

**State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION**

ORDER NO. 98-051

NPDES NO. CA0001309

**WASTE DISCHARGE REQUIREMENTS
FOR
BOEING NORTH AMERICAN INC.
(Santa Susana Field Laboratory)**

The California Regional Water Quality Control Board, Los Angeles Region (hereafter Regional Board), finds:

General Information

1. Boeing North American Inc. (Boeing-Rocketdyne) and the National Aeronautical Space Agency (NASA) discharges storm water runoff and wastewater from the Santa Susana Field Laboratory (SSFL) under waste discharge requirements contained in Order No. 92-092 adopted by this Board on December 7, 1992. Order No. 92-092 also serves as the National Pollutant Discharge Elimination System (NPDES) permit (NPDES No. CA0001309).
2. Boeing-Rocketdyne has filed a report of waste discharge and applied for renewal of waste discharge requirements and a National Pollutant Discharge Elimination System permit.
3. The Regional Board is implementing a Watershed Management Approach to address water quality protection in the Los Angeles Region. Pursuant to this Regional Board's watershed initiative framework, the Upper Los Angeles River Watershed is the targeted watershed for the fiscal year 1997-1998. Accordingly, the WDRs and NPDES permits for the facilities that discharge wastes to the Upper Los Angeles River are being reviewed.
4. The SSFL is owned by Boeing-Rocketdyne and NASA. The U.S. Department of Energy (DOE) leases a portion of the site from Boeing-Rocketdyne. Boeing-Rocketdyne conducts operations at the SSFL for NASA and DOE. The SSFL is located at the top of Woolsey Canyon Road, Simi Hills, Ventura County, California. The developed portion of the site is approximately 1,500 acres. There is a 1,200-acre undeveloped buffer zone which has no industrial activities and is located to the south of the developed area.

May 22, 1998

June 17, 1998

Revised: June 29, 1998

5. Boeing-Rocketdyne operates the SSFL for research, development, assembly/disassembly and testing of rocket engines, missile components, advanced lasers, and their various components. The DOE operates facilities located at the SSFL conducting research and development, seismic testing, and sodium research.

Water is used in test firings for flame deflector cooling, fire suppression, heat exchange equipment, washdown, manufactured part chemical cleaning and etching operations, and pressure testing. Both fresh water and reclaim water systems are utilized at the SSFL.

Discharge Activities, Receiving Water, and Beneficial Uses

6. Boeing-Rocketdyne discharges intermittently up to 178 million gallons per day (MGD) of excess water from its onsite wastewater reclamation system and rainfall runoff which may pick up pollutants from the facilities.

90% of the total flow is discharged via two southerly discharge points (Discharge Outfalls 001 and 002) to Bell Creek, a tributary to the Los Angeles River, a water of the United States, with its confluence located near the intersection of Bassett Street and Owensmouth Avenue in Canoga Park, above the estuary (see Figure 1).

Less than 10% of the site slopes to the northwest where rainfall runoff flows northwest via five discharge points (Discharge Outfalls 003, 004, 005, 006, and 007) leading to Meier and Runkle Canyons toward Arroyo Simi (see Figure 2). Arroyo Simi is tributary to Calleguas Creek, a water of the United States, above the estuary.

7. On June 13, 1994, this Regional Board adopted a revised *Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties* (Basin Plan). The Basin Plan contains beneficial uses and water quality objectives for the Los Angeles River, Arroyo Simi, and other tributaries of Calleguas Creek.
8. The beneficial uses of the Los Angeles River are:

Los Angeles River upstream of Figueroa Street - Hydrologic Unit 405.21

Existing: ground water recharge; contact and non-contact water recreation; warm freshwater habitat; wildlife habitat; and wetland habitat.
Potential: municipal and domestic supply¹; and industrial service supply.

¹ Municipal and domestic supply designations under State Water Resources Control Board Order No. 88-63 and Regional Board Resolution No. 89-003.

Los Angeles River downstream of Figueroa Street - Hydrologic Unit 405.15

Existing: ground water recharge; contact² and non-contact water recreation; and warm freshwater habitat.
Potential: municipal and domestic supply¹; and industrial service supply.

Los Angeles River downstream of Figueroa Street - Hydrologic Unit 405.12

Existing: ground water recharge; contact² and non-contact water recreation; warm freshwater habitat; marine habitat; wildlife habitat; and rare, threatened, or endangered species.
Potential: municipal and domestic supply¹; industrial service supply; industrial process supply; migration of aquatic organisms; spawning, reproduction, and/or early development; and shellfish harvesting².

Los Angeles River Estuary - Hydrologic Unit 405.12

Existing: industrial service supply; navigation; contact and non-contact water recreation; commercial and sport fishing; estuarine habitat; marine habitat; wildlife habitat; rare, threatened, or endangered species³; migration of aquatic organisms⁴; spawning, reproduction, and/or early development⁴; and wetland habitat.
Potential: shellfish harvesting.

9. The beneficial uses of Arroyo Simi and other tributaries of Calleguas Creek are:

Arroyo Simi - Hydro Unit 403.62

Existing: industrial process supply; ground water recharge; freshwater replenishment; contact and non-contact water recreation; warm freshwater habitat; wildlife habitat; and preservation of rare, threatened or endangered species.
Potential: municipal and domestic supply.

² Access prohibited by Los Angeles County Department of Public Works.

³ One or more rare species utilize all ocean, bays, estuaries, and coastal wetlands for foraging and/or nesting.

⁴ Aquatic organisms utilize all bays, estuaries, lagoons, and coastal wetlands, to a certain extent, for spawning and early development. This may include migration into areas which are heavily influenced by freshwater inputs.

Arroyo Las Posas - Hydro Unit 403.62

Existing: ground water recharge; freshwater replenishment; contact and non-contact water recreation; warm freshwater habitat; and wildlife habitat.
Potential: municipal and domestic supply; industrial process supply; industrial service supply; agricultural supply; and cold freshwater habitat.

Calleguas Creek - Hydro Unit 403.12

Existing: industrial service supply; industrial process supply; agricultural supply; ground water recharge; contact and non-contact water recreation; warm freshwater habitat; and wildlife habitat.
Potential: municipal and domestic supply.

Calleguas Creek - Hydro Unit 403.11

Existing: agricultural supply; ground water recharge; freshwater replenishment; contact and non-contact water recreation; warm freshwater habitat; cold freshwater habitat; wildlife habitat; rare, threatened or endangered species, and wetland habitat.
Potential: municipal and domestic supply.

Calleguas Creek Estuary - Hydro Unit 403.11

Existing: non-contact water recreation; commercial and sport fishing; estuarine habitat; wildlife habitat; rare, threatened or endangered species; migration of aquatic organisms; spawning, reproduction, and/or early development; and wetland habitat.
Potential: navigation and water contact recreation.

Mugu Lagoon - Hydro Unit 403.11

Existing: navigation; non-contact water recreation; commercial and sport fishing; estuarine habitat; marine habitat; preservation of biological habitats; wildlife habitat; rare, threatened or endangered species; migration of aquatic organisms; spawning, reproduction, and/or early development; shellfish harvesting; and wetland habitat.
Potential: water contact recreation.

The requirements in this order are intended to protect designated beneficial uses and enhance the water quality of the watershed.

Wastewater Treatment Plants and Reclamation Water System

10. The domestic water and the fresh water for industrial uses are supplied by Calleguas Municipal Water District. Two package-type activated sludge sewage treatment plants (STP1 and STP3) provide secondary and tertiary treatment for most of the domestic sewage from the facilities. Disinfected sewage effluents from the activated sludge facilities are directed to the reclaim water system reservoirs. Water from the reservoirs is reused for industrial purposes. A third activated sludge sewage treatment plant (STP2) is available, but is not currently in use.

11. The water reclamation system consists of five active ponds (see Figure 1). They are as follows:

R-1 Pond -	capacity 3.7 million gallons
Perimeter Pond -	capacity 1.3 million gallons
Silvernale Pond -	capacity 6.0 million gallons
R2-B Pond -	capacity 200,000 gallons
R2-A Pond -	capacity 2.5 million gallons

12. The SSFL has the capability to redirect the flow in each of the five ponds via unlined channels, water lines, or pumping into water storage tanks as follows:

R-1 Pond	Flow may be discharged to Perimeter Pond or pumped to Reclaim Water Storage Tanks
Perimeter Pond	Flow may be released to Bell Canyon or pumped to R-1 Pond
Silvernale Pond	Effluent flows by gravity to R2-A Pond
R2-B Pond	This pond is a silt inlet to R-2A Pond. Flow goes directly to R-2A Pond
R2-A Pond	Flow may be released to Bell Canyon, pumped to Silvernale Pond, or redirected to Reclaim Water Storage Tanks

Although treatment is not currently performed at the ponds, air agitation is used to control algal blooms which may occur during the summer season. Chemical addition such as copper sulfate, bromine, or chlorine may also become necessary in the future to control algae blooms if agitation alone proves to be inadequate.

13. There are 10 inactive ponds (surface impoundments) which are being closed under the following regulatory activity:

Former Sodium Disposal Facility (B/886) lower surface impoundment has been closed under Toxic Pits Control Act (TPCA) by this Regional Board, but closure activities under Cal EPA's Department of Toxic Substances Control (DTSC) are continuing.

ECL-1, APTF 1, APTF 2, STL-IV 1, STL-IV 2, Delta Skim Pond, SPA 1, SPA 2, and Alfa-Bravo Skim Pond are being closed under Resources Conservation and Recovery Act (RCRA) by DTSC.

Discharge Flow Rates

14. Storm Water Runoff: The SSFL discharges storm water runoff, which may pick up pollutants from the facilities. Estimated storm water runoff from the entire area to the southern discharge points 001 and 002 is 160 mgd (based on 24-hour, 10-year storm) and from Northwest Slope to five discharge points 003, 004, 005, 006, and 007 is 17.8 mgd.
15. Wastewater Overflow: Up to 2.2 million gallons per day (MGD) of wastes consisting of excess water from its onsite wastewater reclamation system are also intermittently discharged to the southern discharge points 001 and 002 as followings (see Attachment 2-A Process Diagram):

Domestic Wastewater

<u>LOCATION</u>		<u>FLOWS (MGD)</u>		
<u>From</u>	<u>To</u>	<u>Max</u>	<u>Average</u>	<u>Design</u>
Area 1	R-1 (PP)	0.030	0.012	0.04
Area 2	Area 3	0.0	0.0	0.05
Area 3	R-2	<u>0.022</u>	<u>0.008</u>	<u>0.0236</u>
Totals		0.052	0.020	0.1136

Industrial Wastewater

<u>LOCATION</u>		<u>FLOWS (MGD)</u>		
<u>From</u>	<u>To</u>	<u>Max</u>	<u>Average</u>	<u>Design</u>
APTF	R-1	0.013	0.0003	0.013
Alfa test area 1	R-2	0.002	0.002	0.002
Alfa test area 3	R-2	0.002	0.002	0.002
Bravo test area	R-2	0.00003	0.00003	0.00003
Ground water	Area 4 (R-2B)	1.584	0.360	1.584
Seismic Test Area	R-2	0.0002	0.0002	0.0002
Hydrogen Lab. Tower	R-2	0.02	0.014	0.02

Industrial Wastewater

<u>LOCATION</u>		<u>FLOWS (MGD)</u>		
<u>From</u>	<u>To</u>	<u>Max</u>	<u>Average</u>	<u>Design</u>
STL-IV (Alt. Test)	R-2B	0.0016	0.0001	0.0016
STL-IV (AM.Test)	R-2B	0.0005	0.0001	0.0005
STL-IV (Firex)	R-2B	0.00004	0.00001	0.00004
RNTF Bldg.222	R-2	0.0004	0.0004	0.0004
CTL-3	R-1	<u>0.0100</u>	<u>0.0100</u>	<u>0.0100</u>
Totals		1.6338	0.3891	1.6338

16. Ground Water Discharge: During the early 1950s to the mid-1970s, organic solvents were utilized for the flushing of hardware and rocket engine thrust chambers and for the cleaning of other equipment. These solvents migrated into the subsurface, contaminating ground water with trichloroethylene (TCE) and 1,2-dichloroethylene (1,2-DCE).

As a result, there is now extensive ground water remediation in progress at the SSFL, which includes pumping, treating and storing ground water at the SSFL. Currently, this system is composed of eight treatment systems which have the capability of producing up to 578 million gallons per year of treated ground water. Treated ground water is discharged directly into either the reclamation system or the fresh water distribution system depending on water usage requirements.

The eight treatment systems employ both chemical and physical treatment to remove contaminants from the ground water and render the water safe for use in both the fresh and reclaimed water systems. The chemical treatment consists of ultraviolet light and hydrogen peroxide oxidation, and the physical treatment consists of air stripping towers. These treatment systems are regulated under RCRA part A and part B hazardous waste permits by DTSC, and various air quality control permits issued by Ventura County.

Future plans to add new wells will increase the design capacity of the system by 25%. The average flow would be increased by as much as 50%. There will also be intermittent pilot projects where test wells will be drilled and treated to help determine optimum locations for future permanent wells.

Discharge Outfalls

17. Outfalls 001 and 002: The wastes are discharged from the following discharge points after flowing into or bypassing the various ponds in the reclamation system. In each discharge point, part of the surface runoff bypasses the ponds but merges again with the flow from the ponds in the buffer zone before it leaves the property.

<u>Discharge Outfalls</u>	<u>Latitude</u>	<u>Longitude</u>
001 (East Buffer)	34 12' 49.7"	118 41' 43.7"
002 (West Buffer)	34 13' 02.4"	118 42' 15.4"

001 and 002 are located about 6,000 feet south from the final retention ponds. Samples are collected at these points for effluent monitoring. During severe weather conditions, samples will be collected at R-2A and Perimeter Pond (PP) ponds discharge points.

18. Outfalls 003, 004, 005, 006, and 007: The topography of the SSFL is such that approximately 90% of rainfall runoff is routed to one of the two southerly discharge points 001 and 002. Less than 10% of the site slopes to the northwest where rainfall runoff flows northwest leading to Meier and Runkle Canyons toward Arroyo Simi through five discharge points (Outfalls 003, 004, 005, 006, and 007) from Area IV.

Normally, there is no flow from the site toward the northwest, except in times of heavy rainfall in which run-off leaves the site through normally dry creek beds. To monitor this natural runoff, five sampling stations have been established inside the SSFL northwest boundary.

These stations are located in close proximity to past and/or existing radiological facilities: 003-Radioactive Materials Handling Facility (RMHF) leach field; 004-Sodium Reactor Experiment (SRE) watershed; 005-Sodium Disposal Facility named as Sodium Burn Pit #1 (SBP1); 006-Sodium Burn Pit #2 (SBP2); and 007-Building 100 (B100) which once contained a critical assembly. The monitoring locations from this area are:

<u>Discharge Outfalls</u>	<u>Latitude</u>	<u>Longitude</u>
003 (RMHF)	34 14' 04.0"	118 42' 38.4"
004 (SRE)	34 14' 09.1"	118 42' 23.9"
005 (SBP1)	34 13' 48.1"	118 43' 03.9"
006 (SBP2)	34 13' 50.7"	118 42' 59.9"
007 (B100)	34 13' 50.2"	118 42' 52.5"

SBP1 and SBP2 will be removed from monitoring upon final closure and certification of the Sodium Disposal Facility, Chemical Storage Area (if applicable), and other potential source areas (if any) that storm water from these areas is only drained to Outfalls 005 and 006.

19. In the past, water releases were normally associated with wet weather flow due to the additional amount of water entering the system from storm run-off. In dry weather, onsite activities were normally sufficient to use the water generated from onsite ground water pumping wells.

However, in recent years, this water balance has changed. Additional water is now being added into the system from a more extensive ground water pumping program. Secondly, process changes and the reduction of testing activities have decreased the amount of water used onsite.

As a result, water is currently discharged continuously from R-2 reclamation pond to Outfall 002. However, during hot weather, the discharged water either evaporates or saturates into the ground before reaching Outfall 002 resulting in an intermittent flow.

SSFL Operations

20. Nuclear Operations: There are currently no programs at the SSFL which employ special nuclear materials. Current decommissioning activities have reduced the amount of facility activation and contamination to less than 3 curies. The SSFL continues to utilize microcurie quantities of radioisotopes in the form of calibration sources (necessary to calibrate radiation detectors and counting equipment).

There are several decommissioning projects underway to decontaminate and decommission all inactive facilities which had been previously used to package and store contaminated radioactive materials from decommissioning projects prior to offsite disposal. Stormwater run-off from these facilities is continuously monitored for radioactivity. The Department of Energy (DOE) is responsible for the cost of decontamination and decommissioning. US EPA, Cal-EPA (DTSC), and the California Department of Health Services (Radiological Health Branch) have oversight responsibilities at the SSFL.

21. Monomethyl Hydrazine Usage: Monomethyl hydrazine (MMH), a propellant, has been used for research, development, and testing of rocket engines at the SSFL since 1955. MMH is currently used at the Systems Test Lab (STL-4) facility and the Propellant Load Facility (PLF) which will be utilized in the future as an unloading facility. MMH was previously used at the Advanced Propulsion Test Facility (APTF) and is stored at the Storable Propellant Area (SPA) but is in the process of being removed. The MMH which is released as a result of testing operations is captured and treated with an ozonation unit under a variance granted by DTSC. As a result, MMH is not released to the ponds from this area.
22. CTL-3 Chemical Laser Testing: The SSFL is expanding research and development projects related to construction and testing of high energy chemical lasers at CTL-3. This expansion could result in the discharge of not more than 10,000 gallons per day of treated wastewater to Perimeter pond. Treatment is expected to include pH neutralization and, liquid chlorine may be converted to sodium hypochlorite for possible recycling or neutralized and discharged.

23. Future Operations: Since the SSFL is a test facility, it is difficult to anticipate any future test project and its wastewater generation. The followings are currently expected future operations:

Treatment Under Tiered Permitting Rules: Boeing-Rocketdyne has future plans to explore the feasibility of treating certain waste streams by either a mobile or fixed hazardous waste treatment unit operating under DTSC Permit-By-Rule requirements. The waste streams to be treated would be classified under these regulations as low-level hazardous waste. Treated effluent would then need to be released into the ponds. Any discharge from this type of treatment will be required to meet all water quality standards as it enters the ponds.

Other Wastestreams: For other unspecified waste streams which may contain trace quantities of certain toxic materials used in cleaning, assembly, testing and support operations, Boeing-Rocketdyne will ensure that at no time will such releases cause an exceedance of any water quality standard or NPDES discharge requirement at the receiving pond. In the event that the effluent limits are not established for such toxic pollutants, Boeing-Rocketdyne will carefully monitor these wastestreams to ensure that excessive amounts of these materials are not released.

Waste Discharge Requirements and Regulations

24. This Order pertains only to the discharge of wastewater from the reclaim water system, treated ground water and storm water to surface water. The use of wastewater from the reclaim water system is subject to separate waste discharge requirements.
25. Numeric toxic constituent limitations are prescribed for this discharge pursuant to the narrative water quality objective in the Basin Plan for toxic constituents and 40 CFR part 122.44. The numeric toxic limitations are based on Basin Plan Objectives, USEPA's Water Quality Criteria, and the National Toxics Rule.

For toxic constituents that have not been consistently detected in the effluent and have been determined to have no reasonable potential for causing or contributing to excursions in water quality objectives, no numerical limitations are prescribed. Instead, a narrative limit to comply with all water quality requirements is provided in lieu of such numerical limitations.

26. The requirements contained in this Order were derived using best professional judgement and are based on the Basin Plan, Federal and State plans, policies, guidelines; and, as they are met, will be in conformance with the goals of the aforementioned water quality control plans, water quality criteria, and will protect and maintain existing and potential beneficial uses of the receiving water.
27. Section 402(p) of the Federal Clean Water Act, as amended by the Water Quality Act of 1987, requires NPDES permits for storm water discharges. Pursuant to this requirement,

in 1990, the USEPA promulgated 40 CFR Part 122.26 which established requirements for storm water discharges under NPDES program. To facilitate compliance with federal regulations, in 1992, the State Water Resource Control Board issued a statewide general permit [NPDES No. CAS000001, reissued on April 17, 1997] to regulate storm water discharges associated with industrial activity. The Boeing-Rocketdyne is covered by that general permit and its requirements are incorporated in this Order by reference.

28. The issuance of waste discharge requirements for this discharge is exempt from the provisions of Chapter 3 (commencing with §21100, et. seq.), Division 13, Public Resources Code pursuant to California Water Code §13389.

The Regional Board has notified the Discharger and interested agencies and persons of its intent to renew waste discharge requirements for this discharge and has provided them with an opportunity to submit their written views and recommendations.

The Regional Board, in a public hearing, heard and considered all comments pertaining to the discharge and to the tentative requirements.

This Order shall serve as a National Pollutant Discharge Elimination System permit pursuant to §402 of the Federal Clean Water Act, or amendment thereto, and shall take effect at the end of ten days from the date of its adoption provided the Regional Administrator of the USEPA has no objections.

IT IS HEREBY ORDERED that Boeing-Rocketdyne in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Federal Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. Effluent Limitations for Discharge Outfalls 001 to 007

1. The discharges for outfalls Nos. 001 and 002 shall be limited to overflow from the reclamation water system (consisting of treated ground water, cooling water, treated domestic wastewater, storm water, and testing water) and other storm water runoff, as proposed.
2. Discharges from the northwest slope area (storm water conveyance) outfalls 003, 004, 005, 006, and 007 shall be limited to uncontaminated storm water runoff only.
3. The discharge of an effluent in excess of the following limitations is prohibited.

a. For Outfalls Nos. 001 and 002

<u>Constituent</u>	<u>Units</u>	<u>Discharge Limitations^[1]</u>	
		<u>Monthly Average</u>	<u>Daily Maximum</u>
BOD ₅ 20°C	mg/L	20	30
Suspended solids ^[2]	mg/L	15	45
Oil and grease	mg/L	10	15
Settleable solids ^[2]	ml/L	0.1	0.3
Total residual chlorine	mg/L	--	0.1
Total dissolved solids	mg/L	--	950
Chloride	mg/L	--	150
Sulfate	mg/L	--	300
Boron	mg/L	--	1.0
Fluoride	mg/L	--	1.6
Barium	mg/L	--	1.0
Iron	mg/L	--	0.3
Detergents (as MBAS)	mg/L	--	0.5
Nitrite+Nitrate-N	mg/L	--	8
Cyanide ^[5,6]	µg/L	5.2	22
Manganese	µg/L	--	50
Antimony	µg/L	--	6
Arsenic	µg/L	--	50
Beryllium	µg/L	--	4

<u>Constituent</u>	<u>Units</u>	<u>Discharge Limitations^[1]</u>	
		<u>Monthly Average</u>	<u>Daily Maximum</u>
Cadmium ^[3]	µg/L	1	3.7
Chromium (VI) ^[4]	µg/L	10	15
Copper ^[3]	µg/L	11	17
Lead	µg/L	2.5 ^[3]	65
Mercury ^[5]	µg/L	0.012	2.1
Nickel	µg/L	--	100
Selenium	µg/L	5	20
Silver ^[3]	µg/L	--	3.4
Thallium	µg/L	--	2
Zinc ^[3]	µg/L	100	110
Benzene	µg/L	--	1.0
Carbon tetrachloride	µg/L	--	0.5
Chloroform	µg/L	--	100
1,1-dichloroethane	µg/L	--	5
1,2-dichloroethane	µg/L	--	0.5
1,1-dichloroethylene	µg/L	--	6
Ethylbenzene	µg/L	--	680
Tetrachloroethylene	µg/L	--	5
Toluene	µg/L	--	150
Xylene ^[6]	µg/L	--	1,750

<u>Constituent</u>	<u>Units</u>	<u>Discharge Limitations^[1]</u>	
		<u>Monthly Average</u>	<u>Daily Maximum</u>
1,1,1-trichloroethane	µg/L	--	200
1,1,2-trichloroethane	µg/L	--	5
Trichloroethylene	µg/L	--	5
Trichlorofluoromethane	µg/L	--	150
Vinyl chloride	µg/L	--	0.5
Radioactivity -			
Gross Alpha	pCi/L	--	15
Gross Beta	pCi/L	--	50
Combined Radium-226 & Radium-228	pCi/L	--	5
Tritium	pCi/L	--	20,000
Strontium-90	pCi/L	--	8

- [1] The discharge rate mass limitations (in lbs/day) shall be determined using the tabulated concentration limits and the discharge flow rate.
- [2] The effluent limitations for total suspended solids and settleable solids are not applicable for discharges during rainfall events.
- [3] Concentrations corresponded to a total hardness of 100 mg/L. For other conditions where total hardness exceeds 100 mg/l, the limits can be calculated by following 40 CFR §131.36(b)(2).
- [4] The discharger has the option to meet the hexavalent chromium limitations with a total chromium analysis. However, if the total chromium level exceeds the hexavalent chromium limitation, it will be considered a violation unless an analysis has been made for hexavalent chromium in replicate sample and the result shows within the hexavalent chromium limits.
- [5] If the constituent limit is less than the method detection limit, compliance with the constituent limit shall be based on the PQL (Practical Quantitation Level). PQL shall be determined by multiplying the USEPA method detection limit (MDL) shown in Attachment 1 or the Discharger's performance MDL approved by the Executive Officer, with the factors five (5) for carcinogens or ten (10) for noncarcinogens.
- [6] Concentration expressed as sum of isomers.

b. For Outfalls 003, 004, 005, 006, and 007

<u>Constituent</u>	<u>Units</u>	<u>Discharge Limitations^[1]</u>	
		<u>Monthly Average</u>	<u>Daily Maximum</u>
Total dissolved solids	mg/L	--	950
Oil and grease	mg/L	--	15
Chloride	mg/L	--	150
Fluoride	mg/L	--	1.6
Nitrate and nitrite as Nitrogen	mg/L	--	8
Sulfate	mg/L	--	300
Boron	mg/L	--	1.0
Radioactivity -			
Gross Alpha	pCi/L	--	15
Gross Beta	pCi/L	--	50
Combined Radium-226 & Radium-228	pCi/L	--	5
Tritium	pCi/L	--	20,000
Strontium-90	pCi/L	--	8
Antimony	µg/L	--	6
Arsenic	µg/L	--	50
Beryllium	µg/L	--	4
Cadmium ^[2]	µg/L	1	3.7
Chromium (VI) ^[3]	µg/L	10	15
Copper ^[2]	µg/L	11	17

<u>Constituent</u>	<u>Units</u>	<u>Discharge Limitations^[1]</u>	
		<u>Monthly Average</u>	<u>Daily Maximum</u>
Lead	µg/L	2.5 ^[2]	65
Mercury ^[4]	µg/L	0.012	2.1
Nickel	µg/L	--	100
Selenium	µg/L	5	20
Silver ^[2]	µg/L	--	3.4
Thallium	µg/L	--	2
Zinc ^[2]	µg/L	100	110

[1] The discharge rate mass limitations (in lbs/day) shall be determined using the tabulated concentration limits and the discharge flow rate.

[2] Concentrations corresponded to a total hardness of 100 mg/L. For other conditions where total hardness exceeds 100 mg/l, the limits can be calculated by following 40 CFR §131.36(b)(2).

[3] The discharger has the option to meet the hexavalent chromium limitations with a total chromium analysis. However, if the total chromium level exceeds the hexavalent chromium limitation, it will be considered a violation unless an analysis has been made for hexavalent chromium in replicate sample and the result shows within the hexavalent chromium limits.

[4] If the constituent limit is less than the method detection limit, compliance with the constituent limit shall be based on the PQL (Practical Quantitation Level). PQL shall be determined by multiplying the USEPA method detection limit (MDL) shown in Attachment 1 or the Discharger's performance MDL approved by the Executive Officer, with the factors five (5) for carcinogens or ten (10) for noncarcinogens.

4. The pH of wastes discharged shall at all times be within the range of 6.0 to 9.0.
5. The temperature of wastes discharged shall not exceed 100°F.
6. Radioactivity of the wastes discharged shall not exceed the limits specified in Title 22, Chapter 15, Article 5, Section 64443, of the California Code of Regulations, or subsequent revisions.

7. Toxicity Limitation:

The acute toxicity of the effluent shall be such that the average survival in the undiluted effluent for any three (3) consecutive 96-hour static or continuous flow bioassay tests shall be at least 90%, with no single test less than 70% survival. The chronic toxicity of the effluent shall not exceed 1.0 TUC.

If the toxicity limitation is violated three consecutive times, the Discharger shall conduct a toxicity identification evaluation (TIE). The TIE shall include all reasonable steps to identify the sources of toxicity. Once the sources are identified, the Discharger shall take all reasonable steps to reduce toxicity to meet the objective.

8. Within 180 days from the effective date of this order, the discharger shall develop and submit to the Regional Board for approval a Best Management Practices program for solvent usage and disposal at the Santa Susana Field Laboratory. The specific objectives of the Best Management Practices program for solvents shall be to eliminate where possible, or minimize to the maximum extent practicable, the introduction of solvents into the reclaim and discharge water systems.

As a minimum the plan shall include the following elements:

- a. An inventory of the types of solvents used (e.g., chlorinated, fluorinated, other); typical inventories and annual usage; and, disposal methods for each process operating area and support area at the Santa Susana Field Laboratory.
- b. Existing and proposed management practices and control strategies to achieve the objectives of the Best Management Practices program for solvents.
- c. A proposed schedule for implementing the management practices and control strategies, including construction schedules for any control or treatment facilities that may be deemed necessary; however, in no case shall the proposed schedule extend beyond twelve months from the effective date of this order.

The discharger shall fully implement the Best Management Practices program for solvents upon approval of the proposed program by the Executive Officer.

9. Within 180 days from the effective date of this order, the discharger shall develop and submit to the Regional Board for approval a Best Management Practices program for fuels, propellants, oxidizers and related chemicals used for engine testing at the Santa Susana Field Laboratory. The specific objectives of the Best Management Practices program shall be to eliminate where possible, or minimize to the maximum extent practicable, the introduction of fuels, propellants, oxidizers and related chemicals into the reclaim and discharge water systems.

As a minimum the plan shall include the following elements:

- a. An inventory of the types of fuels, propellants, oxidizers and related chemicals used; typical inventories and annual usage; and, disposal methods for each process operating area and support area at the Santa Susana Field Laboratory.
- b. Existing and proposed management practices and control strategies to achieve the objectives of the Best Management Practices program for solvents.
- c. A proposed schedule for implementing the management practices and control strategies, including construction schedules for any control or treatment facilities that may be deemed necessary; however, in no case shall the proposed schedule extend beyond eighteen months from the effective date of this order.

The discharger shall fully implement the Best Management Practices program for fuels, propellants, oxidizers and related chemicals upon approval of the proposed program by the Executive Officer.

B. Effluent Limitations for Wastewater Treatment Plants

1. The arithmetic mean of BOD₅ 20°C and suspended solids values, by weight, for effluent samples collected in a period of 30 consecutive calendar days shall not exceed 15 percent of the arithmetic mean of values, by weight, for influent samples collected at approximately the same time during the same period.
2. The wastes discharged to water courses shall at all times be adequately disinfected. For the purpose of this requirements, the wastes shall be considered adequately disinfected if the median number of coliform organisms at some point in the treatment process does not exceed 2.2 per 100 milliliters, and the number of coliform organisms does not exceed 23 per 100 milliliters in more than one sample within any 30-day period. The median value shall be determined from the bacteriological results of the last 30 day period for which analysis has been completed. Samples shall be collected at a time when wastewater flow and characteristics are most demanding on treatment facilities and disinfection processes.
3. The wastes discharged to water courses shall have received treatment equivalent to that of filtered wastewater. Filtered wastewater means an oxidized and coagulated wastewater that has been passed through natural undisturbed soils or filter media, such as sand or diatomaceous earth, so that the turbidity of the filtered wastewater does not exceed any of the followings: (a) a daily average of 2 Nephelometric turbidity units (NTUs); and (b) 5 NTUs more than 5 percent of the time (72 minutes) during any 24 hour period.

Nothing herein shall be construed to prevent the use of any alternative treatment process or processes provided that they can be demonstrated to the satisfaction of the Executive Officer to achieve compliance with the effluent limitations and requirements.

"Oxidized wastewater" means wastewater in which the organic matter has been stabilized, is nonputrescible, and contains dissolved oxygen. "Coagulated wastewater" means oxidized wastewater in which colloidal and finely divided suspended matter have been destabilized and agglomerated upstream of a filter by the addition of suitable floc-forming chemicals.

C. Requirements and Provisions

1. This order includes the attached Standard Provisions and General Monitoring and Reporting Requirements (Standard Provisions) (Attachment N). If there is any conflict between provisions stated herein and the Standard Provisions, those provisions stated herein prevail.
2. This Order includes the attached Monitoring and Reporting Program (Attachment T). If there is any conflict between provisions stated in Monitoring and Reporting Program and the Standard Provisions, those provisions stated in the former prevail.
3. The Discharger shall comply with the requirements of the State Water Resources Control Board's General NPDES Permit No. CAS000001 and Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities (Order No. 97-03-DWQ) (Attachment 3).
4. The Discharger shall comply with all applicable water quality objectives for the Los Angeles River, including the toxic criteria in 40 CFR Part 131.36.
5. For the wastewater treatment plants on-site, the Discharger shall provide standby or emergency power facilities and/or storage capacity or other means so that in the event of plant upset or outage due to power failure or other causes, the discharge of raw or inadequately treated sewage does not occur.
6. This Order may be modified, in accordance with the provisions set forth in 40 CFR Parts 122 and 124, to include requirements for the implementation of the watershed management approach.
7. This Order may also be modified, revoked, and reissued or terminated in accordance with the provisions of 40 CFR Parts 122.44, 122.62 to 122.64, 125.62, and 125.64. Causes for taking such actions include, but are not limited to, failure to comply with any condition of this order and permit, endangerment to human health, or the environment resulting from the permitted activity.
8. Discharge of wastes to any point other than specifically described in this order and permit is prohibited and constitute a violation thereof.

D. Expiration Date


This Order expires on May 10, 2003.

The Discharger must file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations, not later than 180 days in advance of such date as application for issuance of new waste discharge requirements.

E. Rescission

Order No. 92-092, adopted by this Regional Board on December 7, 1992, is hereby rescinded, except for enforcement purposes.

I, Dennis Dickerson, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of an order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on June 29, 1998.



DENNIS DICKERSON
Executive Officer