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March 11, 2009  
Revised: April 6, 2009

the State, minimize impacts to the streambed adjacent habitat during the cleanup, protect the water quality during and after the cleanup, and restore the streambed and surrounding habitat following the cleanup.

6. On December 11, 2008, the Discharger submitted a new report of waste discharge (ROWD). Supplemental information was submitted on February 2, 2009, to complete the ROWD. This Order (R4-2009-00XX) includes updates required as a result of the new ROWD, the California Water Code Section 13304 Order, and the new reasonable potential analysis (RPA) conducted on data collected from August 2004 through December 2008.

### **Description of Facility**

7. SSFL is located at the top of Woolsey Canyon Road in the Simi Hills, Ventura County, California (Figure 1). The developed portion of the site comprises administrative areas I – IV is approximately 1,525.7 acres. The northern undeveloped property is approximately 181.7 acres and the southern undeveloped property is 1142.6 acres. SSFL is owned by both Boeing and the National Aeronautics and Space Administration (NASA). The United States Department of Energy (DOE) also owns several buildings located in Area IV, with the land being under the ownership of Boeing.
8. Boeing and its predecessors' operations at SSFL since 1950 include research, development, assembly, disassembly, and testing of rocket engines, missile components, and chemical lasers. DOE conducted past operations in research and development of energy related programs, and seismic testing experiments. Current DOE activities onsite are solely related to facility decontamination, decommissioning, and environmental remediation and restoration.
9. Historical Boeing activities at SSFL that contributed to discharges from the site include rocket engine testing where water was used to cool flame deflectors, fire suppression equipment, and pressure testing of equipment used to support rocket engine testing. Other facility support activities such as cooling, heating, domestic waste treatment, and ground water treatment contributed to discharges from the site as well.
10. Surface Impoundments: There are nine closed surface impoundments at the SSFL that are regulated under the Resource Conservation and Recovery Act (RCRA). The nine impoundments are closed and regulated by Department of Toxic Substances Control (DTSC) under two postclosure permits issued in 1995. These impoundments include: Engineering Chemistry Laboratory (ECL), Advanced Propulsion Test Facility (APTF) 1 & 2, Storable Propellant Area (SPA) 1 & 2, Systems Test Lab (STL) IV 1 & 2, Delta skim pond and the Alfa Bravo skim pond. A tenth surface impoundment, the Propellant Load Facility (PLF), was clean closed and did not require a postclosure permit.
11. Nuclear Operations Decontamination and Decommissioning: Nuclear research and development for the U.S. Department of Energy (DOE) and its predecessors was conducted at the SSFL from 1954 – 1989. The activities included developing and operating reactors, and fabricating and disassembling nuclear fuel. The federal government began to phase out the program in the 1960s. The last reactor was shut

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In the future, Boeing plans to treat effluent from SSFL groundwater remediation operations in 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 non-RCRA or RCRA exempt hazardous waste. Treated groundwater effluent would then be released at a separate outfall (Outfall 019).

17. Water used at SSFL for personnel and for industrial purposes is supplied by both the Calleguas Municipal Water District and a bottled water supplier. The water used for industrial purposes historically after use was discharged to the onsite streambeds, watercourses, and ponds. Currently, there are no operations that generate wastewater. Groundwater treatment is scheduled to resume in late 2009. The treated groundwater effluent will be discharged at Outfall 019.
18. Two package-type activated sludge sewage treatment plants (STP1 and STP3) previously provided secondary and tertiary treatment for most of the domestic sewage generated onsite. Disinfected sewage effluent from the activated sludge facilities was directed to the reclaimed water system reservoirs (unlined ponds). Water from the reservoirs was routinely reused for industrial purposes. A third activated sludge sewage treatment plant (STP2) is a transfer holding tank and only used for storage.

Operations terminated at STP3 in October 2001 and at STP1 r

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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 or pumped to Silvernale Pond.

Air agitation is used at these ponds to control algae blooms. Chemical addition, such as copper sulfate, bromine or chlorine, is not used, but may become necessary in the future if agitation alone proves to be inadequate to control al

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<b>Operation</b>	<b>Current NPDES Outfall No.</b>	<b>Agency</b>
1. Wastewater and Storm water runoff	001	RWQCB
2. Wastewater and storm water runoff	002	RWQCB
3. Storm water Radioactive Material Handling Facility	003	RWQCB
4. Storm water Sodium Reactor Exp.	004	RWQCB
5. Storm water Sodium Burn Pit 1	005	RWQCB
6. Storm water Sodium Burn Pit 2	006	RWQCB
7. Storm water Building 100	007	RWQCB
8. Storm water Happy Valley	008	RWQCB
9. Storm water WS-13 Drainage	009	RWQCB
10. Storm water Building 203	010	RWQCB
11. R-1 Pond	----	DTSC
12. Perimeter Pond	011	RWQCB
13. R-2 Ponds (R-2A and R-2B)	----	DTSC
14. R-2 Spillway	018	RWQCB
15. Silvernale Pond	----	DTSC
16. Alfa Test Stand	012	RWQCB
17. Bravo Test Stand	013	RWQCB
18. WS-5 Groundwater Treatment System (GWTS)/ Ultraviolet light/peroxidation (UV/P)	----	DTSC
19. RD-9 GWTS UV/P	----	DTSC
20. Alfa GWTS/Air Stripping Towers (AST)	----	DTSC
21. Delta GWTS/AST	----	DTSC
22. STLV-IV GWTS/AST	----	DTSC
23. Area 1 Road GWTS/AST	----	DTSC
24. Bravo GWTS/AST	----	DTSC
25. Canyon GWTS/AST	----	DTSC
26. Interim GWTS near FSDF*	----	DTSC
27. Interim GWTS near Bldg 59*	----	DTSC
28. Interim GWTS near RMHF*	----	DTSC
29. APTF	014	RWQCB
30. STP-1 – effluent	015	RWQCB
31. STP-2 – effluent	016	RWQCB
32. STP-3 – effluent	017	RWQCB
33. Groundwater Treatment System	019	RWQCB

Implemented in Interim Measures at the site. If the systems continue to operate they will be included in the revised Post Closure Permit.

Operations at the test stands (Outfalls 012 – 014) and the sewage treatment plants (Outfalls 015 – 017) have ceased. No further process waste discharges are expected from these areas. The groundwater treatment systems listed above have been taken off line and a new groundwater treatment system operating under Permit-by-Rule

requirements is planned for the site. Effluent from the groundwater treatment operations will be discharged at Outfall 019 in the vicinity of CTL III during routine operations.

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estimated at 34 and 51 MGD respectively (based on a 24-hour duration, 10-year return storm). Historically, this runoff was mixed with industrial waste collected in the ponds prior to discharge.

35. The estimated flow from the area that drains storm water only from the northwest slope and discharges it via discharge points 003, 004, 005, 006, 007, 008, 009, and 010 are 0.79, 0.55, 0.015, 0.81, 0.2, 3.3, 32, and 0.38 MGD respectively. The flow from these locations exits the site leading to Meier Canyon towards the Arroyo Simi (Figure 2). The Arroyo Simi is a tributary to Calleguas Creek, a water of the United States. The locations and the associated drainage areas are listed below for each of the seven storm water only discharge locations:

<u>Discharge Outfall</u>	<u>Latitude (North)</u>	<u>Longitude (West)</u>	<u>Vicinity</u>
003 (RMHF)	34° 14' 4.0"	118° 42' 38.4"	Radioactive Materials Handling Facility
004 (SRE)	34° 14' 9.1"	118° 42' 23.9"	Former Sodium Reactor Experiment
005 (SBP-1)	34° 13' 48.1"	118° 43' 3.9"	Former Sodium Burn Pit 1
006 (SBP 2)	34° 13' 50.7"	118° 42' 59.9"	Former Sodium Burn Pit 2
007 (B100)	34° 13' 50.2"	118° 42' 52.5"	Building 100
009(WS-13)	34° 14' 19"	118° 41' 38"	WS-13 Drainage Area
010(Bldg. 203)	34° 14' 17"	118° 41' 56"	Building 203

There is no flow from these locations / Regions 1 through 4. The flow from these locations is 0.00575 0 Td ( )Tj 3.84736 0 Td ( )

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41. A new groundwater treatment system is in the design phase for the SSFL. The groundwater treatment system will be located near CTL-III and will treat water from extraction wells, purge water generated during groundwater sampling events, and groundwater generated during well installations or pumping tests. The treated effluent will be discharged near CTL III (Outfall 019) which is located upstream of Outfall 011. The system is scheduled to be complete in late 2009.

During storm events the discharge from Outfall 019 will be piped downstream of the engineered BMPs located at Outfall 011 but prior to the area where the sample is collected. Therefore, the sample collected at Outfall 011 during storm events will have mixed waste

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### Applicable Plans, Policies, and Regulations

46. On June 13, 1994, the Regional Board adopted a revised **Los Angeles Basin Plan** (Basin Plan) as amended on January 27, 1997, by Regional Board Resolution No. 97-02. The Basin Plan (i) designates beneficial uses for surface and groundwaters, (ii) sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the state antidegradation policy (State Board Resolution No. 68-16, October 28, 1968), and (iii) describes implementation programs to protect all waters in the Region. In addition, the Basin Plan incorporates all applicable State and Regional Board plans and policies and other pertinent water quality policies and regulations. The Regional Board prepared the 1994 update of the Basin Plan to be consistent with all previously adopted State and Regional Board plans and policies. This Order implements the plans, policies and provisions of the Regional Board's Basin Plan.

47. The receiving water for discharges from Outfall 008 enters Dayton Canyon Creek, flows via Chatsworth Creek to Bell Creek, southwest of the intersection of Sherman Way and Shoup Avenue, and subsequently to the Los Angeles River. The receiving water for Outfalls 001, and 002 is Bell Creek and subsequently to the Los Angeles River. The Basin Plan contains water quality objectives for, and lists the following beneficial uses for Dayton Canyon Creek, Bell Creek, and the Los Angeles River.

#### Dayton Canyon Creek – Hydrologic Unit 405.21

Existing: wildlife habitat  
Intermittent: groundwater recharge, contact and non-contact water recreation; warm freshwater habitat.

#### Bell Creek – Hydrologic Unit 405.21

Existing: wildlife habitat  
Intermittent: groundwater recharge, contact and non-contact water recreation; warm freshwater habitat.

#### The Los Angeles River upstream of Figueroa Street – Hydrologic Unit 405.21:

Existing: groundwater recharge; contact and non-contact water recreation, warm freshwater habitat; wildlife habitat; and wetland habitat.  
Potential: industrial service supply.

#### Los Angeles River downstream of Figueroa Street – Hydrologic Unit 405.15

Existing: groundwater recharge, contact and non-contact water recreation, and warm freshwater habitat.  
Potential: industrial service supply and wildlife habitat.

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Los Angeles River downstream of Figueroa Street – Hydrologic Unit 405.12

- Existing: groundwater recharge; contact and noncontact water recreation; warm freshwater habitat; marine habitat; wildlife habitat; and rare, threatened, or endangered species.
- Potential: industrial service supply; industrial process supply; migration of aquatic organisms; spawning, reproduction, and/or early development; and shellfish harvesting.

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 species; migration of aquatic organisms; spawning, reproduction, and/or early development; and wetland habitat.
- Potential: shellfish harvesting.

Dayton Canyon Creek, Bell Creek and all of the reaches of the Los Angeles River listed, except for the estuary, also have municipal and domestic supply (MUN) listed as a potential beneficial use with an asterisk in the Basin Plan. This is consistent with Regional Board Resolution 89-03; however the Regional Board has only conditionally designated the MUN beneficial uses and at this time cannot establish effluent limitations designed to protect the conditional designation.

48. The storm water runoff discharges from the northwest side of SSFL (Outfalls 003 through 007) exit the site and flow down the Meier and Runkle Canyons toward the Arroyo Simi. The Arroyo Simi is tributary to the Calleguas Creek. The beneficial us

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50. ***Title 22 of the California Code of Regulations.*** The California Department of Health Services (DHS) established primary and secondary maximum contaminant levels (MCLs) for a number of chemical and radioactive contaminants. These MCLs can be found in Title 22, California Code of Regulations (Title 22). Chapter 3 of the Basin Plan incorporates portions of Title 22 by reference. In addition, narrative objectives require that ground waters shall not contain taste or odor-producing substances in concentrations that affect beneficial uses. The secondary MCLs in Title 22 are designed to ensure that water's taste and odor does not affect its suitability to drink. Title 22 MCLs have been incorporated into NPDES permits and Non-Chapter 15 WDRs to protect the municipal and domestic supply (MUN) and groundwater recharge (GWR), where the underlying groundwater is designated MUN, beneficial uses.

Groundwater Recharge. Sections of Bell Creek and Arroyo Simi, near the SSFL discharge points, are designated as GWR indicating that groundwater recharge is

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51. Under title 40 Code of Federal Regulations (40 CFR) section 122.44(d), "Limitations must control all pollutants or pollutant parameters (either conventional, non-conventional, or toxic pollutants), which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality." Where numeric effluent limitations for a pollutant or pollutant parameter have not been established in the applicable state water quality control plan, 40 CFR section 122.44(d)(1)(vi) specifies that water quality-based effluent limitations (WQBELs) may be set based on United States Environmental Protection Agency (USEPA) criteria, and may be supplemented where necessary by other relevant information to attain and maintain narrative water quality criteria, and to fully protect designated beneficial uses.
52. Section 402(p) of the federal Clean Water Act (CWA), as amended by the Water Quality Act of 1987, requires NPDES permits for storm water discharges. The Discharger, in addition to meeting the effluent limitations included in this permit for storm water discharges only, will be required to develop and implement a SWPPP as stipulated in Finding 27. These requirements, as they are met, will protect and maintain existing beneficial uses of the receiving water.
53. Effluent limitation guidelines requiring the application of best practicable control technology currently available (BPT), best conventional pollutant control technology (BCT), and best available technology economically achievable (BAT), were promulgated by the USEPA for some pollutants in this discharge. Effluent limitations for pollutants not subject to the USEPA effluent limitation guidelines are based on one of the following: best professional judgment (BPJ) of BPT, BCT or BAT; current plant performance; or water quality based effluent limitations (WQBELs). The WQBELs are based on the Basin Plan, other State plans and policies, or USEPA water quality criteria which are taken from the CTR. These requirements, as they are met, will protect and maintain existing beneficial uses of the receiving water. The attached Fact Sheet for this Order, which has been reviewed and considered by the Regional Board, is considered part of this Order. The Fact Sheet includes specific bases for the effluent limitations including the basis for Act. p

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potential for the pollutant to cause or contribute to an exceedance of water quality standards in accordance with State Board Order No. WQ 2003-0009. Reasonable potential is determined using the procedures established in the SIP, which includes a three-tiered approach involving statistical analysis supplemented by best professional judgment.

- 59. On October 28, 1968, the State Board adopted Resolution No. 68-16, Maintaining High Quality Water, which established an antidegradation policy for State and Regional Boards. Similarly, the CWA (section 304(d)(4)(B)) and USEPA regulations (40 CFR section 131.12) requires that all NPDES permitting actions be consistent with the federal antidegradation policy. Specifically, waters that are of a higher quality than needed to maintain designated as beneficial shall be maintained at the higher water quality unless specific findings are made.

**Watershed Management Approach and Total Maximum Daily Loads (TMDLs)**

- 60. The Regional Board has implemented the Watershed Management Approach to address water quality issues in the region. Watershed management may include diverse issues as defined by stakeholders to identify comprehensive solutions to protect maintain, enhance, and restore water quality and beneficial uses. To address

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due to a variety of point and nonpoint sources. Bell Creek, which is the receiving water for the wastewater discharge from the SSFL, is on the 2002 303(d) list. High coliform count is the stressor listed for Bell Creek. Downstream receiving waters are listed for high coliform counts, volatiles (1,1-Dichloroethylene, tetrachloroethylene, and trichloroethylene), nutrients, oil, ammonia and others.

The TMDL for Nitrogen (nutrients) in the Los Angeles River received Regional Board approval on July 10, 2003 (Resolution No. 03-009) and State Board approval with adoption of Order 2003-0074 on November 19, 2003. The Office of Administrative Law (OAL) and USEPA approval dates were February 27, 2003, and March 18, 2003, respectively. The Regional Board filed a Notice of Decision with the California Resources Agency on March 23, 2004 and the TMDL was effective as of that date. The Los Angeles River Nutrient TMDL revision with Interim WLAs was approved by the Regional Board on December 4, 2003 (Resolution No. 2003-016). The State Board approved the TMDL with Resolution 2004-0014 on March 24, 2004. OAL approved it on September 27, 2004, and the effective date for the Order was September 27, 2004. This permit includes effluent limitations based on the WLAs established for the Los Angeles River.

62. The TMDL for metals in the Los Angeles River was approved by the Regional Board during the June 2, 2005 hearing (Resolution No. 2005-006). The State Board approved the TMDL on October 20, 2005; OAL and EPA approvals were received on December 9, 2005 and December 22, 2005 respectively.

The metals TMDL establishes numeric water quality targets that are based on objectives established by USEPA in the CTR. Targets for copper, lead, zinc and/or selenium (total recoverable) are established in designated reaches of the Los Angeles River. Separate water quality targets are established for dry and wet weather discharges.

63. The Los Angeles River Trash TMDL was adopted by the Regional Board on September 19, 2001. The TMDL established a numeric target of zero trash in the river. The TMDL was to be implemented via storm water permits in a phased reduction for a period of ten years. The LA River Trash TMDL was approved by the State Water Resources Control Board on February 19, 2002, the Office of Administrative Law on July 16, 2002 and by the US EPA on August 1, 2002. The TMDL became effective on August 28, 2002.

There were a number of challenges to the LA River Trash TMDL. The consideration of the challenges resulted in a requirement that the TMDL be set aside and not implemented until the California Environmental Quality Act (CEQA) requirements have been satisfied. On June 8, 2006, the Los Angeles Regional Water Quality Control Board adopted a resolution to set aside the adopted TMDL. On July 17, 2006, the State Board adopted

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64. Storm water runoff from Outfalls 003 through 007, 009 and 010 exiting the SSFL site does so near the northwest site boundary. The receiving water for the storm water runoff is the Arroyo Simi, a tributary of the Calleguas Creek. The Calleguas Creek Watershed extends from the Santa Monica Mountains and the Simi Hills in the south, to the Santa Susana Mountains, South Mountain, and Oak Ridge in the north. Land uses vary throughout the watershed. Urban developments are generally restricted to the city limits of Simi Valley, Moorpark, Thousand Oaks, and Camarillo. Agricultural activities are spread out along valleys and on the Oxnard Plain.

Storm water runoff exits the site and travels down Meier and Runkle Canyons towards the Arroyo Simi. Most of the land use around the facility is open area. Overall the Calleguas Creek Watershed is considered an impaired watershed. It appears that the sources of many of the pollutants in the watershed are agricultural activities, runoff from open space, runoff from industrial areas and publicly owned treatment works (POTWs). Approximately fifty percent of the watershed is still open space, although there is a severe lack of benthic and riparian habitat present. The runoff, when it is sufficient to reach the Arroyo Simi, enters it in Reach 1 – Hydrological Unit 403.62. The stressors listed in the 1998 State Board’s California 303(d) list for this reach are ammonia, boron, chloride, sulfates and total dissolved solids. Elevated levels of chromium, nickel, selenium, silver and zinc were also reported in tissue samples.

In the 2002 State Board 303(d) list, Reach 1 of Arroyo Simi is grouped with Reach 2 and has been renamed Calleguas Creek Reach 7. The listed stressors for Calleguas Creek Reach 7 included fecal coliform, organophosphorus pesticides and sedimentation/siltation in addition to those listed in the 1998 303(d) list. The 2002 303(d) list does not include the metals reported with elevated tissue samples in the 1998 303(d) list. These metals were also not included in the 2006 303(d) list.

65. Chloride TMDL and Chloride Limitations. On March 22, 2002, the consent decree deadline for the establishment of a chloride TMDL, USEPA Region 9 established the Calleguas Creek Total Maximum Daily Load (TMDL) for chloride at 173,103,637 lbs/day. The TMDL is based on the 1998 State Board’s California 303(d) list for this reach. The TMDL is based on the 1998 State Board’s California 303(d) list for this reach. The TMDL is based on the 1998 State Board’s California 303(d) list for this reach.

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discharges from Outfalls 003 through 007, 009 and 010 to Arroyo Simi. Based on existing data, SSFL does not appear to contribute chloride loading to the watershed at levels that would alter the assumptions of the TMDL or contribute to further impairment.

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developed for this reach as it is not on the 303 (d) list. The final waste load allocation developed for mercury was 0.051 µg/L. The mercury waste load allocation was used to develop a daily maximum effluent limit, implemented at Outfalls 003 0 Td (3)Tj 6.13173 0 T 0 Td (e)Tj

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determination for the need to incorporate dilution credits and will revise the effluent limitations as necessary.

### Reasonable Potential Analysis

68. Discharges from the engine test stands, which generated wastewater, had not been regulated independently prior to Order R4-2004-0111. These discharges did not have specific monitoring requirements or effluent limitations. Order R4-2004-0111, in an effort to collect the data required to complete a reasonable potential analysis, includes monitoring requirements for discharges from the engine test stands and from the sewage treatment plants for priority pollutants. The subsequent Orders (R4-2006-00008 and R4-2006-0036) included effluent limitations for discharges from the engine test stands and the sewage treatment plants.
69. 40 CFR section 122.44(d)(1)(i) and (ii) require that each toxic pollutant be analyzed with respect to its reasonable potential when determining whether a discharge (1) causes, (2) has the reasonable potential to cause, or (3) contributes to the exceedance of a receiving water quality objective. This is done by conducting a reasonable potential analysis (RPA) for each pollutant. In performing the RPA, the permitting authority uses procedures that account for existing controls on point and nonpoint sources of pollution, the variability of the pollutant or pollutant parameter in the effluent, and the sensitivity of the test species to toxicity testing (when evaluating whole effluent toxicity). Because of effluent variability, there is always some degree of uncertainty in determining an effluent's impact on the receiving water. The SIP addresses this issue by suggesting the use of a statistical approach

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Monitoring Reports submitted by the Discharger. One RPA was performed for discharges from Outfalls 001 and 002, which are composed of treated wastewater, water from the groundwater treatment systems, excess reclaimed water, water from the engine test stands, and storm water. Four analytes had reasonable potential to exceed WQBELs: copper, lead, mercury, and TCDD. Three of these analytes (copper, lead, and mercury) had effluent limitations in the previous order (Order No. 98-051).

The Discharger also submitted data for the receiving water associated with discharges from Outfalls 001 and 002. This data was collected using elevated detection limits and hence several other constituents had reasonable potential. The constituents are 2,4,6-trichlorophenol, 2,4-dinitrotoluene, alpha-BHC, bis (2-ethylhexyl) phthalate, N-nitrosodimethylamine and pentachlorophenol. Effluent limitations for these constituents have also been included in this Order.

Since perchlorate has been detected above the Department of Health Services action level in storm water runoff from the facility and it has been detected in the influent to some of the groundwater treatment systems, SIP RPA Trigger 3 and BPJ have been used to establish reasonable potential for it to be present in discharges from the site via Outfalls 001 and 002. Consequently an effluent limit for perchlorate has been included in this Order for these discharges. Further, since perchlorate is not a naturally occurring pollutant and its presence in the receiving waters is the result of operations at the facility, the effluent limitation was developed based on anti-degradation grounds (State Board Res. No. 68-16 and 40 CFR § 131.12). The effluent limitation was therefore set at 6 µg/L, which would prevent the degradation of receiving waters and maintain and protect receiving water quality. Effluent limitations for a number of volatiles, which were included in the current Order and are believed to be present in the groundwater contaminant plume, have also been included in this Order.

Discharges from Outfalls 003 through 007 are storm water runoff only. Daily maximum and monthly average limitations for storm water were included in Order No. 98-051. This Order does not include monthly average limitations for priority pollutants in storm water only discharges since storm events are infrequent and often occur less than once per month during the rainy season.

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78. For 303(d) listed pollutants, the Regional Board plans to develop and adopt TMDLs, which will specify WLAs for point sources and LAs for non-point sources, as appropriate. Following the adoption of TMDLs by the Regional Board, NPDES permits will be issued with effluent limitations for water quality based on applicable WLAs. In the absence of a TMDL, effluent limitations for 303(d) listed pollutants for which RPA indicates a reasonable potential, will be established for (1) concentration based on the most stringent applicable CTR criterion and/or Basin Plan objective, and (2) mass emission based on the maximum discharge flow rate and concentration limitation.
79. As such, water quality objectives/criteria specified in the Basin Plan, the CTR, or the effluent limitations from the existing permit were used to set the limitations for pollutants that are believed to be present in the effluent and have reasonable potential of exceeding the water quality criteria. Other pollutants may only be monitored to gather data to be used in RPAs for future permit renewals and updates.

**R4-2006-0008**

80. After the adoption of Order R4-2004-0111, the Discharger collected data at most of the new compliance locations specified in the Order. This Order (R4-2006-0008) amends Order R4-2004-0111 and includes effluent limitations for the constituents that have, as a result of the monitoring and compliance sampling, demonstrated reasonable potential (RP).
81. Discharges from Outfalls 011 and 018 were evaluated with discharges from Outfalls 001 and 002. Outfalls 011 and 018 are the Perimeter Pond and the R-2 Pond Spillway, respectively. Discharges from these outfalls receive no additional treatment prior to exiting the site at Outfalls 001 and 002. However, additional storm water runoff which may als

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A “benchmark” is a water quality based effluent limit or a performance based limit that is used to evaluate the performance of BMPs with regard to the removal of contaminants present in the discharge. In this permit, the benchmarks are established based on water quality based effluent limitations. Exceedance of a benchmark triggers an evaluation of the BMPs implemented at the site. The evaluation may determine that the BMPs require augmentation, upgrade, or replacement. If so, the Discharger must update the BMP Compliance Plan, secure the required approval from the Executive Officer, and implement the required upgrades. Section II.C.7., that follows includes the requirements for implementing the BMP Plan for compliance with the benchmarks specified in this permit.

The numeric effluent limitations from Outfalls 011 and 018 will be used as benchmarks to evaluate the efficiency of BMPs implemented at Outfalls 001 and 002. This data will also provide information about the concentration of the contaminants entering the closest residential area and entering Bell Creek.

**R4-2007-0055**

- 89. A reasonable potential analysis was completed for data collected through May 22, 2006. The analysis did not result in the inclusion of any new constituents with effluent limitations in this Order.
- 90. The Topanga Fire resulted in significant alterations to the site. The exposure of the surface soils with no vegetative cover to runoff has increased the potential for the transport of those surface soils and associated contaminants offsite as a result of the fire. The fire created runoff conditions at SSFL over which the Discharger has limited control. Over 70 percent of the SSFL burned with significant areas denuded of vegetation, making much of the steep terrain highly erodible. Boeing hydromulched upwards of 800 acres and installed erosion control devices throughout much of the SSFL after the fire whicher

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may contain mobilized contaminants from the site. Outfall 019 will discharge treated groundwater from onsite cleanup operations. Discharges from Outfall 019 will enter the drainage

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**I. Discharge Requirements**

**A. Discharge Prohibition**

1. Wastes discharged shall be limited to treated groundwater, fire suppression water, and storm water runoff, as proposed.
2. Discharges of water, materials, radiologic wastes, thermal wastes, elevated temperature wastes, toxic wastes, deleterious substances, or wastes other than those authorized by this Order, to the Arroyo Simi and tributaries to Calleguas Creek, to Dayton Canyon Creek, Bell Creek, and tributaries to the Los Angeles River, or waters of the United States, are prohibited.

**B. Effluent Limitations**

1. The pH of wastes discharged shall at all times be within the range 6.5 to 8.5.
2. The temperature of wastes discharged shall not exceed 86°F.
3. The discharge of an effluent from Outfall 018 with constituents in excess of the daily maximum limitations listed below is prohibited for storm water runoff. The discharge of an effluent from Outfall 011 and 019 when discharging together must demonstrate compliance with both the daily maximum and monthly average effluent limitations listed below. Storm water only discharges from Outfall 011 must demonstrate compliance with the daily maximum effluent limitations only.

<u>Constituents</u>	<u>Units</u>	<u>Discharge</u>
		4.448 6 3.005Tj 6.2.524 6.0115 0j 6.0
		4.Tj8 Td (e)Tji.137407 15 0524 6.0115 0fj 6.2..53.07 Tj 5.524 6.03.00

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<u>Constituents</u>	<u>Units</u>	<u>Discharge</u>	<u>Limitations</u>
		<u>Monthly Average</u>	<u>Daily Maximum</u>
BOD <sub>5</sub> 20°C	mg/L	20	30
	lbs/day <sup>2</sup>	26,700	40,032

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<u>Constituents</u>	<u>Units</u>	<u>Discharge</u>	<u>Limitations</u>
		<u>Monthly Average</u>	<u>Daily Maximum</u>
Cadmium <sup>3,4</sup>	g/L	2.0	4.0/3.1
	lbs/day <sup>2</sup>	2.7	5.34/4.14*
Chromium (VI) <sup>5</sup>	g/L	8.1	16.3
	lbs/day <sup>2</sup>	10.8	21.8
Copper <sup>3,4</sup>	g/L	7.1	14.0
	lbs/day <sup>2</sup>	9.5	18.7
Lead <sup>3,4</sup>	g/L	2.6	5.2
	lbs/day <sup>2</sup>	3.5	6.94
Mercury <sup>3</sup>	g/L	0.05	0.10
	lbs/day <sup>2</sup>	0.07	0.15
Nickel <sup>3,4</sup>	g/L	35	96
	lbs/day <sup>2</sup>	47	128
Selenium <sup>3</sup>	g/L	4.1	8.2/5 <sup>#</sup>
	lbs/day <sup>2</sup>	5.5	10.9/6.67 <sup>#</sup>
Silver <sup>3,4</sup>	g/L	2.0	4.1
	lbs/day <sup>2</sup>	2.7	5.5
Thallium <sup>3</sup>	g/L	0.4	0.8
	lbs/day <sup>2</sup>	0.5	1.0

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5. Benchmarks for storm water at the former locations of Outfalls 012, 013, and 014 are:

<u>Constituents</u>	<u>Units</u>	<u>Discharge Monthly Average</u>	<u>Limitations Daily Maximum</u>
Oil and grease	mg/L lbs/day <sup>2</sup>	----	15 0.5
Total dissolved solids	mg/L lbs/day <sup>2</sup>	----	950 31.7
Total suspended solids	mg/L lbs/day <sup>2</sup>	----	45 1.5
Settleable solids	ml/L	----	0.3
Chloride	mg/L lbs/day <sup>2</sup>	----	150 5.0
Boron <sup>3,7</sup>	mg/L lbs/day <sup>2</sup>	----	1.0 0.03
Sulfate	mg/L lbs/day <sup>2</sup>	----	300 10
Fluoride	mg/L lbs/day <sup>2</sup>	----	1.6 0.05
Nitrate + Nitrite-N	mg/L lbs/day <sup>2</sup>	----	8.0 0.3
Ammonia-N	mg/L lbs/day	----	10.1® 0.34
Nitrate-N	mg/L lbs/day	----	8.0 0.27
Nitrite-N	mg/L lbs/day	----	1.0 0.03
Cadmium	g/L lbs/day	----	3.1* 0.0001*
Selenium	g/L lbs/day	----	5# 0.0002#
Zinc	g/L lbs/day	----	159* 0.005*
Copper <sup>3,4</sup>	g/L lbs/day <sup>2</sup>	----	13.5 0.0004
Lead <sup>3</sup>	g/L lbs/day <sup>2</sup>	----	5.2 0.0002
Mercury <sup>3</sup>	g/L lbs/day <sup>2</sup>	----	0.10 0.000003
TCDD	g/L lbs/day <sup>2</sup>	----	2.8E-08 9.3E-12

The chronic toxicity limit is effective at Outfalls 003 through 007, 009, and 010. The limit is included in the Calleguas Creek Toxicity TMDL.

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<u>Constituents</u>	<u>Units</u>	<u>Discharge</u> <u>Monthly Average</u>	<u>Limitations</u> <u>Daily Maximum</u>
Chlordane	µg/L	---	0.001
4,4-DDD	µg/L	---	0.0014
4,4-DDE	µg/L	---	0.001
4,4-DDT	µg/L	---	0.001
Dieldrin	µg/L	---	0.0002
PCBs	µg/L	---	0.0003
Toxaphene	µg/L	---	0.0003

The discharge shall not cause any of the following conditions to exist in the receiving waters at any time:

- a. Floating, suspended or deposited macroscopic particulate matter or foam;
  - b. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;
  - c. Visible, floating, suspended or deposited oil or other products of petroleum origin;
  - d. Bottom deposits or aquatic growth; or,
  - e. Toxic or other deleterious substances to be present in concentrations or quantities which cause deleterious effects on aquatic biota, wildlife, or waterfowl or render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.
2. No discharge shall cause a surface water temperature rise greater than 5°F above the natural temperature of the receiving waters at any time or place.
  3. The discharge shall not cause the following limitations to be exceeded in the receiving waters at any place within one foot of the water surface:
    - a. The pH shall not be depressed below 6.5 nor raised above 8.5, nor caused to vary from normal ambient pH levels by more than 0.5 units;
    - b. Dissolved oxygen shall not be less than 5.0 mg/L anytime, and the median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation;
    - c. Dissolved sulfide shall not be greater than 0.1 mg/L;

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4. Toxicity limitations for discharges from Outfalls 001 through 014, 018, and Outfall 019:
  - a. Acute Toxicity Limitation and Requirements
    1. The acute toxicity of the effluent shall be such that: (i) 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%, and (ii) no single test producing less than 70 % survival.
    2. If either of the above requirements (Section I.C.4.a.1) is not met, the Discharger shall conduct six additional tests over a six-week period. The discharger shall ensure that they receive results of a failing acute toxicity test within 24 hours of the close of the test and the additional tests shall begin within 3 business days of the receipt of the result. If the additional tests indicate compliance with acute toxicity limitation, the discharger may resume regular testing. However, if the results of any two of the six accelerated tests are less than 90% survival, surv

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4. The chronic toxicity of the effluent shall be expressed and reported in toxic units, where:

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- c. Within 30 days following the approval of the BMP Compliance Report, the Discharger shall revise the BMP P g

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- D. The Discharger must comply with the lawful requirements of municipalities, counties, drainage districts, and other local agencies regarding discharges of storm water to storm drain systems or other water courses under their jurisdiction; including applicable requirements in municipal storm water management program developed to comply with NPDES permits issued by the Regional Board to local agencies.
- E. Discharge of wastes to any point other than specifically described in this Order and permit is prohibited and constitutes a violation thereof.
- F. The Discharger shall comply with all applicable effluent limitations, national standards of performance, toxic effluent standards, and all federal regulations established pursuant to Sections 301, 302, 303(d), 304, 306, 307, 316, and 423 of the Federal Clean Water Act and amendments thereto.

#### **IV. Reopeners**

- A. This Order may be reopened and modified, in accordance with SIP Section 2.2.2.A, to incorporate new limitations based on future reasonable potential analysis to be conducted, upon completion of the collection of additional data by the discharger. Notwithstanding the foregoing, in the event that reasonable potential analyses indicate that a pollutant has reasonable potential, the Regional Board staff shall bring an appropriate modification to the Regional Board, at the next practicable Board meeting.
- B. This Order may be reopened and 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.
- C. This Order may be reopened and modified, in accordance with the provisions set forth in 40 CFR Parts 122 and 124, to include new minimum levels (MLs).
- D. This Order may be reopened and modified to consider incorporation of a site specific or regional design storm (based on the evaluation of the results of the Design Storm Project) and subsequent policy considerations.
- E. This Order may be reopened and modified, to revise effluent limitations as a result of future Basin Plan Amendments, such as an update of an objective or the adoption of a TMDL for Los Angeles River or the Calleguas Creek.
- F. This Order may be reopened upon the submission by the discharger, of adequate information, as determined by the Regional Board, to provide for dilution credits or a mixing zone, as may be appropriate.
- G. This Order may be reopened and modified, to revise the toxicity language once that language becomes standardized.

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- H. In accordance with Provision I.B.7, this Order may be reopened and modified to incorporate interim limitations, to the extent authorized by law, while DTSC revises and reissues updated RCRA corrective action requirements or permits, as appropriate, to ensure compliance with this Order.
- I. This Order may also be reopened and modified, revoked, and reissued or terminated in accordance with the provisions of 40 CFR sections 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.
- J. This Order may be reopened and modified to revise the compliance schedule specified in Section I.B.4 for discharges from Outfalls 008 and 009, if the Discharger fails to comply with the California Water Code Section 13304 Order to Perform Interim/Source Removal Action of Soil in the Areas of Outfalls 008 and 009 Drainage Areas, issued on December 3, 2008.

**V. Expiration Date**

This Order expires on April 10, 2014.

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 the expiration date as application for issuance of new waste discharge requirements.

**VI. Previous Permits Superseded**

Order No. R4-2004-0111, adopted by this Board on July 1, 2004, is superseded by this Order.

Order No. R4-2006-0008, adopted by this Board on January 19, 2006, is superseded by this Order.

Order No. R4-2006-0036, adopted by this Board on March 9, 2006, is superseded by this Order.

Order No. R4-2007-0055, adopted by this Board on November 1, 2007, is superseded by this Order.

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I, Tracy J. Egoscue, 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 May 7, 2009.

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Tracy J. Egoscue  
Executive Officer

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