



## Department of Toxic Substances Control

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Winston H. Hickox  
Agency Secretary  
California Environmental  
Protection Agency

Edwin F. Lowry, Director  
5796 Corporate Avenue  
Cypress, California 90630

Gray Davis  
Governor

July 12, 2002

Mr. Thomas Macchiarella  
Southwest Division  
Naval Facilities Engineering Command  
1230 Columbia Street, Suite 1100  
San Diego, California 92101-8517

DRAFT-FINAL RISK ASSESSMENT FOR THE GASOLINE STATION (BUILDING 101)  
AT THE FORMER LONG BEACH NAVAL SHIPYARD, LONG BEACH, CALIFORNIA

Dear Mr. Macchiarella:

The Department of Toxic Substances Control (DTSC) received for its review the Draft-Final Risk Assessment for the Gasoline Station (Building 101) at the Former Long Beach Naval Station, Long Beach California, dated May 16, 2002, and the Response to Regulatory Agencies Comments on the Draft Risk Assessment for the Gasoline Station (Building 101) at the Former Long Beach Naval Station, Long Beach California, dated December 5, 2000.

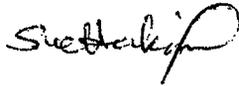
This document evaluates the human and ecological exposures to petroleum contaminated groundwater to establish risk-based cleanup goals. Our previous comments have been adequately addressed.

Attached please find our Human and Ecological Risk Division conclusions and recommendations on the above document.

Mr. Thomas Macchiarella  
July 12, 2002  
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If you have any questions, please call me at (714) 484-5381.

Sincerely,



Sue Hakim  
Remedial Project Manager  
Base Closure and Reuse Unit  
Southern California Branch  
Office of Military Facilities

Enclosure

cc: Ms. Jennifer Valenzia  
Southwest Division  
Naval Facilities Engineering Command  
1230 Columbia Street, Suite 1100  
San Diego, California 92101-8517

Mr. Martin Hausladen  
U.S. Environmental Protection Agency  
75 Hawthorne Street, U-9-2  
San Francisco, California 94105

Ms. Ana Veloz - Townsend  
California Regional Water Quality Control Board  
Los Angeles region  
320 West Fourth Street, Suite 200  
Los Angeles, California, 90013

Ms. Christine Houston  
Port of Long Beach  
925 Harbor Plaza  
Long Beach, California 90802

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NSY LONG BEACH  
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ENCLOSURE  
DRAFT RISK ASSESSMENT FOR BUILDING 101

COMMENTS ON THE DRAFT FINAL RISK  
ASSESSMENT FOR THE GASOLINE STATION  
(BUILDING 101)

DATED 12 JULY 2002



## Department of Toxic Substances Control

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Winston H. Hickox  
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Protection

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P. O. Box 806  
Sacramento, California 95812-0806

Gray Davis  
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### MEMORANDUM

**TO:** Soad Hakim  
Office of Military Facilities (OMF)  
5796 Corporate Avenue  
Cypress, CA 90630

**FROM:** John P. Christopher, Ph.D., D.A.B.T.   
Staff Toxicologist  
Human and Ecological Risk Division (HERD)  
916.255.6630 [JChristo@dtsc.ca.gov](mailto:JChristo@dtsc.ca.gov)

**DATE:** 9 July 2002

**SUBJECT:** Long Beach Naval Complex: Draft Risk Assessment for Building 101  
PCA: 18040 Site: 400735-00

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#### Background

Long Beach Naval Shipyard is a closed Federal facility located on Terminal Island in Los Angeles County. Investigations at the site are being carried out by Southwest Division Naval Facilities Engineering Command. The current document contains human health and ecological risk assessments for the area near a gas station. Shallow groundwater beneath this area, Buildings 101 and 210, is contaminated with benzene, toluene, ethylbenzene, xylenes (BTEX), and methyl-*t*-butyl ether (MTBE) due to a leak from an underground fuel tank. As part the redevelopment of the base into a container cargo terminal, the Port of Long Beach intends to demolish Buildings 101 and 210 and pave the area. The current document contains a risk assessment for exposure of future workers to contaminants at the site. We commented on an earlier draft of this risk assessment in our memorandum dated 21 February 2001.

#### Document Reviewed

We reviewed three documents:

1. "Chronology of the Risk Assessment for Building 101, Former Long Beach Naval Shipyard". This document is not dated and no author is shown.
2. "Response to Comments, Former Long Beach Naval Shipyard, Draft Risk Assessment for Building 101". This document is not dated. It was prepared by the Navy.

*The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our Web-site at [www.dtsc.ca.gov](http://www.dtsc.ca.gov).*

3. "Draft Final Risk Assessment, Gasoline Station (Building 101) at the Former Long Beach Naval Shipyard, Long Beach, California. This document is dated 16 May 2002. It was prepared by Battelle, contractors to the Navy.

HERD received a work request to review these documents on 6 June 2002.

### Comments

1. **Chronology:** This document consists mainly of notes on the teleconference of 26 April 2001 to resolve agency comments on the draft risk assessment. The document accurately reflects HERD's contributions to this teleconference.
2. **Response to Comments:** The responses to our comments are adequate. Because the site will be paved, future industrial workers will have no direct contact with soil or groundwater. Therefore, exposure of future construction workers and maintenance/utility workers will exceed any exposures for customary exposure setting of the industrial worker. The Navy has included two exposure settings, one for short-term construction workers (5 days/yr, 1 yr), and a second (at our request) for long-term maintenance/utility workers (10 day/yr, 25 yr). This latter exposure setting matches the one used for maintenance/utility workers in risk assessments for other portions of Long Beach Naval Complex. Both exposure settings include dermal contact with groundwater while working in a trench. The Los Angeles Regional Water Quality Control Board informs us that they are persuaded by the Navy's arguments that degradation of fuel hydrocarbons is occurring *in situ*. Therefore, the Navy has correctly included a degradation term in its calculations of fate and transport for the most recent risk assessment.
3. **Risk Assessment:** The Navy estimated cancer risks at  $1 \text{ E-}6$  for the construction worker exposed to BTEX and MTBE for 5 days over a 1-yr period. They estimate a cancer risk of  $5 \text{ E-}5$  for the maintenance/utility worker potentially exposed 10 day/yr for 25 yr. Approximately 99% of these risks were due to dermal exposure to benzene. Non-carcinogenic hazards for both receptors were below the benchmark of 1.0.

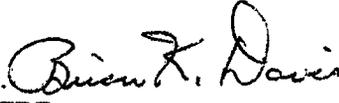
These estimates of cancer are health protective for two reasons. First, the Navy derived exposure point concentrations using the maximum concentrations detected; therefore, reasonable maximum exposures would have been lower had they been based on central tendencies. Second, concentrations of benzene, the only important risk driver, were assumed to be static for the 25-yr exposure, although the Navy has demonstrated that degradation of benzene and other contaminants is occurring *in situ*. In fact, the Navy did include degradation of BTEX in groundwater for fate and transport calculations, which would be consistent with concentrations of benzene decreasing over time.

### Conclusions and Recommendations

The response to comments and the risk assessment for Building 101 are acceptable.

Soad Hakim  
9 July 2002  
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Reviewed by: Brian K. Davis, Ph.D.  
Staff Toxicologist, HERD

A handwritten signature in cursive script that reads "Brian K. Davis". The signature is written in black ink and is positioned to the right of the printed name in the "Reviewed by" line.

cc: Dr. M. Wade, HERD