C.12. Polychlorinated Biphenols (PCBs) Controls

Permittees shall implement the following control programs for PCBs. Permittees shall perform the control measures and provide reporting on those control measures according to the provisions below. The purpose of these provisions is to implement the urban runoff requirements of the PCBs TMDL and reduce PCBs loads to make substantial progress toward achieving the urban runoff PCBs load allocation. Permittees may comply with any requirement of this Provision through a collaborative effort.

C.12.a. Implement Project throughout Region to Incorporate PCBs and PCB-Containing Equipment Identification into Existing Industrial Inspections

i. Task Description – Permittees shall develop training materials and train municipal industrial building inspectors to identify, in the course of their existing inspections, PCBs or PCB-containing equipment. Permittees shall incorporate such PCB identification into industrial inspection programs.

ii. Implementation Level – Where inspectors identify during inspections PCBs or PCB-containing equipment, Permittees shall document incident in inspection report and refer to appropriate regulatory agencies (e.g. county health departments, Department of Toxic Substances Control, California Department of Health Services, and the Water Board) as necessary.

iii. Reporting – Permittees shall report the results of training in the 2010 Annual Report and report on both ongoing training development and inspections for PCB identification in the ~~2010~~2011, and following Annual Reports.

C.12.b. Conduct Pilot Projects to Evaluate Managing PCB-Containing Materials and Wastes during Building Demolition and Renovation (e.g., Window Replacement) Activities

i. Task Description – Permittees shall evaluate potential presence of PCBs at construction sites, current material handling and disposal regulations/programs (e.g., municipal ordinances, RCRA, TSCA) and current level of implementation.

ii. Implementation Level –

(1) Permittees shall develop a sampling and analysis plan to evaluate PCBs at construction sites that involve demolition activities (including research on when, where, and which materials potentially contained PCBs).

(2) Permittees shall implement a sampling and analysis plan at a minimum of 10 sites distributed throughout the combined Permittees' jurisdiction areas.

(3) Permittees shall develop/select BMPs to reduce or prevent discharges of PCBs during demolition/remodeling. The BMPs will focus on methods to identify, handle, contain, transport and dispose of PCB-containing building materials.

(4) Permittees shall develop model ordinances or policies, train and deploy inspectors, and pilot test BMPs at 5 sites.

iii. Reporting –

(1) In the 2010 Annual Report, Permittees shall submit ~~the results of the evaluation (Provision C.12.b.i.) of current regulations, level of implementation, and regulatory gaps as well as~~ the sampling and analysis plan (of Provision C.12.b.ii.).

(2) In the 2010 Annual Report, Permittees shall submit a status report on sampling and analysis along with whatever sampling results are available.

(3) In the 2011 Annual Report, Permittees shall submit the results of the evaluation (Provision C.12.b.i.) of current regulations, level of implementation, and regulatory gaps as well as the final sampling and analysis report, ~~recommendations for next steps for sampling,~~ a list of appropriate BMPs, BMP training program, and model ordinances and policies to prevent PCB discharges from building demolition and improvement activities.

(4) In the ~~2012~~ 2013 Annual Report, Permittees shall submit the results of pilot program effectiveness evaluation.

C.12.c. Pilot Projects to Investigate and Abate On-land Locations with Elevated PCB Concentrations, Including Public Rights-of-way, and Stormwater Conveyances with Accumulated Sediments with Elevated PCBs Concentrations.

i. Task Description – Permittees shall investigate and abate PCBs sources in or to their storm drain systems in conjunction with the Water Board and other appropriate regulatory agencies with investigation and cleanup authorities. The purpose of this task is to implement and evaluate the benefit of a suite of abatement measures at five pilot project locations. Permittees shall document the knowledge and experience gained through pilot implementation, and this documentation will provide a basis for determining the implementation scope of abatement projects in subsequent permit terms. Permittees shall also quantify and report the amount of PCBs loads abated resulting from implementation of these measures.

ii. Implementation Level –

(1) Permittees, working collaboratively, shall identify 5 drainage areas that contain high levels of PCBs and conduct pilot projects to investigate and abate these high PCB concentrations. To accomplish this, Permittees shall interview municipal staff and review municipal databases, data collected or compiled through grant-funded efforts, other agency files, and other available information to identify potential PCB source areas and areas where PCB-contaminated sediment accumulates, including within stormwater conveyances. Permittees shall qualitatively rank and map potential PCB source areas within each drainage. Investigation of mercury (Provision C.11.c.) shall be included in these efforts unless not

appropriate. When contamination is located on private property, Permittees must either exercise ~~ensure that cleanup occurs either by exercising~~ direct authority to require cleanup or ~~by~~ notify~~ing~~ and request other appropriate authorities to ~~ensure that oversight is established~~exercise their cleanup authority. Permittees are responsible for contaminants located on public rights-of-way and the stormwater conveyance system.

(2) Permittees shall conduct reconnaissance surveys of the identified drainages and gather information concerning past or current use of PCBs to further identify potential source areas and determine whether runoff from such locations is likely to convey soils/sediments with PCBs to municipal stormwater conveyances.

(3) Permittees shall validate existence of elevated PCB concentrations through surface soil/sediment sampling and analysis where visual inspections and/or other information suggest potential source areas within each drainage.

Where data confirm significantly elevated PCB concentrations in surface soils/sediments within the subject pilot drainage, Permittees shall provide available information on current site conditions and owner/operators and other potentially responsible parties to Water Board and other appropriate regulatory agencies to facilitate their issuance of orders for further investigation and remediation of subject sites. Permittees shall assist the Water Board and other appropriate agencies to identify/evaluate funding to perform abatement and/or responsible parties and abatement options.

(4) Permittees shall identify areas for expedited abatement on the basis of loading potential including factors such as PCB concentration, mass of sediment, and mobilization potential and/or human health protection thresholds, such as California Human Health Screening Levels.

(5) Permittees shall conduct an abatement program in portions of drainages under their jurisdiction in conjunction with the Water Board and other appropriate agencies.

iii. Reporting

(1) Permittees shall report on the identified suspect drainage areas [Provision C.12.c.ii (1)] in the 2010 Annual Report and results of the surveys [Provision C.12.c.ii.(2)] in the ~~2010~~ 2011 Annual Report.

(2) Permittees shall report sampling and chemical analysis results at pilot locations [Provision C.12.c.ii.(3)] in the ~~2010 and~~ 2011 Annual Reports.

(3) Permittees shall report on proposed abatement opportunities and activities [Provision C.12.c.ii.(4) and (5)], responsible parties, funding, agency oversight, and schedules in the 2012 Annual Report.

(4) Permittees shall report results of abatement program effectiveness and estimates of loads reduced (see C.11.g) in the 2013 Annual Report.

C.12.d. Conduct Pilot Projects to Evaluate and Enhance Municipal Sediment Removal and Management Practices

i. **Task Description** – Permittees shall jointly evaluate ways to enhance PCBs load reduction benefits of operation and maintenance activities that remove or manage sediment. The purpose of this task is to implement these management practices at the pilot scale in five drainages during this permit term. Permittees shall document the knowledge and experience gained through pilot implementation, and this documentation will provide a basis for determining the implementation scope of enhanced sediment removal and management practices in subsequent permit terms. Permittees shall also quantify and report the amount of PCBs loads removed or avoided resulting from implementation of these measures.

ii. **Implementation Level** – In all pilot program drainages selected as part of Provision C.12.c, Permittees shall jointly evaluate ways to enhance existing sediment removal and management practices such as municipal street sweeping ~~(in coordination and consultation with local sanitary sewer agency)~~, ~~including~~ curb clearing parking restrictions, inlet cleaning, catch basin cleaning, stream and stormwater conveyance system maintenance, and pump station cleaning via increased effort and/or retrofits. This evaluation shall also include consideration of street flushing and capture, collection, or routing to the ~~POTW~~sanitary sewer (in coordination and consultation with local sanitary sewer agency) as a potential enhanced management practice. Permittees shall also jointly evaluate existing information on high-efficiency street sweepers. The goal is to evaluate the cost-effectiveness of high-efficiency street sweeping relative to reducing pollutant loads. Permittees shall develop recommendations for follow-up studies to be conducted.

iii. **Reporting** – Permittees shall submit a progress report on the results of these two evaluations in the 2010 Annual Report and the final evaluation results in the 2011 Annual Report.

iv. Beginning July 1, 2011, Permittees shall implement pilot studies for the most potentially effective measure(s) based on the evaluation of Provision C.12.d. ii. throughout the region.

v. **Reporting** – Permittees shall report effectiveness of enhanced practices pilot implementation in the 2013 Annual Report, and their plan for implementing enhanced practices in the next permit term.

C.12.e. Conduct Pilot Projects to Evaluate On-Site Stormwater Treatment via Retrofit

i. **Task Description** – Permittees shall evaluate and quantify the removal of PCBs by on-site treatment systems via retrofit of such systems into existing storm drain systems. The purpose of this task is to implement on-site treatment projects at the pilot scale in ten locations during this permit term. Permittees shall document the knowledge and experience gained through pilot implementation, and this documentation will provide a basis for determining the implementation scope of on-site treatment retrofits in subsequent permit terms.

ii. **Implementation Level** – Permittees, working collaboratively, shall identify at least 10 locations throughout the Permittees' jurisdictions that present opportunities to install and evaluate[1] on-site treatment systems (e.g., detention basins, bioretention units, sand filters, infiltration basins, treatment wetlands) and shall assess the best treatment options for those locations. Every county (San Mateo, Contra Costa, Alameda, Santa Clara, and Solano) should have at least one location. This assessment shall identify potential locations draining a variety of land uses, discuss technical feasibility, and discuss economical feasibility. Permittees shall choose pilot study locations primarily on the basis of elevated PCBs concentrations with additional consideration to mercury concentrations.

iii. On the basis of the Provision C.12.e.ii. report, Permittees shall select sites to perform pilot studies and shall conduct pilot studies in selected locations. Taken as a group, these 10 pilot study locations should span treatment types and drainage characteristics.

iv. **Reporting –**

(1) In the ~~2010~~ 2011 Annual Report, Permittees shall report on candidate locations with types of treatment retrofit for each location. The report shall include assessment of at least 10 locations.

(2) In the 2013 Annual Report, Permittees shall report status, results, PCBs-removal effectiveness, and lessons learned from the pilot studies and their plan for implementing this type of treatment on an expanded basis throughout the region during the next permit term.

C.12.f. Diversion of Dry Weather and First Flush Flows to POTWs

i. **Task Description** – Permittees shall evaluate the reduced loads of PCBs from diversion of dry weather and first flush stormwater flows to sanitary sewers. The knowledge and experience gained through pilot implementation will be used to determine the implementation scope of ~~dry weather~~urban runoff diversion in subsequent permit terms. Permittees shall document the knowledge and experience gained through pilot implementation, and this documentation will provide a basis for determining the implementation scope of ~~dry weather~~urban runoff diversion projects in subsequent permit terms.

ii. **Implementation Level** – Permittees shall implement pilot projects to address the role of pump stations as a source of pollutants of concern (primarily PCBs and secondarily mercury). This work is in addition to Provisions C.2 and C.10 that address dissolved oxygen depletion and trash impacts in receiving waters. The objectives of this provision are: to implement five pilot projects for ~~dry weather~~urban runoff diversion from stormwater pump stations to POTWs; evaluate the reduced loads of mercury and PCBs resulting from the diversion; and gather information to guide the selection of additional diversion projects

[1] Permittees may evaluate a maximum of two pre-existing treatment systems of the ten total required systems to be evaluated provided that these existing treatment systems are applicable to the intent of this provision.

required in future permits. Collectively, Permittees shall select 5 stormwater pump stations and 5 alternates by evaluating drainage characteristics and the feasibility of diverting flows to the sanitary sewer.

(1) Permittees should work with the local POTW on a watershed, program, or regional level to evaluate feasibility and to establish cost sharing agreements. The feasibility evaluation shall include, but not be limited to, costs, benefits, and impacts on the stormwater and wastewater agencies and the receiving waters relevant to the diversion and treatment of the dry weather and first flush flows.

(2) From this feasibility evaluation, Permittees shall select 5 pump stations and 5 alternates for pilot diversion studies. At least one ~~dry weather~~urban runoff diversion pilot project shall be implemented in each of the five counties (San Mateo, Contra Costa, Alameda, Santa Clara, and Solano). The pilot and alternate locations should be located in industrially dominated catchments where elevated PCB concentrations are documented.

(3) Permittees shall implement flow diversion to the sanitary sewer at the 5 pilot pump stations. As part of the pilot studies, they shall monitor and measure PCBs load reduction.

iii. Reporting –

(1) Permittees shall summarize the results of the feasibility evaluation in the 2010 Annual Report, including:

- Selection criteria leading to the identification of the 5 candidate and 5 alternate pump station for pilot studies.
- Time schedules for conducting the pilot studies.
- A proposed method for distributing PCBs load reductions to participating wastewater and stormwater agencies.

(2) Permittees shall report annually on the status of the pilot studies in each subsequent annual report.

(3) The 2013 Annual Report shall include:

- Evaluation of pilot program effectiveness.
- PCBs loads reduced.
- Updated feasibility evaluation procedures to guide future diversion project selection.

C.12.g. Monitor Stormwater PCB Pollutant Loads and Loads Reduced

Permittees shall develop and implement a monitoring program as required in Provision C.8.f. to quantify PCBs loads and loads reduced (see C.11.g for details) through the source control, treatment and other management measures implemented as part of the pilot studies of C.12.a through C.12.f.

C.12.h. Fate and Transport Study of PCBs in Urban Runoff

i. Task Description – Permittees shall conduct or cause to be conducted studies aimed at better understanding the fate, transport, and biological uptake of PCBs discharged in urban runoff.

ii. Implementation Level – The specific information needs include understanding the in-Bay transport of PCBs discharged in urban runoff, the influence of urban runoff on the patterns of food web PCBs accumulation, and the identification of drainages where urban runoff PCBs are particularly important in food web accumulation.

iii. Reporting – Permittees shall submit in the 2010 Annual Report a workplan describing the specific manner in which these information needs will be accomplished and describing the studies to be performed with a schedule. Permittees shall report on status of the studies in the 2011, and 2012 Annual Reports. Permittees shall report in the 2013 Annual Report the findings and results of the studies completed, planned, or in progress as well as implications of studies on potential control measures to be investigated, piloted or implemented in future permit cycles.

C.12.i. Development of a Risk Reduction Program Implemented throughout the Region

i. Task Description – Permittees shall develop and implement or participate in effective programs to reduce PCBs-related risks to humans and quantify the resulting risk reductions from these activities.

ii. Implementation Level – The risk reduction activities shall include investigating ways to address public health impacts of PCBs in San Francisco Bay/Delta fish, including activities that reduce actual and potential exposure of health impacts to those people and communities most likely to be affected by PCBs in San Francisco Bay-caught fish, such as subsistence fishers and their families. Such strategies should include public participation in developing effective programs in order to ensure their effectiveness. The Permittees may include studies needed to establish effective exposure reduction activities and risk communication messages as part of their planning. The risk reduction activities may be performed by a third party if the Permittees wish to provide funding for this purpose. This requirement may be satisfied by a combination of related efforts through the Regional Monitoring Program or other similar collaborative efforts.

iii. Reporting – Permittees shall submit in the 2010 Annual Report the specific manner in which these risk reduction activities will be accomplished and describe the studies to be performed with a schedule. Permittees shall report on status of the studies in the 2011, and 2012 Annual Reports. Permittees shall report the findings and results of the studies completed, planned, or in progress as well as the status of other risk reduction actions in the 2013 Annual Report.