

memorandum

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DATE: DEC 15 1989

REPLY TO
ATTN OF EH-231

SUBJECT: Fact Sheets: Natural Resource Trusteeship Under CERCLA and
Management of Contaminated Groundwater as Hazardous Waste

TO: Distribution

Attached for your information are two fact sheets prepared by the Environmental Guidance Division (EH-231) which address two issues pertinent to the Department's Environmental Restoration Program.

The first fact sheet (attachment 1) provides a synopsis for management of the Department of Energy's (DOE) role as a Natural Resource Trustee under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This fact sheet summarizes responsibilities and potential liabilities when releases of hazardous substances from DOE facilities have caused injury to natural resources, and also discusses the relationships between DOE, the States and other co-trustees of natural resources. As part of the integrated Remedial Investigation/Feasibility Study-National Environmental Policy Act (RI/FS-NEPA) process, an ecological assessment is to be conducted. This ecological assessment includes an evaluation of potential natural resource injuries, and is increasingly being emphasized by the U.S. EPA as an important aspect of CERCLA response actions. Be advised that the Natural Resource Damage Assessment (NRDA) process per se, is not addressed in this particular fact sheet. An NRDA assesses monetary damages for injuries that are residual to any remedial actions taken. Detailed guidance on Natural Resource Trusteeship and ecological assessment for CERCLA response actions is being prepared by EH-231.

The second fact sheet (attachment 2) pertains to the management of contaminated groundwater as hazardous waste. This fact sheet outlines the RCRA regulations and standards pertaining to contaminated groundwater which may be applicable or relevant and appropriate requirements (ARAR) under CERCLA, and EPA policy statements and interpretations which pertain to groundwater containing listed hazardous constituents. Also discussed is the management of contaminated groundwater obtained during well sampling, and the management of treated groundwater. Additionally, the possible impact of proposed future actions by EPA in this area, and potential exemptions for groundwater samples are briefly addressed in this fact sheet.

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Questions concerning the attached fact sheets on Natural Resources Trusteeship and Management of Groundwater as a Hazardous Waste may be directed to John Bascietto and Jerry Coalgate of my staff, respectively. Messrs. Bascietto and Coalgate can be reached at FTS 896-7917 and 6075, respectively.



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Environmental Guidance Division

Attachments (2)

FACT SHEET

DOE NATURAL RESOURCE TRUSTEESHIP UNDER CERCLA

BACKGROUND:

- o CERCLA section 107(a) establishes liability for natural resource (NR) damages when NR injuries and causative releases occurred partially or wholly after the enactment of CERCLA. Liability is for residual damages, i.e., those which are not addressed by the remedial actions. Pursuant to CERCLA section 120, DOE has NR liability to the same extent as private responsible parties
- o Trustees hold NRs for the public. Under CERCLA, "trust" resources are "land, fish, wildlife, biota, air, water, groundwater, drinking water supplies ...". E.O. 12580 made Secretary of Energy Federal Trustee for NRs on DOE sites. In certain situations, trusteeship is shared with other Federal/State/Indian Tribe co-trustees (e.g., migratory birds also held by US Dept. of Interior, and groundwater also held by State). In other situations, States retain full trusteeship (e.g., a State-listed endangered species, and off-site NRs)
- o Under CERCLA sections 104(b), 113(k) and 120, National Contingency Plan (NCP) and E.O. 12580, when DOE facilities potentially threaten NRs, DOE must 1) notify cognizant trustees (at NPL sites, EPA must also notify); 2) coordinate plans, studies and response actions with co-trustees; and 3) place correspondence with trustees in the administrative record
- o CERCLA 122(j)(2) allows co-trustees to release DOE from NR liability if appropriate actions are performed

DISCUSSION:

- o DOE has dual role of NR Trustee/lead agency at its environmental restoration sites
- o On site - NRs injured by DOE are subject of ecological assessment and remedial actions. Co-trustees are authorized to release DOE from NR liability based on remedy, or they can perform a Natural Resource Damage Assessment (NRDA) (43 CFR 11)
- o Off site - DOE has potential NR damage liability to the other trustees, who may perform a NRDA, or who can agree to release DOE from NR liability if DOE performs appropriate actions
- o Without a release from NR liability, DOE may have to set up an interest-bearing account to pay for restorative actions, if DOE caused the NR injury
- o Trustees must recover adequate public compensation - persons can, and have, sued trustees for failure to do so. Federal Trustees cannot sue DOE, but States/Tribes can, and may also seek to recover reasonable costs of assessing damages

- o Trustees may develop unique methods to perform NRDA's, however, adherence to procedures codified in 43 CFR 11 confers "rebuttable presumption" status on damage claim in judicial or administrative court; then challengers have burden of proof
- o EPA's proposed Hazardous Ranking System allows site to score on the NPL based on ecological risks. Proposed NCP requires 1) RI/FS assessment of ecological risk, 2) that CERCLA remedies be "protective of environmental organisms and ecosystems". These changes may result in more oversight of NR injury, but also allow DOE to fulfill NR Trustee role under NCP/EO 12580
- o Performing a proper ecological assessment as part of the RI/FS-NEPA process and taking response actions that addresses NR trustee's concerns increases DOE's ability to obtain a release from NR liability

SENSITIVITIES:

- o DOE Tiger Teams have discovered incomplete compliance with CERCLA NR notification & administrative record requirements
- o In July, 1989, U.S. Appeals Court (Ohio v US DOI) ruled unfavorably for entities with CERCLA NR liability, including DOE, on limiting NR damage claims. Expected changes to 43 CFR 11 include expanding the scope of States' NR damage claim for restoration costs; the end result being more costly NR settlements
- o Participation of States which are cognizant co-trustees in negotiations of DOE agreements is beneficial to controlling the scope of NR liabilities. IAG's, FFA's and/or Consent Decrees should address 1) the Trustee roles of DOE and the State; 2) the framework for assessing NR damages; and 3) conditions which enable State trustees to release DOE from NR liability
- o Separate releases from NR liability should be sought from co-trustees who are not signatories to an IAG, FFA or Consent Decree

CURRENT HQ EFFORTS:

- o DOE Order 5400.4 establishes that DOE will implement NRDA procedures and that EH-1 has responsibility to develop policies, guides, requirements and procedures for NRDA process
- o EH-231 is preparing a guidance memorandum for Program and Field elements for implementing the NR Trustee notification and coordination provisions of CERCLA and the NCP's response action requirements to Remediate Natural Resources
- o EH-231 has conferred with US DOI on implications of Ohio v. US DOI, and on integrating natural resource "pre-screens" (scoping studies which outline a NR problem or support a decision for no further action) into the ecological assessment performed for the RI/FS-NEPA

FACT SHEET
MANAGEMENT OF GROUNDWATER
AS
HAZARDOUS WASTES

Background:

- o Subtitle C of the Resource Conservation and Recovery Act (RCRA) created a comprehensive program for the safe management of hazardous wastes.
- o Section 3004 of RCRA requires owners and operators of facilities that treat, store, or dispose of hazardous wastes to comply with standards established by the EPA that are "necessary to protect human health and the environment."
- o EPA promulgated groundwater monitoring and protection standards for permitted and interim status facilities, and these standards are found in Subpart F or 40 CFR 264 and 265, respectively.
- o The standards establish programs for the protection of groundwater from releases of hazardous wastes from certain landfills, surface impoundments, other land treatment units, etc.
- o The RCRA groundwater protection standards and the land disposal restrictions (LDRs) may be applicable or relevant and appropriate requirements (ARARs) for inactive waste sites under CERCLA if remediation involves placement of hazardous wastes in waste management units. Once promulgated, the Subpart S corrective action regulations will also be potential ARARs.

Discussion:

A. Hazardous Waste Status of Groundwater.

- o A solid waste is any discarded material which is not excluded from regulation as a solid waste by a variance (40 CFR 260.30-31, Standards and Criteria for Variances from Classification As A Solid Waste) or excluded under 40 CFR Part 261.4, Exclusions.
- o A hazardous waste is a solid waste which satisfies one of the following: (1) exhibits one of the hazardous waste characteristics; (2) is a listed hazardous waste; (3) is a mixture of a listed hazardous waste and a solid wastes waste; (4) a solid waste derived from the treatment, storage, or disposal of a listed hazardous waste.

- o Solid wastes resulting from the mixture of a characteristic hazardous waste and a non-hazardous solid waste, or if derived from a characteristic hazardous waste, are hazardous wastes only if they exhibit hazardous waste characteristics.
- o The Office of Solid Waste has indicated that, as a matter of interpretation, groundwater occurring in an aquifer is not a solid waste since it is not "discarded" in the sense of being abandoned, recycled, or inherently waste-like as those terms are defined in the Subtitle C regulations.
- o As a result, contaminated groundwater is not considered a hazardous waste via the "mixture rule" [40 CFR 261.3(a)(2)(iv)] or by the "derived from rule" [40 CFR 261.3(c)(2)(ii)].
- o Nevertheless, groundwater contaminated with hazardous waste leachate is subject to Subtitle C regulation since it contains a hazardous waste. Because hazardous waste leachate is subject to hazardous wastes regulations, the storage, treatment, and disposal of groundwater contaminated with hazardous waste leachate must be conducted as if the groundwater itself were hazardous ("Contained-In Interpretation"). REF: Memorandum from Director of the Office of Solid Waste, Environmental Protection Agency, to Region IV of EPA entitled, "RCRA Regulatory Status of Contaminated Groundwater", November 13, 1986.
- o Under the "Contained-In" interpretation, if the water is treated such that it no longer contains a hazardous waste, then the groundwater is no longer subject to regulation under Subtitle C of RCRA. In the case of "contained-in" wastes, i. e., contaminated groundwater, a formal delisting of the groundwater is not required.
- o EPA considers groundwater to not contain hazardous wastes when listed contaminant levels are below the health-based action levels for the hazardous waste in question. According to a memorandum from the Director, Office of Solid Waste, to Region IX, dated January 24, 1989 ("Status of Contaminated Groundwater and Limitations on Disposal and Reuse"), OSW has not yet issued definitive guidance on levels below which groundwater will no longer be considered to contain hazardous wastes. Until such guidance is issued, the Regions may determine these levels on a case-specific basis.

OSW expects that ultimately the levels for hazardous wastes will reflect the levels contained in a De Minimis rule being developed by OSW. The levels contemplated for the De Minimis rule are based on health-based levels (when available) assuming direct exposure.

For "characteristic" hazardous wastes leachates, contaminated groundwater will no longer contain hazardous wastes when the hazardous waste characteristic is no longer exhibited.

- o It must be noted that the "contained-in" interpretation is not a regulation. Consequently, it does not carry the weight of law. But, it does carry more weight than a policy statement, and in cases where the interpretation is challenged, by individual states for example, the courts tend to render a decision in favor of the EPA interpretation.

When considering a groundwater remediation project, a determination of the status of contaminated groundwater as a hazardous waste should be determined through consultations with the state regulatory authorities.

B. Management of Contaminated Groundwater.

- o Even though groundwater is not a solid waste, contaminated groundwater containing a listed hazardous waste, or exhibiting a hazardous waste characteristic, would have to be managed as a hazardous waste as long as it contains the hazardous waste, or exhibits the characteristic.
- o This means that all untreated groundwater pumped to the surface, with the exception (see below) of samples collected for analysis and use in treatability studies, would have to be managed as hazardous waste.

Immediately prior to sampling the groundwater, the well will be purged to remove "stagnant" water from the well. If this well purge water contains hazardous waste, then it must be managed as hazardous waste.

- o RCRA requirements pertaining to, or impacting, the management of contaminated groundwater include the land disposal restrictions (LDR) and the groundwater monitoring and response requirements of 40 CFR Part 264, Subpart F.

New correction action regulations, 40 CFR Part 264, Subpart S, have been developed which will also impact the management of contaminated groundwater. The corrective action Subpart S regulations should be proposed by the EPA sometime in the Fall-Winter of 1989-1990.

- o Once the groundwater is treated and no longer contains hazardous waste constituents above health-based limits or action levels, it no longer required to be managed as a hazardous waste.
- o Treated groundwater discharged to surface water must satisfy the requirements of a NPDES permit. Such discharges would not have to meet the RCRA land disposal restrictions requirements because discharges to surface waters subject to a NPDES permit are not subject to Subtitle C hazardous waste regulations.
- o Groundwater treatment residues, spent carbon from carbon adsorption units, or ion exchange resins that are contaminated with RCRA-listed wastes for which treatment standards have been promulgated will have to meet the land disposal restrictions or be delisted under RCRA before they may be disposed of.

C. Potential Future Actions of EPA Affecting Groundwater Management

- o The Office of Solid Waste is currently working on a policy memorandum which could impact DOE groundwater remediation projects involving "pump-and-treat" remediation. It is thought that the memorandum will provide that, for treatment schemes that "pump and treat" groundwater, and then reinject it into the same aquifer, land band restrictions will not apply to the reinjection. The driving force for this action was a letter from the Department of Justice to EPA requesting clarification of the issue of the applicability of the Land Disposal Restrictions to the injection of treated groundwater back into the aquifer the contaminated water was removed from at the Rocky Flats plant.

The statutory basis for the development of this policy, is found in Section 3020 of RCRA, INTERIM CONTROL OF HAZARDOUS WASTE INJECTION. Section 3020(a), "Underground Source of Drinking Water", prohibits the disposal of hazardous wastes into, or above a formation which contains (with one-quarter mile of injection well) an underground source of drinking water.

However, Section 3020(b), "Action Under CERCLA", states that, "Section (a) shall not apply for the injection of contaminated groundwater into the aquifer from which it was withdrawn if such an injection is a response action taken under Section 104 or 106 of CERCLA, or part of corrective action required under this title intended to cleanup such contamination". The section goes on to require that contaminated groundwater be treated to substantially reduce hazardous constituents prior to the injection, and that response/corrective actions be conducted in a manner such that, upon completion, they will be sufficient to protect human health and the environment.

D. Potential "Exemptions" for Groundwater Samples.

- o Under 40 CFR 261.4(d), Exclusions, "samples of solid waste or a sample of water, soil, or air which is collected for the sole purpose of testing to determine its characteristics or composition is not subject to any requirement of Parts 261 or Parts 262 through 268, or Part 270 or Part 124 of the regulations or to the notification requirements of Section 3010 of RCRA" provided the samples are managed in accordance with the requirements outlined in 40 CFR 261.4(d)(1)(i) through 261.4(d)(3).
- o Under 40 CFR 261.4(e), samples collected for the purpose of conducting treatability studies as defined in 260.10 (A treatability study is one to determine; if the waste is amenable to treatment, pretreatment is necessary, the efficiency of treatment, process conditions required, and characterization of treatment residuals generated) are not subject to any requirement of 40 CFR Parts 261 through provided that no more than 1000 kg of non-acute hazardous waste, or 1 kg of acute hazardous waste, or 250 kg of soils, water, debris contaminated with acute hazardous waste for each waste stream being evaluated [40 CFR 261.4(e)(1)(i) to 264.1(e)(3)(v)].
- o Under 40 CFR Part 261.4(f), samples undergoing treatability studies, and the laboratory or testing facility conducting the treatability studies, are not subject to the requirements of 40 CFR Parts 261-268, 270, Part 124, or the notification requirements of RCRA Section 3010 provided the conditions outlined in 40 CFR 261.4(f)(1) through 261.4(f)(11) are satisfied.