



# California Regional Water Quality Control Board

## Los Angeles Region



Terry Tamminen  
Secretary for  
Environmental  
Protection

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May 20, 2004

Mr. Steve Lafflam, Division Director  
Safety, Health & Environmental Affairs  
The Boeing Company  
P.O. Box 7922  
Canoga Park, California 91309

Dear Mr. Lafflam:

### REQUIREMENT TO SUBMIT A TECHNICAL REPORT PURSUANT TO SECTION 13267 OF THE CALIFORNIA WATER CODE – BOEING COMPANY, SANTA SUSANA FIELD LABORATORY, CANOGA PARK (NPDES NO. CA0001309, CI NO. 6027)

As you are aware, comments received by the Regional Board during the development of the revised tentative National Pollutant Discharge Elimination System (NPDES) requirements have resulted in a review of the sampling protocols utilized for stormwater constituents and radionuclides in wastewater at the Santa Susana Field Laboratory (SSFL). The protocols for sample collection that are stipulated in the Monitoring and Reporting Requirements for storm water runoff are based on the *NPDES Storm Water Sampling Guidance Document* which was issued by United States Environmental Protection Agency (USEPA). The USEPA methods specified for the analysis of the radiochemicals are those typically used for drinking water by the California Department of Health Services. As a result of questions raised in comments submitted on the tentative requirements and during the May 6, 2004, Board Meeting, the Regional Board has determined that an additional study would provide valuable information regarding the transport of contaminants offsite in storm water runoff and regarding the effects of filtering on the samples analyzed for radiochemicals. In addition, it would confirm that current sampling procedures result in representative samples. Pursuant to Water Code section 13267, the Regional Board may require Dischargers subject to waste discharge requirements to furnish technical or monitoring reports in order to determine the effect of discharge on the water quality.

Therefore, pursuant to section 13267 of the California Water Code, you are hereby directed to submit a technical report. In this case, you are required to submit a detailed technical workplan to conduct the following sampling and analyses. The workplan, at a minimum, should describe the protocol for the following activities:

1. Sampling and analysis at Perimeter Pond during dry weather discharges and wet weather discharges for six sampling events, starting with the first storm event of the 2004-2005 rainy season and the subsequent two discharge events. A grab sample shall be collected during the first 30 minutes of discharge and a flow-weighted average sample shall be collected during the first three hours of discharge of the same discharge event, or for as long as the discharge occurs if it is less than three hours. The three dry weather samples are also to be collected

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May 20, 2004

from the Perimeter Pond discharge, a grab and a flow-weighted average sample during each discharge event. The samples are to be analyzed for all of the constituents listed in the attached Table 1.

2. Ten samples shall be collected and analyzed for Gross Alpha, Gross Beta, combined Radium 226 & Radium 228, Tritium, and Strontium-90. Six of the grab samples collected from the Perimeter Pond may be used for this analysis. The other four samples must be collected from Outfall 003 (former Radioactive Materials Disposal Facility) during rain event discharges. Sampling shall occur during the first hour of discharge or at the first safe opportunity. The reason for delay shall be included in the report. The samples must be split and one half of the sample filtered. The unfiltered and filtered samples (including the filtrate) are to be analyzed for the radionuclides listed above, utilizing the methods specified in Table 1.

The workplan to conduct the required sampling and analyses is due to the Regional Board by August 31, 2004. If you have any questions, please contact Cassandra Owens at (213) 576 -6750.

Sincerely,



Dennis A Dickerson,  
Executive Officer

- cc: Honorably Sheila Kuehl, Senator, 23<sup>rd</sup> District  
Assemblymember Hannah-Beth Jackson, Assemblymember 35<sup>th</sup> District  
Mr. Greg Dempsey, Environmental Protection Agency, Radiation and Indoor Environments  
National Laboratory, Las Vegas, Nevada  
Environmental Protection Agency, Region 9, Permits Branch (WTR-5)  
Mr. Thomas Kelly, Environmental Protection Agency, Region 9, (WTR-5)  
Environmental Protection Agency, Region 9, Office of Radiation Programs  
Mr. Michael Lopez, U.S.D.O.E., Oakland  
Ms. Mary Gross, U.S. D. O. E., Oakland  
Mr. Dean Kunihiro, U.S. Nuclear Regulatory Commission  
U.S. Army Corps of Engineers  
NOAA, National Marine Fisheries Service  
Department of Interior, U.S. Fish and Wildlife Service  
Mr. Michael Lauffer, State Water Resources Control Board, Office of Chief Counsel  
Mr. William Paznokas, Department of Fish and Game, Region 5  
Mr. Joseph Smith, Department of Toxic Substances Control, Office of Legal Counsel  
Sacramento  
Ms. Karen Baker, Department of Toxic Substances Control  
Ms. Pauline Batarseh, Department of Toxic Substances Control, Sacramento  
Mr. Peter Bailey, Department of Toxic Substances Control, Sacramento  
Mr. Stephen Baxter, Department of Toxic Substance Control, Glendale

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**MAILING LIST (continued)**

California Coastal Commission, South Coast District  
Department of Health Services, Public Water Supply Branch  
Los Angeles County, Department of Public Works, Environmental Programs Division  
Los Angeles County, Department of Health Services  
City of Los Angeles, Bureau of Engineering, Wastewater Systems Engineering Division  
ULARA Watermaster  
Water Replenishment District of Southern California  
Ventura County Air Pollution Control District  
Ventura County Public Works  
Ventura County Department of Public Health  
Ms. Sally Coleman, Ventura County Watershed Protection District  
Ms. Darla Weiss, Ventura County Watershed Protection District  
Ms. Linda Parks, Ventura County Board of Supervisors  
City Manager, City of Simi Valley  
Dr. Mark Gold, Heal the Bay  
Mr. David Beckman, NRDC  
Mr. Damon Wing, Wishtoyo Foundation  
Friends of the Los Angeles River  
Los Angeles and San Gabriel Rivers Watershed Council  
Bell Creek Homeowners Association, c/o Jerry Murphy  
Ms. Carol Henderson, Office Manager, Bell Canyon Association  
Ms. Barbara Johnson, Susana Knolls Homeowners, Inc.  
Ms. Gayle Demirtas, Simi Valley Library  
Mr. Howard Kaplan and Mr. Arthur Pinchey, Brandeis-Bardin Institute  
Dr. Joseph K. Lyou, Executive Director, Committee to Bridge the Gap (CBG)  
Mr. Dan Hirsch, CBG  
Mr. Jerome Raskin, Pierce College  
Mr. Sheldon Plotkin, SCFS  
Mr. Wayne Lee  
Simi Valley Library  
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Mr. Evan Rose, L.A.U.S.D.  
Mr. Cybil Zeppieri  
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Mr. Edward L. Masry, Esq., Masry & Vititoe Law Offices  
Mr. Jonathan Parfrey, Executive Director, Physicians for Social Responsibility  
Mr. Matt Hagemann, Soil/Water/Air Protection Enterprise  
Paul Costa, Boeing  
Mr. William McIlvaine, Boeing  
Ms. Darlene Ruiz  
Ms. Jan Jacobson



**Table 1**

<b>Constituent</b>	<b>Units</b>	<b>Type of Sample</b>	<b>Minimum Frequency of Analysis<sup>1</sup></b>
Total waste flow	gal/day	----	once per discharge event
Temperature	°F	grab	once per discharge event
pH	pH Units	grab	once per discharge event
Conductivity at 25°C	µmhos/cm	grab	once per discharge event
Total suspended solids	mg/L	grab	once per discharge event
Settleable solids	ml/L	grab	once per discharge event
BOD <sub>5</sub> (20°C)	mg/L	grab	once per discharge event
Oil and grease	mg/L	grab	once per discharge event
Ammonia-N	mg/L	grab	once per discharge event
Turbidity	NTU	grab	once per discharge event
Total residual chlorine	mg/L	grab	once per discharge event
Total organic carbon	mg/L	grab	once per discharge event
Total dissolved solids	mg/L	grab	once per discharge event
Chloride	mg/L	grab	once per discharge event
Sulfate	mg/L	grab	once per discharge event
Detergents (as MBAS)	mg/L	grab	once per discharge event
Nitrate + Nitrate-N	mg/L	grab	once per discharge event
Cyanide <sup>2</sup>	µg/L	grab	once per discharge event
Copper <sup>2</sup>	µg/L	grab	once per discharge event
Lead <sup>2</sup>	µg/L	grab	once per discharge event
Mercury <sup>2</sup>	µg/L	grab	once per discharge event
1,1-Dichloroethylene	µg/L	grab	once per discharge event
Perchlorate	µg/L	grab	once per discharge event
2,4,6-Trichlorophenol	µg/L	grab	once per discharge event
2,4-Dinitrotoluene	µg/L	grab	once per discharge event
Alpha-BHC	µg/L	grab	once per discharge event
Bis(2-ethylhexyl)phthalate	µg/L	grab	once per discharge event
N-Nitrosodimethylamine	µg/L	grab	once per discharge event
Pentachlorophenol	µg/L	grab	once per discharge event
TCDD <sup>*</sup>	µg/L	grab	once per discharge event
Boron	mg/L	grab	once per discharge event
Fluoride	mg/L	grab	once per discharge event
Barium	mg/L	grab	once per discharge event
Iron	mg/L	grab	once per discharge event
Manganese <sup>2</sup>	µg/L	grab	once per discharge event
Antimony <sup>2</sup>	µg/L	grab	once per discharge event
Arsenic <sup>2</sup>	µg/L	grab	once per discharge event

<sup>1</sup> During wet weather flow, a discharge event is greater than 0.1 inch of rainfall in a 24-hour period. No more than one sample per week need be obtained during extended periods of rainfall. Minimum sampling frequency during operations generating discharges shall be once per month. If the rain event is not sufficient to produce flow from the area, the observation must be documented with date, time condition and rainfall amount.

<sup>\*</sup> Analysis must be completed for TCDD and all congeners.

**Table 1 (continued)**

<b>Constituent</b>	<b>Units</b>	<b>Type of Sample</b>	<b>Minimum Frequency of Analysis<sup>1</sup></b>
Beryllium <sup>2</sup>	µg/L	grab	once per discharge event
Cadmium <sup>2</sup>	µg/L	grab	once per discharge event
Chromium (VI) <sup>2,3</sup>	µg/L	grab	once per discharge event
Nickel <sup>2</sup>	µg/L	grab	once per discharge event
Selenium <sup>2</sup>	µg/L	grab	once per discharge event
Silver <sup>2</sup>	µg/L	grab	once per discharge event
Thallium <sup>2</sup>	µg/L	grab	once per discharge event
Zinc <sup>2</sup>	µg/L	grab	once per discharge event
Cobalt	µg/L	grab	once per discharge event
Vanadium	µg/L	grab	once per discharge event
Radioactivity- Gross Alpha	PCi/L	grab	once per discharge event
Gross Beta <sup>4</sup>	PCi/L	grab	once per discharge event
Combined Radium 226 & Radium 228 <sup>5</sup>	PCi/L	grab	once per discharge event
Tritium <sup>4</sup>	PCi/L	grab	once per discharge event
Strontium-90 <sup>4</sup>	PCi/L	grab	once per discharge event
PCBs	µg/L	grab	once per discharge event
TPH <sup>6</sup>	µg/L	grab	once per discharge event
Monomethylhydrazine	µg/L	grab	once per discharge event
cis-1,2-Dichloroethene	µg/L	grab	once per discharge event
1,4-Dioxane	µg/L	grab	once per discharge event
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	grab	once per discharge event
1,2-Dichloro-1,1,2-trifluoroethane	µg/L	grab	once per discharge event
Cyclohexane	µg/L	grab	once per discharge event
Remaining USEPA priority pollutants excluding asbestos <sup>7</sup>	µg/L	grab	once per discharge event
Acute toxicity	% survival	grab	once per discharge event
Chronic toxicity	TU <sub>c</sub>	grab	once per discharge event

<sup>2</sup> Total recoverable results are required.

<sup>3</sup> 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 is reported within the hexavalent chromium limits.

<sup>4</sup> Analyze these radiochemicals by the following USEPA testing methods: method 900.0 for gross alpha and gross beta, method 903.0 or 903.1 for radium-226, method 904.0 for radium-228, method 906.0 for tritium, and method 905.0 for strontium-90.

<sup>5</sup> Analysis for combined Radium-226 & 228 shall be conducted only if gross alpha results for the same sample exceed 15 pCi/L or beta greater than 50 pCi/L. If the Radium-226 & 228 exceeds the stipulated criteria analyze for Tritium and Strontium-90. If the analyses of these constituents demonstrates exceedances the monitoring frequency is increased to once per discharge until four consecutive analysis demonstrates compliance with the effluent limitations.

<sup>6</sup> Total petroleum hydrocarbons includes all fuels, gasoline, diesel and jet fuel. Analysis should be completed using EPA 418.1 and EPA 8015 (modified) methods.

<sup>7</sup> Analysis shall include xylenes and trichlorofluoromethane.