

***Section 7.0***

***Storm Water Pollution Prevention Plan***

**NRG EL SEGUNDO OPERATIONS INC.  
LONG BEACH GENERATION, LLC**

**STATION PROCEDURE: LB-VIII 9A and 9B**

**STORM WATER POLLUTION PREVENTION PLAN  
(SWPPP) & MONITORING PROGRAM**

**LONG BEACH GENERATION, LLC**

**2665 Seaside Boulevard  
Long Beach, California 90208  
(562) 983-2601**

**October 3, 2005**

**NRG EL SEGUNDO OPERATIONS INC.  
LONG BEACH GENERATION, LLC**

**LONG BEACH GENERATING STATION  
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**I. INTRODUCTION**

Long Beach Generation, LLC owns and had operated the recently retired combined cycle electric power generating station located on the northeast portion of Terminal Island in Long Beach Harbor at 2665 Seaside Boulevard, County of Los Angeles, California (the Station). A single power block known as Plant 2 contains seven combustion turbines and two steam turbine electric generating units. The Station discharges storm water and wastewater to the Pacific Ocean as authorized by the California Regional Water Quality Control Board (RWQCB) NPDES Permit Number CA0001171, Order No. 01-079 (the Site-Specific Permit). This permit authorizes discharges of storm water and non-storm water (once through cooling water and industrial wastewater) under the federal storm water effluent limitations guidelines for Steam Electric Power Generating Point Source Category (40 CFR Part 423).

This Storm Water Pollution Prevention Plan (SWPPP) has been developed for the Station to address the requirements of the Industrial Activities General Storm Water NPDES Permit issued by the State Water Resources Control Board (CAS000001) (General Industrial Storm Water Permit). The SWPPP is intended for use in conjunction with Station Procedure LB VII-9B, Storm Water Monitoring Program.

The Station was retired on January 1, 2005 and is currently under a caretaker status. Since January 1, Long Beach Generation LLC has significantly reduced the inventory of hazardous materials and wastes. Oil-containing equipment excluding transformers has been drained. Sulfuric acid storage has been eliminated. Although the Station has been retired, the NPDES permit will continue to be required and implemented for the groundwater pumping system at the station.

The SWPPP has two major objectives:

- A. To identify and evaluate sources of pollutants associated with industrial activities that may affect the quality of storm water prior to it commingling with the Station's non-storm water discharge.
- B. To identify and implement site-specific best management practices (BMPs) to reduce or prevent pollutants associated with industrial activities in storm water. BMPs may include a variety of pollution prevention measures or other low-cost and pollution control measures. They are generally categorized as *non-structural* BMPs (activity schedules, training, staging of spill cleanup materials, prohibitions of practices, maintenance procedures, and other low-cost measures) and as *structural* BMPs (treatment measures, run-off controls, secondary containment, overhead coverage).

**II. FACILITY PLANS AND PROCEDURES**

The SWPPP incorporates by reference the following existing plans and procedures:

- Station Order LB VII-9B, "Storm Water Monitoring Program;"
- Spill Prevention, Control and Countermeasures (SPCC) Plan;
- Unified Program Hazardous Materials Business Plan;

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- Emergency Procedure LB-VIII 8, "Emergency Preparedness and Emergency Contingency Plan;"
- Station Order LB-O6, "Oil and Hazardous Substance Spill Contingency Response Plans;"
- Station Order LB-O-103, "Locking of Critical Valves;" and
- Station Procedure LB-VIII 10, "Chemical and Lube Oil Deliveries."

III. PLAN AMENDMENT AND IMPLEMENTATION

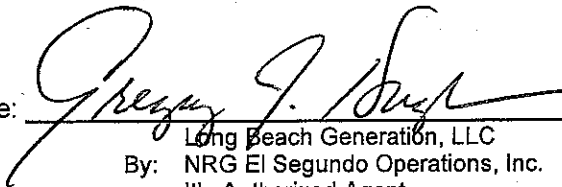
A copy of the SWPPP shall be retained on site and made available upon request. The Station shall submit a SWPPP revision and implementation schedule if the RWQCB or Long Beach Health Department determines that the SWPPP does not meet the minimum requirements. The SWPPP must be revised prior to changes in industrial activities that may significantly change the quantities of pollutants in storm water discharge or introduce a new pollutant source at the Station.

IV. PLAN CERTIFICATION

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Name: Gregory J. Hughes  
Title: Regional Plants Manager

Signature: \_\_\_\_\_

  
Long Beach Generation, LLC  
By: NRG El Segundo Operations, Inc.  
It's Authorized Agent

Date: 10/5/05

V. POLLUTION PREVENTION TEAM

The Regional Plants Manager, Gregory J. Hughes, has overall responsibility for compliance with the SWPPP. The Environmental Supervisor, Alex Sanchez, is responsible for conducting all monitoring program activities as well as assisting the Regional Plants Manager in the development and implementation of the SWPPP.

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**VI. FACILITY DESCRIPTION AND SITE MAP**

Long Beach Generation, LLC is located on the northeast portion of Terminal Island in Long Beach Harbor at 2665 Seaside Boulevard, County of Los Angeles, California (the Station). Appendix A provides a site layout map showing the property boundaries, site features and drainage systems. The Station is bounded on the east by the Long Beach Harbor Back Channel; on the north by Southern California Edison (SCE) property; on the west by Pacific Pipeline Company property; and, on the south by a thin strip of undeveloped Tidelands Oil Corporation property and the Gerald Desmond Bridge.

The site elevation is below sea level and Station drainage is controlled by engineered drainage systems that discharge through the Outfall Structure to the Long Beach Harbor Channel. There is no direct discharge of storm water; storm water is not separated from other wastewaters. Surface water drainage is collected by a system of drains and sumps that discharge through a retention basin into the Outfall Structure. The impact that the quality of storm water has on the overall quality of the water discharged from the Station will generally be insignificant. Nonetheless, this SWPPP is designed to specifically address the quality of the storm water component of the total discharge from the Station. The non-storm water components are addressed by the conditions of the Station's Site-Specific Permit.

**A. SITE MAP**

Figure 1 provides a site layout showing the Station boundary, major structures and site features, facility drainage systems, and potential pollutant sources.

**B. SITE DRAINAGE**

The Station and surrounding areas are essentially flat. The property elevation of the Station is approximately 28 feet below Mean Lower Low Water (MLLS) and is protected from flooding by perimeter earthen dike on the east side facing the Long Beach Harbor Back Channel and a groundwater dewatering system. The surrounding properties located to the south, west and north of the Station are located above sea level.

There is no surface water flow from the Station other than through the engineered drainage system. Station drainage is collected and conveyed through a single point of discharge to the Long Beach Channel at the Outfall Structure located on the southeast portion of the site. Surface drains and sumps discharge to the retention basin prior to its flow through the Outfall Structure.

Surface and roof drain water flow by gravity to a several surface drains that flow into six surface drain sumps identified as Sumps A through F on the figure in Appendix A. Each sump is equipped with two sump pumps and two level switches that will transfer the water into a header that directs it into the retention basin.

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**VII. LIST OF SIGNIFICANT MATERIALS**

Significant materials that are routinely present at the Station are identified in Appendix A. A complete list of hazardous materials is contained within the Unified Program Hazardous Business Plan.

**VIII. DESCRIPTION OF POTENTIAL POLLUTANT SOURCES**

The primary industrial activity at the Station is the generation of electric power using containing seven combustion turbines and two steam turbine electric generating units that are contained within a single power block known as Plant 2. The primary fuel source is natural gas. Other industrial activities at the site include material storage and handling, and maintenance and cleaning activities as identified in this section.

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**A. Material Storage and Handling Areas**

**1. Aboveground Storage Tank (AST) Systems**

- a) Tanks and equipment that have contained oil are found throughout the Station and are identified and described in the Spill Prevention, Control, and Countermeasures (SPCC) Plan. Oil-containing equipment includes the out-of-service fuel oil pipeline delivery system, five lube oil storage tanks and turbine lube systems, in-plant drainage with an oily/water separator and retention basin, electrical transformers, and drum storage. The SPCC plan includes the quantity of oil stored, spill controls, and secondary containment provided for each of these systems. Since the retirement of the Station on January 1, 2005, Long Beach Generation LLC has been drained oil from the lube oil storage tanks, turbine lube systems, and gas compressor lube systems. The SPCC Plan was revised and updated on October 3, 2005 to reflect the reduction of oil storage at the Station.
- b) Sodium hypochlorite had been used to treat the circulating water system (seawater) that provides cooling to the generating units. A 15% Sodium hypochlorite solution was stored in a 1,500-gallon polyethylene tank located southwest of Plant 2. The tank is contained inside a polyethylene secondary containment structure. The material had been received by tanker truck from off-site sources. Since the retirement of the Station, the material is no longer stored and/or used at the Station.
- c) Chelant known as Boilerguard 4520 had been used as a water treatment additive. A 3,500-gallon plastic tank on a concrete foundation with concrete secondary containment walls is located southwest of Plant 2. Since the retirement of the Station, the material is no longer stored and/or used at the Station.
- d) Sodium hydroxide (Caustic) is used to treat boiler water. A 50% caustic solution is stored in a 3,000-gallon metal tank on a concrete foundation with concrete secondary containment walls located southwest of Plant 2. Since the retirement of the Station, the material is no longer stored and/or used at the Station.
- e) Hydroquinone is used as a boiler water treatment additive. A 5% hydroquinone aqueous solution is stored in a 220-gallon polyethylene portable tote stored on a concrete foundation with concrete secondary containment walls west of Plant 2. Since the retirement of the Station, the material is no longer stored and/or used at the Station.
- f) Ammonium hydroxide is used as a water treatment additive. A 220-gallon portable polyethylene tote is stored on a concrete foundation with concrete berms with a secondary containment collection basin. Since the retirement of the Station, the material is no longer stored and/or used at the Station.
- g) Steel propane storage tank. Since the retirement of the Station, the material is no longer stored and/or used at the Station.
- h) Liquid nitrogen storage tank has a capacity of 141,265 cubic feet.
- i) Sulfuric acid was used to as a boiler water treatment additive. Since the retirement of the Station, the material is no longer stored and/or used at the Station.

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2. Underground Storage Tank Systems

There are no underground storage tanks (USTs) at the Station other than the drainage collection sumps.

3. Chemical Container Storage and Use

Chemicals stored and used at the Station are received by truck from off-site sources in bulk or in drums. Some drummed materials are unloaded at the Warehouse, or at the material storage site. All drummed materials are stored on secondary containments. Bulk materials are unloaded at the appropriate material storage tank. Hazardous waste is primarily stored in U.S. Department of Transportation (D.O.T.) drums within the hazardous waste accumulation area. An inventory of these materials is contained within the Station's Hazardous Materials and Hazardous Waste Management Plan.

- a) Gasoline and diesel are stored in containers on secondary containment pallets and are used for fueling Station vehicles;
- b) Various solvents, paints, and lubricants are used in the maintenance and servicing of Station equipment;
- c) Hazardous waste drums containing various wastes including waste blast grit, duct sweep, used oil, contaminated debris and soil.

4. Maintenance and Cleaning Activities

- a) Non-routine maintenance such as paint removal and construction activities may intermittently generate dust.

5. Sediment Generating Activities

The deterioration and corrosion of the Station's surfaces and equipment may produce sediment and particulates.

6. Significant Spills and Leaks

The following spills and leaks have occurred since Long Beach Generation, LLC assumed ownership of the Station in April 1, 1998:

- a) December 23, 1998: A release of 1,200 gallons of sodium hypochlorite to the retention basin occurred but was not discharged to the environment. A representative from another company (i.e., Edison) inadvertently opened a drain valve on a tank and released the solution that flowed to the drainage system and was pumped to the retention basin.
- b) September 14, 1999: A release of 172 gallons of hydroquinone to the tank's concrete secondary containment area occurred but was not discharged to the environment. A representative from another company (i.e., Edison) inadvertently stacked a hydroquinone tote bin over a full tote bin that caused the solution to leak out of the vent valve.



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- c) September 24, 1999: A release of 1,500 gallons of sodium hypochlorite to the retention basin occurred but was not discharged to the environment. A representative from another company (i.e., Edison) inadvertently allowed the day tank to overflow. The spilled material flowed through the drainage system and was pumped to the retention basin.
- d) October 18, 2000: A release of 81 gallons of sulfuric acid to the retention basin occurred but was not discharged to the environment. A plant operator inadvertently left the secondary containment drains open and a leak occurred in the acid transfer piping system. The released solution went through the drainage system and was pumped to the retention basin.
- e) September 29, 2000: A release of approximately 10 gallons of waste oil from the north gas compressor skunk oil sump to the surrounding gravel and asphalt pavement occurred due to a high level overflow. The spilled oil was recovered without release from the Station.
- f) November 21, 2000: A release of 10 gallons of sodium hydroxide occurred to the asphalt pavement. During a delivery, the tank fill line developed a leak. No sodium hydroxide entered the drainage system.
- g) December 29, 2000: A release of 45 gallons of Chelant (Boilerguard 4520) to a secondary containment occurred but was not discharged to the environment. This release was reported out of an abundance of caution to ensure compliance with applicable laws.
- h) November 7, 2001: A release of 50 gallons of sulfuric acid to the tank secondary containment area occurred but was not discharged to the environment. The cause of the spill was not ascertained but may have been caused by a leaky acid pump.

**7. Non-Storm Water Discharges**

- a) Non-Storm Water Discharges Authorized under the Station's Site-Specific Permit: Up to 265 million gallons per day (mgd) of wastewater consisting primarily of non-storm water from the following:
  - i) Once-through cooling water;
  - ii) Low-volume in-plant wastewater including boiler blowdown, water softener regeneration wastes, groundwater well point system wastes, yard drains, tank farm drains, plant drains, laboratory drains, and oil recovery system wastes.
- b) Authorized Non-Storm Water Discharges Under the General Permit: Authorized non-storm water discharges that are authorized by the General Permit include fire hydrant flushing, potable water sources, atmospheric condensate (i.e. air conditioning), irrigation drainage, landscape watering, ground water, and sea water intrusion.

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**8. Soil Erosion**

The contour of the Station is predominantly flat and is paved with either asphalt or concrete. Non-industrial portions are shown on Figure 1 and are predominantly landscaped to minimize the potential for soil erosion entering the Station's storm drain system.

**IX. ASSESSMENT OF POTENTIAL POLLUTANT SOURCES**

Appendix B provides a summary table of the potential pollutant sources and the best management practices used by the Station to control each source. The Station's structural controls (i.e., diking, buildings, Plant 2 power block, in-plant drainage system, retention basin etc.) prevent storm water from contacting pollutants in material storage areas and then being discharged directly. However, there is a potential for storm water to contact pollutants at the Station that are associated with the general grounds outside the areas that are controlled by diking and/or the in-plant wastewater drainage system (e.g., buildings, Power Blocks, and diked areas.). These areas are generally paved with asphalt or cement and are sloped to channel storm water to one or more yard drains of the storm water drainage system located throughout the Station (see Figure 1).

- A. The most likely source of such pollutants would be incidental contact with small pollutant releases associated with the movement and storage of materials to and from areas that are provided specific structural controls (i.e., diked areas, buildings, Plant 2, etc.). The most likely pollutants include oil, sodium hypochlorite, and metal corrosion products from deteriorated equipment and structures present at the Station. Additionally, sediments from the potential erosion of the landscaped areas and/or sand blown onto the facility from the adjoining beach may be a source of pollutants to storm water.

The station was retired on January 1, 2005 and is currently under a caretaker status. All of the oil-containing equipment has been drained per the September 30, 2005 revised SPCC Plan.

- B. The primary means of minimizing the potential pollutants from coming into contact with storm water is the implementation of BMPs discussed in Section VIII and summarized in Appendix C. In the event that these BMPs were to fail, a secondary means of control is provided by each of the drainage system components (i.e., drainage collection sumps, oil/water separator, retention basin) that can be controlled by shut-off of pumping systems and/or closing of manual valves that would eliminate any discharges from the Station.

**X. STORM WATER BEST MANAGEMENT PRACTICES**

Appendix C provides a table that summarizes the potential pollutant sources and the associated BMPs that have been implemented to prevent storm water pollution. In general, the BMPs have been successful in addressing and eliminating likely sources of pollutants in storm water discharge. Review of storm water discharge monitoring sample analyses and observations have not revealed any pollutant problems. Therefore, no pollutants are expected to be present in storm water discharge in significant quantities.

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**A. Non-Structural BMPs**

1. **Good Housekeeping:** Operating personnel have been assigned housekeeping locations and are responsible for assuring that these areas are kept clean. Clean up is a component of every maintenance project and an inspection is made at the completion of each project to assure that the area is clean.
2. **Preventive Maintenance:** Inspections of material storage and handling areas, retention basins, drainage sumps, and chemical/oil handling and storage areas are performed daily. Maintenance of all storm water conveyance devices is performed as needed based upon the results of the daily inspections.
3. **Spill Response:** Areas containing significant materials (i.e., ASTs, USTs, container storage, and transformers) are secondarily contained as required by the Station's SPCC plan. Station personnel clean up minor spills promptly. Spill clean-up materials are maintained at the Station for this purpose. The Station maintains a current list of organizations that can supply manpower and materials required for a response to a major spill. The station was retired on January 1, 2005 and is currently under a caretaker status. All of the oil-containing equipment has been per the September 30, 2005 revised SPCC Plan.
4. **Material Handling and Storage:** A checklist is used for the unloading of all bulk hazardous liquids at the Station. The checklist addresses overfill prevention, area drainage concerns, and proper connecting and disconnecting of delivery tankers.
5. **Employee Training:** Periodic formal and informal training sessions are held to instruct personnel in the proper operation and maintenance of equipment to prevent the discharge of materials into storm water discharges. Operator training on spill prevention, the SPCC plan, and the SWPPP is conducted annually. Known spill events or failures and precautionary measures are reviewed and discussed. All station personnel who, in the normal course of their job duties, are involved in the operation, maintenance, sampling, engineering or supervision of the Station receive a mix of classroom and on-the-job training, which includes recognition of upset conditions, notification and response to material spills, hazard communication and hazardous material handling. This training is designed to ensure that each employee understands his role in the operation and maintenance of the Station.
6. **Waste Handling/Recycling:** Hazardous wastes are stored in U.S. DOT containers in accordance with hazardous waste generator requirements. The wastes are transported off-site to a DTSC-permitted disposal or recycling facility within 90 days of generation.
7. **Record Keeping and Internal Reporting:** Daily inspections of facility grounds, equipment, and material storage areas are conducted and recorded by operating personnel. Any irregularities observed are noted on the inspection form and reported to the on-duty Shift Supervisor for immediate action. The daily inspection reports are maintained for five years.
8. **Erosion Control and Site Stabilization:** Erosion and sediment control methods including berms, culverts, and drains are utilized to direct storm water to containment areas and prevent erosion.

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9. Inspections: As daily inspections are conducted, maintenance work orders are issued for all deficiencies and leaks. All inspections and records of corrective actions are maintained for a period of five years. Additionally, a visual inspection is conducted and recorded each quarter to observe all drainage areas within the Station for the presence of unauthorized non-storm water discharges.
10. Environmental Assurance: The Regional Plants Manager has overall responsibility for implementation of the provisions of the SWPPP. The Environmental Supervisor is responsible for conducting all monitoring program activities.

**B. Structural BMPs**

1. Existing Overhead Coverage: Chemical and oil containers are stored inside Plant 2 and/or the Warehouse Building. The hazardous waste accumulation area has an overhead cover and a secondary containment concrete curb.
2. Retention Basin: Many of the Station's potential pollutant sources are located within the Power Block structures. Yard drains and plant drains flow to sump pumps that are pumped into the Station's retention basin.
3. Storm Water Drainage System: Yard drains and plant drains flow to sump pumps that are pumped into the Station's retention basin.
4. Existing Control Devices: Oil and chemical pollutant sources are either sheltered from storm water or are surrounded by secondary containment that prevents storm water run-off from coming into contact with the pollutant source. There are sufficient storm water drains, which are interconnected by underground piping, to minimize the surface run-off exposure to potential pollutant sources.
5. Existing Secondary Containment Structures: Bulk oil and bulk hazardous substance tanks are surrounded by secondary containment structures.

**C. Newly Installed BMPs. Modifications that have taken place since 2002 are listed below. These changes have been incorporated in this updated SWPPP.**

1. An asphalt berm was installed around the truck unloading area for the Lube Oil Tanks west of Plant 2.
2. A concrete curb was installed in the backup battery room and the former drain was capped.
3. Approximately 1,400 linear feet of deteriorated storm water conveyance pipeline was replaced. Note: The pipeline is an easement for storm water collected at the adjacent property not owned or operated by Long Beach Generation, LLC.
4. Station Order LB-O6 "Oil and Hazardous Substances Spill Contingency Response Plans" was developed to define responsibility to initiate corrective action in the event of oil or hazardous substance contamination.

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5. Station Order LB O-103 "Locking of Critical Valves" has been developed to preclude the possibility of serious equipment damage and hazardous waste spills, certain valves are to be chain locked in a normal operating position.

**D. Planned BMPs.** Planned modifications to the Station include the following:

1. Scrap equipment lay-down areas will be cleaned-up by removing the scrap, sweeping the asphalt of sediments and debris, and removing any oil deposits.
2. Upon closure of the Station, the out-of-service Fuel Oil Pipeline System and the empty lube oil tanks, turbine lube systems and gas compressor lube systems will be drained of their residual oil.
3. An API-qualified inspector will perform a formal visual external in-service inspection of the Oil/Water Separator to identify the necessary testing, maintenance and/or inspection practices and the schedule for implementing the recommendations.

**XI. STORM WATER MONITORING PROGRAM**

The Station will perform visual inspections of the Station and collect storm water samples during storm events as described in the Storm Water Monitoring Program. The SWPPP shall be revised, as appropriate, and the revisions implemented within 90 days of the evaluation.

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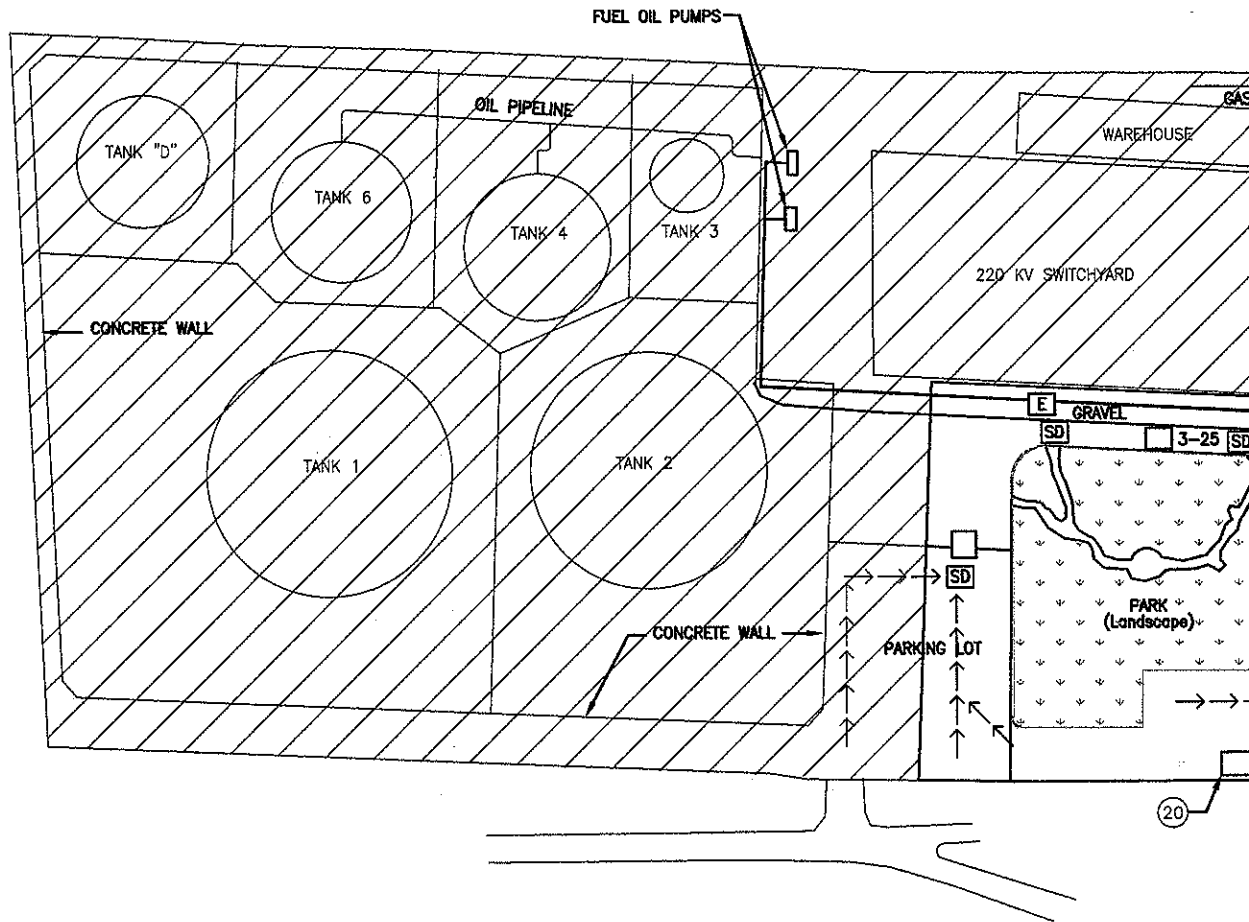
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**APPENDIX A**

**SITE LAYOUT SHOWING SPCC AND STORMWATER FEATURES**

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City of Long Beach Property



**LEGEND**



AREA NOT PART OF STATION.  
OPERATED BY ANOTHER COMPANY  
(PACIFIC ENERGY OR SCE)



TRANSFORMER CONTAINING PHENOL NON PCB  
MINERAL OIL W/ CONCRETE SECONDARY CONTAINMENT



A TO F

SURFACE DRAIN COLLECTION SUMP WITH PUMPS  
TO RETENTION BASIN

+3-25



STORM DRAIN CATCH BASIN



PLANT SUMP WITH PUMPS TO OIL/WATER  
SEPARATOR AND RETENTION BASIN



TURBINE, LUBRICATION SYSTEM, RESERVOIRS,  
PIPING, ETC - INACTIVE



STORMWATER SURFACE FLOW DIRECTION



STATION PROPERTY BOUNDARY



8" OIL DELIVERY PIPELINE CONTAINING  
FUEL OIL NO.4 RESIDUES - INACTIVE

- |   |   |   |                                   |
|---|---|---|-----------------------------------|
| ① | SERVICE WATER TANK  | ⑪ | BRINE STORAGE (1)                 |
| ② | TREATMENT WATER TANK  | ⑫ | WATER SOFTENER                    |
| ③ | 96% SULFURIC ACID TANK-3,000G STEEL TANK<br>W/ CONCRETE SECONDARY CONTAINMENT (1)               | ⑬ | GAS COMPRESSOR<br>W/ CONCRETE SE  |
| ④ | REVERSE OSMOSIS WATER TANK  | ⑭ | WATER TREATMENT                   |
| ⑤ | EDTA TANK, 9%, 3,500G PLASTIC TANK<br>W/ CONCRETE WALL SECONDARY CONTAINMENT (1)                | ⑮ | HAZARDOUS WASTE<br>DRUMS ON PLAS  |
| ⑥ | CAUSTIC TANK, 50%, SP 3,000G METAL TANK<br>W/ CONCRETE WALL SECONDARY CONTAINMENT (1)           | ⑯ | HAZARDOUS WASTE<br>ROOF AND CONC  |
| ⑦ | TANK AQUEOUS AMMONIA, 220G PORTABLE TOTE<br>W/ CONCRETE SECONDARY CONTAINMENT & SUMP (1)        | ⑰ | OIL DRUM STORAGE<br>SECONDARY CON |
| ⑧ | SODIUM HYDROCHLORITE, 15%, 1500G PLASTIC<br>TANK W/ PLASTIC CONTAINMENT                         | ⑱ | DIESEL AND GASO<br>SECONDARY CON  |
| ⑨ | BEARING COOLING WATER TANK  | ⑲ | COMPRESSED GAS                    |
| ⑩ | HYDROQUINONE, 5%, 220G PLASTIC PORTABLE TANK<br>W/ CONCRETE WALL CONTAINMENT AND METAL ROOF (1) | ⑳ | REVERSE OSMOSIS                   |

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**APPENDIX B  
LIST OF SIGNIFICANT MATERIALS <sup>(1), (2)</sup>**

<b>Hazardous Materials</b>	
<b>Name</b>	<b>Container Type</b>
Turbine Lube Oil (3) (Not in service)	Turbine Lube System
Natural Gas (Not in service)	Pipeline
Mineral Oil	Transformers
5% Hydroquinone solution (Not in service)	Aboveground Tank
15% Sodium hypochlorite solution	Aboveground Tank
96% Sulfuric acid solution (Not in service)	Aboveground Tank
50% Sodium hydroxide solution (Not in service)	Aboveground Tank
Ammonium hydroxide solution (Not in service)	Aboveground Tank
Water treatment chemical inhibitors	Aboveground Tank
Compressed gas cylinders of acetylene, oxygen, helium, argon, and hydrogen	Compressed Gas Cylinders
Oxides of Nitrogen mixture (Not in service)	Compressed Gas Cylinders
Propane (Not in service)	Aboveground Tank
Gasoline and diesel	Containers
Facility maintenance cleaners, lubricants, and paints	Containers
<b>Other Materials</b>	
Brine Salt	Pile
Blast Grit	Containers
Duct Sweep Duct sweep consisting of iron oxide and debris from the cleaning of exhaust ducts; (Not in service)	Containers
Sand, salt and other sediment blown onto the Station from the adjoining beach and ocean;	Outdoor surfaces
Sediment and/or rust from deteriorating structures and equipment.	Outdoor surfaces
Sediment from the potential erosion of landscaped areas and run-on from surrounding properties;	Outdoor surfaces

**Table Notes:**

- (1) For a complete listing of hazardous materials, see the Unified Program Hazardous Materials Business Plan;
- (2) The Site Layout Showing SPCC and Stormwater Features illustrates the locations of the significant materials.
- (3) Oil-containing equipment has been drained per the revised September 30, 2005 SPCC Plan.



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**APPENDIX C  
ASSESSMENT OF POTENTIAL POLLUTION SOURCES AND  
CORRESPONDING BEST MANAGEMENT PRACTICES SUMMARY \*\***

**\*\* Table Notes:**

- (1) The Site Layout Showing SPCC and Stormwater Features identifies the location of the significant materials
- (2) Oil-containing equipment has been drained per the revised September 30, 2005 SPCC Plan.
- (3) BMPs common to all pollutant sources are not identified in the table below and include the following:
  - Security and locking of critical valves;
  - Good housekeeping and preventative maintenance of facility, equipment and structures;
  - Routine inspections;
  - Prompt clean-up of material spills;
  - Employee training and written procedures to minimize material spills;
  - Storm water inspection and monitoring program.

Activity/Area	Pollutant Source	Pollutant	BMPs
General	Deterioration of site structures and equipment	Metal and paint corrosion particulates	<ul style="list-style-type: none"> <li>▪ Daily inspections</li> <li>▪ Routine housekeeping, preventative and repair maintenance</li> <li>▪ Routine removal of scrap materials and wastes</li> </ul>
	Erosion and sediment from offsite	Sediments	<ul style="list-style-type: none"> <li>▪ Landscape maintenance</li> <li>▪ Site paving and drainage systems</li> <li>▪ Routine housekeeping</li> </ul>
	Cleaning of heat recovery boilers (Not in service)	Metal and combustion particulates	<ul style="list-style-type: none"> <li>▪ Routine cleaning of gas passages to remove accumulated debris (Duct Sweep)</li> <li>▪ Dry cleaning methods only</li> <li>▪ Dust containment controls during cleaning (e.g., plastic sheeting containments, collection and packaging of waste, etc.)</li> <li>▪ Thorough clean up (e.g., sweeping, vacuuming, removal of Duct Sweep, etc.).</li> </ul>
	Maintenance	<ul style="list-style-type: none"> <li>▪ Wash waters</li> <li>▪ Grass clippings, debris</li> </ul>	<ul style="list-style-type: none"> <li>▪ Landscape contractor prohibited from using wet methods for grounds cleaning;</li> <li>▪ Landscape contractor required to collect grass clippings, debris, etc.</li> <li>▪ Janitorial contractor required to collect all wash, rinse liquids.</li> </ul>
Out-of-Service Power Block (Plant 2)	Lube Oil Storage Tank leak or overflow	Turbine Lube Oil (2)	<ul style="list-style-type: none"> <li>▪ Oil storage room and power block concrete foundation and in-plant drainage system/retention basin provides containment from uncontrolled discharge</li> <li>▪ Drained of oil</li> <li>▪ Truck loading/unloading area west of Plant 2 secondary containment</li> <li>▪ Local level indication</li> <li>▪ Attended delivery truck unloading Station Order</li> </ul>

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Activity/Area	Pollutant Source	Pollutant	BMPs
Out-of-Service Power Block (Continued)	Combustion Turbine Lube System leak	Turbine Lube Oil (2)	<ul style="list-style-type: none"> <li>▪ Tightness testing</li> <li>▪ Power block concrete foundation and in-plant drainage system/retention basin provides containment from uncontrolled discharge</li> <li>▪ Drained of oil</li> <li>▪ Low oil pressure alarms and automatic shutoff</li> <li>▪ High temperature alarms and automatic shutoff</li> <li>▪ Operator manual shut-off</li> <li>▪ Unit drains chain-locked in closed position</li> </ul>
	Steam Turbine Lube System leak	Turbine Lube Oil (2)	<ul style="list-style-type: none"> <li>▪ Power block concrete foundation and in-plant drainage system/retention basin provides containment from uncontrolled discharge</li> <li>▪ Drained of oil</li> <li>▪ Low oil pressure alarms and automatic shutoff</li> <li>▪ High temperature alarms and automatic shutoff</li> <li>▪ Low oil levels alarms on reservoirs</li> <li>▪ Operator manual shut-off</li> <li>▪ Unit drains chain-locked in closed position</li> </ul>
	Gas Compressor Lube System	Turbine Lube Oil (2)	<ul style="list-style-type: none"> <li>▪ Power block concrete foundation and in-plant drainage system/retention basin provides containment from uncontrolled discharge</li> <li>▪ Drained of oil</li> <li>▪ High temperature automatic shut-off and alarm</li> <li>▪ Low temperature alarm at Control Room</li> <li>▪ Low level automatic shut-off and alarm at Control Room</li> </ul>
	Oil Drum Storage	Various oils (2)	<ul style="list-style-type: none"> <li>▪ Power block concrete foundation and in-plant drainage system/retention basin provides containment from uncontrolled discharge</li> <li>▪ Drum storage has been minimized</li> </ul>
	Water Treatment Chemical Tank or Container leak or overflow	<ul style="list-style-type: none"> <li>▪ Ammonium hydroxide</li> <li>▪ Sulfuric acid</li> <li>▪ Sodium hydroxide</li> <li>▪ Hydroquinone</li> <li>▪ Sodium Hypochlorite</li> <li>▪ Chelant</li> </ul>	<ul style="list-style-type: none"> <li>▪ Tanks provided with secondary containment</li> <li>▪ Containers provided with secondary containment pallets</li> <li>▪ Drainage system/retention basin provides containment from uncontrolled discharge</li> <li>▪ Daily inspections</li> </ul>
Hazardous Waste Storage		<ul style="list-style-type: none"> <li>▪ Oils</li> <li>▪ Contaminated</li> </ul>	<ul style="list-style-type: none"> <li>▪ Metal roof</li> <li>▪ Concrete foundation and curbing</li> </ul>

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Activity/Area	Pollutant Source	Pollutant	BMPs
Area		debris <ul style="list-style-type: none"> <li>▪ Duct sweep</li> </ul>	<ul style="list-style-type: none"> <li>▪ Drum storage has been minimized</li> </ul>
Electrical Transformers	Leaks	Mineral oil	<ul style="list-style-type: none"> <li>▪ Concrete foundation and curbing</li> <li>▪ High-temperature alarms</li> <li>▪ Daily inspections</li> <li>▪ Rapid spill cleanup</li> </ul>
In-Plant Wastewater Drainage System	Oily/Water Separator leaks or overfills	Oily water	<ul style="list-style-type: none"> <li>▪ Concrete berm with overflow to Sump C and the retention basin</li> <li>▪ Manual valve to shut-off flow to retention ponds</li> <li>▪ High level alarm on the oil collection reservoir</li> <li>▪ Daily inspections</li> </ul>
	Retention Basin	Oily water	<ul style="list-style-type: none"> <li>▪ Manual inlet and outlet flow shut-off valves</li> <li>▪ Bottom flow and overflow weirs</li> <li>▪ High and low level alarms in sump</li> <li>▪ Daily inspections</li> </ul>
Out-Of-Service Fuel Oil Pipeline	Leaks	Residual fuel oil	<ul style="list-style-type: none"> <li>▪ Drained of oil</li> <li>▪ Power source locked-out to pumps</li> <li>▪ Blind flanges installed at terminal ends</li> <li>▪ Daily inspections will continue until cleaned to remove any remaining residues.</li> </ul>

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**APPENDIX D**

**STORM WATER MONITORING PLAN**

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**I. INTRODUCTION**

This Storm Water Monitoring Program has been developed to comply with the conditions of the California State Water Resources Control Board Water Quality Order No. 97-03-DWQ General Permit for Discharges of Storm Water Associated with Industrial Activities (the General Permit). This document is designed for use in conjunction with the Storm Water Pollution Prevention Plan, LBVII-9A.

The objectives of the monitoring plan are the following:

- A. To monitor compliance of storm water discharge relative to discharge prohibitions, effluent limitations, and receiving water limitations.
- B. To comply with the implementation of the facility Storm Water Pollution Prevention Plan (SWPPP).
- C. To measure the effectiveness of the best management practices (BMP's) in removing pollutants in storm water discharges.

**II. IMPLEMENTATION**

- A. Results from this monitoring program shall be documented and reported to the State Water Resources Control Board (SWRCB) by July 1 of every year as part of the Annual Report using the most current forms from the SWRCB.
- B. Monitoring includes visual inspections of the facility as described in this procedure.
- C. The State "General Permit" requires that facilities subject to Federal Storm Water Effluent Limitation Guidelines (NPDES guidelines) shall analyze for applicable pollutants as specified in 40 CFR 423 (Subchapter N).

**III. INSPECTIONS**

- A. Quarterly Dry Inspections: Visual inspections of the outside grounds of the Station shall be performed at least once each quarter during dry conditions and shall document the presence of any of the following conditions:
  - 1. Any non-storm water discharges in the storm water drainage system (i.e., asphalt paving, storm drains, etc.) and clarifiers for the presence of any discoloration, stains, odors, floating materials, oil sheen, etc. Note: there are no "unauthorized" non-storm water discharges at the Station; non-storm water discharges are authorized by a Site-Specific Permit as discussed in the SWPPP.
  - 2. Staining, discoloration, and other signs of material releases on equipment, structures and/or pavement within the storm water drainage areas.
- B. Monthly Storm Event Inspections: Visual inspections of the storm water accumulated at the Station (i.e., drainage areas and yard drains) shall be performed during one storm event per month during the wet season (i.e., October 1 through May 30). Visual inspections are only required if the event occurs during daylight hours that are preceded by at least three (3) working days without a

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storm water discharge. Inspections shall document the presence of any discoloration, stains, odors, floating materials, oil sheen, turbidity, or other signs of pollutants.

- C. Draining of Diked Storm Water: Visual inspections of storm water shall be performed prior to releasing any storm water from diked areas. Inspections shall document the presence of any discoloration, stains, odors, floating materials, oil sheen, turbidity, or other signs of pollutants. The drain valves may be opened to release accumulated storm water to the storm water drain system with approval of the Shift Supervisor.
- D. Annual Comprehensive Site Compliance Evaluation: An annual evaluation of the storm water program shall be performed of the overall SWPPP effectiveness. The evaluation shall be documented and include the date, name of personnel involved, noted concerns, and recommendations for improvement. This evaluation shall include the following:
1. Review of inspection and sampling records performed under this Storm Water Monitoring Plan;
  2. Review and evaluation of potential pollutant sources for evidence of, or the potential for, pollutants entering the storm water drainage system;
  3. Review and evaluation of the BMPs to determine whether the BMPs are adequate, properly implemented and maintained, or whether additional BMPs are needed. This shall include a visual inspection of spill response and clean-up equipment and supplies, housekeeping, employee training records, manual valves on the storm water clarifiers, and other signs of BMP effectiveness.

**IV. STORM WATER SAMPLING**

Sampling of the Station discharge is performed as required by the California Regional Water Quality Control Board (RWQCB) NPDES Permit Number CA0001171, Order No. 01-079 (the Site-Specific Permit). There is no specific storm water sampling performed since storm water and other plant wastewaters are not segregated.

**V. RECORD KEEPING**

- A. A record of the annual inspection must include the date of the inspection, the individual(s) who performed the inspection, and the observations of the inspection.
- B. A record of the dry season observations must include a description of the method used (visual, dye test, etc.), date of testing, locations observed, and observation or test results.
- C. Monthly wet season visual observations shall include the date of the inspection, the individual(s) who performed the inspection, and the observations of the inspection.
- D. The facility shall submit an annual report by July 1 of each year to the Executive Officer of the RWQCB responsible for the area in which the facility is located.
- E. Records of all storm water monitoring information and copies of all reports required by the General Permit shall be retained for a period of at least five years from the date of the sample, observation, measurement, or report.