

- iv. The Permittee shall continue to update and implement its Enforcement Response Plan to establish clear direction and procedures for progressive enforcement based on Port inspections of construction and industrial sites and other compliance activities.
 - c. Identification of the local administrative and legal procedures available to mandate compliance with urban runoff related requirements and, therefore, with the conditions of this Order;
 - d. Description of how the Permittee's legal authority is implemented and how enforcement actions under this authority may be appealed; and
 - e. Description of whether the Port can issue administrative orders and injunctions or if it must go through the court system for enforcement actions.
9. **Fiscal Analysis:** The Permittee shall secure the resources necessary to meet the requirements of this Order and shall prepare an annual fiscal summary as part of the SWMP Annual Report. This summary shall, for each fiscal year covered by this Order, identify the expenditures necessary to accomplish the activities of the SWMP. Such summary shall include a description of the source(s) of funds that are proposed to meet the necessary expenditures, including legal restrictions on the use of such funds.

PROGRAM ELEMENTS

10. Construction Program

- a. The objectives of the Construction Program are to:
 - i. Provide adequate legal authority to control pollutants to the MS4 from construction sites with land disturbance greater than or equal to one acre in size;
 - ii. Review construction plans and issue grading permits consistent with Permittee requirements;
 - iii. Develop or designate a set of minimum BMPs and require their implementation to control sediment and pollutants from construction sites to the MS4;
 - iv. Develop and maintain a tracking system (inventory) of all active construction sites within Permittee's jurisdiction, including the project name, location, and disturbed area of each site;

- v. Develop and maintain a tracking system of all active construction sites inspected by the Permittee, including the inspection date, violations observed, enforcement responses, and any re-inspection actions taken in response to violations;
 - vi. Inspect construction sites to ensure proper BMP implementation and compliance with Permittee requirements and applicable Provisions of this Order;
 - vii. Implement a progressive enforcement policy, in accordance with the Provisions of Section D.7.b. of this Order, for sites in violation of Permittee requirements and advise the Central Valley Water Board of violations of Construction General Permit requirements;
 - viii. Provide regular internal and external training on applicable components of the SWMP and related Permits; and
 - ix. Conduct an assessment as a part of the annual reporting process, determine the effectiveness of the Program Element and identify any necessary modifications.
- b. The Permittee shall update and continue to implement the Construction Component of its SWMP to reduce pollutants in runoff from construction sites during all construction phases to the MEP. At a minimum the Construction Program shall address the objectives listed above, as well as the following control measures:
- Pollutant Source Identification
 - Threat to Water Quality Prioritization
 - Reporting of Non-Compliant Sites
- c. The Permittee shall continue to implement and enforce a program to control runoff from all construction sites subject to the NPDES General Construction Permit. The program shall ensure the following minimum requirements are effectively implemented at these construction sites:
- i. Sediments generated on the project site shall be retained using adequate Source Control BMPs;
 - ii. Construction-related materials, wastes, trash, spills, or residues shall be retained at the project site to avoid discharge to streets, drainage facilities, receiving waters, or adjacent properties by wind or runoff;
 - iii. Non-storm water runoff from equipment and vehicle washing and any other activity shall be contained at the project site;

- iv. Erosion from slopes and channels shall be controlled by implementing an effective combination of BMPs, such as but not limited to; inspecting graded areas during rain events; limiting grading during the wet season; planting and maintenance of vegetation on slopes; and covering erosion susceptible slopes.
- v. Ensure that prior to the issuance of a grading permit for a construction site the Port receives the required submittal of an erosion and sediment control plan that meets the Permittee's Development Standards Plan requirements. The Permittee shall verify that the Site's Storm Water Pollution Prevention Plan ("SWPPP") contains, at a minimum, the following:
 - a) If applicable to the site, a certification that a Notice of Intent has been submitted to the State Water Board;
 - b) A vicinity map showing nearby roadways, the construction site perimeter, and the geographic features and general topography surrounding the site;
 - c) A site map showing the construction project in detail, including the existing and planned paved areas and buildings; general topography both before and after construction; drainage patterns across the project area; and anticipated storm water discharge locations (i.e., the receiving water, a conduit to receiving water, and/or drain inlets);
 - d) A description of BMPs to address contractor activities that generate pollutants including, at a minimum, vehicle washing, equipment maintenance, and waste handling (e.g., concrete washout, paint, stucco);
 - e) A description of the type and location of erosion and sediment control BMPs, including, but not limited to, limited grading during the wet season, and planting and maintenance of vegetation on slopes, to be employed at the site; and
 - f) The name and telephone number of the qualified person responsible for implementing the SWPPP.
- d. If applicable, all environmental permits must be obtained from agencies such as Department of Fish and Game, U.S. Army Corp of Engineers, and the Central Valley Water Board's 401 Water Quality Certification.

e. Inspections

The Permittee shall include the inspection frequency for each construction site to ensure compliance with the Port's DSP in the SWMP and shall continue to inspect each site until a notice of termination for coverage under the General Construction Permit is issued by the Central Valley Water Board. The inspections shall be at least once every two weeks during the wet season (i.e., October thru April), and once a month during the remaining months (dry season), until construction is terminated.

The Permittee shall inspect these sites for compliance with the SWPPP components described above and as provided in the SWMP. In addition, if the Permittee observes chronic violations (e.g., three or more) at a given construction site, the Permittee shall notify the Central Valley Water Board as described in the SWMP. The Permittee shall use its legal authority to promptly and effectively enforce and to correct any violations observed during inspections.

11. Industrial/Commercial Program:

- a. The objectives of the Industrial/Commercial Program are to:
- i. Provide adequate legal authority to control pollutants from industrial and commercial facilities to the MS4;
 - ii. Develop and maintain an inventory of industrial and commercial facilities located within the Permittee's jurisdiction;
 - iii. Prioritize the industrial and commercial facilities within the inventory based on their threat to water quality and develop and maintain an efficient tracking system to record and document required inspection frequencies, observations, violations, and enforcement responses;
 - iv. Require industrial and commercial facilities select, install, implement, and maintain storm water control measures to the MEP;
 - v. Conduct inspections of the industrial and commercial facilities that pose a significant threat to water quality. The inspection frequency shall be based on the prioritization of the facility as established in the SWMP. Conduct follow-up inspections to confirm that necessary corrective actions are taken, and, if not, to appropriately escalate its enforcement posture in accordance with the Provisions of Section D.7.b. of this Order;
 - vi. Implement a progressive enforcement policy to ensure that adequate enforcement is conducted and coordinated with the Central Valley Water Board regarding referrals of potential non-filers and inspection;

- vii. Refer significant violations of the Permittee's storm water ordinances and potential General Industrial Permit non-filers to the Central Valley Water Board. Coordinate inspections and enforcement with the Central Valley Water Board. The SWMP shall include a schedule for reporting non-filers and violations.
 - viii. Provide regular internal and external training on components of the SWMP and related Permits; and
 - ix. Conduct an assessment as a part of the annual reporting process, determine the effectiveness of the Program Element and identify any necessary modifications.
- b. The Permittee shall update and continue to implement the Industrial/Commercial Component of its SWMP to reduce pollutants in runoff from industrial/commercial sites to the MEP. At a minimum, the Industrial/Commercial Program shall address the objectives listed above, as well as the following control measures:
- i. Facility Inventory/Tracking
 - ii. Prioritization and Inspection
 - iii. Industrial/Commercial Outreach
 - iv. Enforcement
 - v. Training
 - vi. Effectiveness Assessment
- c. The Permittee shall require implementation of pollutant reduction and control measures at industrial and commercial facilities, with the objective of effectively prohibiting non-storm water runoff and reducing pollutants in storm water runoff to the MEP. Except as specified in other sections of this Order, pollutant reduction and control measures can be used alone or in combination, and can include Source and Treatment Control BMPs, and operation and maintenance procedures, which can be applied before, during, and/or after pollution generating activities.
- d. The Permittee shall manage ship and dock activities as follows:
- i. The Permittee shall educate ship operators and implement BMPs to prevent or minimize the discharge of materials associated with shipping, receiving and storage activities at its docks that might cause run-off during rain events.

12. **Municipal Program**

- a. The objectives of the Municipal Program are:
 - i. Implement development standards that require source and treatment control BMPs to reduce pollutants from Permittee-owned construction projects;
 - ii. Implement pollution prevention BMPs for Port-owned facilities (e.g., corporation yards) and maintain a Facility Pollution Prevention Plan (FPPP) for Port-owned facilities to minimize or eliminate pollutant discharges to the storm drain system, including but not limited to good house keeping practices, material storage control, vehicle leak and spill control, and illicit discharge control;
 - iii. Implement a standardized protocol for routine and nonroutine storage, usage, and disposal of pesticides, herbicides (including pre-emergents), and fertilizers on Permittee-owned property that:
 - a) Is consistent with the State Board's guidelines and monitoring requirements for application of aquatic pesticides to surface waters (WQ Order 2001-12 DWQ);
 - b) Implements requirements and procedures prohibiting application of pesticides or fertilizers immediately before, during, or immediately after a predicted rain event or when water is flowing off the application area
 - c) Implements requirements and procedures prohibiting application or storage of banned or unregistered pesticides;
 - d) Requires that staff applying pesticides are licensed by the California Department of Pesticide Regulation, or under the direct supervision of a certified pesticide applicator;
 - e) Implements procedures to encourage planting of native vegetation and reduces water, fertilizer, and pesticide needs;
 - f) Requires the storage of fertilizers and pesticides indoors or under cover on paved surfaces or use of secondary containment;
 - g) Minimizes the use, storage, and handling of hazardous materials to reduce the potential for spills; and
 - h) Requires the regular inspection of pesticide and fertilizer storage areas.

This includes procedures for identification, outreach, inspection, filling, disposal and application. Specifically, when these services are contracted to vendors, procedures need to be implemented to effectively communicate, and require adherence to, Port-developed protocols;

- iv. Consideration and promotion of the use of IPM methods and less toxic alternatives;
- v. Update and implement maintenance procedures for catch basins and sumps that include the following:
 - a) Prioritizing catch basins and sumps for cleaning based on accumulation of waste and presence or absence of BMPs;
 - b) An inspection and cleaning schedule for removal of accumulated waste (e.g., sediment, trash, debris, and other pollutants) based on prioritization effort. At a minimum, cleaning of prioritized catch basins and sumps shall occur prior to the rainy season;
 - c) Record keeping of cleaning and overall quantity of waste removed;
 - d) Proper disposal of waste removed pursuant to applicable laws; and
 - e) Measures to eliminate waste discharges during storm sewer maintenance and cleaning activities.
- vi. Continue to implement BMPs for storm drain maintenance that include:
 - a) A program to visually monitor Permittee-owned open channels and associated drainage structures for debris at least annually before the wet weather season (October 1); clean as needed based on visual inspections; and identify and prioritize problem areas of illicit discharge for additional inspections;
 - b) A review of current maintenance activities to ensure that appropriate storm water BMPs are being used to protect water quality;
 - c) Minimize the discharge of pollutants during storm sewer maintenance and clean outs
 - d) Proper disposal of material removed; and
 - e) Record keeping for cleaning and maintenance of open channels and associated drainage structures.
- vii. Ensure that catch basin inlets are properly stenciled, are permanently imprinted, or have legible curb markers to discourage illicit discharges

into the storm drain system. The Permittee shall continue to promote the 24-hour hotline number;

- viii. Update and implement guidelines for operating and maintaining retention basins. These guidelines shall consider, at a minimum, the following:
(1) inspection frequency; (2) maintenance frequency for removal of accumulated sediment and debris; and (3) maintenance and stabilization of basin side slopes to prevent erosion and incorporation of additional sediment into outflow. Additionally, the Port must document the required inspections, monthly during the dry season and weekly during the wet season, in accordance with its stated procedures and notify the Central Valley Water Board within two weeks if evidence of berm seepage is discovered;
- ix. Continue to implement and update BMPs for streets and road maintenance that at a minimum include:
 - a) Conduct appropriate street sweeping frequencies for streets, material handling and storage areas, and docks within its jurisdiction. Develop a plan and tracking system that includes routes, frequencies, and quantity of material removed;
 - b) The Permittee shall ensure that wash water from street sweeping and street sweeper rinse out is not discharged to the storm sewer;
 - c) The Permittee shall review and revise its maintenance practices to include the following:
 - i) Sawcutting wastes shall be recovered and disposed of properly and that in no case shall waste be left on a roadway or allowed to enter the storm sewer;
 - ii) Concrete and other street and road maintenance materials and wastes shall be managed to prevent discharge to the storm sewer; and
 - iii) Concrete truck and chute washout shall only occur in designated areas; concrete rinse shall not be discharged to the storm sewer, open ditches, or streets.
- x. Clean and inspect Permittee-owned parking facilities to minimize the build-up and discharge of pollutants to the storm drain system;
- xi. Provide annual training for its employees in targeted positions (whose interactions, jobs, and activities may affect storm water quality) regarding the requirements of the SWMP and to (1) promote a clear understanding of the potential for maintenance activities to pollute storm water

- (2) identify and select appropriate BMPs; and
- xii. Conduct an assessment as a part of the annual reporting process, determine the effectiveness of the Program Element and identify any necessary modifications.
- b. The Permittee shall update and continue to implement a Municipal Program in its SWMP to effectively prohibit non-storm water discharges and prevent or reduce pollutants in runoff from all municipal land use areas, facilities, and activities to the MEP. At a minimum, the Municipal Program shall address the objectives listed above, as well as the following control measures:
- i. Sanitary Sewer Overflow and Spill Response;
 - ii. New Development and Construction Requirements for Municipal Capital Improvement Projects;
 - iii. Pollution Prevention at Permittee Facilities;
 - iv. Landscape and Pest Management;
 - v. Storm Drain, Catch Basin, and Sump System Maintenance;
 - vi. Street Cleaning and Maintenance;
 - vii. Parking Facilities Maintenance;
 - viii. Detention Basin Construction and Maintenance;
 - ix. Public Industrial Activities Management;
 - x. Emergency Procedures;
 - xi. Treatment Feasibility Study;
 - xii. Non-emergency Fire Fighting Flows;
 - xiii. Training; and
 - xiv. Effectiveness Assessment.

13. Illicit/Illegal Discharge Detection and Elimination Program

- a. The objectives of the Illicit Discharge Detection and Elimination Program are to:
- i. Provide adequate legal authority to control and/or prohibit pollutants from being discharged to the municipal storm drain system;
 - ii. Proactively detect illicit discharges and illegal connections through a variety of mechanisms including, but not limited to, public reporting, dry weather monitoring (including closed/eliminated outfall discharge points), and field crew inspections;
 - iii. Upon identification of an illegal connection, investigate and eliminate the connection through a variety of mechanisms including, but not limited to, permitting or plugging the connection;
 - iv. Upon identification of an illicit discharge, investigate the discharge and conduct the following actions to mitigate the impacts of the discharge:

- a) Response to Illegal Connections
 - i) Upon discovery or upon receiving a report of a suspected illicit connection, the Permittee shall initiate an investigation within two days to determine the source of the connection, the nature and volume of discharge through the connection, and the responsible party for the connection.
 - ii) Upon confirmation of illicit nature of a storm drain connection, the Permittee shall ensure termination of the connection within 5 business days, using enforcement authority as needed.
- b) Response to Illicit Discharges
 - i) For illicit discharges that are known or suspected to contain hazardous substances (as defined by California law), the Permittee shall respond, within one business day of discovery or a report of a suspected illicit discharge, with activities to abate, contain, and clean up such illicit discharges. For illicit discharges not known or suspected to contain hazardous substances, the Permittee shall respond within two days of discovery or report, and at a minimum require the identified responsible party(ies) to immediately cease such discharges.
 - ii) The Permittee shall perform follow up investigations of illicit discharges and take enforcement action as appropriate.
- v. The Permittee shall conduct annual wet weather discharge inspection of all closed/eliminated outfall discharge points and other potential discharge points to determine if these points have any discharges. This visual inspection can be performed during any qualifying wet weather event while discharges are still occurring and must be conducted while outfalls and/or discharge points are completely above the tidally influenced water line. If the discharge outfall pipe is not visible or able to be safely accessed, the observation may be made at the last drainage inlet prior to the outfall pipe if feasible.
- vi. Maintain a database for recording the information related to illicit discharges and illegal connections and, to the extent possible, use mapping to assist in evaluating the data; and
- vii. Conduct an assessment as a part of the annual reporting process; determine the effectiveness of the Program Element and identify any necessary modifications.

- b. The Permittee shall update and continue to implement an Illicit Discharge Detection and Elimination Program component of the SWMP to actively seek and eliminate illicit discharges and connections. At a minimum, the Illicit Discharge Detection and Elimination Component shall address the objectives listed above and include the following control measures:
 - i. Detection of Illicit Discharges and Illegal Connections;
 - ii. Illegal Connection Identification and Elimination;
 - iii. Investigation/Inspection and Follow-up Procedures;
 - iv. Enforcement of Local Codes and Ordinances;
 - v. Training; and
 - vi. Effectiveness Assessment.

14. Public Education and Public Outreach (Collectively Public Outreach Program):

- a. The Permittee shall implement a Public Outreach Program using available media as appropriate to (1) measurably increase the knowledge of target communities regarding MS4s, impacts of urban runoff on receiving waters, and potential BMP solutions for the target audience; and (2) to change the behavior of target communities and thereby reduce pollutant releases to MS4s and the environment. To accomplish these goals, the following objectives are addressed:
 - i. Encourage the public to actively participate in the implementation of the storm water program as well as the various outreach events;
 - ii. Promote the use of the 24-hour public reporting hotline;
 - iii. Implement a public education strategy for the overall program that includes developing and distributing materials, conducting a mixed media campaign, participating in community outreach events, and conducting public opinion surveys to gauge the level of awareness and behavior change within a community and/or target audience;
 - iv. Implement a business outreach program; and
 - v. Conduct an assessment as a part of the annual reporting process, determine the effectiveness of the Program Element and identify any necessary modifications.
- b. The Permittee shall update and continue to implement the Public Outreach Component of its SWMP to educate the public and encourage their participation in the implementation of the SWMP. At a minimum, the Public Outreach Program shall address the objectives listed above and include the following control measures:

- i. Public Participation;
- ii. Hotline;
- iii. Public Outreach Implementation;
- iv. Business Outreach; and
- v. **Effectiveness Assessment.**

PLANNING AND LAND DEVELOPMENT PROGRAM

15. The objectives of the Planning and Land Development Program are as follows:
- a. Provide a framework and a process to incorporate water quality and watershed protection principles into the Permittee's policies and planning procedures early in the development process;
 - b. Develop a program that covers initial project planning through design, construction and completion, including requirements for long-term maintenance of post-construction storm water controls;
 - c. Ensure storm water quality components have been addressed during the entitlement and CEQA process and verified as completed during the development plan process;
 - d. Ensure that selected post-construction storm water controls will remain effective upon project completion by requiring a maintenance agreement and transfer for all priority development projects;
 - e. Develop a formal system to track the deployment, ownership, and maintenance history of BMPs to ensure adequate long-term maintenance of the BMPs;
 - f. Ensure that storm water quality controls are properly selected and required during the development plan review process to minimize storm water quality impacts to the MEP;
 - g. Ensure that appropriate selected post-construction storm water controls are chosen on the basis of project- and site-specific conditions and land use characteristics, as well as receiving water impacts;
 - h. Provide a comprehensive review of development plans to ensure that storm water quality controls are properly selected to minimize storm water quality impacts;
 - i. Provide regular internal training on applicable components of the SWMP; and

- j. As a part of the annual reporting process, conduct an assessment (at least annually) to determine the effectiveness of the Program Element and identify any necessary modifications.
16. The Permittee shall update and continue to implement the Planning and Land Development Component of its SWMP to minimize the short and long-term impacts on receiving water quality from new development and redevelopment. At a minimum, the Planning and Land Development Program shall address the objectives listed above and include the following control measures:
- a. Incorporation of Water Quality Protection Principles into Permittee Procedures and Policies;
 - b. New/Revised Development Standards;
 - c. Plan Review Sign-Off;
 - d. Maintenance Agreement and Transfer;
 - e. Training; and
 - f. Effectiveness Assessment.
17. **Water Quality Planning and Design Principles** - In order to reduce pollutants and runoff flows from new development and redevelopment the Permittee shall address the following concepts:
- a. The Permittee shall incorporate water quality and watershed protection principles into planning procedures and policies such as the Development Standards and requirements to direct land-use decisions and require implementation of consistent water quality protection measures for all development projects. These principles and policies shall be designed to protect natural waterbodies, reduce impervious land coverage (such as through low impact development design), slow runoff to prevent hydromodification of waterways, and maximize opportunities for infiltration of rainwater into soil. Such water quality and watershed protection principles and policies shall consider, at a minimum, the following:
 - i. Minimize the amount of impervious surfaces and directly connected impervious surfaces in areas of new development and redevelopment and where feasible to maximize on-site infiltration of runoff (low impact development practices).
 - ii. Implement pollution prevention methods supplemented by pollutant source controls and treatment. Use strategies that control the sources of pollutants or constituents (i.e., the point where water initially meets the ground) to minimize the transport of urban runoff and pollutants offsite and into MS4s.

24. Targeted Employee Training

The Permittee shall periodically train its employees in targeted positions (whose jobs or activities are engaged in development planning) to ensure they can adequately implement the Planning and Land Development Program requirements.

25. Technical Guidance and Information for Developers

By **3 February 2012 (or 1 year after the Order is adopted, whichever is later)**, the Permittee shall submit a revised/functionally updated DSP consistent with the requirements of this Order as a component of the SWMP. Prior to approval of the updated DSP, the existing DSP shall be used by the Permittee.

MONITORING PROGRAM

WATER QUALITY BASED CONTROL PROGRAMS

26. The Permittee shall continue to implement the Target Pollutant identification and prioritization processes described in the SWMP. These processes shall continue to include as key evaluation criteria, pollutants that cause or contribute to exceedances of water quality standards and known or probable impairment of beneficial uses. The Permittee shall develop and/or implement target pollutant control programs for pollutants that have been identified as top priorities. Target pollutant control programs shall be incorporated into the Permittee's SWMP and revised in accordance with the directives of this Order. At a minimum, if the following pollutants are determined to be found in the Permittee's storm water discharges pursuant to Provision D.26.a.iii, below, these control programs shall include the following:

- a. **Pesticides Toxicity Control Program:** To address pesticide impairment of urban streams by pesticide-related toxicity, the Permittee shall continue to implement and update a pesticide toxicity control program (**Pesticide Plan**) that addresses their own use of pesticides, including diazinon and chlorpyrifos, and to the extent authorized by law, the use of such pesticides by other sources within their jurisdictions.

The ban of the sale, with use of existing stock, of diazinon and chlorpyrifos for most residential and commercial uses should significantly reduce or eliminate, over time, the contribution of the Permittee's discharge to the non-attainment of water quality standards in the 303(d) listed waters and the maintenance of the diazinon and chlorpyrifos hot spots. The continued monitoring of diazinon and chlorpyrifos is needed to determine the significance of the Permittee's contribution to diazinon and chlorpyrifos levels in 303(d) listed waters and the toxic hot spots. Monitoring is also needed to determine the effectiveness of the phase-out of urban uses of diazinon and chlorpyrifos; to assess whether the hot spots are maintained; and to assess whether water quality objectives are met.

- b) **Implementation Level** – The Permittee shall evaluate reduction of mercury from controllable sources in storm water, including the identification of mercury-containing products used by the Permittees in their municipal operations (D.11) (e.g., corporate yards, office buildings). The Permittees shall also describe alternative ways to establish or improve proper handling, disposal and recycling.
- c) **Reporting** – The Permittee shall report on these efforts in their Annual Report, including an estimate of the mass of mercury collected and diverted.

ii. **Public Education, Outreach and Participation Program**

- a) **Task Description** – The Permittee shall add mercury pollution prevention messages to the Public Outreach and Education Element (D.13) designed to reach commercial and industrial users or sources of mercury-containing products or emissions. The Permittees shall include messages about mercury contamination in fish and Department of Public Health (DPH) fish consumption advisories.
- b) **Implementation Level** – For public outreach (e.g., auto dismantlers) and municipal operations, the Permittee’s mercury control programs (e.g., enhance business hazardous waste collection program) shall coordinate with the countywide universal waste (U-Waste) management strategy in compliance with the Department of Toxic Substances Control (DTSC) Universal Waste Rule (Reference Number: R-97-08, Effective Date: 02/08/02). Participate with other organizations to develop programs to reduce or eliminate sources or mercury within the Permittee’s urbanized area. The Permittee may coordinate with publicly owned treatment works and other agencies to develop cooperative plans and programs.
- c) **Reporting** – Describe in the Annual Reports specific coordination efforts related to mercury pollution prevention control (e.g., fluorescent lamp collections, public outreach, sustainable funding mechanisms, and U-waste tonnage tracking). Permittees shall summarize activities completed and document any measureable awareness and behavior changes resulting from outreach. Evaluate the effectiveness of the mercury control programs; provide recommendations for amending Permittees’ mercury source control programs; and amend the mercury control programs in accordance with those recommendations.

iii. **Monitor Methylmercury**

- a) **Task Description** – The Permittee individually, or in cooperation with other local entities, shall monitor methylmercury in runoff discharges. The objective of the monitoring is to investigate Port drainages to obtain seasonal information and to assess the magnitude and spatial/temporal patterns of methylmercury concentrations.
- b) **Implementation Level** – The Permittee shall analyze aqueous grab samples already being collected for total mercury analysis for methylmercury as specified in the Monitoring and Reporting Program of this Order.
- c) **Reporting** – The Permittee shall report monitoring results annually beginning with their 2012 Annual Report. Annual methylmercury loads in the MS4 service area may be calculated by the following method or by an alternate method approved by the Executive Officer. The annual methylmercury load may be calculated by the sum of wet weather and dry weather methylmercury loads. To estimate wet weather methylmercury loads, the average of wet weather methylmercury concentrations observed at the MS4s compliance locations may be multiplied by the wet weather runoff volume estimated for the MS4 service area. To estimate dry weather methylmercury loads, the average of dry weather methylmercury concentrations observed at the MS4s compliance locations may be multiplied by the estimated dry weather runoff volume for the MS4 service area. This method is consistent with that used to develop load estimates in the methylmercury TMDL.

iv. **Methylmercury Control Studies**

- a) **Task Description** – After US EPA approves the Delta Mercury Control Program, the Permittee shall conduct methylmercury control studies to monitor and evaluate the effectiveness of existing BMPs on the control of methylmercury, and shall develop and evaluate additional BMPs as needed to reduce mercury and methylmercury discharges to the Delta and meet methylmercury WLAs. The studies shall quantify methylmercury loads and loads reduced through source control, treatment and other management measures.
- b) **Implementation Level** – The Permittee shall demonstrate progress toward completing the methylmercury control studies by submitting a Control Study Workplan by nine months after the US

EPA Delta methylmercury TMDL approval date. The control study workplan shall include details for:

- i) Control Studies can be developed through a stakeholder group approach or other collaborative mechanism, or by the Permittee. The Permittee is not required to do individual studies if the Permittee joins a collaborative study group(s).
- ii) Control Studies shall be implemented through Control Study Workplan(s). The Control Study Workplan(s) shall provide detailed descriptions of how methylmercury control methods will be identified, developed, and monitored, and how effectiveness, costs, potential environmental effects, and overall feasibility will be evaluated for the control methods.
- iii) The Control Study Workplan(s) shall include details for organizing, planning, developing, prioritizing, and implementing the Control Studies.
- iv) The Control Studies shall evaluate existing control methods and, as needed, additional control methods that could be implemented to achieve methylmercury WLAs. The Control Studies shall evaluate the feasibility of reducing sources more than the minimum amount needed to achieve allocations.
- v) The Control Studies also may include an evaluation of innovative actions, watershed approaches, offset projects, and other short and long-term actions that result in reducing inorganic (total) mercury and methylmercury to address the accumulation of methylmercury in fish tissue and to reduce methylmercury exposure.
- vi) The Permittee may evaluate the effectiveness of using inorganic (total) mercury controls to control methylmercury discharges.
- vii) The Permittee may conduct characterization studies to inform and prioritize the Control Studies. Characterization studies may include, but not be limited to, evaluations of methylmercury and total mercury concentrations and loads in source waters, receiving waters, and discharges, to determine which discharges act as net sources of methylmercury, and which land uses result in the greatest net methylmercury production and loss.

- c) **Reporting** – The Permittee shall submit reports in compliance with the following schedule to the Central Valley Water Board:
- i) By [four years after the US EPA Delta methylmercury TMDL approval date], the Permittee shall submit a Control Studies progress report.
 - ii) By [seven years after US EPA Delta methylmercury TMDL approval date], the Permittee shall complete the Control Studies and submit a Final Report that present the results and descriptions of methylmercury control options, their preferred methylmercury controls, and proposed methylmercury management plan(s) (including implementation schedules), for achieving methylmercury allocations. Final reports for Control Studies shall include a description of methylmercury and/or inorganic (total) mercury management practices identified in/during the studies; an evaluation of the effectiveness, costs, potential environmental effects, and overall feasibility of the control actions. Final reports shall also include proposed implementation plans and schedules to comply with methylmercury allocations as soon as possible.
 - iii) If the Control Study results indicate that achieving a given methylmercury allocation is infeasible, then the Permittees shall provide detailed information in the Final Report on why full compliance is not achievable, what methylmercury load reduction is achievable, and an implementation plan and schedule to achieve partial compliance.

v. **Methylmercury Exposure Reduction Program**

- a) **Task Description** – After US EPA approves the Delta methylmercury TMDL, the Permittee shall complete an Exposure Reduction Strategy as part of the Mercury Exposure Reduction Program (MERP) if it is determined the Port is a contributor based on their annually estimated loads. The ERP is not intended to replace timely reduction of mercury and methylmercury loads to Delta waters. Activities will require collaboration with public health agencies to develop an ERP strategy; submission of an Exposure Reduction Workplan; implementation of the workplan and reporting. If the Permittee does not participate in the collaborative effort to develop the ERP, the Permittee shall develop and implement an individual ERP.

- i) By one year after US EPA Delta methylmercury TMDL approval date, the Permittee shall work with Central Valley Water Board staff, State and local public health agencies and other stakeholders, including community-based organizations, tribes, and Delta fish consumers, to complete an Exposure Reduction Strategy. The purposes of the Strategy will be to recommend to the Executive Officer how the Permittee will be responsible for participating in an ERP, to set performance measures, and to propose a collaborative process for developing, funding and implementing the program.

- b) **Implementation Level** – The Permittee shall develop, submit, and implement an Exposure Reduction Workplan in accordance with the following:
 - i) The Permittee shall, either individually or collectively, or based on the Exposure Reduction Strategy, submit an Exposure Reduction Workplan for Executive Officer approval by two years after US EPA Delta methylmercury TMDL approval date. The ERP Workplan must include elements directed toward:
 - 1) Developing and implementing community-driven activities to reduce mercury exposure;
 - 2) Raising awareness of fish contamination issues among people and communities most likely affected by mercury in Delta-caught fish such as subsistence fishers and their families;
 - 3) Integrating community-based organizations that serve Delta fish consumers, tribes, and public health agencies in the design and implementation of an exposure reduction program;
 - 4) Identifying resources, as needed, for community-based organizations and tribes to participate in the Program;
 - 5) Utilizing and expanding upon existing programs and materials or activities in place to reduce mercury, and as needed, create new materials or activities; and
 - 6) Developing measures for program effectiveness.

WQOs, TMDL WLAs, and benchmark levels (if available or applicable) and after the Central Valley Water Board's staff evaluation and concurrence, the Permittee shall discontinue to monitor those constituents, except once during the annual comprehensive confirmation monitoring event in the year 3 of the permit.

28. **Program Effectiveness Assessment**

- a. The Permittee shall describe their approach to program effectiveness assessment in their SWMP and report the results of the assessment in their Annual Reports. The assessment shall identify the direct and indirect measurements that the Permittee used to track the effectiveness of their programs as well as the outcome levels at which the assessment is occurring consistent with this Order. Direct and indirect measurements shall include, but not limited to, conformance with established Performance Standards, quantitative monitoring to assess the effectiveness of Control Measures, measurements or estimates of pollutant load reductions or increases from identified sources, raising awareness of the public, and/or detailed accounting/documentation of SWMP accomplishments.
- b. The Permittee shall track the long-term progress of their SWMP towards achieving improvements in receiving water quality.
- c. The Permittee shall use the information gained from the program effectiveness assessment to improve their SWMP and identify new BMPs, or modification of existing BMPs. This information shall be reported within the Annual Reports consistent with this Order.
- d. Long Term Effectiveness Assessment (LTEA) Strategy: The Permittee shall develop a LTEA strategy, which shall build on the results of the Permittee's Annual Reports and the initial program effectiveness assessments. The LTEA shall be submitted to the Central Valley Water Board **no later than 180 days prior to the permit expiration date** (by 29 August 2015) and shall identify how the Permittee will conduct a more comprehensive effectiveness assessment of the storm water program as part of the SWMP. The strategy will address the storm water program in terms of achieving both programmatic goals (raising awareness, changing behavior) and environmental goals (reducing pollutant discharges, improving environmental conditions).

ADDITIONAL REQUIREMENTS

29. **Monitoring and Reporting Program:** The Permittee shall comply with Monitoring and Reporting Program R5-2011-0005, which is part of this Order, and any revisions thereto approved by the Board. Because the Permittee operates facilities which discharge waste subject to this Order, this Monitoring and Reporting Program is necessary to ensure compliance with these waste discharge requirements.

shall prepare a Report of Water Quality Exceedance (RWQE), identify potential sources of the problems, and recommend future monitoring and BMP implementation measures to identify and address the sources of pollution.

5. For each water quality program plan requirement (e.g., Dissolved Oxygen Plan) the Annual Reports shall include the following results and information:
 - a. All physical, chemical and biological data collected in the assessment;
 - b. All graphs, charts, statistical analysis, modeling, and any other analytical analyses in support of the Permittee's evaluation of the data and conclusions derived from that analysis; and
 - c. Documentation of quality assurance and control procedures (QA/QC).

6. Effectiveness assessment for each program element, as defined in the SWMP, shall be conducted annually, shall be built upon each consecutive year, and shall identify any necessary modifications. The SWMP shall describe, in detail, the performance standards or goals to use to gauge the effectiveness of the storm water management program. The primary questions that must be assessed for each program element include the following:
 - a. Level 1 Outcome: Was the Program Element implemented in accordance with the Permit Provisions, SWMP Control Measures and Performance Standards?
 - b. Level 2 Outcome: Did the Program Element raise the target audience's awareness of an issue?
 - c. Level 3 Outcome: Did the Program Element change a target audience's behavior, resulting in the implementation of recommended BMPs?
 - d. Level 4 Outcome: Did the Program Element reduce the load of pollutants from the sources to the storm drain system?
 - e. Level 5 Outcome: Did the Program Element enhance or change the urban runoff and discharge quality?

f. **Level 6 Outcome: Did the Program Element enhance or change receiving water quality?**

7. A summary of any RWQEs that have been completed during the year, and a status update for those in progress. The summary shall include the conclusions and recommendations of completed RWQEs and the status of any additional BMP implementation pursuant to RWQEs;
 8. Pursuant to 40 CFR 122.42(c)(7), the Permittee shall identify water quality improvements in, or degradation of, urban storm water;
 9. For each monitoring component, photographs and maps of all monitoring station locations and descriptions of each location;
 10. **Recommendations to improve the monitoring program, BMPs, Performance Standards, and the SWMP to address potential receiving water quality exceedances and potential pollutant sources, and to meet the MEP standard; and**
 11. Provide operating data from all pump stations as an appendix in electronic format as necessary and estimate discharge volumes unless other technically defensible means to estimate urban runoff discharge volumes can be substituted.
 13. In addition to the requirements listed above, the final Annual Report of this Order's permit term shall include:
 - a. An estimate of total pollutant loads attributable to urban runoff for target pollutants at each discharge monitoring station;
 - b. An evaluation of the long-term trends in MS4 discharges and receiving water quality. Several factors need to be considered when evaluating trends, such as changes in sample collection methods, data quality differences, and changes in analytical methods.
 - c. An evaluation of significant correlations of target pollutants with related constituents or water quality parameters.
- C. Notification of Water Quality Exceedances (NWQE):** The Permittee shall notify the Central Valley Water Board, in writing, of any exceedance in receiving waters of applicable water quality objectives within **90 days** of the monitoring event from which the exceedance was detected. The Permittee shall notify the Central Valley Water Board electronically within **48 hours** of

B. BMP Effectiveness Study

The Permittee shall conduct studies to evaluate the effectiveness of source or treatment control BMPs. The objective of these studies shall include the following:

1. Monitor the reduction of pollutants of concern in storm water including, but not limited to, pathogen indicators, nutrients, heavy metals, mercury and pesticides from a minimum of one BMP. Monitoring shall be continued until the effectiveness of the BMP can be determined;
2. Evaluate the requirements for and installation and maintenance cost of each BMP; and
3. Develop recommendations for appropriate BMPs for the reduction of pollutants of concern in storm water in the Port.

IV. STANDARD MONITORING PROVISIONS

All monitoring activities shall meet the following requirements:

- A.** Monitoring and Records [40 CFR 122.41(j)(1)]
Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
- B.** Monitoring and Records [40 CFR 122.41(j)(2)] [California Water Code §13383(a)]

The Permittee shall retain records of all monitoring information, including all calibration and maintenance of monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the Report of Waste Discharge and application for this Order, for a period of at least five (5) years from the date of the sample, measurement, report, or application. This period may be extended by request of the Central Valley Water Board or U.S. EPA at any time and shall be extended during the course of any unresolved litigation regarding this discharge.

- C.** Monitoring and Records [40 CFR 122.41(j)(3)]. Records of monitoring information shall include:
 1. Date, location, and time of sampling or measurements;
 2. Individual(s) who performed the sampling or measurements;
 3. Date analyses were performed;
 4. Individual(s) who performed the analyses;
 5. The analytical techniques or methods used; and