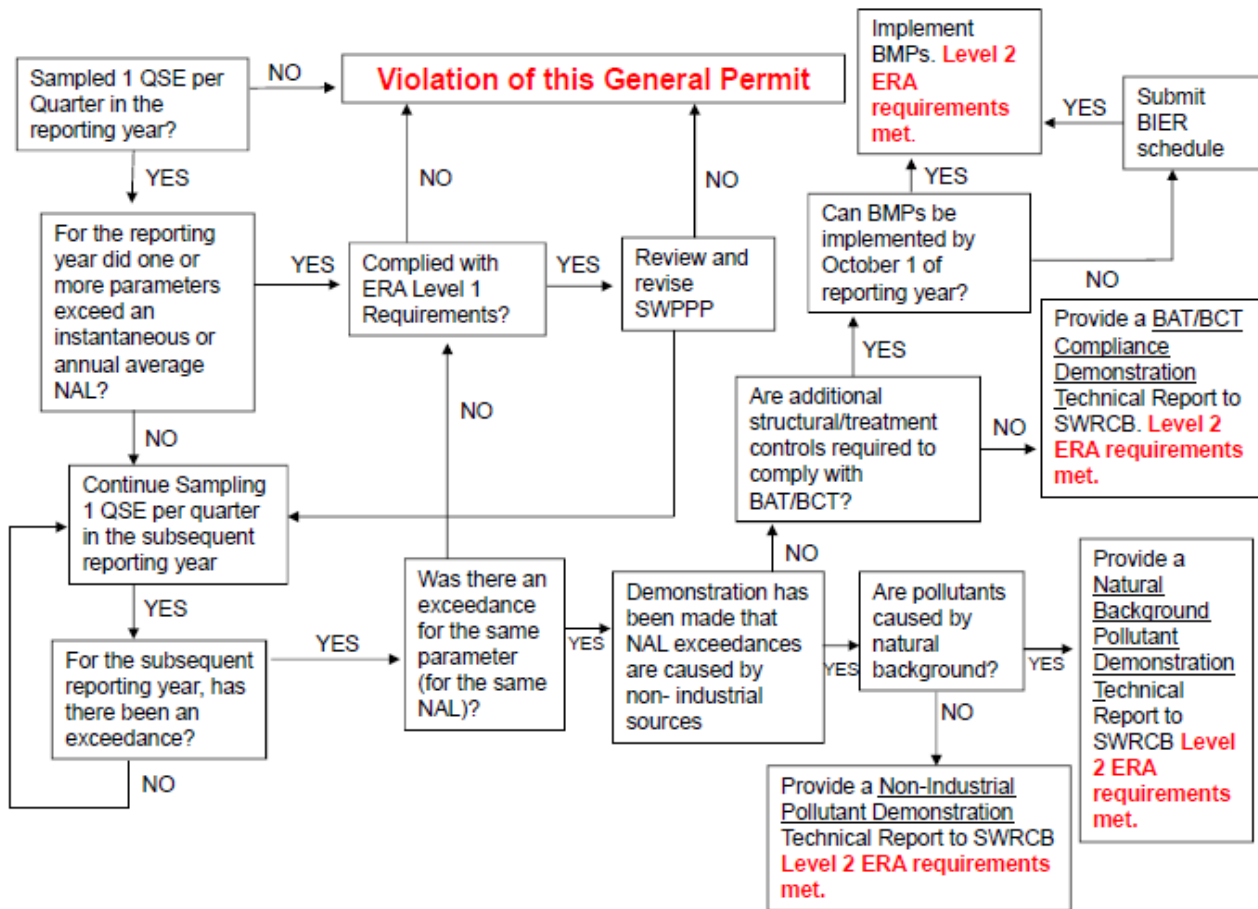
A Discharger who submits and certifies a Natural Background Pollutant Demonstration Technical Report and meets the conditions in Section XII.E.5 of this General Permit is not responsible for the identified parameters(s) in the drainage area(s) in the Demonstration Technical Report.

d. BMP Implementation Extension Report (BIER)

The State Water Board recognizes that there may be circumstances that make it difficult, if not impossible, for dischargers to implement additional treatment and/or structural control BMPs required in Level 2 by the deadlines established in this

General Permit. For example, the time it takes to award a contract, obtain necessary building permits, and design and construct the treatment and/or structural control BMPs may exceed one year. In such circumstances Dischargers may request additional time to construct treatment and/or structural control BMPs required under ERA Level 2 by submitting a BIER. The BIER allows the Discharger the additional time necessary to complete the tasks identified by the BIER and remains in compliance with this General Permit until the tasks are completed. The BIER shall be prepared by a QISP III.

FIGURE 2 Compliance Flowchart



L. Inactive Mining Operations

Some inactive mining sites may need coverage under this General Permit. These are mining sites or portions of sites where mineral mining and/or dressing occurred in the past with an identifiable owner/operator, 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 civil 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. This General Permit emphasizes sampling and analysis as a means to determine compliance, and the reduction of sampling previously afforded to Group Monitoring facilities interferes with this goal. The Group Monitoring concept was introduced when the State Water Board adopted the 1992 industrial storm water discharge general permit. At that time there was little understanding of storm water compliance or the roles played by professional assistants in helping Dischargers achieve compliance. The primary intent of Group Monitoring was to create a mechanism that allowed the sharing of resources to obtain compliance amongst Dischargers in the hopes of achieving cost savings. The reduction in sampling requirements was included as an incentive for Dischargers to create groups. Since this General Permit emphasizes individual facility sampling and training, Group Monitoring has been removed.

All Dischargers are required to designate a QISP to help perform the site-specific permit requirements. The previous permit had no training requirement for persons in charge of permit implementation at a Discharger's facility. Some Dischargers may have previously received training from outside entities such as consultants or Group Monitoring Leaders. However, there were no training standards for these outside entities and no tracking method to ensure that the Discharger's staff was appropriately trained. There is nothing in this General Permit that precludes outside entities, such as consultants and Group Leaders, from continuing to represent and train their clients

This General Permit includes a new compliance option called Compliance Groups. Compliance Groups are groups of Dischargers that share common pollutant sources and industrial activity characteristics (such as auto dismantlers) that choose to form groups in order to receive assistance with permit compliance. There are two types of Compliance Groups under this General Permit, Baseline/Level 1 Compliance Groups (CG1s) and Level 2 Compliance Groups (CG2s). CG1s are represented by Baseline/Level 1 Compliance Group Leaders (CGL1s) and CG2s are represented by Level 2 Compliance Group Leaders (CGL2s). Dischargers in CG1s are referred to as CG1 Participants and Dischargers in CG2s are referred to as CG2 Participants. A CG1 or CG2 Participant may satisfy the ERA Level 1 or ERA Level 2 requirements as a member of an appropriate Compliance Group (CG1 or CG2) and represented by an approved Compliance Group Leader (CGL1 or CGL2).

If ERA Level 1 Reports are required for compliance with this General Permit for two or more of the Participants in a CG1, the CG1 Participants in Level 1 status may choose to have the CGL1 prepare a Consolidated Level 1 ERA Report. The CGL1 must be a QISP II or QISP III. CGL1s may also provide assistance to CG1 Participants with SWPPP development, sampling and analysis, visual observations and inspections, or any other permit requirement.

If ERA Level 2 Technical Reports are required for compliance with this General Permit, the CG2 Participants may choose to have the CGL2 prepare a Consolidated Level 2 ERA

Technical Report. CGL2s must be a QISP III. CGL2s is responsible for providing assistance to CG2 Participants that is consistent with this General Permit's requirements. Such assistance may include, for example, SWPPP development, sampling and analysis, and/or visual observations and inspections. If a CG2 Participant wants to submit one of the Demonstration Technical Reports, the CG2 Participant must submit this report individually and the report must be site-specific, however the CGL2 may assist in the preparation of these reports.

During the next reissuance of this General Permit, Staff will use the Consolidated Level 1 ERA Reports and Consolidated Level 2 ERA Technical Reports to help assess the value of sector-specific permitting approaches and the use of NALs. The effluent data, BMP performance data, and other information expected from the Compliance Group's consolidated reporting will inform the decisions being made during the next iteration of this General Permit. The proposed Compliance Group requirements were devised with these interests and concerns in mind.

The previous permit's group monitoring requirements were comprehensive both in the initial application phase and in the Annual Reporting requirements. This required a great deal of Staff resources to adequately manage the group monitoring program, but also placed unnecessary administrative burden on group leaders.

N. Annual Evaluation

Federal regulations require Dischargers in the NPDES industrial storm water program to evaluate their facility and SWPPP annually.

O. Annual Report

All Dischargers' LRP's shall certify and submit via SMARTS an Annual Report no later than July 15 of each reporting year. The Annual Report must include a summary and evaluation of all sampling and analysis results, original laboratory reports, chain of custody forms, a summary of all corrective actions taken during the reporting year, and identification of any compliance activities or corrective actions that were not implemented.

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's LRP shall certify and submit complete NECs via SMARTS.

NECs shall be annually reviewed by a QISP or a California licensed professional engineer and re-certified and submitted by the Discharger's LRP 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.

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 state and 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 was based from industry and US 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 US 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.