

**STORM WATER
POLLUTION PREVENTION PLAN
AND
BEST MANAGEMENT PRACTICES PLAN**

CARLSBAD ENERGY CENTER LLC

***CARLSBAD ENERGY CENTER POWER STATION
FACILITY
4600 CARLSBAD BOULEVARD
CARLSBAD, CALIFORNIA 92008***

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FOREWORD

In November 1990, the United States Environmental Protection Agency (USEPA) published final regulations that establish application requirements for storm water permits. The primary emphasis of these National Pollutant Discharge Elimination System (NPDES) storm water regulations is pollution prevention. As a result, the concept of the Storm Water Pollution Prevention Plan (SWPPP) was developed and became an integral requirement of the Industrial Activities Storm Water General Permit, which was adopted by the California State Water Resources Control Board (SWRCB). On April 17, 1997, the SWRCB adopted a revised Industrial Activities Storm Water Permit, which replaced the expired 1990 permit (see Appendix C). The revised permit incorporates several additional components and contains some deletions to the previously existing permit. These revisions are reflected in this document.

The overall objective of this Storm Water Pollution Prevention Plan (SWPPP) is to:

- **Identify sources of pollution that affect the quality of industrial storm water discharges and authorized non-storm water discharges; and**
- **Implement practices to reduce or prevent pollutants in storm water discharges.**

Elements of this SWPPP include a topographic map of the general vicinity around the site, a site plan, a description of activities that may affect storm water quality, a significant materials inventory, potential pollutant pathway identification, and a summary of pollutant spills.

The practices used to reduce or eliminate pollutants in storm water include identification of SWPPP personnel responsible for developing, implementing and revising this Plan, preventive maintenance and inspections, good housekeeping, spill prevention and response, and storm water management practices including structural and nonstructural controls for minimizing storm water contamination, sediment and erosion control, employee training, and inspections.

STATEMENT OF COMPANY POLICY

It is the intent and desire of Carlsbad Energy Center LLC to comply with all laws and regulations. To that end, the company will do its part to protect and improve the environment by providing an atmosphere of cooperation, the physical resources necessary to develop and implement a comprehensive SWPPP and the leadership to get the job done properly.

The company will evaluate potential sources of storm water pollution from the Carlsbad Energy Center Facility and undertake efforts to control or eliminate them. If the company is unable to totally eliminate the pollutant, then the company will make every effort to control the pollutant and mitigate its effect on the environment. Implementation of this SWPPP is designed to achieve this goal and will be updated periodically as the need arises.

Carlsbad Energy Center LLC recognizes that to achieve these goals, a partnership must be formed with all parties involved: the government, the company, and the employees. The employees of this company are encouraged to provide input to the pollution prevention efforts in this plan and are encouraged to notify their supervisor or Station management to report potential instances of noncompliance.

STORM WATER POLLUTION PREVENTION 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 assure that qualified personnel properly gathered and evaluated 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.

Certified By:

Carlsbad Energy Center LLC
By: NRG Cabrillo Operations Inc.
It's Authorized Agent

By: _____ Date: _____

Jerry Carter
Plant Manager

**STORM WATER POLLUTION PREVENTION PLAN TEAM
PRINCIPAL CONTACTS LIST**

CARLSBAD ENERGY CENTER FACILITY

Operations & Maintenance Manager	Jerry Carter (760) 268-4011
Technical Manager (Storm Water Compliance Coordinator).....	Jeff Paul (760) 268-4013
Environmental Specialist	Sheila Henika (760) 268-4018
Environmental Specialist / Fueling Administrator	Jeff Bison (760) 268-4020
Chemical Technician	Pedro Lopez (760) 268-4070

SECTION 1**STORMWATER POLLUTION PREVENTION PLAN**

This Storm Water Pollution Prevention Plan (SWPPP) has been developed to describe and demonstrate the methods, policies and procedures that Carlsbad Energy Center LLC utilizes to eliminate and/or minimize the potential discharge of pollutants in storm water discharges from the Carlsbad Energy Center Facility, to consolidate information provided in the permit application; and to ensure compliance with the terms and conditions of the April 1997 General NPDES Storm Water Permit (General Permit) issued by the State Water Resources Control Board (SWRCB) (97-13-WQ/ CAS000001: *Storm Water Associated with Industrial Activities Excluding Construction Activities*).

This plan has been specifically designed to parallel and otherwise reflect the content and structure of the General Permit. This structure is preferred so that all elements mandated by the General Permit are covered, and that ease of assessing plan compliance is assured. This plan identifies potential sources of pollution that may affect the quality of storm water discharges associated with industrial activity at the site, and presents the management practices that will be used at Carlsbad Energy Center LLC's, Carlsbad Energy Center Facility for reducing pollutants in storm water discharges. Industrial activities that are subject to the general industrial storm water regulations include the following:

". . . industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or byproducts used or created by the facility; material handling sites; refuse sites, sites used for the application or disposal of process wastewaters; sites used for the storage and maintenance of material-handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and finished products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water."

Sources of information used to assist with the development of this SWPPP include the following:

- State Water Resources Control Board Water Quality Order No. 97-13-DWQ, National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000001, Waste Discharge Requirements (WDR) for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities, April 17, 1997.
- Guidance Manual for the Preparation of NPDES Permit Applications for Storm-Water Discharges Associated with Industrial Activity
- 40 CFR Part 122 (Final Rule)
- EPA storm water hotline: 1-703-821-4823

In accordance with §A.10. of the General Permit, the following general requirements apply to all facilities that are required to maintain SWPPPs:

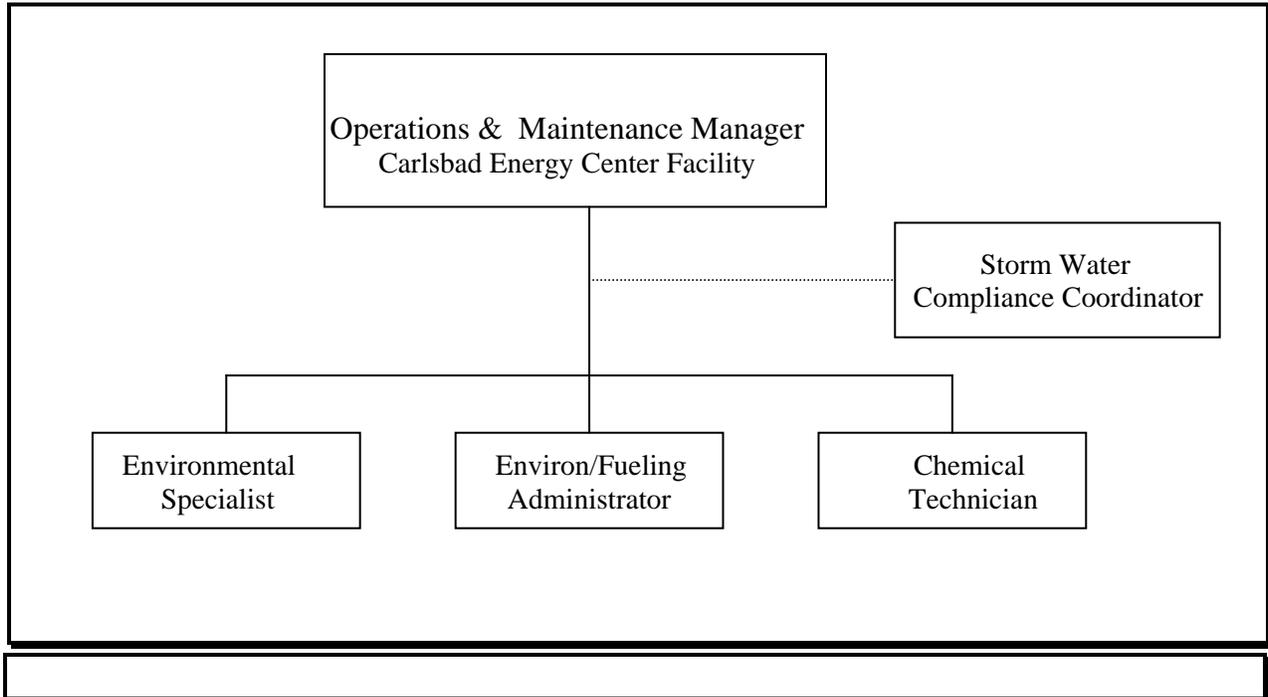
- The SWPPP must be retained on site and made available upon request of a representative of the Regional Water Board and/or local storm water management agency (local agency) which receives the storm water discharges.
- The Regional Water Board and/or local agency may notify the facility operator when the SWPPP does not meet one or more of the minimum requirements outlined in the General Permit. As requested by the Regional Water Board and/or local agency, the facility operator must submit an SWPPP revision and implementation schedule that meets the minimum requirements of the General Permit to the Regional Water Board and/or local agency that requested the SWPPP revisions. Within **14 days** after implementing the required SWPPP revisions, the facility operator must provide written certification to the Regional Water Board and/or local agency that the revisions have been implemented.
- The SWPPP must be revised, as appropriate, and implemented prior to changes in industrial activities which (i) may significantly increase the quantities of pollutants in storm water discharge, (ii) cause a new area of industrial activity at the facility to be exposed to storm water, or (iii) begin an industrial activity which would introduce a new pollutant source at the facility.
- Other than as provided in the General Permit, the SWPPP must be revised and implemented in a timely manner, but in no case more than **90 days** after a facility operator determines that the SWPPP is in violation of any requirement(s) of the General Permit.
- When any part of the SWPPP is infeasible to implement by the deadlines specified in the General Permit due to proposed significant structural changes, the facility operator must submit a report to the Regional Water Board prior to the applicable deadline that (i) describes the portion of the SWPPP that is infeasible to implement by the deadline, (ii) provides justification for a time extension, (iii) provides a schedule for completing and implementing that portion of the SWPPP, and (iv) describes the BMPs that will be implemented in the interim period to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Such reports are subject to Regional Water Board approval and/or modifications. Facility operators must provide written notification of the Regional Water Board within **14 days** after the SWPPP revisions are implemented.
- The SWPPP must be provided, upon request, to the Regional Water Board. The SWPPP is considered a report that must be available to the public by the Regional Water Board under Section 308 (b) of the Clean Water Act.

COMPANY MANAGEMENT AND ORGANIZATION

The following discussion provides a perspective on the responsibilities and organization of the personnel associated with the Storm Water Pollution Prevention Team.

Pollution Prevention Team

In accordance with the requirements of the General Permit, a Storm Water Pollution Prevention Team has been organized at the Carlsbad Energy Center Facility to assist in development, implementation and revision of this SWPPP and to conduct all monitoring program activities required by the General Permit. These positions and their responsibilities are shown and described below. Refer to the list of principal contacts at the front of this document for specific personnel assigned to these positions.



- The **Operations & Maintenance Manager** has ultimate responsibility for ensuring that adequate resources (funding, equipment and man-power) are available to ensure compliance with the General Permit and is responsible for the following:
 - Signing the Annual Report and certifying that the elements of this plan are being implemented; and
 - Ensuring that adequate and effective Best Management Practices are implemented and maintained to minimize stormwater pollution; and
 - Ensuring that timely, appropriate and effective corrective actions are taken in response to failed and/or ineffective BMPs; and

- Notifying external local and regional agencies in the event that the facility fails to comply with the General Permit; and
- Ensuring that adequately trained staff are available onsite to perform the assigned stormwater management responsibilities at all times during normal operating hours, including, but not limited to stormwater collection, wet weather and non-stormwater inspection and monitoring, and BMP inspections.

- The **Storm Water Compliance Coordinator** will be responsible for recommending revisions and updates to the SWPPP to assure compliance. He/she will also assist in updating this plan as appropriate based on team recommendations.
- The **Fueling Administrator** will be responsible for assigning respective staff members specific responsibilities for prevention of storm water pollution and provide quality assurance that implementation is carried through for all fueling shipments and transfers.
- The **Environmental Specialist** will be responsible for planning and scheduling staff training and implementation programs in accordance with this plan. He/she will be responsible for instructing and assuring their respective staff members operate and maintain the facility in a storm water-sensitive manner to continually assure compliance with this SWPPP. He/she will also coordinate indoctrination and orientation of new facility employees such that all onsite employees are consistently educated in storm water pollution awareness. He/she will assure that shipping, receiving, storage, and potential spillage of significant materials is continually safeguarded against storm water pollution.
- The **Chemical Technician** will be responsible for conducting observations and sampling in accordance with Table 1, for performing laboratory analyses of the samples collected, and preparing the Annual Report. He/she will also be responsible for archiving all data and support information collected, as well as completion of the Annual Compliance Evaluation report.

The above personnel will receive training for each of their specific responsibilities in storm water pollution prevention in accordance with Carlsbad Energy Center LLC standard practice. These persons will then assure that remaining site personnel are educated regarding proper work practices and management techniques to mitigate pollutant exposure to storm water flows. Refresher training for site personnel will be conducted annually so that proper implementation of the SWPPP can be assured prior to the onset of seasonal rainfall.

Table 1
Storm Water/Non-Storm Water Monitoring Responsibilities

MONTH	ACTIVITY	RESPONSIBLE PERSON*	LOG FORM**
January	• Wet season visual observations once per month during first hour of storm.	CT	VI
	• Non-storm water discharge visual observations once per quarter (January, February <u>or</u> March).	CT	V
	• Water samples collected from <u>all</u> identified outfalls during first hour of <i>second</i> storm event of wet season, if not already collected.	CT	VI
February	• Wet season visual observations once per month during first hour of storm.	CT	VI
	• Non-storm water discharge visual observations once per quarter (January, February <u>or</u> March).	CT	V
	• Water samples collected from <u>all</u> identified outfalls during first hour of <i>second</i> storm event of wet season, if not already collected.	CT	VI
March	• Wet season visual observations once per month during first hour of storm.	CT	VI
	• Non-storm water discharge visual observations once per quarter (January, February <u>or</u> March).	CT	V
	• Water samples collected from <u>all</u> identified outfalls during first hour of <i>second</i> storm event of wet season, if not already collected.	CT	VI
April	• Wet season visual observations once per month during first hour of storm.	CT	VI
	• Non-storm water discharge visual observations once per quarter (April, May <u>or</u> June).	CT	V
	• Water samples collected from <u>all</u> identified outfalls during first hour of <i>second</i> storm event of wet season, if not already collected.	CT	VI
May	• Wet season visual observations once per month during first hour of storm.	CT	VI
	• Non-storm water discharge visual observations once per quarter (April, May <u>or</u> June).	CT	V
	• Water samples collected from <u>all</u> identified outfalls during first hour of <i>second</i> storm event of wet season, if not already collected.	CT	VI
	• Conduct annual site inspection.	CT	I
	• Schedule and conduct annual comprehensive evaluation.	CT/SWCC	III/VIII
	• Review and revise SWPPP, as appropriate.	SWPPT	II
	• Prepare Annual Report	CT/SWCC	NA

Table 1
Storm Water/Non-Storm Water Monitoring Responsibilities (continued)

MONTH	ACTIVITY	RESPONSIBLE PERSON*	LOG FORM**
June	<i>Beginning of dry season.</i> <ul style="list-style-type: none"> Non-storm water discharge visual observations once per quarter (April, May <u>or</u> June). Submit Annual Report to RWQCB by <u>July 1</u> each year. 	CT	V
		CT/SWCC	I - VIII
July	<ul style="list-style-type: none"> Non-storm water discharge visual observations once per quarter (July, August <u>or</u> September). 	CT	V
August	<ul style="list-style-type: none"> Non-storm water discharge visual observations once per quarter (July, August <u>or</u> September). 	CT	V
September	<ul style="list-style-type: none"> Non-storm water discharge visual observations once per quarter (July, August <u>or</u> September). 	CT	V
October	<i>Beginning of wet season.</i> <ul style="list-style-type: none"> Wet season visual observations once per month during first hour of storm. Non-storm water discharge visual observations once per quarter (October, November <u>or</u> December). Water samples collected from <u>all</u> identified outfalls during first hour of <i>first</i> storm event of wet season. Water samples collected from <u>all</u> identified outfalls during first hour of <i>second</i> storm event of wet season. 	CT	VI
		CT	V
		CT	VI
		CT	VI
November	<ul style="list-style-type: none"> Wet season visual observations once per month during first hour of storm. Non-storm water discharge visual observations once per quarter (October, November <u>or</u> December). Water samples collected from <u>all</u> identified outfalls during first hour of <i>first</i> storm event of wet season, if not already collected. Water samples collected from <u>all</u> identified outfalls during first hour of <i>second</i> storm event of wet season, if not already collected. 	CT	VI
		CT	V
		CT	VI
		CT	VI
December	<ul style="list-style-type: none"> Wet season visual observations once per month during first hour of storm. Non-storm water discharge visual observations once per quarter (October, November <u>or</u> December). Water samples collected from <u>all</u> identified outfalls during first hour of <i>second</i> storm event of wet season, if not already collected. 	CT	VI
		CT	V
		CT	VI

* CT: Chemical Technician

SWCC: Storm Water Compliance Coordinator

SWPPT: Storm Water Pollution Prevention Team

** These forms or other appropriate forms may be used

Specific responsibilities will be in accordance with those specified in Table 1.

.FACILITY DESCRIPTION

Regional Setting and Site Map

The site is located in an industrial area in the City of Carlsbad, California in northwest San Diego County. The facility is located in Township 11 South, Range 4 West in the San Luis Rey Quadrangle as show on Figure 1. The facility is located north of the intersection of Cannon Road and Carlsbad Boulevard, south of Interstate 5. The Carlsbad Energy Center Facility encompasses 23 acres and is situated on the northeast section of the 130 acre existing Encina Power Plant Site, adjacent to the Aqua Hedionda Lagoon. The Lagoon Ultimately discharges west to the Pacific Ocean.

The generating facility consists of two power blocks, each having one combustion turbine generator (CTG) equipped with Ultra Low Nitrogen oxide (ULN) combustors; one heat recovery steam generator (HRSG); one condensing steam turbine generator (STG); an air-cooled fin-fan cooler; and associated support equipment providing a total nominal generating capacity of 525.2 MW net and 65.6 percent relative humidity. The combustion turbines are Siemens Rapid Response SCC6-5000F Combined Cycle (R2C2) units. Black start capability is provided by existing Encina combustion turbine generator via electrical connections to each power generation train.

Natural gas for the facility will be delivered via Southern California Gas Company's (SoCalGas) existing 20-inch gas transmission line ("TL 2009, Rainbow line"). The facility will include an onsite fuel gas compressor station.

The Carlsbad Energy Center is classified by Standard Industrial Classification (SIC) code 4911: Electric Systems.

The current Carlsbad Energy Center Facility site formerly served the as the East Tank Farm for the Encina Power Station, where bulk fuel oil was stored for use in the power-generating process. The East Tank Farm was demolished in 2007-2008 in preparation for construction of the new Carlsbad Energy Center Facility Power Plant. Demolition activities included:

- Demolition and removal of Tanks 5, 6, and 7, and the associated conveyance piping and other appurtenances from the East Tank Farm for off-site recycling or disposal, as appropriate;
- Removal of oil impregnated sand cushion from beneath Tanks 5, 6, and 7 from the footprint of each tank and any associated impacted soil by remedial excavation;
- Post-excavation soil and groundwater confirmation sampling, in accordance with regulatory guidance, beneath Tanks 5, 6, and 7 to assess any potential release of contamination, when necessary; and
- Restoration of site and affected areas.

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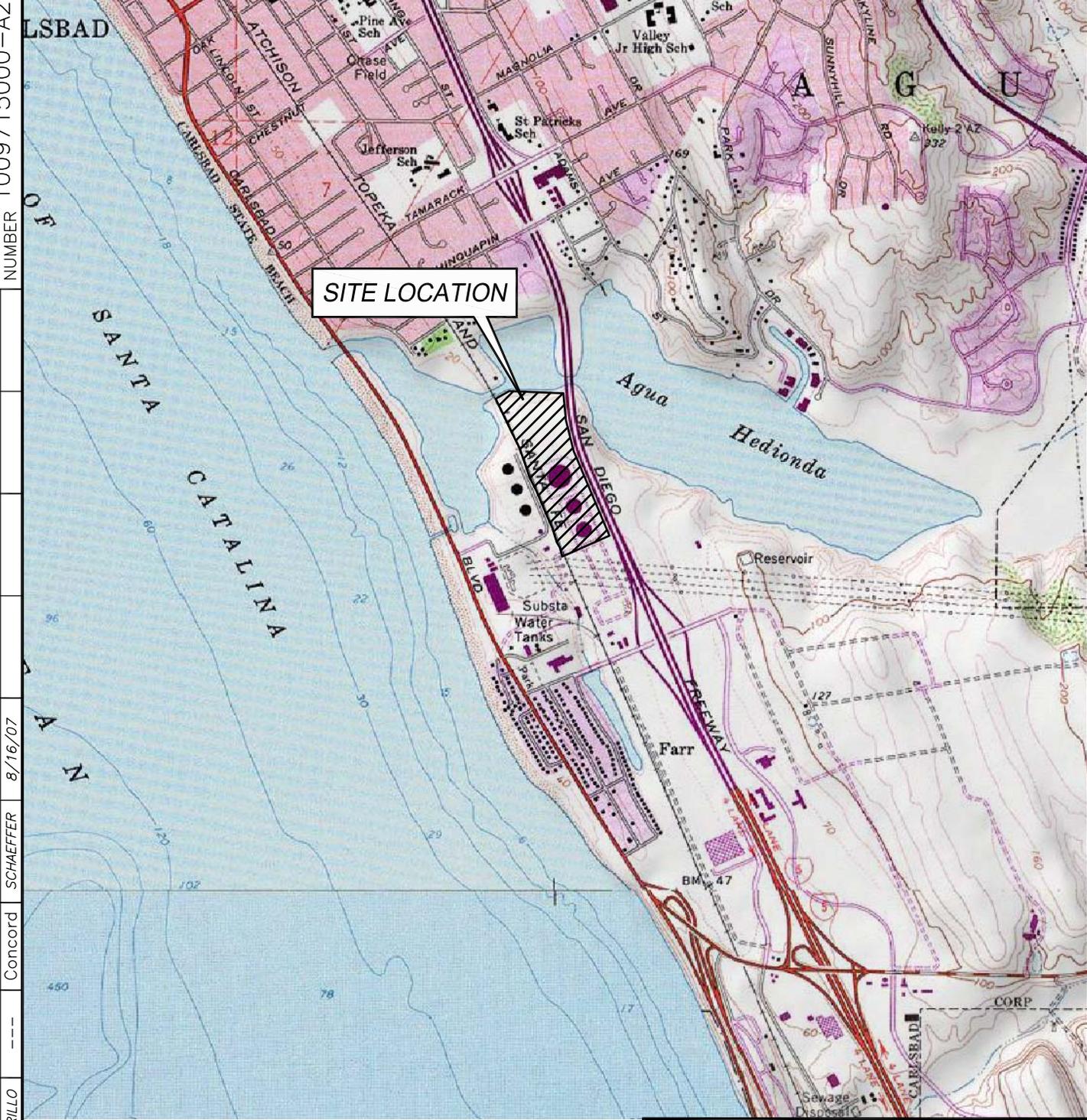
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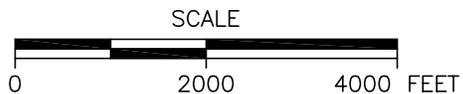


SITE LOCATION

8/16/07
SCHAEFFER

CONCORD
CABRILLO

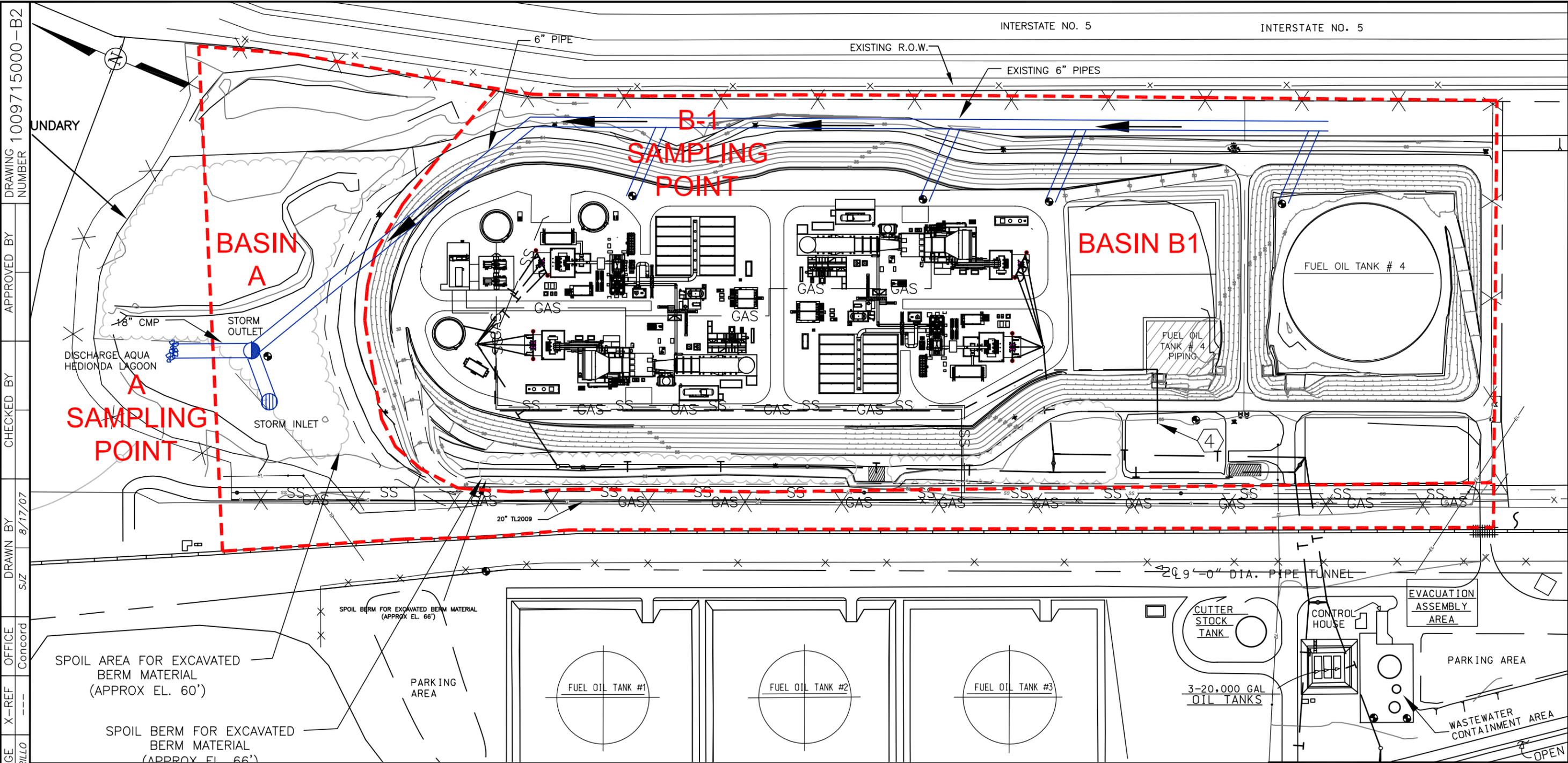
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7.5' USGS TOPOGRAPHIC QUADRANGLE OF "SAN LUIS REY, CALIFORNIA"; DATED 1975; SCALE=1:24000.



 **Shaw**® Shaw Environmental, Inc.

CARLSBAD ENERGY CENTER LLC
CARLSBAD ENERGY CENTER FACILITY
CARLSBAD, CALIFORNIA

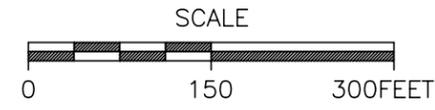
FIGURE 1
SITE VICINITY MAP



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EQUIPMENT LIST

- | | | |
|---|---|---|
| 1 GAS TURBINE ENCLOSURE | 11 FIRE WATER TANK | 26 GENERATOR CIRCUIT BREAKER |
| 2 HEAT RECOVERY STEAM GENERATOR (HRSG) | 12 HEAVY HAUL ACCESS ROAD | 27 AUXILIARY TRANSFORMER |
| 3 STEAM TURBINE | 13 HRSG STACK | 28 GAS TURBINE INLET FILTER |
| 4 STEAM TURBINE FIN FAN COOLER | 14 AMMONIA STORAGE/ UNLOADING | 29 AIR COMPRESSOR |
| 5A STEAM TURBINE GENERATOR TRANSFORMER | 15 OIL/WATER SEPARATOR | 30 STEAM TURBINE POWER CONTROL CENTER |
| 5B COMBUSTION TURBINE GENERATOR TRANSFORMER | 16 BALANCE OF PLANT POWER CONTROL CENTER | 31 GLAND STEAM CONDENSER |
| 6A FUEL GAS CONDITIONING/METERING | 17 CONTINUOUS EMISSIONS MONITORING SYSTEM | 32 STEAM TURBINE LUBE OIL COOLER |
| 6B FUEL GAS COMPRESSORS ENCLOSURE | 18 SELECTIVE CATALYTIC REDUCTION SKID | 33 CONDENSATE POLISHING FIN FAN COOLER |
| 7 RAW / RECLAIM WATER TANK | 19 CRANE MAINTENANCE PAD | 34 CHEMICAL DOSING EQUIPMENT |
| 8 DEMINERALIZED WATER STORAGE TANK | 20 LUBE OIL COOLER | 35 DEAERATOR/DRAIN TANKS/CONDENSATE PUMPS |
| 9 GAS TURBINE GENERATOR | 21 ELECTRICAL PACKAGE | 36 RAW WATER FORWARDING PUMPS |
| 10 STEAM TURBINE GENERATOR | 22 MEDIUM VOLTAGE SWITCHGEAR | 37 FIRE WATER PUMPS ENCLOSURE |
| | 23 BOILER BLOWDOWN TANK | 38 DEMINERALIZED WATER FORWARDING PUMPS |
| | 24 BOILER FEEDWATER PUMP | 39 REVERSE OSMOSIS DRAIN |
| | 25 ROTOR AIR FIN FAN COOLER | 40 SECONDARY ACCESS ROAD |



REFERENCE:
 SHAW STONE & WEBSTER
 DWG:100975_0_M_PP_006_F



CARLSBAD ENERGY CENTER LLC
 CARLSBAD ENERGY CENTER FACILITY
 CARLSBAD, CALIFORNIA

FIGURE 2
 SITE MAP

Climate

The Carlsbad Energy Center Facility area is characterized as an arid climate with warm, dry summers and mild winters. Winter precipitation in the area is associated with storms migrating inland from the Pacific Ocean. Nearly 90 percent of the annual rainfall occurs during the period from November to April with a mean annual rainfall of about 9 inches (NOAA 1991).

Topography and Drainage

The topography of the 23 acre site is moderate to flat and generally slopes west toward Carlsbad Boulevard and the Pacific Ocean. As indicated by earlier storm water investigations at the Carlsbad Energy Center Facility (Geocon Environmental Consultants Inc. 1992), and discussions with on-site personnel, the Carlsbad Energy Center Facility contains two different surface drainage basins (Figure 2). These drainage basins are described as follows:

Basin A: Vacant land located in the northern corner of the site.

Basin B1: Two combustion turbine generator with steam turbine trains (R2C2), Fuel Oil Tank No. 4, and paved areas,.

The amount of impervious surface (e.g., paved surfaces, structures) on this site is approximately 45 percent based on the overall site area of 23 acres. The balance of the site consists of planted landscaping and natural vegetation. During periods of rain, storm water runoff is generally diverted to four sump areas on the east side of the site in Basin B1. These sumps are manually pumped to a 6" discharge pipe which discharges north to a storm outlet structure, located in Basin A, with an 18" corrugated metal discharge pipe which extends off-site, approximately 6 feet north of the site perimeter fence in Basin A towards the Aqua Hedionda Lagoon. Basin A sheet flows towards the west and collects in a storm inlet, located on the west side of the basin which discharges east into the same storm outlet structure and 18" corrugated metal discharge pipe. Aqua Hedionda Lagoon, ultimately discharges to the Pacific Ocean, west of the Lagoon. The storm water conveyance from the Basins A and B-1 are depicted in Figure 2.

Security

The Carlsbad Energy Center Facility is completely surrounded with fencing. Carlsbad Energy Center LLC maintains a security force at the Station so that a security guard is on-site 24 hours per day. A guard station is located at the main entrance to the facility. A phone is located at the Main Gate so that the guard on duty can be paged at any time that he or she is not present at the guard station. The Station is staffed 24 hours per day. All valves used to drain tank retention areas and sumps are locked in the closed position when not in use. Only trained operators or supervisors have the authority to unlock and open drain valves and operate sump pumps. All outside areas are lighted during the night. Visitors are required to check in at the main entrance before clearance can be given for site visitation.

SIGNIFICANT MATERIALS

There are a number of "significant materials"¹ used at the Carlsbad Energy Center Facility, which have the potential to be exposed to precipitation. "Significant materials" include metallic products, and any chemical the facility is required to report under Section 313 of Title III of SARA that have the potential to be released with storm water discharges. These commonly include stored metal parts, cutting/lubricating oils, water softening/treating chemicals, paints, and metal shaving waste.

In accordance with §A.5. of the General Permit, detailed information regarding the significant materials handled and/or stored at the Carlsbad Energy Center Facility is provided in Table 2 and Table 3. It should be noted that significant materials used at the Power Station are expendable and are consumed on site or shipped off-site for recycling or disposed of in a permitted facility.

¹ The 1997 General Permit defines significant materials as including but not limited to "raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under Section 101 (14) of Comprehensive Environmental Response, Compensation and Liability Act (CERCLA); any chemical the facility is required to report pursuant to Section 313 of Title III of Superfund Amendments and Reauthorization Act (SARA); fertilizers; pesticides; and waste products such as ashes, slag, and sludge that have the potential to be released with storm water discharges".

Table 2 Significant Materials Handled and Stored at the Carlsbad Energy Center Facility

Material	Receiving Location	Handling Location	Storage Location	Quantity/Capacity
Natural Gas	Pumped to facility through 20" gas transmission line.	Burned in Gas Turbine to produce electricity and to produce steam	N/A (pressurized pipelines on and off site)	Combustion Turbine 1: 2.1 mmcf/hr Combustion Turbine 2: 2.1 mmcf/hr
Lubricating Oils	Hazardous Waste Accumulation Area	Various locations inside and outside the plant	Hazardous Waste Accumulation Area	Fifteen 55-gallon drums
Transformer Oil (mineral oil)	Transformers and circuit breakers outside the plan on east side	Transformers and circuit breakers are stationary equipment	Transformers and circuit breakers are oil-filled stationary equipment on east side	Variable
Turbine Oil	Hazardous Waste Accumulation Area	At each Unit in the power plant	Hazardous Waste Accumulation Area	Ten 55-gallon drums
Used Oils (lube oils, fuel oils)	Hazardous Waste Accumulation Area	East of Unit 4, near stack	Hazardous Waste Accumulation Area	600-gallon tank and up to six 55-gallon drums
Demineralizer Water Storage & Reverse Osmosis Drain	One tank east Unit 6	Tank is permanent and stationary	East of Unit 6, adjacent to reverse osmosis unit	One 250,000 gallon Tank

Table 2 Significant Materials Handled and Stored at the Carlsbad Energy Center Facility (continued)

Material	Receiving Location	Handling Location	Storage Location	Quantity/Capacity
Ammonium Hydroxide	Southeast Side of plant	Southeast Side of plant	Southeast Side of plant	Two 10,000-gallon tanks
Fugitive Dusts From Air Emissions	Heat Recovery Seam Generators Stacks	South side of plant	N/A	5 ppmv, averaged over 1 hour.
Solid Wastes	Throughout Plant	Various Locations	Enclosed Dumpsters and trucked off-site for recycling and disposal	Variable
Hazardous/Regulated Wastes	Chemical Storage Facilities	Various Locations	Chemical Storage Facilities	Variable
Wastewaters	Heat Recovery Seam Generators	Reclaimed water lines and Storage Tank	East of Unit 6, northeast side of plant	360,000 gallon tank

POTENTIAL POLLUTANT SOURCES

Outside activities or operations which could affect ambient storm water quality at the Carlsbad Energy Center Facility are mostly limited to maintenance activities, hazardous waste/materials storage, aboveground fuel storage, shipping and receiving, and dust/particulate generation.

Industrial Processes

Each major industrial process is described below in terms of the type, characteristics, and quantity of significant materials used in or resulting from the process. As this facility is solely used for generating electricity, it is not involved in any manufacturing, cleaning, rinsing, recycling, disposal, or other activities related to the electricity-generation process unless warranted by maintenance. It is important to note that most tanks, pipe ways, associated piping, valves, and other ancillary equipment capable of spillage, rupture, leakage, or otherwise failure is protected by secondary containment structures..

Gas Turbine Generating Unit

Carlsbad Energy Center Facility will be a 525.2-megawatt (MW) net (at 73.6 degrees Fahrenheit [°F] with steam power augmentation and evaporative cooling) 560 MW gross combined-cycle generating facility configured using two trains with one natural-gas-fired combustion turbine and one steam turbine per train (or unit). The Carlsbad Energy Center Facility units will connect to the electrical transmission system via 138 kV and 230 kV lines that connect to the respective, nearby existing switchyards at the existing Encina plant. Natural gas for the facility will be delivered via Southern California Gas Company's (SoCalGas) existing 20-inch gas transmission line ("TL 2009, Rainbow line"). The facility will include an onsite fuel gas compressor station.

Non-Hazardous Waste

The majority of nonhazardous waste will be wastewater discharged to the sewer. The Carlsbad Energy Center Facility will also produce maintenance and generating facility wastes typical of power generation operations. These will include rags, turbine air filters, broken and rusted metal and machine parts, defective or broken electrical materials, empty containers, the typical refuse generated by workers and small office operations, and other miscellaneous solid wastes. The quantity generated is estimated to be about 65 tons per year. Large metal parts will be recycled.

Wastewater Treatment Facilities

The wastewater streams (evaporative cooler and HRSG blowdowns) will be internally recycled for reuse. Miscellaneous plant drains (sample cooling, pump leaks, equipment washwater, etc.) will be collected and treated for oil and suspended solids contaminations and recycled to the raw water storage tanks. The second wastewater collection system will collect sanitary wastewater from sinks, toilets, showers, eye washes and other sanitary facilities, and discharge it to City of Carlsbad (Encina Wastewater Authority's) sanitary sewer system.

Accidental leaks and discharges inside the power generating areas will be contained and disposed off-site in accordance with approved Spill Prevention, Control and Countermeasures (SPCC) Plans.

Hazardous Material Waste Storage and Management

Hazardous waste generated at the Carlsbad Energy Center facility will include waste lubricating oil, used oil filters, spent SCR and oxidation catalysts, and chemical cleaning wastes. The catalyst units will contain heavy metals that are considered hazardous. Chemical cleaning wastes will be generated from the periodic cleaning of the HRSGs and associated piping. They will consist of alkaline and acidic cleaning solutions used during chemical cleaning of the HRSG boiler system turbine wash and HRSG fireside washwaters. These wastes generally contain high concentrations of heavy metals and will be collected for offsite disposal.

The chemical feed area drains will collect spillage, tank overflows, effluent from maintenance operations, and liquid from area washdowns. After testing, water collected from the chemical storage areas will be directed to the oil/water separator if clean or, if not, it will be containerized and shipped offsite for disposal. The quantity of this effluent is expected to be minimal. Hazardous wastes that will be generated at the facility are summarized in the following Table

Table 3 Hazardous Wastes Generated at the Carlsbad Energy Center Facility During Operation

Waste	Origin	Composition	Estimated Quantity	Classification	Disposal
Lubricating oil/oil sorbents	Small leaks and spills from the gas turbine lubricating oil system	Hydrocarbons	700 lb/yr	Hazardous	Cleaned up using sorbent and rags – disposed of by certified oil recycler
Lubricating oil filters	Gas turbine lubricating oil system	Paper, metal, and hydrocarbons	1,000 lb/yr	Hazardous	Recycled by certified oil recycler
Lubricating oil	Maintenance of turbine, equipment	Hydrocarbons	500 lb/yr	Hazardous	Recycled by certified oil recycler
Solvents, paint, adhesives	Maintenance	Varies	200 lbs/mo	Hazardous	Recycle at a permitted TSDF
Laboratory analysis waste	Water treatment	Waste reagents/laboratory chemicals	50 gals/yr	Hazardous	Recycled by certified recycler
SCR catalyst units	SCR system (Warranty is 3 years-use tends to be 3 to 5 years)	Metal and heavy metals, including vanadium	60 to 70 tons every 3 to 5 yrs	Hazardous	Recycled by SCR manufacturer or disposed of in Class I landfill
CO catalyst units	HRSG (Use tends to be 3 to 5 years)	Metal and heavy metals, including vanadium	6 to 7 tons every 3 to 5 yrs	Hazardous	Recycled by manufacturer
Spent lead acid batteries	Electrical room, equipment	Metals	5 batteries/year	Hazardous	Store no more than 10 batteries (up to 1-year) – recycle offsite.

Table 3 Hazardous Wastes Generated at the Carlsbad Energy Center Facility During Operation

Waste	Origin	Composition	Estimated Quantity	Classification	Disposal
Spent alkaline batteries	Equipment	Metals	50 lbs/year	Universal waste solids	Recycle or dispose offsite at an Universal Waste Destination Facility
Flourescent tubes	Lighting of maintenance areas	Metals	50 lbs/year	Universal waste solids	Recycle or dispose offsite at an Universal Waste Destination Facility
Oily rags	Maintenance, wipe down of equipment, etc.	Hydrocarbons, cloth	300 lb/yr (~800 rags/yr)	Hazardous	Recycled by certified oil recycler
Chemical feed area drainage	Spillage, tank overflow, area washdown water	Water with water treatment chemicals	Minimal	May be hazardous if corrosive	Discharged to sewer if nonhazardous; shipped offsite for disposal if hazardous

Dust and Particulate Generating Activities

Particulate emissions will be controlled by the use of best combustion practices, the use of natural gas, which is low in sulfur, as the sole fuel for the Combustion Turbine Generators, and high efficiency air inlet filtration.

The Carlsbad Energy Center Facility has been issued Permits to Operate by the San Diego County Air Pollution Control District (SDAPCD). These permits have been issued for the following equipment: boilers, abrasive blasting area, metal parts coating station, emergency generator set, and dredging barge ICEs. Fugitive dusts from unstabilized and/or graveled areas are control by watering the effective areas to suppress dispersion of sediments offsite.

Plant Drains-Oil/Water Separator

General facility drainage will consist of area washdown, sample drains, equipment leakage, and drainage from facility equipment areas. Water from these areas will be collected in a system of floor drains, hub drains, sumps, and piping and routed to the facility wastewater collection system. Drains that could contain oil or grease will first be routed through an oil/water separator. Water from the plant wastewater collection system will be discharged to a wastewater storage tank and then to the sanitary sewer. Wastewater from combustion turbine water washes will be collected in a holding tank. If cleaning chemicals were not used during the water wash procedure, the wastewater will be discharged to the oil/water separator. Wastewater containing cleaning chemicals will be trucked offsite for disposal at an approved wastewater disposal facility.

Significant Spills/Leaks

In accordance with the General Permit, any material or chemical spilled or leaked in significant quantities to storm water, or the release of any unauthorized non-storm water discharge, that has occurred since April 17, 1994 must be identified.

No significant releases have occurred at the site since the commissioning date of June 15, 2010

Non-storm Water Discharges

A major element of storm water NPDES permitting is the elimination of non-storm water discharges to the storm water collection system. The 1997 General Permit differs from the earlier 1992 General Permit in that certain non-storm water discharges are allowed provided that the non-storm water component of the discharge complying with the following:

- Local Regional Water Quality Control Board requirements.
- Local agency ordinances and/or requirements.
- BMPs are specifically included in the SWPPP to (1) prevent or reduce pollutants in non-storm water discharges, and (2) minimize the flow or volume of non-storm water discharges.

Although authorized non-storm water discharges occur at the Carlsbad Energy Center Facility, they are often random and are not typically associated with one particular area. Therefore, the source, quantity, frequency, and characteristics of non-storm water discharges and associated drainage areas vary and are not consistent. In any case, the following sources of non-storm water at the Carlsbad Energy Center Facility are exempt per General Permit Section D, when there is no contact with industrial pollutants or pollutant sources, or co-mingling with industrial stormwater:

- discharges from fire fighting activities;
- fire hydrant flushings;
- potable water sources, including waterline flushings;
- drinking fountain water;
- uncontaminated compressor or air conditioner condensate;
- irrigation drainage;
- lawn drainage and watering.

Standard protocol at Carlsbad Energy Center LLC facilities is to minimize and otherwise prevent *any* non-storm water discharges to the ground. When these discharges do occur, they are infrequent, typically of low volume, and evaporate in a short time. In addition, these discharges either are from a potable water source supplied by the City of Carlsbad or are otherwise known not to contain substances that pose a threat to storm water quality.

The potential for storm water contamination at the Carlsbad Energy Center facility from non-storm water discharges was investigated in July 1997 as part of revising the original Operational SWPPP for the overall Encina Power Plant Site. The methods used to perform the investigation consisted of the following:

- Observation of storm water outfalls during dry weather and normal working hours.
- Inspection of outside areas for the presence of unidentified discharge pipes.
- Review of site plans to determine whether they matched current conditions.
- Identification of the potential drainage routes where spills or leaks could occur.

Soil Erosion

Approximately 45 percent of the 23 acre Carlsbad Energy Center facility is occupied by impervious surfaces (i.e., buildings, and asphalt and concrete paving. The balance of the site is unpaved and consists of either dirt or gravel surfaces, natural vegetation and landscaping. The unpaved surfaces have been stabilized and sodded to prevent erosion. In the event erosion is present, the areas will be re-stablized. The outfall areas have been reinforced with rip-rap rubble to prevent erosion.

Should the facility site undergo modifications in the future which will involve a high potential for significant soil erosion, appropriate measures to limit erosion will be identified and implemented in accordance with the principles presented in this plan.

ASSESSMENT OF POTENTIAL POLLUTANT SOURCES

Table 4 presents a summary of all industrial activities at the Carlsbad Energy Center Facility, potential pollutant sources, potential pollutants and Best Management Practices (BMPs) used to control the pollutant. The outfalls and potential source areas listed in Table 3 are shown in Figure 2.

Table 4 Assessment of Potential Pollution Sources and Corresponding Best Management Practices Summary

Area	Activity	Pollutant Source	Pollutant	Best Management Practices
Hazardous Waste Storage/Delivery	Handling, storage and delivery of supplies	Spills during delivery	Small quantities of various supplies (TPH, Heavy Metals, Dissolved Solids)	<ul style="list-style-type: none"> • Apply SPCC measures when applicable • Perform regular inspections of area • Maintain spill kit in vicinity of area in case of spill incident • Provide employee training regarding proper cleanup and spill response techniques
Equipment repair area	As needed repairs of various equipment	<ul style="list-style-type: none"> • Metal shavings • Paints • Lubricating materials 	Small quantities of various supplies used in equipment maintenance (TPH, PAH, Heavy Metals, Bacteria)	<ul style="list-style-type: none"> • Train contractors using the facility's contractor safety notice program • Encourage housekeeping during and after maintenance repairs • Cover storm drains as necessary with mat during work near storm drains
Portable sandblasting operations	Sandblasting of permanent or large structures	Particulate generated during sandblasting activities	CARB approved abrasive blast material (dissolved solids)	<ul style="list-style-type: none"> • Use of temporary enclosures to capture particulates • Use of CARB approved blast materials • Daily cleanup and proper disposal of materials in work area
Satellite hazardous materials storage	Storage of hazardous materials and waste (e.g., waste oils)	leaks and spills	Various (TPH, Heavy metals, Dissolved solids, bacteria)	<ul style="list-style-type: none"> • Use of secondary containment • Restricted access to personnel • Regular employee training • Regular inspections
Hazardous materials and waste storage	Drum handling	residue on containers, leaks, spills	Various (TPH, Heavy Metals)	<ul style="list-style-type: none"> • Use of mechanical drum handling tools • Inside storage when possible • Storm drain valve west of building closed except during rain
Vehicle parking	Parking/driving	oil leaks	oil, antifreeze, gasoline (TPH)	<ul style="list-style-type: none"> • Cleanup of significant stains • Spill Kits Maintained in Parking Areas

Table 4 Assessment of Potential Pollution Sources and Corresponding Best Management Practices Summary (continued)

Area	Activity	Pollutant Source	Pollutant	Best Management Practices
Recycle bins	Storage of waste products	leaching during rainstorms; leakage	metals shavings; oils (TPH, Heavy Metals)	<ul style="list-style-type: none"> • Placement of roll-off bins away from storm drains • Regular housekeeping • Provide covers for bins
Vehicle washing	not allowed	N/A	N/A	<ul style="list-style-type: none"> • N/A
Revered Osmosis demineralized water	Repairs on installed equipment, RO Drains	maintenance activities,	R O brine and product water, biological, solids	<ul style="list-style-type: none"> • Keep storm drain sumps locked and pump out any residual fluid in the area during maintenance activities and dispose of in City of Carlsbad Sewer System per Operational specifications. • Secondary containment around perimeter of tanks and piping systems.
Ammonium Hydroxide	Delivery and Storage	Spills and leaks during delivery	Ammonium Hydroxide	<ul style="list-style-type: none"> • Use of secondary containment around perimeter of tanks, as well as truck unloading area • Inspection of areas two times per day • Visual inspection and/or laboratory analysis of samples taken in containment areas prior to storm water discharge • Apply SPCC measures when applicable • Provide employee training regarding proper truck unloading and spill response techniques
Fugitive Dusts From Air Emissions	Operations	Emissions stacks	Fugitive Dusts (Dissolved solids)	<ul style="list-style-type: none"> • Continuous monitoring equipment and sensors include a alarm feature that will send a signal when the emissions approach or exceed pre-selected limits
Solid Wastes	Operations	Maintenance activities	Solids	<ul style="list-style-type: none"> • Use of enclosed dumpsters • Weekly off-site removal for recycling or depositing in a Class III landfill • Inside storage when possible

Table 4 Assessment of Potential Pollution Sources and Corresponding Best Management Practices Summary (continued)

Area	Activity	Pollutant Source	Pollutant	Best Management Practices
Hazardous/Regulated Wastes	Chemicals stored and used during construction and operation	leaks and spills	waste lubricating oil, used oil filters, spent SCR and oxidation catalysts, and chemical cleaning wastes Various, alkaline and acidic cleaning solutions (TPH, Heavy metals, Dissolved solids, pH)	<ul style="list-style-type: none"> • Hazardous waste generated at Carlsbad Energy Center Facility will be stored at that facility for less than 90 days. The waste will then be transported by a licensed hazardous waste transporter to a permitting hazardous waste treatment, storage or disposal (TSD) facility • Use of secondary containment around perimeter of tanks, as well as truck unloading area • Inspection of areas two times per day • Visual inspection and/or laboratory analysis of samples taken in containment areas prior to storm water discharge • Apply SPCC measures when applicable • Provide employee training regarding proper truck unloading and spill response techniques
Wastewaters	Repairs on Reclaim Water line	Reclaimed Water	dechlorinating agent (sodium bisulfite) pH control agent (sulfuric acid or caustic), a scale dispersant (polyacrylate polymer), and a corrosion inhibitor (phosphate-based).	<ul style="list-style-type: none"> • Use of secondary containment skid mounted and will have spill/leakage containments to hold the content of a full day tank plus reserve. • Inspection of areas two times per day • Apply SPCC measures when applicable.

The following section identifies the existing BMPs as well as BMPs to potentially implement in the future.

STORM WATER BEST MANAGEMENT PRACTICES

The BMPs employed at the Carlsbad Energy Center Facility can be segregated according to nonstructural controls and structural controls. Nonstructural controls generally are implemented by various personnel throughout the site, while structural controls involve a physically constructed barrier to contain potential pollutants. The following sections describe these BMPs.

Non-Structural BMPs

Non-structural best management practices or control measures include the following:

Good Housekeeping

Proper traditional "housekeeping" practices will be performed by maintenance staff so the facility is kept in a clean and orderly condition. This element of the storm water pollution prevention program is an ongoing task and is continually implemented to minimize the exposure of significant materials to storm water. Proper housekeeping practices include:

- Periodic cleanup and maximization of parts storage under roofed or covered areas.
- Sweeping of impervious surfaces.
- Proper disposal and rainfall protection techniques for spent paint cans, waste oils, etc.
- Maintenance of oil-absorbing materials in areas of potential spillage.
- Proper storage and rainfall protection techniques for potential contaminants.
- Brief contractors on SWPPP efforts and potential storm water issues.

Preventive Maintenance

A preventive maintenance (PM) program involving inspection and maintenance of storm water management devices is in effect at the Carlsbad Energy Center Facility. Inspection and performance of preventive maintenance at the Carlsbad Energy Center Facility is done in accordance with the schedules stipulated in the PM program, but at least annually and on an as needed basis.

Storm water management maintenance activities performed as part of this program include the following:

- Cleaning of accumulated debris from fuel oil pump pits, sump pump areas, conveyance structures and outfalls.
- Clearing of debris from stormwater system sump basins, pumps, drains, , and drainage pipes.
- Maintenance and inspection of secondary containment structures and associated drain valves.
- Periodic inspection and maintenance of storm water pumping equipment

- Inspection and maintenance of rainfall protection coverings for waste storage bins and receptacles.

Spill Response

The prevention of and response to spills at the Carlsbad Energy Center Facility are performed according to the facility's Hazardous Material and Waste Contingency Plan and Emergency Procedures, as well as the SPCC and other response or contingency plans. In addition to these plans, other considerations regarding the identification of potential spills areas, procedures for cleaning up spills, and their potential drainage points are necessary to minimize storm water contamination.

Emergency cleanup practices at the Carlsbad Energy Center Facility include the availability of spill kits and emergency collection devices or containers at strategic locations around the facility, particularly where the above-mentioned spill potentials exist. Typical components of a spill cleanup kit include, but are not limited to, dry absorbents such as pads, socks, mops, absorbing clays, portable booms or diverting structures, and appropriate personal protective equipment (PPE). These materials are maintained in clearly labeled containers at various locations around the site and are accessible to all employees.

Material Handling and Storage

Similar to the procedures for emergency spill response, material handling and storage of potentially contaminating substances is conducted in strict accordance with various plans, policies, and other associated control documents.

Employee Training

The training program for the Carlsbad Energy Center Facility's Pollution Prevention Team focuses on proper preparation and response to storm events. Team members undergo storm water management training for all areas and operations at this facility. Training updates are conducted annually. New employees are provided with a program summary of storm water management practices as part of their employment orientation.

The topics addressed in the annual training program include updates to storm water pollution prevention regulations, spill response, material management practices, storm water BMPs, good housekeeping, inspection protocol and consequences of noncompliance.

Hazardous Waste Handling/Recycling

To avoid the potential effects on human health and the environment from the handling and disposal of hazardous wastes, procedures will be developed in accordance with applicable LORS to ensure proper labeling, storage, packaging, recordkeeping, and disposal of all hazardous wastes. The following general procedures will be employed:

- Carlsbad Energy Center Facility will be classified as a hazardous waste generator. Prior to facility startup, application will be made to Cal-EPA for a USEPA identification number.
- Hazardous wastes will not be stored onsite for more than 90 days and will be accumulated according to CCR Title 22 requirements.

- Hazardous wastes will be stored in appropriately segregated storage areas surrounded by berms to contain leaks and spills. The bermed areas will be sized to hold the full contents of the largest single container and, if not roofed, sized for an additional 20 percent to allow for rainfall. These areas will be inspected daily.
- Hazardous wastes will be collected by a licensed hazardous waste hauler, using a hazardous waste manifest. Wastes will only be shipped to permitted hazardous waste management facilities. Biannual hazardous waste generator reports will be prepared and submitted to DTSC. Copies of manifests, reports, waste analyses, and other documents will be kept onsite and remain accessible for inspection for at least 3 years.
- Employees will be trained in hazardous waste procedures, spill contingencies, and waste minimization.
- Procedures will be developed to reduce the quantity of hazardous waste generated. Nonhazardous materials will be used instead of hazardous materials whenever possible, and wastes will be recycled whenever possible.

Specifically, hazardous waste handling will include the following procedures to minimize the quantity of waste deposited to landfills.

- Waste lubricating oil will be recovered and recycled by a waste oil recycling contractor. Spent oil filters and oily rags will be recycled.
- Spent SCR and oxidation catalysts will be recycled by the supplier, if possible, or disposed of in a Class I landfill.
- Chemical cleaning wastes will consist of alkaline and acid cleaning solutions used during pre-operational chemical cleaning of the boiler system of the HRSGs, acid cleaning solutions used for chemical cleaning of the HRSG after the unit is put into service, and turbine wash and HRSG fireside washwaters. These wastes, which are subject to high metal concentrations, will be stored temporarily onsite in portable tanks and disposed of offsite, in accordance with applicable regulatory requirements. Disposal may consist of offsite treatment, recovery of metals, and/or landfilling.

Recordkeeping and Internal Reporting

The maintenance and storage of environmental records is conducted in accordance with this SWPPP and other environmental management programs exercised by CARLSBAD ENERGY CENTER LLC. These procedures ensure that all records of inspections, spills, maintenance activities, corrective actions, and visual observations are developed, retained, and provided, as necessary, to the appropriate facility personnel. Appropriate company communication and environmental records associated with the storm water management program can be found in the appendices of this document.

Erosion Control and Site Stabilization

Because approximately 45 percent of the Carlsbad Energy Center Facility consists of pervious surfaces, sediment and erosion prevention and control measures were implemented during construction of the plant which included geotextile matting and sod to maximize site stabilization. These areas are inspected daily and should any area depict signs of erosion, the area will be restablized through the use of erosion matting and soil. Should the facility site undergo

modifications in the future which will involve a high potential for *significant* soil erosion, appropriate measures to limit erosion will be identified and implemented.

Inspections

Two types of inspections are performed at the Carlsbad Energy Center Facility as part of this SWPPP: an annual formal compliance evaluation, and continuous visual inspections performed by employees. The compliance evaluation is conducted one a year by the Environmental Specialist or Laboratory Technician to verify that the description of potential pollutant sources is accurate, that the drainage map has been updated or otherwise modified to reflect current conditions; and that the controls to reduce pollutants in storm water discharges associated with industrial activity identified in the SWPPP are being implemented and are adequate. Records documenting significant observations made during the site inspection and corrective actions resulting from the inspection are retained as part of this SWPPP for five years.

In addition to this annual inspection, visual inspections are conducted by facility personnel who are trained to observe evidence of, or the potential for, pollutants to enter the drainage system from equipment, or materials handling and storage areas. If only minor corrective actions are needed, they are performed immediately and not reported. If more extensive actions are required, the shift supervisor is to be notified, and he or she in turn notifies the Plant Manager. Records of visual inspections and corrective actions also are retained for five years. Guidelines used in these informal inspections are presented in the Table 4, as well as in the multiple log forms provided in Appendix A.

Non-storm water discharge inspections and observations are performed quarterly at all potential discharge locations and containment areas. In addition, storm water discharge visual observations are performed at each discharge and run-on location (Figure 2) for at least two storms per year to detect indications of contaminants. If indications of contaminants exist, the source is investigated and action taken to reduce pollutants in the discharge.

Quality Assurance

The procedures employed at the Encina Power Plant facility to ensure that all elements of this SWPPP and Monitoring Program are adequately conducted include:

- Monitoring program quality assurance/quality control activities (details provided in Appendix D).
- Recordkeeping practices (see “Recordkeeping and Internal Reporting” Section above)
- Employee training programs (see “Employee Training” Section above)
- Regular site inspections (see “Inspection” Section above)

Structural BMPs

In addition to the non-structural BMPs identified above, specific structural BMPs are implemented at the Carlsbad Energy Center Facility. Structural BMPs generally consist of structural devices that reduce or prevent pollutants in storm water discharges and other non-authorized discharges. These are described below.

Secondary Containment Structures

Structural containment is provided for all tanks and most areas throughout the facility that are prone to potential spills, leaks, or ruptures. In areas where significant materials are stored outside without rainfall protection, secondary containment in these areas provides for the largest single container or tank and runoff from a 24-hour, 25-year return period storm. All secondary containment structures are outfitted with manually controlled discharge valves, warning signs, and remained locked at all times. Inspection and maintenance procedures are tailored to maintain these BMPs in meticulous condition and strictly regulate the authority for any releases.

Spill Kits

Equipment for emergency spill response is provided via spill kits situated in strategic locations throughout the facility. These are also supplied with PPE to safeguard response personnel when using absorbents and emergency response equipment.

Potential BMP Developments

In addition to the existing material management techniques employed at the Carlsbad Energy Center Facility, other potential BMPs may be appropriate in the future as conditions warrant. If required, the BMPs identified below, which are based on 1997 observations at the overall Encina Power Plant Site and would serve to further enhance storm water quality. As such, the implementation of these BMPs is contingent on the effectiveness of existing storm water controls.

The results of future annual inspections will determine whether the BMP developments below are necessary based on site conditions and whether they can be accommodated without significant fiscal and staff-related impacts.

1. All drain inlets should be checked, cleared of accumulated debris, and maintained to insure that significant debris buildup does not occur.
2. Sand bags or other erosion control devices will be placed in areas subject to heavy debris buildup as appropriate.
3. Periodically remove landscaping waste piles in Basin A and control up gradient erosion with sand bags to minimize sediment buildup
4. Remove/clean areas where minor spills have occurred and areas showing spill/leakage and or stains). Avoid outside spray painting.
5. Minimize storage of waste drums outside and conduct routine dry sweeping and vacuuming to collect welding/other particulates.
6. Provide a portable sandbox or other suitable method to collect welding slag, cutting debris and spent welding rods where such outside activities are conducted.
7. Storm water structure outfall area showing signs of minor erosion and the subsequent introduction of sediments to the storm water conveyance system. For these areas immediate stabiliztiion with sand bags, rip rap or suitable alternatives should be employed to prevent erosion into natural waterbodies..

8. Brief contractors or other temporary onsite personnel on the need to consolidate or remove unnecessary equipment and waste materials from District Operations lay down area in northeast section of Basin B1.
9. The employee parking area should be cleaned on an as needed basis using dry methods (absorbents and subsequent sweeping and collection) to eliminate accumulated oils, grease, and other automobile contaminants.

ANNUAL COMPREHENSIVE SITE COMPLIANCE EVALUATION

In accordance with Section A.9. of the General Permit, a comprehensive site compliance evaluation must be conducted at least once per year. Evaluations are to be conducted within 8 to 16 months of each other. A formal site inspection shall be conducted annually by a member of the Pollution Prevention Team to verify that the controls to reduce pollutants in storm water discharges identified in this SWPPP are adequate and properly implemented. If it is determined that existing control measures are not adequate, additional control measures will be recommended and implemented within 90 days of the evaluation.

The site evaluation will include a review of all visual observation records, inspection records, and sampling and analysis records. Site inspection and corrective action records produced under this program shall be retained for 5 years and should be archived in the appendix of this document. Inspections will be used to verify that best management practices are in place, including structural and nonstructural controls. Recommendation of additional or modifications to storm water controls, evaluation of good housekeeping techniques, and verification of erosion prevention will also be included as part of the annual compliance evaluation. A site inspection log sheet is shown as Form I in Appendix A. The annual review of the SWPPP and changes made as a result of the annual compliance evaluation should be recorded on Form II (Appendix A).

The Carlsbad Energy Center Facility SWPPP will be reviewed and compliance with it determined based on the annual compliance evaluation. If conditions throughout the facility comply with the SWPPP, a certification to that effect will be signed by the Plant Manager or other principal executive officer (see Appendix A, Form III). Should management status of the facility change either by retirement, promotion, or otherwise, a new authorization must be attached to the SWPPP prior to submittal of any reports, certifications, or information signed by the person responsible.

SECTION 2**STORM WATER MONITORING PROGRAM AND REPORTING REQUIREMENTS**

This storm water sampling plan and monitoring program has been developed in accordance with the State Water Resources Control Board's Storm Water Monitoring and Reporting Requirements as stated in Section B of the Industrial Activities Storm Water General Permit published April 17, 1997.

The goals and objectives of the monitoring program for Carlsbad Energy Center LLC Carlsbad Energy Center Facility are to:

- Provide visual observation methods and guidelines for dry- and wet-weather inspections.
- Provide guidelines for complying with the discharge prohibitions specified in the General Permit.
- Ensure practices at the facility to control pollutants in storm water discharges and authorized non-storm water discharges are evaluated and revised to meet changing conditions.
- Aid in the implementation and revision of the SWPPP.
- Measure the effectiveness of best management practices (BMPs) in removing or reducing pollutants in storm water discharge and authorized non-storm water discharges.

The storm water monitoring program consists of four main elements:

1. Non-storm Water Discharge Visual Observations
2. Storm Water Discharge Visual Observations
3. Sampling and Analysis
4. BMP Inspection and Monitoring

Each of these elements is described below. Results of these monitoring elements must be documented in the Annual Report submitted to the Regional Water Quality Control Board due by July 1 of each year (refer to Appendix B for Annual Reports). All monitoring records must be maintained for a period of five years.

Conducting this monitoring program involves the collection of information and storage of records pertaining to site inspections, field observations, weather conditions, compliance evaluations, and other applicable information. Several forms have been developed specifically for this program to assist in its implementation. Therefore, to simplify the presentation of this material,

all examples of inspection, observation, and other log forms are presented in Appendix A. The forms presented in Appendix A may be modified to suit the changing needs of the facility as appropriate.

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NON-STORM WATER DISCHARGE VISUAL OBSERVATIONS

In accordance with Section B.3 of the General Permit, “facility operators” must visually observe all drainage areas within their facilities for the presence of unauthorized non-storm water discharges and must visually observe the facility’s authorized non-storm water discharges and their sources. These visual observations must occur quarterly, during daylight hours, on days with no storm water discharges, and during scheduled facility operating hours. Quarterly visual observations must be conducted in each of the following periods: January-March, April-June, July-September; and October-December. The quarterly visual observations must be conducted within 6 to 18 weeks of each other.

The visual observations made must document the presence of any discolorations, stains, odors, floating materials, etc. as well as the source of any discharge. Records must be maintained of (1) the visual observation dates, (2) locations observed, (3) observations, and (4) response taken to eliminate unauthorized non-storm water discharges and to reduce or prevent pollutants from contacting non-storm water discharges.

For areas that are detected to have offsite run-on, the source of run-on should be traced to the source and corrective action taken. Refer to “Non-storm Water Discharges” presented earlier in the Storm Water Pollution Plan section for allowable non-storm water discharges. Those found to be of an unauthorized nature should be immediately eliminated. Adjacent property owners, or operators of equipment on adjacent property that cause non-storm water discharges to flow onsite should be immediately notified to halt such activities or implement corrective measures. Should initial attempts to resolve such offsite run-on conditions, the San Diego RWQCB can be notified if appropriate.

A site inspection log sheet is shown as in Appendix A. The annual review of the SWPPP and changes made as a result of the annual site inspection should be recorded on (Appendix A).

STORM WATER DISCHARGE VISUAL OBSERVATIONS

Facility operators must visually observe storm water discharges from one storm event per month between October 1 and May 30, during which wet weather is expected. The visual observations must occur during the first hour of discharge and at all discharge locations. Visual observations of stored or contained storm water must occur at the time of the release. Visual observations are only required of storm water discharges that occur during daylight hours that are preceded by at least three working days without storm water discharges and that occur during scheduled facility operating hours. The visual observations must document the presence of any floating or suspended material, oil and grease, discolorations, turbidity, odor and source of any pollutants. Records must be maintained of (1) the visual observation dates, (2) locations observed, (3) observations, and (4) response taken to reduce or prevent pollutants in storm water discharges.

Guidelines for conducting the visual observations are presented on Form VI in Appendix A. The annual review of the SWPPP and changes made as a result of the annual site inspection should be recorded on Form II (Appendix A).

Wet-Season Sampling And Analysis

This section summarizes the wet-season sampling program, including when sampling must occur, the locations to be sampled, analytical requirements, and includes a list of constituents to be analyzed.

The sampling locations (Figure 2) were selected at the Carlsbad Energy Center Facility to sufficiently represent industrial characteristics upstream and avoid repetition in redundant sampling. A total of one representative wet-weather sampling point was chosen to characterize the Carlsbad Energy Center Facility at the outfall location or the site. The analytical parameters for the sampling location are based on the industrial activity occurring in the defined basins.

Wet-Season Sampling Criteria

The Carlsbad Energy Center Facility is required to collect samples and perform visual observations *during daylight hours only* if significant storm water discharges commence **during scheduled facility operating hours**.

The sampling requirements for wet-season conditions are as follows:

- *Samples of storm water runoff must be collected from the five storm water discharge sampling locations and analyzed from the first storm event of the “wet season” and at least one other storm event in the wet season.* Facility personnel that do not collect samples from the first storm event of the wet season are still required to collect samples from two other storm events of the wet season and must explain in the Annual Report why the first storm event was not sampled.
- A minimum of **three** working days of dry weather must have elapsed from the end of the previous rainfall event to collect a valid storm water runoff sample.
- A grab sample must be taken during the **first hour** of the discharge. The intent of the grab sample is to collect runoff during the initial flush. If obtaining a grab sample during the first hour is impracticable, the grab sample can be taken as soon as practicable thereafter. **An explanation must be provided in the annual monitoring reports of why the grab sample could not be taken in the first hour of rainfall.** (See exemption criteria below.)
- Sampling of **stored or contained** storm water must occur at the time the stored or contained storm water is released.
- Storm water discharge samples may be collected either manually or with automatic water sampling devices. A grab sample will be collected from representative locations of each storm water outfall during a rainfall event.

Sample Analyses

As stated in §B.5.c. of the General Permit, each wet-season storm water sample shall be analyzed for the following parameters:

1. Total suspended solids (TSS), pH, specific conductance, and total organic carbon (TOC). Oil and grease may be substituted for TOC; and
2. Toxic chemicals and other pollutants that are likely to be present in storm water discharge in significant quantities. If these pollutants are not detected in significant quantities after two consecutive sampling events, the facility operator may eliminate the pollutant from future sample analysis until the pollutant is likely to be present again; and
3. Other analytical parameters as listed in Table D (i.e., specific to the industry and in accordance with the Standard Industrial Classification (SIC) code associated with that industry). For the Carlsbad Energy Center Facility, the applicable SIC code is 4911 (“Steam Electric Power Generating Facilities”), which mandates an analysis for **iron** in storm water samples. Facility operators are not required to analyze a parameter listed in Table D when the parameter is not already required to be analyzed pursuant to Section B.5.c.i. and ii. or B.6 of the General Permit and either of the two following conditions are met: (1) the parameter has not been detected in significant quantities from the last two consecutive sampling events, or (2) the parameter is not likely to be present in storm water discharges and authorized non-storm water discharges in significant quantities based upon the facility operator’s evaluation of the facility’s industrial activities, potential pollutant sources and SWPPP. Facility operators that do not analyze for the applicable Table D parameters shall certify in the Annual Report that the above conditions have been satisfied.

As specified by General Permit §B.6, facilities subject to federal storm water effluent limitations must also collect and analyze two storm water samples for any pollutant specified by 40 CFR Subchapter N. Based on recent discussion with the Region 9 of the Environmental Protection Agency, Steam Electric Power Generating facilities are subject to additional storm water sampling requirements (and subsequent requirements of General Permit §B.6) if storm water runoff from coal piles exists and/or the facility is currently subject to federal storm water effluent limits (E. Bromley, personal communication 1997). From the results of the 1997 Carlsbad Energy Center Facility site audit, the interpretation of 40 CFR 423, and discussions with federal regulators, this facility is not subject to General Permit §B.6. A copy of 40 CFR 423 has been included in Appendix C as support and reference material.

Thus, storm water samples collected at the Carlsbad Energy Center Facility must be analyzed for:

- pH
- Total suspended solids (TSS)
- Specific conductance
- Oil and grease
- Iron (General Permit Table D)

Wet-Weather Sampling Locations

Storm water permit regulations require the collection of runoff samples from all industrial areas where storm water is discharged that represent the quality and quantity of the facility's storm water discharges from the storm event (General Permit §B.7.). However, if a facility discharges storm water at multiple locations, the discharger may sample a reduced number of locations if different locations are substantially identical, or, in the alternative, may collect samples from each substantially identical drainage area and analyze a combined sample from each substantially identical drainage area. Facility operators must document such a determination in the Annual Report.

If the facility's storm water discharges are **commingled** with run-on from surrounding areas the facility operator should identify other visual observation and sample collection locations that have not been commingled by run-on and that represent the quality and quantity of the facility's storm water discharges from the storm event.

The locations designated for wet-weather sampling designated below are areas that are associated with storm water runoff, which have the potential to contain pollutants:

Basin A: The storm drain structure depicted as A-1 on the Site Plan. The Carlsbad Energy Center Facility drains to basin A outfall structure via piping.

Basin B1: The drainage from the Carlsbad Energy Center Facility is inspected and logged. One of the locking sump pump inlets will be sampled prior to opening the locked valved, which may be after a storm event has concluded.

Refer to Figure 2 for graphic depictions of these sampling locations and to Appendix D for specific procedures to follow when sampling.

Visual Observation and Sample Collection Exemptions

In accordance with General Permit §B.8., the following exceptions to the mandatory visual observation and sample collection requirements are allowed:

1. A facility operator is **not** required to collect a sample and conduct visual observations when:
 - dangerous weather conditions exist, such as flooding, electrical storm, etc.
 - storm water discharges begin after scheduled facility operating hours.
 - storm water discharges are not preceded by three working days without discharge.
 - storm water discharges do not occur during daylight hours.

2. A facility operator may conduct visual observations and sample collection **more than** one hour after discharge begins if the facility operator determines that the objectives of the observation and sampling program will be better satisfied.

If any of these exceptions are employed, then an explanation for the exception must be provided in the Annual Report.

Monitoring Methods

The methods employed for the monitoring program have been selected to satisfy storm water pollution control objectives and to provide observation and sampling data from each storm water basin on the site. The rationale and description of the visual observation methods, sampling methods, locations, and frequency are described in the protocols above. Analytical methods and corresponding method detection limits used to detect pollutants in storm water discharges as presented in Appendix D.

All monitoring methods described in this plan include, incorporate, or reference the following requirements:

- All sampling and sample preservation must be in accordance with the current edition of “Standard Methods for the Examination of Water and Wastewater” (American Public Health Association).
- All monitoring instruments and equipment must be calibrated and maintained in accordance with the manufacturer’s specifications to ensure accurate measurements.
- All laboratory analyses must be conducted according to test procedures under 40 CFR Part 136, unless otherwise specified by the General Permit or the Regional Board.
- All metals must be reported as total metals.
- All laboratory analyses must be conducted at a laboratory certified for such analyses by the State Department of Health Services (with the exception of analyses conducted by facility operators whose staff is properly qualified to perform the test procedures).

Alternative Monitoring Procedures

Alternative monitoring procedures to those presented above are allowed (e.g., composite sampling) providing that the procedures meet monitoring program objectives and the Regional Board has reviewed the proposed procedures and justification and has approved the alternative plan. The alternative monitoring program must be submitted for approval to:

San Diego Regional Water Quality Control Board
9771 Clairemont Mesa Boulevard, Suite A
San Diego, CA 92124
(858) 467-2952

RECORDS

Detailed records must be maintained to provide quality assurance/quality control for a storm water monitoring program. Records of all storm water monitoring information and copies of all reports required by the General Permit must be retained for a minimum of five years from the date of the observation, measurement, or report. These records must include:

- Date, place, time, and individual(s) who performed the site inspections, sampling, visual observations and/or measurements, and if appropriate, sampling data;
- Date, time, and individual(s) who performed the chemical analyses; if appropriate;
- Analytical techniques or methods used, method detection limits, and the results of such analyses; if appropriate;
- Quality assurance/quality control information;
- Non-storm water discharge inspections and visual observations and storm water discharge visual observation records;
- Visual observation and sample collection exception records;
- All calibration and maintenance records of on-site instruments used;
- All sampling and analysis exemption and reduction certifications and supporting documentation;
- The records of any corrective actions and follow-up activities that resulted from the visual observations.

The majority of this information will be archived in field logs, and other supporting information documents.

Originals of individual field observation logs, noncompliance reports, annual reports, and other pertinent information should be archived in this SWPPP and maintained by the Carlsbad Energy Center Facility's Pollution Prevention Team. The Pollution Prevention Team office will serve as a central record keeping location for all storm water management procedures that were followed.

BMP Inspection & Monitoitng

At least once each day each week designated personnel shall inspect the site to assess the facility's level of compliance with its BMPs. Using Carlsbad Energy Center Facility's Weekly Facility Inspection Report Form designated site personnel knowledgeable in operational activities shall record the inspection findings to insure and certify the facility is implementing of its BMPs.

The Weekly Facility Inspection Reports are important to stormwater management efforts. These reports shall be used to demonstrate the facility's level of compliance with the monitoring and BMP requirements of the General Permit, and to evaluate the effectiveness of the Carlsbad Energy Center Facility's implementation its SWPPP and BMPs.

ANNUAL REPORT

An annual report must be submitted by **July 1** of each year to the Executive Officer of the San Diego Regional Board. It is recommended that preparation, collation of support materials, and technical evaluation of results commence no later than six weeks prior to the due date.

The report will include a summary of visual observations and any sampling results, an evaluation of the visual observation and sampling and analysis results, laboratory reports, the Annual Comprehensive Site Compliance Evaluation Report, information regarding exceptions to visual observations and sample collections throughout the year, any required records, and the method detection limit of each analytical parameter. Annual Reports should be archived in Appendix B.

The Annual Report will be signed and certified in accordance with the certification statement below.

"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."

All records shall be retained on site for a period of at least five years, by a member of the Pollution Prevention Team.

SECTION 3**REFERENCES**

Stormwater Pollution Prevention Plan and Best Management Practices Plan, Cabrillo Power I, LLC, June, 2004.

Geocon (Geocon Environmental Consultants). 1992. Encina Facility: SWPPP, Monitoring Program, Records, October.

NOAA (National Ocean and Atmospheric Administration). 1991. *Climatological Data, Annual Summary, California, 1991*. Volume 95, number 13.

State Water Resources Control Board, Water Quality Order NO. 97-03-DWQ, National Pollutant Discharge Elimination System (NPDES), General Permit No. CAS000001 (GENERAL PERMIT).

APPENDIX A
STORMWATER POLLUTION PREVENTION PLAN FORMS

SAMPLING AND ANALYSIS REDUCTION CERTIFICATION

Submission of this Sampling and Analysis Reduction Certification (SARC) constitutes notification that the operator of the facility identified on this form satisfies the sampling and analysis reduction requirements in Section B.12.b. of the Industrial Activities Storm Water General Permit (General Permit) No. 97-03-DWQ. This SARC and supporting documentation must be submitted to the appropriate Regional Water Board office (see Attachment 4) prior to the wet season (October 1). After submitting this SARC, the facility operator is required to collect and analyze samples from two additional storm events in accordance with the schedule provided in Table C (page 34) of the General Permit. If this SARC is denied by the Regional Water Board, the facility operator must collect and analyze samples from two storm events during each wet season. Please print or type when completing this form and attach any required documents.

I. WDID NO. _____

II. FACILITY OPERATOR INFORMATION

Name _____ Contact Person _____

Mailing Address _____ Title _____

City _____ State _____ Zip _____ Phone _____

III. FACILITY SITE INFORMATION

Facility Name _____ Contact Person _____

Location _____ Title _____

City _____ CA _____ Zip _____ Phone _____

SIC Code(s) 1. _____ 2. _____ Type of Business _____

IV. DOCUMENT CHECKLIST

The following documents must be submitted with this form to be eligible for sampling and analysis reduction. Please check each item to verify that the documents are attached.

1. Sampling Event Reporting Form (see Attachment 1)

2. Copy of laboratory analytical results

- 3. Storm Water Pollution Prevention Plan and Monitoring Program Checklist (see Attachment 2) and written explanation for any questions answered "NO" or "N/A".
- 4. Copy of Facility's Storm Water Pollution Prevention Plan
- 5. Copy of Facility's Monitoring Program
- 6. Proof of group monitoring participation (only required if you are claiming group monitoring sampling credits)

V. CERTIFICATION

I certify that my facility qualifies for Sampling and Analysis Reduction in accordance with Section B.12.b. of the Industrial Activities Storm Water General Permit 97-03-DWQ. Additionally, 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 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.

Signature

Title

Printed Name

Date

The SARC must be signed by, (a) For a Corporation: a responsible corporate officer (or authorized official), (b) For a Partnership or Sole Proprietorship: a general partner or proprietor, respectively, (c) For a Municipality, State, or other Non-Federal Public Agency: either a principal executive officer or ranking elected official, (d) For a Federal Agency: either the chief or senior executive officer of the agency.

FOR REGIONAL WATER BOARD USE ONLY:

<input type="checkbox"/> DENIED	<input type="checkbox"/> APPROVED	
_____ Printed Name	_____ Signature	_____ Date
<input type="checkbox"/> Retained at Regional Board Office	<input type="checkbox"/> Returned to Applicant	

SAMPLING EVENT REPORTING FORM

Eligibility for sampling and analysis reduction requires that you report the analytical results from the last six (6) sampling events that samples were collected. Section A provides instructions and a recommended table to report these analytical results. If you participated in a group monitoring plan (GMP) and are substituting GMP credits for any of the sampling events, check this box and complete Section C.

A. Instructions to Report Sampling and Analysis Results

- 1) Use Table A or an equivalent table to provide your analytical results for each storm water discharge location where sampling was required. Make copies of Table A if your facility has multiple storm water discharge locations.
- 2) Fill out columns 1-6, including each sampling event date and the analytical results for each parameter. If you analyzed storm water samples for parameters other than those in the table, list each additional parameter, reporting units, and the analytical results. When a parameter is not detected, report as less than the detection limit.
- 3) Compute the average for each parameter and report the result in the “parameter average” column. The average is the sum of all values for a parameter, divided by the number of samples. If any of your results are reported as less than the detection limit, use one-half of the detection limit for your computation. (Example: If the laboratory reports oil and grease as <5 mg/l, use 2.5 mg/l in your computation of the average.)

TABLE A: SUMMARY OF ANALYTICAL RESULTS

Discharge Location:	Analytical Results						Parameter Average	Benchmark Value
	Sampling Event	1	2	3	4	5		
Analytical Parameters	Date							
pH (pH units)							6.0-9.0	
Total Suspended Solids (mg/l)							100	
Specific Conductance (umho/cm)							200	
Oil & Grease (mg/l)							15	
Total Organic Carbon (mg/l)							110	
Other Parameters:								

B. Instructions For Applying Benchmarks to Analytical Results

Parameter Benchmark Values (PBVs) are listed in Table A and Table B (see attachment 3). Analytical results above the PBVs may indicate that the facility’s SWPPP is not fully effective in reducing or preventing pollutants in storm water discharges. Your analytical results as well as all other information submitted with this SARC will be reviewed by the Regional Water Board when determining compliance with the SARC eligibility requirements.

PBVs are not numeric effluent limitations and do not supercede effluent limitations guidelines established in Federal Regulations (40 CFR Subchapter N) for storm water discharges from ten (10) categories of facilities listed on Attachment 1, item 1, of the General Permit. If your facility is in one

of these categories and any of the analytical results reported in Table A exceed the applicable numeric effluent limitations guidelines, contact your Regional Water Board for additional SARC eligibility guidance.

For each parameter average reported in Table A exceeding the corresponding PBV, attach an explanation that satisfies one of the following conditions:

1. There are no facility pollutant sources related to the parameter, or
2. BMPs that address the facility pollutant sources related to the parameter are being fully implemented and represent compliance with Best Available Technology Economically Achievable and Best Conventional Pollutant Technology requirements of the General Permit.

C. Group Monitoring Plan (GMP) Sampling Credits Instructions

(Complete if you are substituting one (1) or more sampling events with GMP credits)

Section B.15.k of the General Permit allows the substitution of up to four (4) of the six (6) required sampling events with credit earned through participation in approved GMPs. At a minimum you may substitute one (1) GMP credit for each year of GMP participation. You may substitute two (2) GMP credits for each year that the group collected more than 75% of the required samples. Proof of group participants and, if applicable, proof that the group collected more than 75% of the required samples must be attached. You do not earn GMP credits in years where you collected and analyzed samples (those results must be reported in Table A).

In the GMP Credit Worksheet below, indicate the number of GMP credits earned for each year of GMP participation, provide your total GMP credits, and calculate your total sampling event credits.

GMP CREDIT WORKSHEET

Group Monitoring Plan Name _____ Group Leader Name _____

Year of GMP Participation	1992-93	1993-94	1994-95	1995-96	1996-97	Total GMP Credits
GMP Credits	<input type="checkbox"/> 1 <input type="checkbox"/> 2					

of sampling events reported in Table A (minimum of two (2) must be reported) + Total GMP credits (from right hand column above)

= **TOTAL SAMPLING EVENT CREDITS**
(must add to six (6) or more to be eligible)

STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND MONITORING PROGRAM (MP) CHECKLIST

In order to evaluate your SARC request, the following items must be addressed. Include the page number of your SWPPP and MP where such information is located. If the SWPPP and/or MP is incomplete your SARC may not be approved. When an item is not applicable you can write "N/A" in the check box. For items answered "NO" or "N/A", attach an explanation.

A. Storm Water Pollution Prevention Plan

The SWPPP contains:

1. A current identification of the pollution prevention team or individual(s) responsible for implementation of the SWPPP [See Section A.3.a of the General Permit.....Page(s)_____
2. A current reference to existing elements of other applicable regulatory requirements [See Section A.3.b].....Page(s)_____
3. A current site map that addresses all applicable items of Section A.4.....Page(s)_____
4. A current list of significant materials [See Section A.5].....Page(s)_____
5. A current description of potential pollutant sources [See Section A.6].....Page(s)_____
6. A current description of spills and leaks in significant quantities since April 17, 1994 [See Section A.6.iv].....Page(s)_____
7. A current description of all non-storm water discharges [See Section A.6.v.].....Page(s)_____
8. A current assessment of potential pollutant sources [See Section A.7].....Page(s)_____
9. A current narrative description of the storm water Best Management Practices (BMP) [See Section A.8.].....Page(s)_____
10. A current table summarizing all potential pollutant sources and corresponding BMPs [See Section A.6.b].....Page(s)_____
11. A current description of the employee training and a schedule for training sessions [See Section A.8.a.v].....Page(s)_____
12. A current description of record keeping and internal reporting procedures [See Section A.8.a.vii.].....Page(s)_____
13. A current schedule to periodically inspect all potential pollutant sources [See Section A.8.a.ix.].....Page(s)_____
14. Current quality assurance procedures [See Section A.8.a.x].....Page(s)_____

Can you certify that:

- | | YES | NO |
|--|--------------------------|--------------------------|
| 15. The SWPPP is specific to your facility? | <input type="checkbox"/> | <input type="checkbox"/> |
| 16. All non-storm water discharges are identified? [See Section A.6.v.] | <input type="checkbox"/> | <input type="checkbox"/> |
| 17. All unauthorized non-storm water discharges were eliminated prior to the last two reporting periods? [See Section A.6.v.] | <input type="checkbox"/> | <input type="checkbox"/> |
| 18. Complete Annual Reports were submitted to the Regional Water Quality Control Board for the last two reporting periods? [See Section B.14.] | <input type="checkbox"/> | <input type="checkbox"/> |
| 19. An Annual Site Inspection/Comprehensive Site Compliance Evaluation was performed for each of the last two reporting periods? [See Section A.9] | <input type="checkbox"/> | <input type="checkbox"/> |
| 20. The facility was in compliance with the permit requirements for the last two reporting periods? | <input type="checkbox"/> | <input type="checkbox"/> |

B. Monitoring and Reporting Program (MP)

The MP contains:

- 21 . A current procedure to visually observe all non-storm water discharges [See Section B.3].....Page(s)_____
- 22 . A current procedure to conduct quarterly visual observation for the presence of unauthorized non-storm water discharge [See Section B.3.a. and B.3.b.]Page(s)_____
- 23 . A current procedure for conducting monthly visual observations of all storm water discharges [See Section B.4].....Page(s)_____
- 24 . A current description of sampling and handling procedures [See Section B.10.].....Page(s)_____

Can you certify that:

- | | YES | NO |
|--|--------------------------|--------------------------|
| 25. The MP is specific to your facility? | <input type="checkbox"/> | <input type="checkbox"/> |
| 26. You inspected the facility for non-storm water discharges in the last two reporting periods? | <input type="checkbox"/> | <input type="checkbox"/> |
| 27. Samples were collected from all storm water discharge locations required to be sampled for the last two reporting periods? | <input type="checkbox"/> | <input type="checkbox"/> |

TABLE B
U.S. EPA Multi-Sector Permit
Parameter Benchmark Values^{1,2}

Parameter Name	Benchmark Value
Biochemical Oxygen Demand(5).....	30 mg/L
Chemical Oxygen Demand.....	120 mg/L
Total Suspended Solids.....	100 mg/L
Oil and Grease.....	15 mg/L
Nitrate + Nitrite Nitrogen.....	0.68 mg/L
Total Phosphorus.....	2.0 mg/L
pH.....	6.0-9.0 s.u.
Acrylonitrile (c).....	7.55 mg/L
Aluminum, Total (pH 6.5-9).....	0.75 mg/L
Ammonia.....	19 mg/L
Antimony, Total.....	0.636 mg/L
Arsenic, Total (c).....	0.16854 mg/L
Benzene.....	0.01 mg/L
Beryllium, Total (c).....	0.13 mg/L
Butylbenzyl Phthalate.....	3 mg/L
Cadium, Total (H).....	0.0159 mg/L
Chloride.....	860 mg/L
Copper, Total (H).....	0.0636 mg/L
Dimethyl Phthalate.....	1.0 mg/L
Ethylbenzene.....	3.1 mg/L
Fluoranthene.....	0.042 mg/L
Fluoride.....	1.8 mg/L
Iron, Total.....	1.0 mg/L
Lead, Total (H).....	0.0816 mg/L
Manganese.....	1.0 mg/L
Mercury, Total.....	0.0024 mg/L
Nickel, Total (H).....	1.417 mg/L
PCB-1016 (c).....	0.000127 mg/L
PCB-1221 (c).....	0.10 mg/L
PCB-1232 (c).....	0.000318 mg/L
PCB-1242 (c).....	0.00020 mg/L
PCB-1248 (c).....	0.002544 mg/L
PCB-1254 (c).....	0.10 mg/L
PCB-1260 (c).....	0.000477 mg/L
Phenols, Total.....	1.0 mg/L
Pyrene (PAH,c).....	0.01 mg/L
Selenium, Total (*).....	0.2385 mg/L
Silver, Total (H).....	0.0318 mg/L
Toluene.....	10.0 mg/L
Trichloroethylene (c).....	0.0027 mg/L
Zinc, Total (H).....	0.117 mg/L

¹ If storm water samples have been analyzed for parameters without Parameter Benchmark Values, contact your Regional Water Board.

² Regional Water Boards may adopt Parameter Benchmark Values that are different than those listed in this Table.

STORM WATER POLLUTION PREVENTION PLAN and MONITORING PROGRAM REVIEW SHEET

GENERAL INDUSTRIAL ACTIVITIES STORM WATER PERMIT
WATER QUALITY ORDER NO. 97-03-DWQ

FACILITY NAME _____

WDID# _____

REVIEW DATE _____

FACILITY CONTACT

Name _____
 Title _____
 Company _____
 Street Address _____
 City, State _____
 Zip _____

CONSULTANT CONTACT

Name _____
 Title _____
 Company _____
 Street Address _____
 City, State _____
 Zip _____

Indication of WDID# YES NO

STORM WATER POLLUTION PREVENTION PLAN	Not Applicable	Include d	Not Include d	Incomplete	Comments
Signed Certification (C.9 and C.10)					
Pollution Prevention Team (A.3.a)					
Existing Facility Plans (A.3.b)					
Facility Site Map(s)					
Facility boundaries (A.4.a)					
Drainage areas (A.4.a)					
Direction of flow (A.4.a)					
On-site water bodies (A.4.a)					
Areas of soil erosion (A.4.a)					
Nearby water bodies (A.4.a)					
Municipal storm drain inlets (A.4.a)					
Points of discharge (A.4.b)					
Structural control measures (A.4.b)					
Impervious areas (A.4.c) (paved areas, buildings, covered areas, roofed areas)					
Location of directly exposed materials (A.4.d)					
Locations of significant spills and leaks (A.4.d)					
Storage areas / Storage tanks (A.4.e)					
Shipping and receiving areas (A.4.e)					
Fueling areas (A.4.e)					
Vehicle and equipment storage and maintenance (A.4.e)					
Material handling / Material processing (A.4.e)					
Waste treatment / Waste disposal (A.4.e)					
Dust generation / Particulate generation (A.4.e)					
Cleaning areas / Rinsing areas (A.4.e)					

Items in parentheses refer to specific sections of the General Permit

Reviewer

Other areas of industrial activities (A.4.e)						
STORM WATER POLLUTION PREVENTION PLAN		Not Applicable	Include d	Not Include d	Incomplete	Comments
List of Significant Materials (A.5)						
For each material listed:						
Storage location						
Receiving and shipping location						
Handling location						
Quantity						
Frequency						
Description of Potential Pollution Sources (A.6)						
Industrial processes (A.6.a.i)						
Material handling and storage areas (A.6.a.ii)						
Dust and particulate generating activities (A.6.a.iii)						
Significant spills and leaks (A.6.a.iv)						
Non-storm water discharges (A.6.a.v)						
Soil erosion (A.6.a.vi)						
Assessment of Potential Pollutant Sources (A.7)						
Areas likely to be sources of pollutants (A.7.a.i)						
Pollutants likely to be present (A.7.a.ii)						
Storm Water Best Management Practices (A.8)						
Existing BMPs						
Existing BMPs to be revised and/or implemented						
New BMPs to be implemented						
Non-structural BMPs (A.8.a)						
Good housekeeping (A.8.a.i)						
Preventative maintenance (A.8.a.ii)						
Spill response (A.8.a.iii)						
Material handling and storage (A.8.a.iv)						
Employee training (A.8.a.v)						
Waste handling / Waste recycling (A.8.a.vi)						
Recordkeeping and internal reporting (A.8.a.vii)						
Erosion control and site stabilization (A.8.a.viii)						
Inspections (A.8.a.ix)						
Quality assurance (A.8.a.x)						
Structural BMPs (A.8.b)						
Overhead coverage (A.8.b.i)						
Retention ponds (A.8.b.ii)						
Control devices (A.8.b.iii)						
Secondary containment structures (A.8.b.iv)						
Treatment (A.8.b.v)						
Annual Comprehensive Site Compliance Evaluation						
Review of visual observations, inspections, and sampling analysis (A.9.a)						
Visual inspection of potential pollution sources (A.9.b)						
Review and evaluation of BMPs (A.9.c)						
Evaluation report (A.9.d)						

Items in parentheses refer to specific sections of the General Permit

Reviewer

MONITORING PROGRAM

	Not Applicable	Included	Not Included	Incomplete	Comments
Quarterly Non-Storm Water Discharge Visual Observations (B.3)					
Observations to be conducted (B.3.c) (Jan-March, April-June, July-September, October-December)					
All drainage areas (B.3.a)					
Look for presence of unauthorized NSWDS (B.3.a)					
Observe authorized NSWDS (B.3.b)					
Maintain observation records (B.3.d)					
Storm Water Discharge Visual Observations (B.4)					
Once per month during wet season (B.4.a) (October 1-May 31)					
Observe during first hour of discharge (B.4.a)					
All drainage areas (B.4.a)					
Observe stored or contained storm water at time of discharge (B.4.a)					
Preceded by three working days dry weather (B.4.c)					
Document discharge characteristics (B.4.c)					
Sampling and Analysis					
Samples to be collected during first hour of discharge (B.5.a)					
Sample from first storm of the wet season (B.5.a)					
Sample from one additional storm during wet season (B.5.a)					
Samples collected from all discharge locations (B.5.a)					
Sampling of contained storm water at time of discharge (B.5.a)					
Sampling preceded by at least three working days without storm water discharges (B.5.b)					
Sampling for pH, TSS, SC, TOC or O&G (B.5.c.i)					
Sampling for toxic chemicals and other pollutants likely present in storm water discharges in significant quantities (B.5.c.ii)					
Other analytical parameters listed in Table D (B.5.c.iii)					
Storm Water Effluent Limitation Guidelines parameters (B.6)					
Description of sampling locations (B.7)					
Description of sampling methods (B.10)					
Identification of analytical methods and method detection limits (B.10.b)					
Retention of all records for at least five years (B.13)					
Annual Report to be submitted by July 1 each year (B.14)					

General Comments:

Items in parentheses refer to specific sections of the General Permit

Reviewer

**STATE AND REGIONAL BOARD
CONTACT LIST**

AVAILABLE AT:

<http://www.swrcb.ca.gov/html/stormwtr.html>
under Contacts.

**APPENDIX B
STORMWATER ANNUAL REPORTS**



Linda S. Adams
Secretary for
Environmental Protection

State Water Resources Control Board

Division of Water Quality

1001 I Street • Sacramento, California 95814 • (916) 341-5538
Mailing Address: P.O. Box 1977 • Sacramento, California • 95812-1977
Fax (916) 341-5543 • <http://www.waterboards.ca.gov/stormwtr>



Arnold Schwarzenegger
Governor

To Interested Parties:

2006-2007 ANNUAL REPORT ANNUAL REPORT FOR STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITIES

This year we are pleased to announce the availability of the Storm Water Annual Reporting Module (SWARM). SWARM allows an individual discharger to file their Annual Report electronically using the California Integrated Water Quality System (CIWQS).

Currently SWARM is not a mandatory reporting method, but we encourage all dischargers to register and use SWARM as soon as possible.

To register to use SWARM please visit <http://www.waterboards.ca.gov/ciwqs/index.html> and download the SWARM registration form and instructions. Please fill out the form and mail it back to: CIWQS Registration, P.O. Box 671, Sacramento, CA 95812. Once a complete registration form is received, a login name and password will be emailed to you.

For SWARM registration questions or information please contact the CIWQS help center at 1-866-792-4977 or by email at ciwqs@waterboards.ca.gov.

To receive email updates on Storm Water Industrial permitting issues, please sign up at http://www.waterboards.ca.gov/lyrisforms/swrcb_subscribe.html. The Storm Water program currently maintains five email lists:

- CIWQS Storm Water Annual Reporting Module (SWARM)
- Storm Water Construction Permitting Issues
- Storm Water Industrial Permitting Issues
- Storm Water Municipal Permitting Issues
- Sustainable Development

For all other permitting questions please contact the Storm Water Section at (916) 341-5538 or by email at stormwater@waterboards.ca.gov.

Sincerely,

Storm Water Section

California Environmental Protection Agency

State of California
STATE WATER RESOURCES CONTROL BOARD

2006-2007
ANNUAL REPORT
FOR
STORM WATER DISCHARGES ASSOCIATED
WITH INDUSTRIAL ACTIVITIES

Reporting Period July 1, 2006 through June 30, 2007

An annual report is required to be submitted to your local Regional Water Quality Control Board (Regional Board) by July 1 of each year. This document must be certified and signed, under penalty of perjury, by the appropriate official of your company. Many of the Annual Report questions require an explanation. Please provide explanations on a separate sheet as an attachment. **Retain a copy of the completed Annual Report for your records.**

Please circle or highlight any information contained in Items A, B, and C below that is new or revised so we can update our records. Please remember that a Notice of Termination and new Notice of Intent are required whenever a facility operation is relocated or changes ownership.

If you have any questions, please contact your Regional Board Industrial Storm Water Permit Contact. The names, telephone numbers and e-mail addresses of the Regional Board contacts, as well as the Regional Board office addresses can be found at <http://www.swrcb.ca.gov/stormwtr/contact.html>. To find your Regional Board information, match the first digit of your WDID number with the corresponding number that appears in parenthesis on the first line of each Regional Board office.

GENERAL INFORMATION:

A. Facility Information:

Facility Business Name: _____
Physical Address: _____
City: _____
Standard Industrial Classification (SIC) Code(s): _____

Facility WDID No: _____

Contact Person: _____
e-mail: _____
CA Zip: _____ Phone: _____

B. Facility Operator Information:

Operator Name: _____
Mailing Address: _____
City: _____

Contact Person: _____
e-mail: _____
State: ____ Zip: _____ Phone: _____

C. Facility Billing Information:

Operator Name: _____
Mailing Address: _____
City: _____

Contact Person: _____
e-mail: _____
State: ____ Zip: _____ Phone: _____

2006-2007
ANNUAL REPORT

SPECIFIC INFORMATION

MONITORING AND REPORTING PROGRAM

D. SAMPLING AND ANALYSIS EXEMPTIONS AND REDUCTIONS

1. For the reporting period, was your facility exempt from collecting and analyzing samples from **two** storm events in accordance with sections B.12 or 15 of the General Permit?

YES Go to Item D.2

NO Go to Section E

2. Indicate the reason your facility is exempt from collecting and analyzing samples from **two** storm events. Attach a copy of the first page of the appropriate certification if you check boxes ii, iii, iv, or v.

i. Participating in an Approved Group Monitoring Plan **Group Name:** _____

ii. Submitted **No Exposure Certification (NEC)** **Date Submitted:** _____
Re-evaluation Date: _____

Does facility continue to satisfy NEC conditions? **YES** **NO**

iii. Submitted **Sampling Reduction Certification (SRC)** **Date Submitted:** _____
Re-evaluation Date: _____

Does facility continue to satisfy SRC conditions? **YES** **NO**

iv. Received Regional Board Certification **Certification Date:** _____

v. Received Local Agency Certification **Certification Date:** _____

3. If you checked boxes i or iii above, were you scheduled to sample **one** storm event during the reporting year?

YES Go to Section E

NO Go to Section F

4. If you checked boxes ii, iv, or v, go to Section F.

E. SAMPLING AND ANALYSIS RESULTS

1. How many storm events did you sample? _____ If less than 2, **attach explanation** (if you checked item D.2.i or iii. above, only attach explanation if you answer "0").

2. Did you collect storm water samples from the first storm of the wet season that produced a discharge during scheduled facility operating hours? (Section B.5 of the General Permit)

YES

NO, attach explanation (Please note that if you do not sample the first storm event, you are still required to sample 2 storm events)

3. How many storm water discharge locations are at your facility? _____

4. For each storm event sampled, did you collect and analyze a sample from each of the facility's storm water discharge locations? YES, go to Item E.6 NO
5. Was sample collection or analysis reduced in accordance with Section B.7.d of the General Permit? YES NO, **attach explanation**

If "YES", **attach documentation** supporting your determination that two or more drainage areas are substantially identical.

Date facility's drainage areas were last evaluated _____

6. Were all samples collected during the first hour of discharge? YES NO, **attach explanation**
7. Was all storm water sampling preceded by three (3) working days without a storm water discharge? YES NO, **attach explanation**
8. Were there any discharges of stormwater that had been temporarily stored or contained? (such as from a pond) YES NO, go to Item E.10
9. Did you collect and analyze samples of temporarily stored or contained storm water discharges from two storm events? (or one storm event if you checked item D.2.i or iii. above) YES NO, **attach explanation**

10. Section B.5. of the General Permit requires you to analyze storm water samples for pH, Total Suspended Solids (TSS), Specific Conductance (SC), Total Organic Carbon (TOC) or Oil and Grease (O&G), other pollutants likely to be present in storm water discharges in significant quantities, and analytical parameters listed in Table D of the General Permit.

- a. Does Table D contain any additional parameters related to your facility's SIC code(s)? YES NO, Go to Item E.11
- b. Did you analyze all storm water samples for the applicable parameters listed in Table D? YES NO
- c. If you did not analyze all storm water samples for the applicable Table D parameters, check one of the following reasons:

_____ In prior sampling years, the parameter(s) have not been detected in significant quantities from two consecutive sampling events. **Attach explanation**

_____ The parameter(s) is not likely to be present in storm water discharges and authorized non-storm water discharges in significant quantities based upon the facility operator's evaluation. **Attach explanation**

_____ Other. **Attach explanation**

11. For each storm event sampled, attach a copy of the laboratory analytical reports and report the sampling and analysis results using **Form 1** or its equivalent. The following must be provided for each sample collected:

- Date and time of sample collection
- Name and title of sampler.
- Parameters tested.
- Name of analytical testing laboratory.
- Discharge location identification.
- Testing results.
- Test methods used.
- Test detection limits.
- Date of testing.
- Copies of the laboratory analytical results.

F. QUARTERLY VISUAL OBSERVATIONS

1. **Authorized Non-Storm Water Discharges**

Section B.3.b of the General Permit requires quarterly visual observations of all authorized non-storm water discharges and their sources.

a. Do authorized non-storm water discharges occur at your facility?

YES **NO** Go to Item F.2

b. Indicate whether you visually observed all authorized non-storm water discharges and their sources during the quarters when they were discharged. **Attach an explanation for any "NO" answers.** Indicate "N/A" for quarters without any authorized non-storm water discharges.

July -September **YES** **NO** **N/A** October-December **YES** **NO** **N/A**
January-March **YES** **NO** **N/A** April-June **YES** **NO** **N/A**

c. Use **Form 2** to report quarterly visual observations of authorized non-storm water discharges or provide the following information.

- i. name of each authorized non-storm water discharge
- ii. date and time of observation
- iii. source and location of each authorized non-storm water discharge
- iv. characteristics of the discharge at its source and impacted drainage area/discharge location
- v. name, title, and signature of observer
- vi. **any** new or revised BMPs necessary to reduce or prevent pollutants in authorized non-storm water discharges. Provide new or revised BMP implementation date.

2. **Unauthorized Non-Storm Water Discharges**

Section B.3.a of the General Permit requires quarterly visual observations of all drainage areas to detect the presence of unauthorized non-storm water discharges and their sources.

a. Indicate whether you visually observed all drainage areas to detect the presence of unauthorized non-storm water discharges and their sources. **Attach an explanation for any "NO" answers.**

July -September **YES** **NO** October-December **YES** **NO**
January-March **YES** **NO** April-June **YES** **NO**

b. Based upon the quarterly visual observations, were any unauthorized non-storm water discharges detected?

YES **NO** Go to item F.2.d

c. Have each of the unauthorized non-storm water discharges been eliminated or permitted?

YES **NO** **Attach explanation**

d. Use **Form 3** to report quarterly unauthorized non-storm water discharge visual observations or provide the following information.

- i. name of each unauthorized non-storm water discharge.
- ii. date and time of observation.
- iii. source and location of each unauthorized non-storm water discharge.
- iv. characteristics of the discharge at its source and impacted drainage area/discharge location.
- v. name, title, and signature of observer.
- vi. **any** corrective actions necessary to eliminate the source of each unauthorized non-storm water discharge and to clean impacted drainage areas. Provide date unauthorized non-storm water discharge(s) was eliminated or scheduled to be eliminated.

G. MONTHLY WET SEASON VISUAL OBSERVATIONS

Section B.4.a of the General Permit requires you to conduct monthly visual observations of storm water discharges at all storm water discharge locations during the wet season. These observations shall occur during the first hour of discharge or, in the case of temporarily stored or contained storm water, at the time of discharge.

1. Indicate below whether monthly visual observations of storm water discharges occurred at all discharge locations. **Attach an explanation for any "NO" answers.** Include in this explanation whether any eligible storm events occurred during scheduled facility operating hours that did not result in a storm water discharge, and provide the date, time, name and title of the person who observed that there was no storm water discharge.

	YES	NO		YES	NO
October	<input type="checkbox"/>	<input type="checkbox"/>	February	<input type="checkbox"/>	<input type="checkbox"/>
November	<input type="checkbox"/>	<input type="checkbox"/>	March	<input type="checkbox"/>	<input type="checkbox"/>
December	<input type="checkbox"/>	<input type="checkbox"/>	April	<input type="checkbox"/>	<input type="checkbox"/>
January	<input type="checkbox"/>	<input type="checkbox"/>	May	<input type="checkbox"/>	<input type="checkbox"/>

2. Report monthly wet season visual observations using **Form 4** or provide the following information.
 - a. date, time, and location of observation
 - b. name and title of observer
 - c. characteristics of the discharge (i.e., odor, color, etc.) and source of any pollutants observed.
 - d. **any** new or revised BMPs necessary to reduce or prevent pollutants in storm water discharges. Provide new or revised BMP implementation date.

ANNUAL COMPREHENSIVE SITE COMPLIANCE EVALUATION (ACSCE)

H. ACSCE CHECKLIST

Section A.9 of the General Permit requires the facility operator to conduct one ACSCE in each reporting period (July 1- June 30). Evaluations must be conducted within 8-16 months of each other. The SWPPP and monitoring program shall be revised and implemented, as necessary, within 90 days of the evaluation. The checklist below includes the minimum steps necessary to complete a ACSCE. Indicate whether you have performed each step below. **Attach an explanation for any "NO" answers.**

1. Have you inspected all potential pollutant sources and industrial activities areas? YES NO
The following areas should be inspected:
 - areas where spills and leaks have occurred during the last year.
 - outdoor wash and rinse areas.
 - process/manufacturing areas.
 - loading, unloading, and transfer areas.
 - waste storage/disposal areas.
 - dust/particulate generating areas.
 - erosion areas.
 - building repair, remodeling, and construction
 - material storage areas
 - vehicle/equipment storage areas
 - truck parking and access areas
 - rooftop equipment areas
 - vehicle fueling/maintenance areas
 - non-storm water discharge generating areas

2. Have you reviewed your SWPPP to assure that its BMPs address existing potential pollutant sources and industrial activities areas? YES NO

3. Have you inspected the entire facility to verify that the SWPPP's site map, is up-to-date? The following site map items should be verified: YES NO
 - facility boundaries
 - outline of all storm water drainage areas
 - areas impacted by run-on
 - storm water discharges locations
 - storm water collection and conveyance system
 - structural control measures such as catch basins, berms, containment areas, oil/water separators, etc.

4. Have you reviewed all General Permit compliance records generated since the last annual evaluation? YES NO

The following records should be reviewed:

- quarterly authorized non-storm water discharge visual observations
- monthly storm water discharge visual observation
- records of spills/leaks and associated clean-up/response activities
- quarterly unauthorized non-storm water discharge visual observations
- Sampling and Analysis records
- preventative maintenance inspection and maintenance records

5. Have you reviewed the major elements of the SWPPP to assure compliance with the General Permit? YES NO

The following SWPPP items should be reviewed:

- pollution prevention team
- list of significant materials
- description of potential pollutant sources
- assessment of potential pollutant sources
- identification and description of the BMPs to be implemented for each potential pollutant source

6. Have you reviewed your SWPPP to assure that a) the BMPs are adequate in reducing or preventing pollutants in storm water discharges and authorized non-storm water discharges, and b) the BMPs are being implemented? YES NO

The following BMP categories should be reviewed:

- good housekeeping practices
- spill response
- employee training
- erosion control
- quality assurance
- preventative maintenance
- material handling and storage practices
- waste handling/storage
- structural BMPs

7. Has all material handling equipment and equipment needed to implement the SWPPP been inspected? YES NO

I. ACSCE EVALUATION REPORT

The facility operator is required to provide an evaluation report that includes:

- identification of personnel performing the evaluation
- the date(s) of the evaluation
- necessary SWPPP revisions
- schedule for implementing SWPPP revisions
- any incidents of non-compliance and the corrective actions taken.

Use **Form 5** to report the results of your evaluation or develop an equivalent form.

J. ACSCE CERTIFICATION

The facility operator is required to certify compliance with the Industrial Activities Storm Water General Permit. To certify compliance, both the SWPPP and Monitoring Program must be up to date and be fully implemented.

Based upon your ACSCE, do you certify compliance with the Industrial Activities Storm Water General Permit? YES NO

If you answered "NO" **attach an explanation** to the ACSCE Evaluation Report why you are not in compliance with the Industrial Activities Storm Water General Permit.

ATTACHMENT SUMMARY

Answer the questions below to help you determine what should be attached to this annual report. Answer NA (Not Applicable) to questions 2-4 if you are not required to provide those attachments.

- 1. Have you attached Forms 1,2,3,4, and 5 or their equivalent? YES (Mandatory)

- 2. If you conducted sampling and analysis, have you attached the laboratory analytical reports? YES NO NA

- 3. If you checked box II, III, IV, or V in item D.2 of this Annual Report, have you attached the first page of the appropriate certifications? YES NO NA

- 4. Have you attached an explanation for each "NO" answer in items E.1, E.2, E.5-E.7, E.9, E.10.c, F.1.b, F.2.a, F.2.c, G.1, H.1-H.7, or J? YES NO NA

ANNUAL REPORT CERTIFICATION

I am duly authorized to sign reports required by the INDUSTRIAL ACTIVITIES STORM WATER GENERAL PERMIT (see Standard Provision C.9) and 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 person 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.

Printed Name: _____

Signature: _____ Date: _____

Title: _____

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DESCRIPTION OF BASIC ANALYTICAL PARAMETERS

The Industrial Activities Storm Water General Permit (General Permit) requires you to analyze storm water samples for at least four parameters. These are pH, Total Suspended Solids (TSS), Specific Conductance (SC), and Total Organic Carbon (TOC). Oil and Grease (O&G) may be substituted for TOC. In addition, you must monitor for any other pollutants which you believe to be present in your storm water discharge as a result of industrial activity and analytical parameters listed in Table D of the General Permit. There are no numeric limitations for the parameters you test for.

The four parameters which the General Permit requires to be tested are considered *indicator* parameters. In other words, regardless of what type of facility you operate, these parameters are nonspecific and general enough to usually provide some indication whether pollutants are present in your storm water discharge. The following briefly explains what each of these parameters mean:

pH is a numeric measure of the hydrogen-ion concentration. The neutral, or acceptable, range is within 6.5 to 8.5. At values less than 6.5, the water is considered acidic; above 8.5 it is considered alkaline or basic. An example of an acidic substance is vinegar, and a alkaline or basic substance is liquid antacid. Pure rainfall tends to have a pH of a little less than 7. There may be sources of materials or industrial activities which could increase or decrease the pH of your storm water discharge. If the pH levels of your storm water discharge are high or low, you should conduct a thorough evaluation of all potential pollutant sources at your site.

Total Suspended Solids (TSS) is a measure of the undissolved solids that are present in your storm water discharge. Sources of TSS include sediment from erosion of exposed land, and dirt from impervious (i.e. paved) areas. Sediment by itself can be very toxic to aquatic life because it covers feeding and breeding grounds, and can smother organisms living on the bottom of a water body. Toxic chemicals and other pollutants also adhere to sediment particles. This provides a medium by which toxic or other pollutants end up in our water ways and ultimately in human and aquatic life. TSS levels vary in runoff from undisturbed land. It has been shown that TSS levels increase significantly due to land development.

Specific Conductance (SC) is a numerical expression of the ability of the water to carry an electric current. SC can be used to assess the degree of mineralization, salinity, or estimate the total dissolved solids concentration of a water sample. Because of air pollution, most rain water has a SC a little above zero. A high SC could affect the usability of waters for drinking, irrigation, and other commercial or industrial use.

Total Organic Carbon (TOC) is a measure of the total organic matter present in water. (All organic matter contains carbon) This test is sensitive and able to detect small concentrations of organic matter. Organic matter is naturally occurring in animals, plants, and man. Organic matter may also be man made (so called synthetic organics). Synthetic organics include pesticides, fuels, solvents, and paints. Natural organic matter utilizes the oxygen in a receiving water to biodegrade. Too much organic matter could place a significant oxygen demand on the water, and possibly impact its quality. Synthetic organics either do not biodegrade or biodegrade very slowly. Synthetic organics are a source of toxic chemicals that can have adverse affects at very low concentrations. Some of these chemicals bioaccumulate in aquatic life. If your levels of TOC are high, you should evaluate all sources of natural or synthetic organics you may use at your site.

Oil and Grease (O&G) is a measure of the amount of oil and grease present in your storm water discharge. At very low concentrations, O&G can cause a sheen (that floating "rainbow") on the surface of water (1 qt. of oil can pollute 250,000 gallons of water). O&G can adversely affect aquatic life and create unsightly floating material and film on water, thus making it undrinkable. Sources of O&G include maintenance shops, vehicles, machines and roadways.

If you have any questions regarding whether or not your constituent concentrations are too high, please contact your local Regional Board office. The United States Environmental Protection Agency (USEPA) has published stormwater discharge benchmarks for a number of parameters. These benchmarks may be helpful when evaluating whether additional BMPs are appropriate. These benchmarks can be accessed at our website at <http://www.swrcb.ca.gov>. It is contained in the Sampling and Analysis Reduction Certification.

See Storm Water Contacts at

<http://www.waterboards.ca.gov/stormwtr/contact.html>

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SIDE A

FORM 1-SAMPLING & ANALYSIS RESULTS

FIRST STORM EVENT

- If analytical results are less than the detection limit (or non detectable), show the value as less than the numerical value of the detection limit (example: <.05)
- If you did not analyze for a required parameter, do not report "0". Instead, leave the appropriate box blank
- When analysis is done using portable analysis (such as portable pH meters, SC meters, etc.), indicate "PA" in the appropriate test method used box.
- Make additional copies of this form as necessary.

NAME OF PERSON COLLECTING SAMPLE(S): _____ **TITLE:** _____ **SIGNATURE:** _____

DESCRIBE DISCHARGE LOCATION Example: NW Out Fall	DATE/TIME OF SAMPLE COLLECTION	TIME DISCHARGE STARTED	ANALYTICAL RESULTS For First Storm Event										
			BASIC PARAMETERS					OTHER PARAMETERS					
			pH	TSS	SC	O&G	TOC						
	_____ <input type="checkbox"/> AM <input type="checkbox"/> PM	_____ <input type="checkbox"/> AM <input type="checkbox"/> PM											
	_____ <input type="checkbox"/> AM <input type="checkbox"/> PM	_____ <input type="checkbox"/> AM <input type="checkbox"/> PM											
	_____ <input type="checkbox"/> AM <input type="checkbox"/> PM	_____ <input type="checkbox"/> AM <input type="checkbox"/> PM											
	_____ <input type="checkbox"/> AM <input type="checkbox"/> PM	_____ <input type="checkbox"/> AM <input type="checkbox"/> PM											
TEST REPORTING UNITS:			pH Units	mg/l	umho/cm	mg/l	mg/l						
TEST METHOD DETECTION LIMIT:													
TEST METHOD USED:													
ANALYZED BY (SELF/LAB):													

TSS - Total Suspended Solids

SC - Specific Conductance

O&G - Oil & Grease

TOC - Total Organic Carbon

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SIDE B

FORM 1-SAMPLING & ANALYSIS RESULTS

SECOND STORM EVENT

- If analytical results are less than the detection limit (or non detectable), show the value as less than the numerical value of the detection limit (example: <.05)
- If you did not analyze for a required parameter, do not report "0". Instead, leave the appropriate box blank
- When analysis is done using portable analysis (such as portable pH meters, SC meters, etc.), indicate "PA" in the appropriate test method used box.
- Make additional copies of this form as necessary.

NAME OF PERSON COLLECTING SAMPLE(S): _____ TITLE: _____ SIGNATURE: _____

DESCRIBE DISCHARGE LOCATION Example: NW Out Fall	DATE/TIME OF SAMPLE COLLECTION	TIME DISCHARGE STARTED	ANALYTICAL RESULTS For First Storm Event										
			BASIC PARAMETERS					OTHER PARAMETERS					
			pH	TSS	SC	O&G	TOC						
	_____ <input type="checkbox"/> AM <input type="checkbox"/> PM	_____ <input type="checkbox"/> AM <input type="checkbox"/> PM											
	_____ <input type="checkbox"/> AM <input type="checkbox"/> PM	_____ <input type="checkbox"/> AM <input type="checkbox"/> PM											
	_____ <input type="checkbox"/> AM <input type="checkbox"/> PM	_____ <input type="checkbox"/> AM <input type="checkbox"/> PM											
	_____ <input type="checkbox"/> AM <input type="checkbox"/> PM	_____ <input type="checkbox"/> AM <input type="checkbox"/> PM											
TEST REPORTING UNITS:			pH Units	mg/l	umho/cm	mg/l	mg/l						
TEST METHOD DETECTION LIMIT:													
TEST METHOD USED:													
ANALYZED BY (SELF/LAB):													

TSS - Total Suspended Solids

SC - Specific Conductance

O&G - Oil & Grease

TOC - Total Organic Carbon

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SIDE A

**FORM 2-QUARTERLY VISUAL OBSERVATIONS OF AUTHORIZED
 NON-STORM WATER DISCHARGES (NSWDs)**

- Quarterly dry weather visual observations are required of each authorized NSWD.
- Observe each authorized NSWD source, impacted drainage area, and discharge location.
- Authorized NSWDs must meet the conditions provided in Section D (pages 5-6), of the General Permit.
- Make additional copies of this form as necessary.

QUARTER: JULY-SEPT. DATE: _____	Observers Name: _____ Title: _____ Signature: _____	WERE ANY AUTHORIZED NSWDs DISCHARGED DURING THIS QUARTER? <input type="checkbox"/> YES <input type="checkbox"/> NO If YES, complete reverse side of this form.
QUARTER: OCT.-DEC. DATE: _____	Observers Name: _____ Title: _____ Signature: _____	WERE ANY AUTHORIZED NSWDs DISCHARGED DURING THIS QUARTER? <input type="checkbox"/> YES <input type="checkbox"/> NO If YES, complete reverse side of this form.
QUARTER: JAN.-MARCH DATE: _____	Observers Name: _____ Title: _____ Signature: _____	WERE ANY AUTHORIZED NSWDs DISCHARGED DURING THIS QUARTER? <input type="checkbox"/> YES <input type="checkbox"/> NO If YES, complete reverse side of this form.
QUARTER: APRIL-JUNE DATE: _____	Observers Name: _____ Title: _____ Signature: _____	WERE ANY AUTHORIZED NSWDs DISCHARGED DURING THIS QUARTER? <input type="checkbox"/> YES <input type="checkbox"/> NO If YES, complete reverse side of this form.

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**FORM 2-QUARTERLY VISUAL OBSERVATIONS OF AUTHORIZED
 NON-STORM WATER DISCHARGES (NSWDs)**

DATE /TIME OF OBSERVATION	SOURCE AND LOCATION OF AUTHORIZED NSWD EXAMPLE: Air conditioner Units on Building C	NAME OF AUTHORIZED NSWD EXAMPLE: Air conditioner condensate	DESCRIBE AUTHORIZED NSWD CHARACTERISTICS Indicate whether authorized NSWD is clear, cloudy, or discolored, causing staining, contains floating objects or an oil sheen, has odors, etc.		DESCRIBE ANY REVISED OR NEW BMPs AND PROVIDE THEIR IMPLEMENTATION DATE
			At the NSWD Source	At the NSWD Drainage Area and Discharge Location	
_____ _____ <input type="checkbox"/> AM <input type="checkbox"/> PM					
_____ _____ <input type="checkbox"/> AM <input type="checkbox"/> PM					
_____ _____ <input type="checkbox"/> AM <input type="checkbox"/> PM					
_____ _____ <input type="checkbox"/> AM <input type="checkbox"/> PM					
_____ _____ <input type="checkbox"/> AM <input type="checkbox"/> PM					

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**FORM 3 QUARTERLY VISUAL OBSERVATIONS OF UNAUTHORIZED
 NON-STORM WATER DISCHARGES (NSWDs)**

OBSERVATION DATE (FROM REVERSE SIDE)	NAME OF UNAUTHORIZED NSWD <i>EXAMPLE:</i> Vehicle Wash Water	SOURCE AND LOCATION OF UNAUTHORIZED NSWD <i>EXAMPLE:</i> NW Corner of Parking Lot	DESCRIBE UNAUTHORIZED NSWD CHARACTERISTICS Indicate whether unauthorized NSWD is clear, cloudy, discolored, causing stains; contains floating objects or an oil sheen, has odors, etc.		DESCRIBE CORRECTIVE ACTIONS TO ELIMINATE UNAUTHORIZED NSWD AND TO CLEAN IMPACTED DRAINAGE AREAS. PROVIDE UNAUTHORIZED NSWD ELIMINATION DATE.
			AT THE UNAUTHORIZED NSWD SOURCE	AT THE UNAUTHORIZED NSWD AREA AND DISCHARGE LOCATION	
_____ _____ <input type="checkbox"/> AM <input type="checkbox"/> PM					
_____ _____ <input type="checkbox"/> AM <input type="checkbox"/> PM					
_____ _____ <input type="checkbox"/> AM <input type="checkbox"/> PM					
_____ _____ <input type="checkbox"/> AM <input type="checkbox"/> PM					

**ANNUAL REPORT
FORM 4-MONTHLY VISUAL OBSERVATIONS OF**

STORM WATER DISCHARGES

- Storm water discharge visual observations are required for at least one storm event per month between October 1 and May 31.
- Visual observations must be conducted during the first hour of discharge at all discharge locations.
- Discharges of temporarily stored or contained storm water must be observed at the time of discharge.

- Indicate "None" in the first column of this form if you did not conduct a monthly visual observation.
- Make additional copies of this form as necessary.
- Until a monthly visual observation is made, record any eligible storm events that do not result in a storm water discharge and note the date, time, name, and title of who observed there was no storm water discharge.

Observation Date: October ____ 2006 Observers Name: _____ Title: _____ Signature: _____	Drainage Location Description	#1	#2	#3	#4
	Observation Time	<input type="checkbox"/> P.M. <input type="checkbox"/> A.M.			
	Time Discharge Began	<input type="checkbox"/> P.M. <input type="checkbox"/> A.M.			
	Were Pollutants Observed (If yes, complete reverse side)	YES <input type="checkbox"/> NO <input type="checkbox"/>			
Observation Date: November ____ 2006 Observers Name: _____ Title: _____ Signature: _____	Drainage Location Description	#1	#2	#3	#4
	Observation Time	<input type="checkbox"/> P.M. <input type="checkbox"/> A.M.			
	Time Discharge Began	<input type="checkbox"/> P.M. <input type="checkbox"/> A.M.			
	Were Pollutants Observed (If yes, complete reverse side)	YES <input type="checkbox"/> NO <input type="checkbox"/>			
Observation Date: December ____ 2006 Observers Name: _____ Title: _____ Signature: _____	Drainage Location Description	#1	#2	#3	#4
	Observation Time	<input type="checkbox"/> P.M. <input type="checkbox"/> A.M.			
	Time Discharge Began	<input type="checkbox"/> P.M. <input type="checkbox"/> A.M.			
	Were Pollutants Observed (If yes, complete reverse side)	YES <input type="checkbox"/> NO <input type="checkbox"/>			
Observation Date: January ____ 2007 Observers Name: _____ Title: _____ Signature: _____	Drainage Location Description	#1	#2	#3	#4
	Observation Time	<input type="checkbox"/> P.M. <input type="checkbox"/> A.M.			
	Time Discharge Began	<input type="checkbox"/> P.M. <input type="checkbox"/> A.M.			
	Were Pollutants Observed (If yes, complete reverse side)	YES <input type="checkbox"/> NO <input type="checkbox"/>			

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**FORM 4-MONTHLY VISUAL OBSERVATIONS OF
 STORM WATER DISCHARGES**

DATE/TIME OF OBSERVATION (From Reverse Side)	DRAINAGE AREA DESCRIPTION	DESCRIBE STORM WATER DISCHARGE CHARACTERISTICS	IDENTIFY AND DESCRIBE SOURCE(S) OF POLLUTANTS	DESCRIBE ANY REVISED OR NEW BMPs AND THEIR DATE OF IMPLEMENTATION
_____ _____ <input type="checkbox"/> AM <input type="checkbox"/> PM	<u>EXAMPLE:</u> Discharge from material storage Area #2	Indicate whether storm water discharge is clear, cloudy, or discolored; causing staining; containing floating objects or an oil sheen, has odors, etc.	<u>EXAMPLE:</u> Oil sheen caused by oil dripped by trucks in vehicle maintenance area.	
_____ _____ <input type="checkbox"/> AM <input type="checkbox"/> PM				
_____ _____ <input type="checkbox"/> AM <input type="checkbox"/> PM				
_____ _____ <input type="checkbox"/> AM <input type="checkbox"/> PM				
_____ _____ <input type="checkbox"/> AM <input type="checkbox"/> PM				

ANNUAL REPORT
FORM 4 (Continued)-MONTHLY VISUAL OBSERVATIONS OF

STORM WATER DISCHARGES

- Storm water discharge visual observations are required for at least one storm event per month between October 1 and May 31.
- Visual observations must be conducted during the first hour of discharge at all discharge locations.
- Discharges of temporarily stored or contained storm water must be observed at the time of discharge.

- Indicate "None" in the first column of this form if you did not conduct a monthly visual observation.
- Make additional copies of this form as necessary.
- Until a monthly visual observation is made, record any eligible storm events that do not result in a storm water discharge and note the date, time, name, and title of who observed there was no storm water discharge.

Observation Date: February ____ 2007 Observers Name: _____ Title: _____ Signature: _____	Drainage Location Description	#1	#2	#3	#4
	Observation Time	<input type="checkbox"/> P.M. <input type="checkbox"/> A.M.			
	Time Discharge Began	<input type="checkbox"/> P.M. <input type="checkbox"/> A.M.			
	Were Pollutants Observed (If yes, complete reverse side)	YES <input type="checkbox"/> NO <input type="checkbox"/>			
Observation Date: March ____ 2007 Observers Name: _____ Title: _____ Signature: _____	Drainage Location Description	#1	#2	#3	#4
	Observation Time	<input type="checkbox"/> P.M. <input type="checkbox"/> A.M.			
	Time Discharge Began	<input type="checkbox"/> P.M. <input type="checkbox"/> A.M.			
	Were Pollutants Observed (If yes, complete reverse side)	YES <input type="checkbox"/> NO <input type="checkbox"/>			
Observation Date: April ____ 2007 Observers Name: _____ Title: _____ Signature: _____	Drainage Location Description	#1	#2	#3	#4
	Observation Time	<input type="checkbox"/> P.M. <input type="checkbox"/> A.M.			
	Time Discharge Began	<input type="checkbox"/> P.M. <input type="checkbox"/> A.M.			
	Were Pollutants Observed (If yes, complete reverse side)	YES <input type="checkbox"/> NO <input type="checkbox"/>			
Observation Date: May ____ 2007 Observers Name: _____ Title: _____ Signature: _____	Drainage Location Description	#1	#2	#3	#4
	Observation Time	<input type="checkbox"/> P.M. <input type="checkbox"/> A.M.			
	Time Discharge Began	<input type="checkbox"/> P.M. <input type="checkbox"/> A.M.			
	Were Pollutants Observed (If yes, complete reverse side)	YES <input type="checkbox"/> NO <input type="checkbox"/>			

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**FORM 4 (Continued)-MONTHLY VISUAL OBSERVATIONS OF
 STORM WATER DISCHARGES**

DATE/TIME OF OBSERVATION (From Reverse Side)	DRAINAGE AREA DESCRIPTION <u>EXAMPLE:</u> Discharge from material storage Area #2	DESCRIBE STORM WATER DISCHARGE CHARACTERISTICS Indicate whether storm water discharge is clear, cloudy, or discolored; causing staining; containing floating objects or an oil sheen, has odors, etc.	IDENTIFY AND DESCRIBE SOURCE(S) OF POLLUTANTS <u>EXAMPLE:</u> Oil sheen caused by oil dripped by trucks in vehicle maintenance area.	DESCRIBE ANY REVISED OR NEW BMPs AND THEIR DATE OF IMPLEMENTATION
_____ _____ <input type="checkbox"/> AM <input type="checkbox"/> PM				
_____ _____ <input type="checkbox"/> AM <input type="checkbox"/> PM				
_____ _____ <input type="checkbox"/> AM <input type="checkbox"/> PM				
_____ _____ <input type="checkbox"/> AM <input type="checkbox"/> PM				
_____ _____ <input type="checkbox"/> AM <input type="checkbox"/> PM				

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SIDE A

**FORM 5-ANNUAL COMPREHENSIVE SITE COMPLIANCE EVALUATION
 POTENTIAL POLLUTANT SOURCE/INDUSTRIAL ACTIVITY BMP STATUS**

EVALUATION DATE: _____ INSPECTOR NAME: _____ TITLE: _____ SIGNATURE: _____

POTENTIAL POLLUTANT SOURCE/INDUSTRIAL ACTIVITY AREA (as identified in your SWPPP)	HAVE ANY BMPs NOT BEEN FULLY IMPLEMENTED? <input type="checkbox"/> YES <input type="checkbox"/> NO	If yes, to either question, complete the next two columns of this form	Describe deficiencies in BMPs or BMP implementation	Describe additional/revised BMPs or corrective actions and their date(s) of implementation
	ARE ADDITIONAL/REVISED BMPs NECESSARY? <input type="checkbox"/> YES <input type="checkbox"/> NO			
POTENTIAL POLLUTANT SOURCE/INDUSTRIAL ACTIVITY AREA (as identified in your SWPPP)	HAVE ANY BMPs NOT BEEN FULLY IMPLEMENTED? <input type="checkbox"/> YES <input type="checkbox"/> NO	If yes, to either question, complete the next two columns of this form	Describe deficiencies in BMPs or BMP implementation	Describe additional/revised BMPs or corrective actions and their date(s) of implementation
	ARE ADDITIONAL/REVISED BMPs NECESSARY? <input type="checkbox"/> YES <input type="checkbox"/> NO			
POTENTIAL POLLUTANT SOURCE/INDUSTRIAL ACTIVITY AREA (as identified in your SWPPP)	HAVE ANY BMPs NOT BEEN FULLY IMPLEMENTED? <input type="checkbox"/> YES <input type="checkbox"/> NO	If yes, to either question, complete the next two columns of this form	Describe deficiencies in BMPs or BMP implementation	Describe additional/revised BMPs or corrective actions and their date(s) of implementation
	ARE ADDITIONAL/REVISED BMPs NECESSARY? <input type="checkbox"/> YES <input type="checkbox"/> NO			
POTENTIAL POLLUTANT SOURCE/INDUSTRIAL ACTIVITY AREA (as identified in your SWPPP)	HAVE ANY BMPs NOT BEEN FULLY IMPLEMENTED? <input type="checkbox"/> YES <input type="checkbox"/> NO	If yes, to either question, complete the next two columns of this form	Describe deficiencies in BMPs or BMP implementation	Describe additional/revised BMPs or corrective actions and their date(s) of implementation
	ARE ADDITIONAL/REVISED BMPs NECESSARY? <input type="checkbox"/> YES <input type="checkbox"/> NO			

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**FORM 5 (Continued)-ANNUAL COMPREHENSIVE SITE COMPLIANCE EVALUATION
 POTENTIAL POLLUTANT SOURCE/INDUSTRIAL ACTIVITY BMP STATUS**

EVALUATION DATE: _____ INSPECTOR NAME: _____ TITLE: _____ SIGNATURE: _____

POTENTIAL POLLUTANT SOURCE/INDUSTRIAL ACTIVITY AREA (as identified in your SWPPP)	HAVE ANY BMPs NOT BEEN FULLY IMPLEMENTED? <input type="checkbox"/> YES <input type="checkbox"/> NO	If yes, to either question, complete the next two columns of this form	Describe deficiencies in BMPs or BMP implementation	Describe additional/revise BMPs or corrective actions and their date(s) of implementation
	ARE ADDITIONAL/REVISED BMPs NECESSARY? <input type="checkbox"/> YES <input type="checkbox"/> NO			
POTENTIAL POLLUTANT SOURCE/INDUSTRIAL ACTIVITY AREA (as identified in your SWPPP)	HAVE ANY BMPs NOT BEEN FULLY IMPLEMENTED? <input type="checkbox"/> YES <input type="checkbox"/> NO	If yes, to either question, complete the next two columns of this form	Describe deficiencies in BMPs or BMP implementation	Describe additional/revise BMPs or corrective actions and their date(s) of implementation
	ARE ADDITIONAL/REVISED BMPs NECESSARY? <input type="checkbox"/> YES <input type="checkbox"/> NO			
POTENTIAL POLLUTANT SOURCE/INDUSTRIAL ACTIVITY AREA (as identified in your SWPPP)	HAVE ANY BMPs NOT BEEN FULLY IMPLEMENTED? <input type="checkbox"/> YES <input type="checkbox"/> NO	If yes, to either question, complete the next two columns of this form	Describe deficiencies in BMPs or BMP implementation	Describe additional/revise BMPs or corrective actions and their date(s) of implementation
	ARE ADDITIONAL/REVISED BMPs NECESSARY? <input type="checkbox"/> YES <input type="checkbox"/> NO			
POTENTIAL POLLUTANT SOURCE/INDUSTRIAL ACTIVITY AREA (as identified in your SWPPP)	HAVE ANY BMPs NOT BEEN FULLY IMPLEMENTED? <input type="checkbox"/> YES <input type="checkbox"/> NO	If yes, to either question, complete the next two columns of this form	Describe deficiencies in BMPs or BMP implementation	Describe additional/revise BMPs or corrective actions and their date(s) of implementation
	ARE ADDITIONAL/REVISED BMPs NECESSARY? <input type="checkbox"/> YES <input type="checkbox"/> NO			

APPENDIX C
1997 NPDES STORMWATER PERMIT, STATE OF CALIFORNIA;
40 CFR, SUBCHAPTER N EXCERPT

[The following information was downloaded from the U.S. GPO website
<http://www.gpoaccess.gov/ecfr/index.html> and represents the Federal Regulation as of 10/22/04]

Title 40: Protection of Environment

PART 423—STEAM ELECTRIC POWER GENERATING POINT SOURCE CATEGORY

Section Contents

[§ 423.10 Applicability.](#)

[§ 423.11 Specialized definitions.](#)

[§ 423.12 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available \(BPT\).](#)

[§ 423.13 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable \(BAT\).](#)

[§ 423.14 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology \(BCT\). \[Reserved\]](#)

[§ 423.15 New source performance standards \(NSPS\).](#)

[§ 423.16 Pretreatment standards for existing sources \(PSES\).](#)

[§ 423.17 Pretreatment standards for new sources \(PSNS\).](#)

[Appendix A to Part 423—126 Priority Pollutants](#)

Authority: Secs. 301; 304(b), (c), (e), and (g); 306(b) and (c); 307(b) and (c); and 501, Clean Water Act (Federal Water Pollution Control Act Amendments of 1972, as amended by Clean Water Act of 1977) (the “Act”; 33 U.S.C. 1311; 1314(b), (c), (e), and (g); 1316(b) and (c); 1317(b) and (c); and 1361; 86 Stat. 816, Pub. L. 92–500; 91 Stat. 1567, Pub. L. 95–217), unless otherwise noted.

Source: 47 FR 52304, Nov. 19, 1982, unless otherwise noted.

§ 423.10 Applicability.

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The provisions of this part are applicable to discharges resulting from the operation of a generating unit by an establishment primarily engaged in the generation of electricity for distribution and sale which results primarily from a process utilizing fossil-type fuel (coal, oil, or gas) or nuclear fuel in conjunction with a thermal cycle employing the steam water system as the thermodynamic medium.

§ 423.11 Specialized definitions.

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to this part:

(a) The term *total residual chlorine* (or total residual oxidants for intake water with bromides) means the value obtained using the amperometric method for total residual chlorine described in 40 CFR part 136.

(b) The term *low volume waste sources* means, taken collectively as if from one source, wastewater from all sources except those for which specific limitations are otherwise established in this part. Low volume waste sources include, but are not limited to: wastewaters from wet scrubber air pollution control systems, ion exchange water treatment system, water treatment evaporator blowdown, laboratory and sampling streams, boiler blowdown, floor drains, cooling tower basin cleaning wastes, and recirculating house service water systems. Sanitary and air conditioning wastes are not included.

(c) The term *chemical metal cleaning waste* means any wastewater resulting from the cleaning of any metal process equipment with chemical compounds, including, but not limited to, boiler tube cleaning.

(d) The term *metal cleaning waste* means any wastewater resulting from cleaning [with or without chemical cleaning compounds] any metal process equipment including, but not limited to, boiler tube cleaning, boiler fireside cleaning, and air preheater cleaning.

(e) The term *fly ash* means the ash that is carried out of the furnace by the gas stream and collected by mechanical precipitators, electrostatic precipitators, and/or fabric filters. Economizer ash is included when it is collected with fly ash.

(f) The term *bottom ash* means the ash that drops out of the furnace gas stream in the furnace and in the economizer sections. Economizer ash is included when it is collected with bottom ash.

(g) The term *once through cooling water* means water passed through the main cooling condensers in one or two passes for the purpose of removing waste heat.

(h) The term *recirculated cooling water* means water which is passed through the main condensers for the purpose of removing waste heat, passed through a cooling device for the purpose of removing such heat from the water and then passed again, except for blowdown, through the main condenser.

(i) The term *10 year, 24/hour rainfall event* means a rainfall event with a probable recurrence interval of once in ten years as defined by the National Weather Service in Technical Paper No. 40. *Rainfall Frequency Atlas of the United States*, May 1961 or equivalent regional rainfall probability information developed therefrom.

purpose of discharging materials contained in the water, the further buildup of which would cause concentration in amounts exceeding limits established by best engineering practices.

(k) The term *average concentration* as it relates to chlorine discharge means the average of analyses made over a single period of chlorine release which does not exceed two hours.

(l) The term *free available chlorine* shall mean the value obtained using the amperometric titration method for free available chlorine described in *Standard Methods for the Examination of Water and Wastewater*, page 112 (13th edition).

(m) The term *coal pile runoff* means the rainfall runoff from or through any coal storage pile.

§ 423.12 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).

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(a) In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, develop and solicit with respect to factors (such as age and size of plant, utilization of facilities, raw materials, manufacturing processes, non-water quality environmental impacts, control and treatment technology available, energy requirements and costs) which can affect the industry subcategorization and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES Permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations. The phrase "other such factors" appearing above may include significant cost differentials. In no event may a discharger's impact on receiving water quality be considered as a factor under this paragraph.

(b) Any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction by the application of the best practicable control technology currently available (BPT):

(1) The pH of all discharges, except once through cooling water, shall be within the range of 6.0–9.0.

(2) There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid.

(3) The quantity of pollutants discharged from low volume waste sources shall not exceed the quantity determined by multiplying the flow of low volume waste sources times the concentration listed in the following table:

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day (mg/l)	Average of daily values for 30 consecutive days shall not exceed (mg/l)
TSS.....	100.0	30.0
Oil and grease.....	20.0	15.0

(4) The quantity of pollutants discharged in fly ash and bottom ash transport water shall not exceed the quantity determined by multiplying the flow of fly ash and bottom ash transport water times the concentration listed in the following table:

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day (mg/l)	Average of daily values for 30 consecutive days shall not exceed (mg/l)
TSS.....	100.0	30.0
Oil and grease.....	20.0	15.0

(5) The quantity of pollutants discharged in metal cleaning wastes shall not exceed the quantity determined by multiplying the flow of metal cleaning wastes times the concentration listed in the following table:

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day (mg/l)	Average of daily values for 30 consecutive days shall not exceed (mg/l)
TSS.....	100.0	30.0
Oil and grease.....	20.0	15.0
Copper, total.....	1.0	1.0
Iron, total.....	1.0	1.0

(6) The quantity of pollutants discharged in once through cooling water shall not exceed the quantity determined by multiplying the flow of once through cooling water sources times the concentration listed in the following table:

Pollutant or pollutant property	BPT effluent limitations	
	Maximum concentration (mg/l)	Average concentration (mg/l)
Free available chlorine.....	0.5	0.2

(7) The quantity of pollutants discharged in cooling tower blowdown shall not exceed the quantity determined by multiplying the flow of cooling tower blowdown sources times the concentration listed in the following table:

Pollutant or pollutant property	BPT effluent limitations	
	Maximum concentration	Average concentration

	(mg/l)	(mg/l)
Free available chlorine.....	0.5	0.2

(8) Neither free available chlorine nor total residual chlorine may be discharged from any unit for more than two hours in any one day and not more than one unit in any plant may discharge free available or total residual chlorine at any one time unless the utility can demonstrate to the Regional Administrator or State, if the State has NPDES permit issuing authority, that the units in a particular location cannot operate at or below this level or chlorination.

(9) Subject to the provisions of paragraph (b)(10) of this section, the following effluent limitations shall apply to the point source discharges of coal pile runoff:

Pollutant or pollutant property	BPT effluent limitations
	Maximum concentration for any time (mg/l)
TSS.....	50

(10) Any untreated overflow from facilities designed, constructed, and operated to treat the volume of coal pile runoff which is associated with a 10 year, 24 hour rainfall event shall not be subject to the limitations in paragraph (b)(9) of this section.

(11) At the permitting authority's discretion, the quantity of pollutant allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitations specified in paragraphs (b)(3) through (7) of this section. Concentration limitations shall be those concentrations specified in this section.

(12) In the event that waste streams from various sources are combined for treatment or discharge, the quantity of each pollutant or pollutant property controlled in paragraphs (b)(1) through (11) of this section attributable to each controlled waste source shall not exceed the specified limitations for that waste source.

(The information collection requirements contained in paragraph (a) were approved by the Office of Management and Budget under control number 2000-0194)

[47 FR 52304, Nov. 19, 1982, as amended at 48 FR 31404, July 8, 1983]

the application of the best available technology economically achievable (BAT).

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Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this part must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).

(a) There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid.

(b)(1) For any plant with a total rated electric generating capacity of 25 or more megawatts, the quantity of pollutants discharged in once through cooling water from each discharge point shall not exceed the quantity determined by multiplying the flow of once through cooling water from each discharge point times the concentration listed in the following table:

Pollutant or pollutant property	BAT Effluent Limitations
	Maximum concentration (mg/l)
Total residual chlorine.....	0.20

(2) Total residual chlorine may not be discharged from any single generating unit for more than two hours per day unless the discharger demonstrates to the permitting authority that discharge for more than two hours is required for macroinvertebrate control. Simultaneous multi-unit chlorination is permitted.

(c)(1) For any plant with a total rated generating capacity of less than 25 megawatts, the quantity of pollutants discharged in once through cooling water shall not exceed the quantity determined by multiplying the flow of once through cooling water sources times the concentration listed in the following table:

Pollutant or pollutant property	BAT effluent limitations	
	Maximum concentration (mg/l)	Average concentration (mg/l)
Free available chlorine.....	0.5	0.2

(2) Neither free available chlorine nor total residual chlorine may be discharged from any unit for more than two hours in any one day and not more than one unit in any plant may discharge free available or total residual chlorine at any one time unless the utility can demonstrate to the Regional Administrator or State, if the State has NPDES permit issuing authority, that the units in a particular location cannot operate at or below this level of chlorination.

(d)(1) The quantity of pollutants discharged in cooling tower blowdown shall not exceed the quantity determined by multiplying the flow of cooling tower blowdown times the concentration listed below:

Pollutant or pollutant property	BAT effluent limitations	
	Maximum concentration (mg/l)	Average concentration (mg/l)
Free available chlorine.....	0.5	0.2

Pollutant or pollutant property	Maximum for any 1 day - (mg/l)	Average of daily values for 30 consecutive days shall not exceed = (mg/l)
	The 126 priority pollutants (Appendix A) contained in chemicals added for cooling tower maintenance, except:	(\1\)
Chromium, total.....	0.2	0.2
Zinc, total.....	1.0	1.0

\1\ No detectable amount.

(2) Neither free available chlorine nor total residual chlorine may be discharged from any unit for more than two hours in any one day and not more than one unit in any plant may discharge free available or total residual chlorine at any one time unless the utility can

issuing authority, that the units in a particular location cannot operate at or below this level of chlorination.

(3) At the permitting authority's discretion, instead of the monitoring specified in 40 CFR 122.11(b) compliance with the limitations for the 126 priority pollutants in paragraph (d)(1) of this section may be determined by engineering calculations which demonstrate that the regulated pollutants are not detectable in the final discharge by the analytical methods in 40 CFR part 136.

(e) The quantity of pollutants discharged in chemical metal cleaning wastes shall not exceed the quantity determined by multiplying the flow of chemical metal cleaning wastes times the concentration listed in the following table:

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day (mg/l)	Average of daily values for 30 consecutive days shall not exceed (mg/l)
Copper, total.....	1.0	1.0
Iron, total.....	1.0	1.0

(f) [Reserved—Nonchemical Metal Cleaning Wastes].

(g) At the permitting authority's discretion, the quantity of pollutant allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitations specified in paragraphs (b) through (e) of this section. Concentration limitations shall be those concentrations specified in this section.

(h) In the event that waste streams from various sources are combined for treatment or discharge, the quantity of each pollutant or pollutant property controlled in paragraphs (a) through (g) of this section attributable to each controlled waste source shall not exceed the specified limitation for that waste source.

(The information collection requirements contained in paragraphs (c)(2) and (d)(2) were approved by the Office of Management and Budget under control number 2040-0040. The information collection requirements contained in paragraph (d)(3) were approved under control number 2040-0033.)

[47 FR 52304, Nov. 19, 1982, as amended at 48 FR 31404, July 8, 1983]

§ 423.14 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT). [Reserved]

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§ 423.15 New source performance standards (NSPS).

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Any new source subject to this subpart must achieve the following new source performance standards:

- (a) The pH of all discharges, except once through cooling water, shall be within the range of 6.0–9.0.
- (b) There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid.
- (c) The quantity of pollutants discharged from low volume waste sources shall not exceed the quantity determined by multiplying the flow of low volume waste sources times the concentration listed in the following table:

Pollutant or pollutant property	NSPS effluent limitations	
	Maximum for any 1 day (mg/l)	Average of daily values for 30 consecutive days shall not exceed (mg/l)
TSS.....	100.0	30.0
Oil and grease.....	20.0	15.0

- (d) The quantity of pollutants discharged in chemical metal cleaning wastes shall not exceed the quantity determined by multiplying the flow of chemical metal cleaning wastes times the concentration listed in the following table:

Pollutant or pollutant property	NSPS effluent limitations	
	Maximum for any 1 day (mg/l)	Average of daily values for 30 consecutive days shall not exceed (mg/l)
TSS.....	100.0	30.0
Oil and grease.....	20.0	15.0
Copper, total.....	1.0	1.0
Iron, total.....	1.0	1.0

(e) [Reserved—Nonchemical Metal Cleaning Wastes].

(f) The quantity of pollutants discharged in bottom ash transport water shall not exceed the quantity determined by multiplying the flow of the bottom ash transport water times the concentration listed in the following table:

Pollutant or pollutant property	NSPS effluent limitations	
	Maximum for any 1 day (mg/l)	Average of daily values for 30 consecutive days shall not exceed (mg/l)
TSS.....	100.0	30.0
Oil and grease.....	20.0	15.0

(g) There shall be no discharge of wastewater pollutants from fly ash transport water.

(h)(1) For any plant with a total rated electric generating capacity of 25 or more megawatts, the quantity of pollutants discharged in once through cooling water from each discharge point shall not exceed the quantity determined by multiplying the flow of once through cooling water from each discharge point times the concentration listed in the following table:

Pollutant or pollutant property	NSPS effluent limitations
	Maximum concentration (mg/l)
Total residual chlorine.....	0.20

(2) Total residual chlorine may not be discharged from any single generating unit for more than two hours per day unless the discharger demonstrates to the permitting authority that discharge for more than two hours is required for macroinvertebrate control. Simultaneous multi-unit chlorination is permitted.

(i)(1) For any plant with a total rated generating capacity of less than 25 megawatts, the quantity of pollutants discharged in once through cooling water shall not exceed the quantity determined by multiplying the flow of once through cooling water sources times the concentration listed in the following table:

Pollutant of pollutant property	NSPS effluent limitations	
	Maximum concentration (mg/l)	Average concentration (mg/l)
Free available chlorine.....	0.5	0.2

(2) Neither free available chlorine nor total residual chlorine may be discharged from any unit for more than two hours in any one day and not more than one unit in any plant may discharge free available or total residual chlorine at any one time unless the utility can demonstrate to the Regional Administrator or State, if the State has NPDES permit issuing authority, that the units in a particular location cannot operate at or below this level of chlorination.

(j)(1) The quantity of pollutants discharged in cooling tower blowdown shall not exceed the quantity determined by multiplying the flow of cooling tower blowdown times the concentration listed below:

Pollutant or pollutant property	NSPS effluent limitations	
	Maximum concentration (mg/l)	Average concentration (mg/l)

Free available chlorine.....	0.5	0.2
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Pollutant or pollutant property	Maximum for any 1 day (mg/l)	Average of daily values for 30 consecutive days shall not exceed (mg/l)
The 126 priority pollutants (Appendix A) contained in chemicals added for cooling tower maintenance, except:	(\1\)	(\1\)
Chromium, total.....	0.2	0.2
Zinc, total.....	1.0	1.0

\1\ No detectable amount.

(2) Neither free available chlorine nor total residual chlorine may be discharged from any unit for more than two hours in any one day and not more than one unit in any plant may discharge free available or total residual chlorine at any one time unless the utility can demonstrate to the Regional Administrator or State, if the State has NPDES permit issuing authority, that the units in a particular location cannot operate at or below this level of chlorination.

(3) At the permitting authority's discretion, instead of the monitoring in 40 CFR 122.11(b), compliance with the limitations for the 126 priority pollutants in paragraph (j)(1) of this section may be determined by engineering calculations which demonstrate that the regulated pollutants are not detectable in the final discharge by the analytical methods in 40 CFR part 136.

(k) Subject to the provisions of §423.15(l), the quantity or quality of pollutants or pollutant parameters discharged in coal pile runoff shall not exceed the limitations specified below:

Pollutant or pollutant property	NSPS effluent limitations for any time
TSS.....	Not to exceed 50 mg/l.

(l) Any untreated overflow from facilities designed, constructed, and operated to treat the coal pile runoff which results from a 10 year, 24 hour rainfall event shall not be subject to the limitations in §423.15(k).

(m) At the permitting authority's discretion, the quantity of pollutant allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitation specified in paragraphs (c) through (j) of this section. Concentration limits shall be based on the concentrations specified in this section.

(n) In the event that waste streams from various sources are combined for treatment or discharge, the quantity of each pollutant or pollutant property controlled in paragraphs (a) through (m) of this section attributable to each controlled waste source shall not exceed the specified limitation for that waste source.

(The information collection requirements contained in paragraphs (h)(2), (i)(2), and (j)(2) were approved by the Office of Management and Budget under control number 2040-0040. The information collection requirements contained in paragraph (j)(3) were approved under control number 2040-0033.)

[47 FR 52304, Nov. 19, 1982, as amended at 48 FR 31404, July 8, 1983]

§ 423.16 Pretreatment standards for existing sources (PSES).

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Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR part 403 and achieve the following pretreatment standards for existing sources (PSES) by July 1, 1984:

(a) There shall be no discharge of polychlorinated biphenol compounds such as those used for transformer fluid.

(b) The pollutants discharged in chemical metal cleaning wastes shall not exceed the concentration listed in the following table:

Pollutant or pollutant property	PSES pretreatment standards
	Maximum for 1 day (mg/1)
Copper, total.....	1.0

(c) [Reserved—Nonchemical Metal Cleaning Wastes].

(d)(1) The pollutants discharged in cooling tower blowdown shall not exceed the concentration listed in the following table:

Pollutant or pollutant property	PSES pretreatment standards
	Maximum for any time (mg/l)
The 126 priority pollutants (Appendix A) contained in chemicals added for cooling tower maintenance, except:	(\1\)
Chromium, total.....	0.2
Zinc, total.....	1.0

\1\ No detectable amount.

(2) At the permitting authority's discretion, instead of the monitoring in 40 CFR 122.11(b), compliance with the limitations for the 126 priority pollutants in paragraph (d)(1) of this section may be determined by engineering calculations which demonstrate that the regulated pollutants are not detectable in the final discharge by the analytical methods in 40 CFR part 136.

§ 423.17 Pretreatment standards for new sources (PSNS).

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Except as provided in 40 CFR 403.7, any new source subject to this subpart part which introduces pollutants into a publicly owned treatment works must comply with 40 CFR part 403 and the following pretreatment standards for new sources (PSNS).

(a) There shall be no discharge of polychlorinated biphenyl compounds such as those used for transformer fluid.

(b) The pollutants discharged in chemical metal cleaning wastes shall not exceed the concentration listed in the following table:

Pollutant or pollutant property	PSNS pretreatment standards
	Maximum for 1 day (mg/l)

Copper, total..... 1.0

(c) [Reserved—Nonchemical Metal Cleaning Wastes].

(d)(1) The pollutants discharged in cooling tower blowdown shall not exceed the concentration listed in the following table:

Pollutant or pollutant property	PSNS pretreatment standards
	Maximum for any time (mg/l)
The 126 priority pollutants (Appendix A) contained in chemicals added for cooling tower maintenance, except:	
Chromium, total.....	0.2
Zinc, total.....	1.0

(2) At the permitting authority's discretion, instead of the monitoring in 40 CFR 122.11(b), compliance with the limitations for the 126 priority pollutants in paragraph (d)(1) of this section may be determined by engineering calculations which demonstrate that the regulated pollutants are not detectable in the final discharge by the analytical methods in 40 CFR part 136.

(e) There shall be no discharge of wastewater pollutants from fly ash transport water.

Appendix A to Part 423—126 Priority Pollutants

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001 Acenaphthene

002 Acrolein

003 Acrylonitrile

004 Benzene

005 Benzidine

006 Carbon tetrachloride (tetrachloromethane)

- 007 Chlorobenzene
- 008 1,2,4-trichlorobenzene
- 009 Hexachlorobenzene
- 010 1,2-dichloroethane
- 011 1,1,1-trichloroethane
- 012 Hexachloroethane
- 013 1,1-dichloroethane
- 014 1,1,2-trichloroethane
- 015 1,1,2,2-tetrachloroethane
- 016 Chloroethane
- 018 Bis(2-chloroethyl) ether
- 019 2-chloroethyl vinyl ether (mixed)
- 020 2-chloronaphthalene
- 021 2,4, 6-trichlorophenol
- 022 Parachlorometa cresol
- 023 Chloroform (trichloromethane)
- 024 2-chlorophenol
- 025 1,2-dichlorobenzene
- 026 1,3-dichlorobenzene
- 027 1,4-dichlorobenzene
- 028 3,3-dichlorobenzidine
- 029 1,1-dichloroethylene

- 030 1,2-trans-dichloroethylene
- 031 2,4-dichlorophenol
- 032 1,2-dichloropropane
- 033 1,2-dichloropropylene (1,3-dichloropropene)
- 034 2,4-dimethylphenol
- 035 2,4-dinitrotoluene
- 036 2,6-dinitrotoluene
- 037 1,2-diphenylhydrazine
- 038 Ethylbenzene
- 039 Fluoranthene
- 040 4-chlorophenyl phenyl ether
- 041 4-bromophenyl phenyl ether
- 042 Bis(2-chloroisopropyl) ether
- 043 Bis(2-chloroethoxy) methane
- 044 Methylene chloride (dichloromethane)
- 045 Methyl chloride (dichloromethane)
- 046 Methyl bromide (bromomethane)
- 047 Bromoform (tribromomethane)
- 048 Dichlorobromomethane
- 051 Chlorodibromomethane
- 052 Hexachlorobutadiene
- 053 Hexachloromyclopentadiene

- 054 Isophorone
- 055 Naphthalene
- 056 Nitrobenzene
- 057 2-nitrophenol
- 058 4-nitrophenol
- 059 2,4-dinitrophenol
- 060 4,6-dinitro-o-cresol
- 061 N-nitrosodimethylamine
- 062 N-nitrosodiphenylamine
- 063 N-nitrosodi-n-propylamin
- 064 Pentachlorophenol
- 065 Phenol
- 066 Bis(2-ethylhexyl) phthalate
- 067 Butyl benzyl phthalate
- 068 Di-N-Butyl Phthalate
- 069 Di-n-octyl phthalate
- 070 Diethyl Phthalate
- 071 Dimethyl phthalate
- 072 1,2-benzanthracene (benzo(a) anthracene)
- 073 Benzo(a)pyrene (3,4-benzo-pyrene)
- 074 3,4-Benzofluoranthene (benzo(b) fluoranthene)
- 075 11,12-benzofluoranthene (benzo(b) fluoranthene)

- 076 Chrysene
- 077 Acenaphthylene
- 078 Anthracene
- 079 1,12-benzoperylene (benzo(ghi) perylene)
- 080 Fluorene
- 081 Phenanthrene
- 082 1,2,5,6-dibenzanthracene (dibenzo(,h) anthracene)
- 083 Indeno (,1,2,3-cd) pyrene (2,3-o-pheynylene pyrene)
- 084 Pyrene
- 085 Tetrachloroethylene
- 086 Toluene
- 087 Trichloroethylene
- 088 Vinyl chloride (chloroethylene)
- 089 Aldrin
- 090 Dieldrin
- 091 Chlordane (technical mixture and metabolites)
- 092 4,4-DDT
- 093 4,4-DDE (p,p-DDX)
- 094 4,4-DDD (p,p-TDE)
- 095 Alpha-endosulfan
- 096 Beta-endosulfan
- 097 Endosulfan sulfate

- 098 Endrin
- 099 Endrin aldehyde
- 100 Heptachlor
- 101 Heptachlor epoxide (BHC-hexachlorocyclohexane)
- 102 Alpha-BHC
- 103 Beta-BHC
- 104 Gamma-BHC (lindane)
- 105 Delta-BHC (PCB-polychlorinated biphenyls)
- 106 PCB-1242 (Arochlor 1242)
- 107 PCB-1254 (Arochlor 1254)
- 108 PCB-1221 (Arochlor 1221)
- 109 PCB-1232 (Arochlor 1232)
- 110 PCB-1248 (Arochlor 1248)
- 111 PCB-1260 (Arochlor 1260)
- 112 PCB-1016 (Arochlor 1016)
- 113 Toxaphene
- 114 Antimony
- 115 Arsenic
- 116 Asbestos
- 117 Beryllium
- 118 Cadmium
- 119 Chromium

120 Copper

121 Cyanide, Total

122 Lead

123 Mercury

124 Nickel

125 Selenium

126 Silver

127 Thallium

126 Silver

128 Zinc

129 2,3,7,8-tetrachloro-dibenzo-p-dioxin (TCDD)

APPENDIX D
STORMWATER SAMPLING PROTOCOL

APPENDIX D



An Enova Company

STORM WATER SAMPLING PROTOCOL



SAMPLING PREPARATION AND ACQUISITION OF SUPPLIES

An Enova Company

Preparation for sampling includes training of personnel, acquisition of equipment and supplies, and general preparation for the sampling program.

PERSONNEL

All personnel conducting inspections, observations, and sampling as part of this program shall specifically be trained in best management practice techniques and theory as identified in this SWPPP. They shall be specifically familiar with, and will have reviewed, the SWPPP prior to conducting any monitoring program work task.

Training for all sampling personnel will be developed by the facility's Pollution Prevention Team. At a minimum, this training will include manual collection of grab samples, equipment decontamination procedures, analytical requirements for containers, preservatives, and holding times, quality control methods, and health and safety concerns.

All sampling personnel must be familiar with and meet the training requirements of the facility's Health and Safety Plan prior to sampling storm water discharge outfalls. The Health and Safety Officer will verify that appropriate personal protective equipment is being used. Although the facility's Health and Safety Plan is not restated here, appropriate health and safety procedures for storm water sampling are summarized in a following section on Health and Safety Guidance.

ACQUISITION OF SAMPLING SUPPLIES

Sampling containers can be obtained from an offsite laboratory selected to perform the analyses. The analyzing laboratory should be notified in advance of the number of samples and analyses to be performed. It is advisable to request enough sampling containers to provide for spares in case of breakage. It is recommended that at least two backup sample containers for each analytical parameter or group of parameters be requested from the laboratory. In a wet sampling environment, it is possible that sample container breakage will occur when handling glass containers. Sample preservatives have a long shelf life and can be reserved for future sampling events if sample bottles are not used. Sample containers should be delivered and stored on the facility's west complex in an administration environment for contamination prevention purposes.

Most commercial laboratories will provide prelabelled sample containers complete with preservatives free of charge providing the corresponding analyses are performed by the supplying laboratory. The number of sample containers should include quality assurance sample containers for analytical duplicates and spikes. The general rule-of-thumb is to provide one QA sample for each 10 samples submitted for analyses. At least one QA sample should be collected for any sample suspected of containing a high concentration of pollutants. Should results for a particular chemical parameter indicate a high value, the QA sample will serve as a confirmation to that effect.

Scheduling and ordering the appropriate number of sampling bottles and other associated supplies will be the responsibility of the Senior Laboratory Technician. Upon receipt of the sample containers at the facility, he will verify that the correct number, type of containers, preservatives, and chain-of-custody documentation have been received. This should be re-verified again just prior to sampling.

Because **specific conductance and pH analyses need to be conducted immediately**, samples need to be shipped for overnight delivery as soon as they are collected or picked up by a lab courier. Other analyses have typical maximum holding times of 7 to 28 days.

Container Labeling

If not already provided by an offsite analytical laboratory, sample labels must be attached to the sample container as part of the general sample container preparation prior to sampling. Sample labels should clearly identify areas for recording the sample location, the date and time sampled, and the sampling personnel.

Field Sampling Supplies

Members of the sampling team should be supplied with the following, as appropriate:

- Field observation forms
- Indelible marker (e.g., Sanford's Sharpie)
- Storm water sampling device
- Field ice chests and ice for preserving and storing samples
- Hardhats
- Steel-toed rubber boots
- Latex or nitrile gloves
- Reflective safety vests
- Rain gear
- Splash-proof goggles
- Disposable paper towels, Ziplock™ bags (quart size), and trash bags

SAMPLING AND OBSERVATION PROCEDURES

This section presents methodologies and guidelines for the collection of storm water samples and observing wet-season conditions. Grab samples should be collected first because they are intended to be representative of the "first flush" conditions during the initial stages of storm water runoff. Observations should immediately follow as they are required within one hour of runoff.

Analysis Request Forms

Prior to the initiation of a storm water sampling program, a written analysis request form may be prepared and submitted to the analytical laboratory. The request generally will include the following information.

- The analyses to be performed
- Desired detection limits
- Total number of samples to be collected (including duplicates, spikes, or blanks)
- Types and number of bottles required
- Sample preservatives to be provided
- Approximate dates of sampling

Collection of Storm Water Grab Samples

Prior to collecting samples, the sampling protocol should be reviewed so that field personnel can become familiar with the types, quantity, and location of samples to be collected. The sampler should notify the offsite lab just prior to the sampling event so that they may begin the necessary arrangements for analyses.

Storm water sampling preparation should be initiated when:

- The probability of precipitation is greater than 70 percent;
- the predicted rainfall is expected to produce significant storm water discharge; and
- a minimum of 72 hours of dry weather have occurred prior to rainfall.

Sample labels should be filled out just before field sampling. Gummed paper labels are typically used but can warp, peel, and delaminate from the container when wet. Care should also be exercised to minimize water saturation of the container labels. Waterproof ink should be used to record the sample information listed below.

- Site and sample identification
- Sampler(s) name
- Date and time of sample collection
- Analyses to be performed

Actual sampling should take place **within the first hour of the storm** whenever possible. All sampling should be representative of the discharge. When sampling, do not allow sampled storm waters to mix with other waste streams or be diluted with other bodies of water. A grab sampler equipped with a large sample collection container (1 liter or more) should be used to collect storm water from the outfalls. This container can be reused at each sampling location after proper decontamination (liquinox wash and triple-rinse with deionized water). Proper decontamination of equipment is critical to any sampling program, so that clean samples are collected and they are not exposed to any other sources of pollutants. A disposable grab sample collection container may also be used as long as they are disposed of properly after use at each sampling site.

Whenever possible, samples should be taken from the middle of the storm water flow exiting the outfall to avoid contamination with upstream storm waters from adjacent tenants. Care should be taken to avoid stirring up and collecting any nearby sediments. Sediments should not be allowed in the sample containers because they cause analytical interferences and skew the analytical results. If it is necessary to stand in the discharge stream, stand downstream of the sample collection bottle.

Wet-Season Observations

Observations of wet-season conditions must be made during the **first hour of one storm per month** that produces continuous discharge of storm water for approximately one hour or more. After sampling at each sampling location, a Wet-Season Observation/Sampling Log must be filled out completely (Appendix A, Form VI). For each storm occurring during normal, daylight business hours, use the checklist below to determine the appropriate time to log observations.

1. Did rainfall begin during normal business daylight hours? If not, wait for next storm.
2. Is storm water discharging continuously? If not, check periodically, but *collect samples within the first hour*.
3. Log all information on wet-season observation forms for all observation points. If a sample could not be collected within the first hour of the storm, provide an explanation.
4. File logs in notebook with the Storm Water Pollution Prevention Team and prepare for next month's observations.

Sample Custody and Shipment

Sample containers should be placed in an ice chest with ice (or an ice substitute) in preparation for transport to the offsite laboratory. The field crew chief or other designate will place samples vertically, with the capped end up, in a single layer in each ice chest. Sample containers will not be packed on top of one another. Prior to packing, all bottle caps will be checked for tightness and tightened as needed to prevent sample leakage during shipment. As necessary, additional foam packing or bubble wrap will be placed beneath, surrounding, and on top of all sample bottles to prevent breakage. Self-sealing plastic bags can be inflated to provide extra cushioning. The ice chest should be shipped for next-day delivery to the offsite analytical laboratory or picked up by a laboratory courier. **All sample analyses must be performed by a state-certified laboratory.**

To establish the documentation necessary to trace sample possession, a chain-of-custody form must be completed and accompany the samples recorded on the form. The person sampling will fill out all necessary chain-of-custody information prior to shipment to an offsite lab. Chain-of-custody forms must identify the date and time the samples were collected, the sample identification codes, number of samples, analyses required for each sample, and the name of the sampler(s). The sampler or other designate will sign the chain-of-custody form after verifying the correct number of sample bottles are present and not damaged or leaking. Any discrepancies should be noted and reported to the field crew chief. A copy of the signed form will be kept in the storm water sampling notebook by the Storm Water Pollution Prevention Team, the original will be sealed in Ziplock™ bags and taped to the inside lid of the ice chest.

A shipping label addressed to the selected analytical laboratory, and containing the return address of the shipper, will be securely affixed to the shipping container. The container will be securely closed, latched, and secured with packing tape to avoid accidental opening and possible sample breakage. When shipping to an off-site laboratory, an adhesive custody seal may also be attached, completed by the shipper with his/her initials and the sampling date.

The offsite laboratory should be contacted to inform analytical personnel the samples have been shipped, or that a courier is needed for immediate sample pickup.

Analytical Methods

All sampling and sample preservation techniques must be consistent with the current edition of *Standard methods of the examination of water and wastewater*. If field instruments are used all monitoring instruments and equipment must be calibrated and maintained in accordance with manufacturers' specifications to ensure accurate measurements. All analyses must be conducted according to test procedures under 40 CFR Part 136. An abbreviated list of test parameters, methods, detection limits, required volumes and containers, preservation techniques and holding times are presented in Table 1.

Quality Assurance and Quality Control

Monitoring Program. The Storm Water Pollution Prevention Team shall be responsible for assuring that all elements of the monitoring program are conducted. Conducting all tasks and completely filling out the information specified on Forms I through VIII will help to insure all program elements are performed when appropriate.

Table 1. Summary of Analytical Methods for Storm Water Analyses

Parameter	Analysis Method	Detection Limit	Minimum Volume	Vessel	Preservative	Holding Time
pH	EPA 150.1	NA	100 mL	glass or plastic	4°C	analyze immediately
TSS	EPA 160.2	5.0 mg/L	500 mL	glass or plastic	none	7 days
Specific conductance	EPA 120.1	NA	120 mL	glass or plastic	4°C	analyze immediately
Oil & Grease	EPA 413.2	1 mg/L	1 L	glass	H ₂ SO ₄ to pH<2, 4°C	28 days
Priority Pollutant Metals	EPA 6010/7000	varies	500 mL	glass or plastic	HNO ₃ to pH<2, 4°C	6 months (excluding Hg = 28 days)
Volatile Organics	EPA 624	varies	2 x 40 ml	amber glass	HCl to pH<2, 4°C	14 if preserved, 7 days if unpreserved
Semivolatile Organics	EPA 625	varies	2 x 1L	amber glass	4°C	7 days to extraction; 40 days after extraction
Phenols	EPA 420.1	0.05 mg/L	1 L	glass	H ₂ SO ₄ to pH<2, 4°C	28 days

Note: NA - Not applicable; mg/L = parts per million.

Training. Thorough training is a fundamental element in quality assurance and control for the monitoring program. Conducting training programs as specified under Sample Preparation and Acquisition of Supplies will assure field personnel are familiar with duties, responsibilities, and theories of proper storm water monitoring, sampling, and management practices.

Analyses. Accurate measurement of storm water constituents at low concentrations also requires strict observance of quality control procedures. Analytical quality assurance methods will allow the storm water data to be quantified with an acceptable level of precision and accuracy such that reliable sampling and management decisions can be made.

Quality control samples ensure the reliability and validity of field data and are fundamental to a water-quality sampling program. Quality control samples may include equipment blanks, trip blanks, laboratory method blanks and spikes, blind replicates, and duplicates. These samples are analyzed to determine sample biases introduced by equipment decontamination procedures, bottle handling, laboratory procedures, transportation procedures, random errors, and other possible forms of cross-contamination. The descriptions below summarize each type of QA/QC sample.

- **Equipment Blanks.** The purpose of equipment blanks is to determine if sampling equipment is causing cross-contamination of samples. Equipment blanks, therefore, aid in quantifying sample bias due to sampler decontamination procedures. Equipment blanks are composed of deionized water rinsate from sampling equipment after decontamination is complete.
- **Trip Blanks.** If desired, a sample container is filled at the analyzing laboratory with the deionized water and shipped along with other sample bottles to discern if contaminants are being introduced through handling. The trip blank is not opened, but simply travels with other sample bottles from the lab, to the field, and back to the lab for analysis. Analysis of these "clean" samples by the offsite lab will make sure that handling procedures by the field crew or the lab is not causing contamination.

In general, trip blanks indicate the following sources of contamination.

- Interaction between the sample and sample container.
 - Impact of handling procedures on the analytical results.
 - Appropriate cleaning and decontamination procedures used by the field personnel.
- **Laboratory Method Blanks.** Method blanks are sample bottles filled with deionized water and are retained in the analytical laboratory. This procedure is typically carried out internally at the analyzing laboratory.
 - **Duplicates.** Storm water from at least one of the sampling locations (areas suspected to contain the highest concentration of potential pollutants) should be used to fill a duplicate sample container. This allows an estimate of the precision (reproducibility) of the laboratory analytical results. Duplicates may also be performed at the analytical lab by splitting a given sample and analyzing the aliquots under identical conditions for comparison.
 - **Spikes.** Spike samples are used to inject a known concentration of a given analyte by the analyzing laboratory. Following analysis, the recovery or concentration found in the "spiked" sample is used to monitor the accuracy of the analytical technique.
 - **Recommendations.** For this sampling and monitoring program, it is recommended that one sample duplicate and one spike sample be collected for the discharge suspected of containing the highest level of possible pollutants. Duplicate analysis offers quality

assurance cross checks if contaminants are found at high levels. Additional QA/QC samples can be collected as desired. Some analytical laboratories will analyze a spikes at no additional cost, and routinely analyze method blanks for each corresponding analyses as part of their QA/QC program. Blanks (if collected) and duplicates (recommended) should be labeled as though they are from additional sampling points. The lab should not know the these samples are tests on the laboratory procedures.

Data Validation Review

Data validation is the process of reviewing all quality control requirements that were implemented in connection with the collection and analysis of samples. The ultimate objective of data validation is to assess the quality and the data, and to classify the data as usable and quantitative or unusable.

The data validation program may include equipment blanks, trip blanks, laboratory method blanks, duplicates, and evaluation of the laboratory report to determine the completeness of the report and holding time compliance for each constituent. These procedures are implemented to ensure that data collected and analyzed during the storm water program are technically valid.

APPENDIX E
RECORDS

This appendix is provided for operational records when the facility is operational.