OFFICE OF THE UNDER SECRETARY OF DEFENSE
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ACQUISITION
TECHNOLOGY
AND LOGISTICS

APR 22 2009

MEMORANDUM FOR DEPUTY ASSISTANT SECRETARY OF THE ARMY
(ENVIRONMENT, SAFETY & OCCUPATIONAL HEALTH)
DEPUTY ASSISTANT SECRETARY OF THE NAVY
(ENVIRONMENT)
DEPUTY ASSISTANT SECRETARY OF THE AIR FORCE (ENERGY, ENVIRONMENT, SAFETY & OCCUPATIONAL HEALTH)
DIRECTOR, DLA ENTERPRISE SUPPORT

SUBJECT: Perchlorate Release Management Policy

This memorandum updates policy on management of perchlorate releases at DoD installations, including operational ranges and Government Owned-Contractor Operated (GOCO) facilities, Base Realignment and Closure (BRAC) sites, and Formerly Used Defense Sites (FUDS) in the United States. This policy supersedes the previous perchlorate policies issued by this office listed in Attachment A.

Under the Defense Environmental Restoration Program (DERP) and the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), DoD has authority to undertake actions where deemed necessary to protect public health or the environment consistent with the National Oil and Hazardous Substances Spill Contingency Plan (NCP) at facilities under DoD jurisdiction or where the source of a release is from a DoD facility. These actions can span the spectrum from Preliminary Assessments/Site Inspections through Remedial Actions. As required by the NCP, DoD will comply with federal and state standards related to perchlorate that qualify as Applicable or Relevant and Appropriate Requirements (ARARs). It should be noted that promulgation of a Maximum Contaminant Level (MCL) or similar regulatory standard is not a precondition for sampling, assessing the risk from a release of a contaminant, or taking other actions.

On January 10, 2005, the National Research Council (NRC) of the National Academy of Sciences completed its toxicological review of perchlorate. Based on the results of the NRC review, the U.S. Environmental Protection Agency (EPA) adopted an oral reference dose (RfD) of 0.0007 mg/kg/day for perchlorate. On January 26, 2006, EPA issued guidance that recommended a preliminary remediation goal (PRG) for

perchlorate of 24.5 ppb in water. The PRG was defined as a Drinking Water Equivalent Level (DWEL) based on the RfD. On January 8, 2009, EPA withdrew its January 26, 2006, perchlorate assessment guidance and issued an Interim Drinking Water Health Advisory for exposure to perchlorate of 15 μg/L (or ppb) in drinking water. The interim health advisory level of 15 μg /L is different from the earlier DWEL of 24.5 ppb in that it incorporates exposure from food. The full Advisory is available at http://www.epa.gov/safewater/contaminants/unregulated/perchlorate.html.

Attachment B provides EPA's revised policy which recommends 15 μg/L (or 15 ppb) as the PRG for perchlorate when making site-specific CERCLA cleanup decisions where there is an actual or potential drinking water exposure pathway and where no ARARs exist under federal or state laws. However, where State regulations qualify as ARARs for perchlorate, the preliminary remediation goals established shall be developed considering the State regulations that qualify as ARARs, as well as other factors cited in the NCP (see 40 CFR 300.430(e)(2)(i)(A)).

The DUSD(I&E) memorandum of January 26, 2006 provided policy with respect to perchlorate sampling and established a "level of concern" of 24 ug/L (ppb). The stated level of concern was similar to a PRG in that it was used for site screening and to help identify the need for a site-specific human health risk assessment. To avoid any confusion, DoD will also use the term PRG for this policy and a PRG of 15 ppb for perchlorate as further described herein. Generally, while it is not anticipated that the PRG change will affect sampling requirements, there may be limited circumstances where additional sampling may be required.

DoD Components shall program resources and address perchlorate releases as follows:

Environmental Restoration

Perchlorate releases shall be addressed in the same manner as other contaminants of concern. For other than operational ranges, DoD Components shall conduct site-specific risk assessments and any necessary response actions in accordance with CERCLA, DERP, other applicable laws, and the NCP and consistent with the DoD relative ranking system for DERP sites. For operational ranges, DoD Components will assess for actual or potential off-range migration of perchlorate in their respective Operational Range Assessment programs consistent with DoDI 4715.14, "Operational Range Assessments."

Based on the EPA's Interim Drinking Water Health Advisory for perchlorate, the recommended PRG is 15 ppb where there is an actual or potential drinking water exposure pathway and where no ARARs exist under federal or state laws. The PRG may be used for initial screening of remedial alternatives and project scoping as described in

the NCP, the NCP preamble, and Risk Assessment Guidance for Superfund Volume I, Part B (EPA/540/R-92/003, Pub. 9285.7-01B, Dec. 1991). Unless modified by EPA in the Integrated Risk Information System (IRIS) database, the RfD of 0.0007 mg/kg/day is still appropriate for use in determining risk in site-specific human health risk assessments developed in accordance with the NCP.

DoD-owned Drinking Water Systems

DoD-owned drinking water systems that are required to sample for inorganic analytes pursuant to regulatory requirements shall add perchlorate to their current analyte list for at least two sampling events if they have not done so already. Installations with confirmed results that indicate the presence of perchlorate in finished drinking water shall notify their Major Command and consult with them on appropriate actions, which may include development of an action plan to reduce exposure to perchlorate as appropriate for the protection of public health. At a minimum, these installations shall continue sampling quarterly until they and their Major Command are satisfied that perchlorate concentrations are likely to remain below 15 ppb, an applicable state MCL, or a federal MCL, whichever is lowest.

Managers of DoD-owned drinking water systems that use sodium hypochlorite should be aware of studies reported by the American Water Works Association that surveyed sodium hypochlorite products used to treat drinking water. Perchlorate was found in more than 90% of production facilities sampled across North America that used these sodium hypochlorite products. Results also indicated a trend of increasing perchlorate concentration as the hypochlorite aged. The duration and conditions of storage can affect the levels of the perchlorate in a utility's hypochlorite supplies and ultimately its drinking water.

DoD Wastewater Effluent Discharges

At permitted point sources where use of perchlorate is associated with the manufacture, maintenance, processing, recycling, or demilitarization of military munitions, DoD Components shall sample for perchlorate for at least two semi-annual sampling events if they have not done so already. Sampling will be conducted in conjunction with effluent sampling conducted under the permit applicable to that point source. Installations with confirmed results that indicate perchlorate above 15 ppb in wastewater effluent discharges shall notify their Major Command and consult with them on appropriate actions. Depending on applicable water quality standards and other factors (e.g., mixing zones), permit modifications and follow-on actions may be required. Irrespective of current state permit requirements, risk management actions may be warranted to reduce perchlorate discharges to receiving water bodies. This policy does not require re-sampling where previous results were below 15 ppb. Nothing in this

policy is intended to diminish any requirements established by wastewater discharge permits issued by EPA or state regulatory authorities for DoD installations or operations.

Environmental Auditing

Components shall ensure that environmental auditing procedures for active installations, including GOCOs, include provisions for checking compliance with this policy and that all appropriate actions have been initiated, programmed, or determined to be not required under applicable laws and regulations.

Perchlorate Database

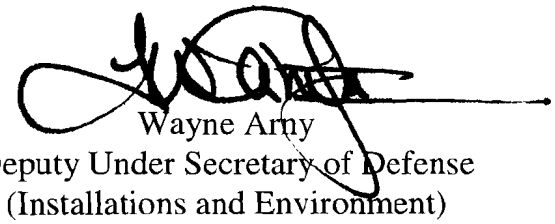
As a result of Congressional and regulatory agency concerns related to perchlorate, DoD developed a database for perchlorate sampling with a separate module managed by each Component. DoD Components shall ensure that all perchlorate sampling data, in all media, are entered into the database in accordance with applicable security requirements. Perchlorate sampling in all media shall be conducted in accordance with the DoD Perchlorate Handbook prepared by the DoD Environmental Data Quality Workgroup. Summary reports of sampling will be developed by DUSD(I&E) at the close of each fiscal year. In addition, draft state summaries and narratives will be developed by DUSD(I&E) based on annual data. DoD Components shall review and approve the state summaries before the summaries are posted on the DENIX web site

Funding

Environmental restoration actions related to perchlorate shall be funded under the DERP in accordance with DERP management guidance. For drinking water systems and wastewater effluent discharges, perchlorate sampling and follow-on actions taken pursuant to this policy will be considered an Environmental Quality Status Class I requirement under DoDI 4715.6, "Environmental Compliance."

At installations outside the United States, perchlorate issues will be addressed in accordance with DoDI 4715.5, *Management of Environmental Compliance at Overseas Installations*, DoDD 4715.12, *Environmental and Explosives Safety Management on Operational Ranges Outside the United States,* DoDI 4715.8, *Environmental Remediation for DoD Activities Overseas*, and DoD 4715.5-G, *Overseas Environmental Baseline Guidance Document.*. Any resulting required sampling or follow-on actions will be considered an Environmental Quality Status Class I requirement.

My point of contact for any questions regarding this policy is Mr. Paul Yaroschak at (703) 604-0641, Paul.Yaroschak@osd.mil.



Wayne Arny
Deputy Under Secretary of Defense
(Installations and Environment)

Attachments:
As stated

Attachment A

Superseded DUSD(&E) Perchlorate Policies

- ADUSD(E) memorandum of November 13, 2002, "Perchlorate Assessment Policy"
- DUSD(I&E) memorandum of September 29, 2003, "Interim Policy on Perchlorate Sampling"
- DUSD(I&E) memorandum of January 26, 2006, "Policy on DoD Required Actions Related to Perchlorate"
- ADUSD(ESOH) memorandum of September 21, 2007, "Actions in Response to Perchlorate Releases"

Attachment B

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JAN - 8 2009

MEMORANDUM

OFFICE OF
SOLID WASTE AND
EMERGENCY RESPONSE

SUBJECT: Revised Assessment Guidance for Perchlorate

FROM: Susan Parker Bodine
Assistant Administrator

TO: Regional Administrators

On January 26, 2006, guidance was issued regarding perchlorate and the cleanup of sites under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Oil and Hazardous Substances Contingency Plan (National Contingency Plan (NCP)), 40 CFR Part 300; the January 2006 guidance recommended that Regions use a preliminary remediation goal (PRG) for perchlorate of 24.5 parts per billion (ppb or micrograms per liter [µg/L]) in water when making site-specific cleanup decisions.[1] The PRG was defined as a Drinking Water Equivalent Level based on EPA's reference dose (RfD) of 0.7 micrograms per kilogram body weight per day (µg/kg-day); the RfD remains an appropriate "to be considered" (TBC) value in accordance with the NCP. However, since the NCP provides that "preliminary remediation goals should be modified, as necessary, as more information becomes available during the RI/FS (remedial investigation/feasibility study)," the January 2006 guidance also made clear that the PRG at any site should be evaluated on a case-by-case basis, and modified accordingly, based on site-specific information, including actual and potential exposure routes, including contributions from non-water sources.

The Agency has now issued an Interim Drinking Water Health Advisory (Interim Health Advisory) for exposure to perchlorate of 15 µg/L in water, a copy of which can be obtained at http://www.epa.gov/safewater/contaminants/unregulated/perchlorate.html. (A health advisory provides technical guidance to federal, state, and other public health officials on health effects, analytical methods and treatment technologies associated with drinking water contamination.) The Interim Health Advisory for perchlorate was developed using EPA's RfD and representative body weight, as well as 90th percentile drinking water and national food exposure data for pregnant women in order to protect the most sensitive population identified by the National Research Council (NRC) (i.e., the fetuses of pregnant women who might have hypothyroidism or iodide deficiency). See "Health Implications of Perchlorate Ingestion."[2] The interim health advisory level of

[1] PRGs are specific statements of desired endpoint concentrations of risk levels (55 FR 8713, March 8, 1990) that are conservative, default endpoint concentrations used in screening and initial development of remedial alternatives before consideration of information from site-specific risk assessments.
[2] NRC 2005. Health Implications of Perchlorate Ingestion, National Research Council of the National Academy of Sciences, National Academies Press, Washington D.C.

15 ug/L is thus different from the earlier DWEL of 24.5 ug/L in that it incorporates exposure from food. Infants and developing children were also identified as sensitive sub-populations by the NRC. Therefore, the Agency also evaluated these other sub-populations and concluded that the Interim Health Advisory of 15 µg/L derived for pregnant women is also an appropriate interim Health Advisory for these other sub-populations.

The NCP (40 CFR 300.430(e)(2)(A)(1)) provides that when establishing acceptable exposure levels for use as remediation goals, consideration must be given to concentration levels to which the human population, including sensitive subgroups, may be exposed without adverse effects over a lifetime or part of a lifetime, incorporating an adequate margin of safety. As a result of the publication of the Interim Health Advisory for perchlorate, I am formally withdrawing the January 26, 2006 guidance recommending a PRG of 24.5 ppb for perchlorate. In its place, this memorandum now recommends that where no federal or state applicable or relevant and appropriate (ARAR) requirements exist under federal or state laws, 15 µg/L (or 15 ppb) is recommended as the PRG for perchlorate when making CERCLA site-specific cleanup decisions where there is an actual or potential drinking water exposure pathway. However, where State regulations qualify as ARARs for perchlorate, the remediation goals established shall be developed considering the State regulations that qualify as ARARs, as well as other factors cited in the NCP (see 40 CFR 300.430(e)(2)(i)(ff)).

Final remediation goals and remedy decisions are made in accordance with 40 CFR300.430 (e) and (f) and associated provisions.

If you have further questions regarding the applicability of this memorandum please contact Jayne Michaud at (703) 603-8847.

cc: Superfund Division Directors
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