
Los Angeles Regional Water Quality Control Board

July 26, 2017

Mr. Paul Costa
SSFL — Safety, Health & Environmental Affairs
The Boeing Company
Santa Susana Field Laboratory
5800 Woolsey Canyon Road
Canoga Park, CA 91304-1148

Office of Environmental Health Hazard Assessment (OEHHA) Comments on the Revised Human Health Risk Assessment Work Plan for Surface Water Runoff, Santa Susana Field Laboratory (SSFL), Ventura County, CA (Order Pursuant to California Water Code Section 13383; CA0001309, CI No. 6027)

Dear Mr. Costa:

On April 28, 2017, the Boeing Company submitted the revised Human Health Risk Assessment (HHRA) Work Plan prepared by Geosyntec Consultants, Inc. (Geosyntec) for the Santa Susana Field Laboratory (SSFL) located in Ventura County, California. The revised Work Plan documents a HHRA of surface water runoff exiting the SSFL via Outfalls 001, 002, 008, 009, 011, 018, and 019 (herein, "Outfalls"), as described in the California Water Code section 13383 Order (Order) from the Los Angeles Regional Water Quality Control Board (Regional Water Board) dated June 24, 2015.

The Office of Environmental Health Hazard Assessment (OEHHA) reviewed the revised Work Plan and submitted the attached comments to the Regional Water Board on June 26, 2017. The Boeing Company shall review the OEHHA comments and revise the Work Plan in accordance with the OEHHA comments. When the HHRA is deemed complete, Boeing, along with the Expert Panel, will present the results of the HHRA to the Regional Board at a public meeting. The revised HHRA Work plan will also be made available to the public via the Boeing website, as well as the Regional Board's website.

If you have any questions, please contact Cassandra Owens at (213) 576-6750 or Cassandra.Owens@waterboards.ca.gov or Mazhar Ali at (213) 576-6652 or Mazhar.Ali@waterboards.ca.gov

Sincerely,



Samuel Unger, P.E.
Executive Officer

Attachment: OEHHA Comments

cc: Mr. David Smith, Environmental Protection Agency, Region 9, Permits Branch (WTR-5)
Ms. Robyn Stuber, Environmental Protection Agency, Region 9, Permits Branch (WTR-5)
Ms. Becky Mitschele, Environmental Protection Agency, Region 9, Permits Branch (WTR-5)
Mr. Kenneth Wong, U.S. Army Corps of Engineers
Mr. Bryant Chesney, NOAA, National Marine Fisheries Service
Mr. Jeff Phillips, Department of Interior, U.S. Fish and Wildlife Service
Mr. William Paznokas, Department of Fish and Wildlife, Region 5
Department of Public Health, Sanitary Engineering Section
Ms. Teresa Henry, California Coastal Commission, South Coast Region
South Coast Air Quality Management District
Mr. Theodore Johnson, Water Replenishment District of Southern California
Los Angeles County, Department of Public Works, Waste Management Division
Ms. Sutida Bergguist, State Water Resources Control Board, Division of Drinking Water
Ms. Sarah Sikich, Heal the Bay
Mr. Bruce Reznik, Los Angeles WaterKeeper
Ms. Joan Matthews, Natural Resources Defense Council
Mr. Mark Malinowski, Department of Toxic Substances Control
Mr. Roger Paulson, Department of Toxic Substances Control
Mr. Tom Seckington, Department of Toxic Substances Control
Mr. Daniel Cooper, Lawyers for Clean Water
Mr. Pete Zobra, National Aeronautics and Space Administration
Mr. John Jones, United States Department of Energy
Mr. Michael Bubman, c/o Bell Creek Homeowners Association
Mr. Paul Carpenter, Department of Toxic Substances Control
Ms. Mary Meyer, California Department of Fish and Wild Life
Ms. Christine Found-Jackson, California Department of Fish and Wild Life
Mr. Jeff Humble, California Department of Fish and Wild Life
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Ms. Jennifer Fordyce, Office of Chief Counsel, State Water Resources Control Board
NPDES Wastewater Unit, Div. of Water Quality, State Water Resources Control Board
Ms. Jeannie Chan
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Ms. Nicole Dollen Ventura County Planning Division
Ms. Ginn Doose
Mr. John Farrow, M. R. Wolfe Si Associates, P.C.
Mr. Matt Flagemann, Soil/Water/Air Protection Enterprise
Mr. Dan Hirsch, Committee to Bridge the Gap
Ms. Barbara Johnson, Susana Knolls Homeowners, Inc.
Dr. Michael Josselyn, WRA, Inc.
Mr. Daniel Maccabee, Brandeis-Bardin Institute
Mr. Sheldon Plotkin, Southern California Federation of Scientists'
Ms. Bunny Raskin
Ms. Chris Rowe
Mr. Adam Salkin
Mr. Mathew Sanders, Paul, Hastings, Janofsky & Walker LLP
Ms. Lorraine Scott
Dr. Michael Stenstrom, SSFL Stormwater Expert Panel
Ms. Rebecca Tadesse, Branch Chief of Materials Decommissioning, U.S. Nuclear Regulatory Commission
Mr. Rick Verguitz, Water & Environmental Resources Section, Ventura County Watershed Protection District
Mr. Mati Waiya, Wishtoyo Foundation
Ms. Christina Walsh, SaveSantaSusana.org
Dr. Daniel Wiseman, West Hills Neighborhood Council-Santa Monica Mountains Area Committee
California State University, Northridge
City of Los Angeles, Bureau of Engineering, Wastewater Systems Engineering Division
Friends of the Los Angeles River Los Angeles and San Gabriel Rivers Watershed Council Los Angeles County, Department of Health Services
Los Angeles County, Department of Public Works, Environmental Programs Division
Masry & Vititoe Law Offices
Simi Valley Library
U.S. Army Corps of Engineers
ULARA Watermaster
Ventura County Air Pollution Control District
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Rocketdyne Cleanup Coalition
Mr. Ben Carrier
Ms. Rubin Marcia, Department of Toxic Substances Control
Ms. Kamara Sams, Boeing
Mr. Russ Edmonson, Department of Toxic Substances Control
Ms. Susana Lagudis, Los Angeles Regional Water Quality Control Board
Mr. Kip Drabeck, Chatsworth Lake Manor Citizens Committee

Office of Environmental Health Hazard Assessment



Matthew Rodriguez
Secretary for
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Edmund G. Brown Jr.
Governor

MEMORANDUM

TO: Mazhar Ali
Water Resources Control Engineer
Regional Water Quality Control Board, Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013

FROM: James C. Carlisle, D.V.M., M.Sc., *J.C.*
Staff Toxicologist
Air, Community, and Environmental Research Branch

DATE: June 28, 2017

SUBJECT: HUMAN HEALTH RISK ASSESSMENT FOR SURFACE WATER RUNOFF
EXITING THE SANTA SUSANA FIELD LABORATORY VIA THE
SOUTHERN OUTFALLS, SANTA SUSANA FIELD LABORATORY,
VENTURA COUNTY, CALIFORNIA
SWRCB# (R4-15-024) OEHHA #880392-00

Document reviewed

- Human Health Risk Assessment for Surface Water Runoff Exiting the Santa Susana Field Laboratory via the Southern Outfalls, Santa Susana Field Laboratory, Ventura County, CA by Geosyntec Consultants, dated April 2017 (cover memo dated April 28, 2017)

Site Characterization

- An adequate sampling strategy, sample handling, and sample analysis are prerequisites for an accurate characterization of the site contamination.

Conceptual site model

- Geosyntec evaluated potential exposures to future recreators via incidental contact with outfall water by ingestion, dermal contact, and inhalation of vapors.
- Ingestion of fish and aquatic plants was deemed an incomplete or insignificant pathway.
 - In our comments on the work-plan, OEHHA recommended further examination of this issue, possibly including documentation of the lack of aquatic receptors and/or pollutant concentrations moving off-site.
 - Geosyntec notes that fish are not present in the drainages near the Outfalls and, therefore, the fish consumption pathway is not complete. Aquatic and

California Environmental Protection Agency

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terrestrial plants are present within the drainage bottom and may come in contact with surface water runoff during rain events or flow from the GETS system discharge (Outfalls 019 and 020).

- This explanation is not supported by solid documentation.
- Documenting the lack of an aquatic pathway (considering the aquatic species both as receptors and as a conduit to humans or other secondary consumers) could be accomplished by determining the aqueous concentrations of the major pollutants at the downstream point at which there are aquatic organisms, either by modeling or by measurement.

Chemicals of potential concern (COPCs)

- A constituent was selected as a COPC if it was detected at least once in the samples collected from the outfall discharges for the relevant date ranges.

Exposure Point Concentrations (EPCs)

- EPCs were the 95% UCL when it could be calculated and did not exceed the maximum. Otherwise the maximum was used as the EPC..

Conclusions

- OEHHA agrees with the human health risk and hazard estimates.
- OEHHA is not fully convinced that potential downstream exposures to aquatic organisms has been adequately evaluated.

Peer reviewed by

Regina Linville

Regina Linville, Ph.D.
Staff Toxicologist