



Winston H. Hickox
Agency Secretary,
Cal/EPA

State of California
California Environmental Protection Agency

ENCLOSURE 1

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GOVERNOR



Air Resources Board | Department of Pesticide Regulation | Department of Toxic Substances Control

Integrated Waste Management Board | Office of Environmental Health Hazard Assessment | State Water Resources Control Board | Regional Water Quality Control Board

June 6, 2003

Mr. John Paul Woodley, Jr.
Assistant Deputy Under Secretary
of Defense for Environment
Department of Defense
3400 Defense Pentagon
Washington, D.C. 20301-3400

Dear Mr. Woodley:

We are writing to seek the cooperation of the Department of Defense (DoD) in addressing perchlorate contamination at DoD's active, closed, and historic military and contractor facilities in California on behalf of my office, the California Environmental Protection Agency (Cal/EPA) and Cal/EPA's Department of Toxic Substances Control (DTSC) and State Water Resources Control Board (SWRCB). The potential sources of perchlorate contamination include facilities that manufacture, conduct research on, and use solid propellants for rockets, missiles, military ordnance, and pyrotechnics. Military and defense contractor facilities are among the known and suspected sources of contamination of this type.

We cannot overstate the seriousness of this problem for the State of California. To date, perchlorate has been detected in more than 300 wells, including public water supply wells. The loss of drinking water supply wells to perchlorate contamination may leave parts of California without sufficient water for the summer months. In response to this crisis, the California Legislature is expressing its interest in finding the sources and solutions to these impacts to the State's water by holding hearings on the matter.

Our efforts to address perchlorate contamination in California warrant a collaborative approach to this environmental crisis. Together, we need to identify sources of perchlorate contamination, coordinate research of treatment strategies and technologies, and eventually clean up both impacted drinking water and water used for other beneficial uses.

Cal/EPA and its constituent boards and departments need to extend this coordinated approach to DoD to address perchlorate and other emerging chemicals of concern emanating from military properties. To that end, the Regional Water Quality Control Boards have coordinated with the SWRCB in preparing a letter to military installations in California requesting assistance in identifying, investigating, and cleaning up sources of

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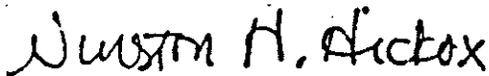
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perchlorate and other chemicals of concern on their properties. We have enclosed a copy of this draft letter for your information.

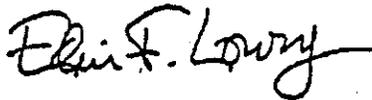
We ask that you direct the installations and appropriate program managers in DoD to assist and cooperate in this effort. In addition, we understand that DoD conducted a national survey of perchlorate contamination on military facilities, and we would request the opportunity to review the results of this survey for installations in California.

Both DTSC and SWQCB representatives are available to meet with you or your staff to further discuss this issue. Should you have any questions or need further assistance, please contact Mr. Frederick S. Moss, Chief, Office of Military Facilities, DTSC, at (916) 255-3750 or Ms. Lisa Babcock, Chief, Land Disposal Section, SWRCB, at (916) 341-5687.

Sincerely,



Winston H. Hickox
Agency Secretary



Edwin F. Lowry
Director
Department of Toxic
Substances Control



Celeste Cantú
Executive Officer
State Water Resources
Control Board

Enclosures

cc: See next page.

Perchlorate (ClO_4) originates as a contaminant in the environment from the inorganic salts of ammonium, potassium, magnesium or sodium perchlorate. This pollutant is exceedingly mobile in aquifer systems. It can persist for many decades under typical groundwater and surface water conditions, because of its resistance to react with other available constituents. Perchlorate is among a group of unregulated chemicals requiring monitoring pursuant to Title 22, California Code of Regulations § 64450. The California Department of Health Services (DHS) action level for Perchlorate is 4 $\mu\text{g/L}$.

N-Nitrosodimethylamine, is also known as NDMA ($\text{C}_2\text{H}_6\text{N}_2\text{O}$), a product from the decomposition of unsymmetrical dimethyl hydrazine, a component used in the production of rocket fuel (Aerozine 50). This chemical is used as an additive in liquid propellant fuel for rocket engines. NDMA is used primarily in research (NTP, 2000), but it can also be formed inadvertently in a number of industrial processes. NDMA is identified as a carcinogen under California's Health and Safety Code Section 25249.5, *et seq.*, and the Safe Drinking Water and Toxic Enforcement Act of 1986 ("Proposition 65"). In addition, the USEPA identifies NDMA as a "probable human carcinogen" (USEPA, 1997). The California (DHS) action level for NDMA is 10 ng/L .

1,4-Dioxane is used as a stabilizer for chlorinated solvents or volatile organic compounds (VOCs), particularly 1,1,1-trichloroethane approximately 90% of the 1,4-dioxane produced. Releases of chlorinated solvents or VOCs may be a primary source of 1,4-dioxane in the environment. 1,4-dioxane has a high potential for entering the environment due to its volatility and solubility in water. Spent chlorinated solvents disposed of improperly can contaminate ground and surface water, and 1,4-dioxane has been detected in surface waters throughout the United States. Exposure to small amounts of 1,4-dioxane may lead to significant adverse health effects. The primary routes of exposure include inhalation, ingestion and dermal contact. USEPA has classified 1,4-dioxane as a Group B2, probable human carcinogen of low carcinogenic hazard. The California (DHS) action level for 1,4-Dioxane 2 $\mu\text{g/L}$.

1,2,3-Trichloropropane (TCP): This chemical has been used primarily as a solvent and extractive agent. As a solvent, it has commonly been used as a paint and varnish remover, a cleaning and degreasing agent and a cleaning and maintenance solvent. TCP is not a naturally occurring chemical. Releases to the environment are likely to occur as a result of its manufacture, formulation, and use as a solvent and extractive agent, paint and varnish remover, cleaning and degreasing agent, cleaning and maintenance reagent, and chemical intermediate. TCP is also used as a pesticide in the formulations with dichloropropenes in the manufacture of D-D, a soil fumigant. 1,2,3-Trichloropropane (TCP) is *reasonably anticipated to be a human carcinogen* based on sufficient evidence of malignant tumor formation at multiple sites in multiple species of experimental animals. The California (DHS) action level for 1,2,3 TCP is 0.005 $\mu\text{g/L}$.

Hexavalent Chromium: This chemical is a dissolved heavy metal that is or has been used in industrial processes, such as metal plating and as a corrosion inhibitor in cooling tower water. Chromium VI is a known human carcinogen. Chromium VI detection in drinking water wells has resulted in well closures. There is no Federal or State regulatory standard for chromium VI. However, California Senate Bill 351 proposes to have one in place starting January 1, 2004. For now, the regulatory standards being used apply only to total chromium, the combined concentrations of chromium III and chromium VI. The risk-based California drinking water standard or maximum contaminant level (MCL) of 50 $\mu\text{g/L}$ has been established for total chromium (chromium III and chromium VI).

Polybrominated Diphenyl Ether (PBDE): A family of flame-retardants used in polyurethane foam, textiles, and plastic electronic casings. This chemical bioaccumulates in marine mammals, birds, and humans. No action levels are currently available.