DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR FORCE LEGAL OPERATIONS AGENCY

18 Sep 09

MEMORANDUM FOR AFMSA/SG3PB

FROM: AFLOA/JACE-FSC
485 Quentin Roosevelt Road
San Antonio, TX 78226

SUBJECT: Nuclear Regulatory Commission (NRC) Questions on Application of CERCLA to the NRC Decommissioning Process

Introduction. The Air Force Radioisotope Committee (RIC) has asked the Air Force Environmental Law Field Support Center (FSC) for a formal opinion addressing questions posed to the RIC by the NRC concerning environmental regulation of radioactive materials or wastes under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Additionally, we will address how source materials, special nuclear, by-product material, and mixed waste are handled by the Resource Recovery and Conservation Act (RCRA) regulatory scheme.

The general rule is that the Environmental Protection Agency (EPA) defers to the NRC decommissioning process when considering whether CERCLA standards apply at a decommissioning site. Under RCRA the general rule is source, special nuclear, and by-product material regulated under the Atomic Energy Act (AEA) are not solid wastes and, therefore, are not covered under the RCRA regulatory scheme.

EPA may invoke CERCLA authority in rare instances when the EPA determines, after consultation with the NRC, that the NRC decommissioning standard is not meeting a Maximum Contamination Level (MCL) protective standard (e.g., under the Safe Drinking Water Act). EPA, or a State with RCRA corrective action authority, may assert RCRA authority when exempted materials or wastes are mixed with other wastes (e.g., solvents) that are either RCRA listed or characteristic wastes and the mixture is not otherwise exempt from RCRA coverage by operation of 40 CFR part 266, subpart N. These issues are discussed more fully below.

First NRC Question. Are all Air Force decon sites CERCLA sites? Technically speaking, all sites at which radiation contamination has been released into the environment are subject to CERCLA, with the exception of those limited circumstances where CERCLA exempts a site from the definition of release at 42 U.S.C. §9601(22). Exempted releases are releases of source, byproduct or special nuclear material from a nuclear incident, as defined in the **Atomic Energy Act** (AEA), when such releases are subject to financial protection requirements established by the NRC, or similar releases from a processing site designated under the **Uranium Mill Tailings Radiation Control Act** (citations intentionally omitted).

However, regarding releases at sites either previously or currently licensed by the NRC (NRC facilities), the EPA formally stated in 1983 that it will generally defer CERCLA response at NRC facilities when decontamination actions taken under the NRC license are consistent with

NRC regulations (*See*, "Radiological Criteria for License Termination" published on 21 Jul 97 with noted exceptions discussed below (62 FR 39058-39092). This said, we note that EPA has long had concerns with the protectiveness of some NRC standards and cleanups, and on 17 Feb 00 issued its Office of Solid Waste and Emergency Response (OSWER) guidance 9272.0-15P, "Interim Final Evaluation of Facilities Currently or Previously Licensed NRC Sites Under CERCLA" which can be accessed at http://www.epa.gov/superfund/health/contaminants/radiation/pdfs/nrc.pdf.

Second NRC Question. If not, when does CERCLA (or RCRA) kick in? Consistent with the answers provided above, the NRC has primacy at all licensed or decommissioned sites. The NRC will consult with EPA in order to ensure NRC clean up protocols meet CERCLA response protective standards. If the NRC does not implement a response that meets CERCLA protective standards, the EPA may mandate additional clean up requirements to ensure an adequate level of protection to human health and the environment is attained. As to all other sites, CERCLA applies and kicks in unless cleanup/corrective action is implemented under RCRA. In short, CERCLA standards will always apply when non-radiological hazardous substances are released or there are mixed-waste situations (combination of radiological and other substances). EPA has published CERCLA cleanup levels or Applicable or Relevant and Appropriate Requirements (ARARs) for radioactive contamination in OSWER 9200.4-18, accessible at http://www.epa.gov/superfund/health/contaminants/radiation/pdfs/radguide.pdf.

Discussion of the CERCLA/NRC Decommissioning Relationship. On 9 Oct 02, EPA formalized in OSWER 9295.8-06a a Memorandum of Understanding with the NRC (*See* http://www.epa.gov/superfund/health/contaminants/radiation/mou.htm). This memorandum, stated, among other things, that EPA would continue its CERCLA deferral; however, the two agencies agreed to consult when:

a. NRC determines residual cleanup levels in groundwater will exceed Safe Drinking Water Act maximum contaminant levels (MCLs). The CERCLA program generally uses the MCL(s) as cleanup levels for groundwater (note NRC regulations establish cleanup levels for radionuclides that often exceed MCLs as well as CERCLA protectiveness cancer and non-cancer risk ranges and levels);

b. Residual soil levels will exceed soil concentrations specified in Table 1 to the memorandum ("Consultation Triggers for Residential and Commercial/Industrial Soil Contamination");

c. NRC contemplates future site use will be restricted by license termination conditions; or

d. The NRC contemplates the use of alternative clean up criteria for license termination.

In such circumstances, if NRC does not agree to revise cleanup/decontamination levels and conditions to be consistent with those of CERCLA, the EPA does reserve its CERCLA authorities. Inasmuch as the Air Force is the lead agency for CERCLA actions on Air Force facilities, the Air Force should consult with the NRC regarding CERCLA-deferred NRC clean-up projects occurring on propertyfor which the Air Force has accountability.

Discussion of RCRA Corrective Action and the Decommissioning Process. The CERCLA deferral does not apply to corrective actions implemented under the RCRA at facilities with hazardous waste treatment, storage or disposal sites at which hazardous waste or

constituents have been released into the environment. Put another way, 40 CFR part 261.4(a)(4) excludes source, special nuclear, and by-product material regulated under the AEA from regulation under RCRA. However if any of these excluded materials is mixed with a hazardous waste otherwise subject to RCRA standards, then, the resulting waste is subject to both AEA and RCRA treatment requirements (*See*, 51 FR 24504 (July 3, 1986), [EPA] RO 13452 (Feb. 12, 1991), *TC Applicability to Mixed Waste)*. Two further observations regarding RCRA coverage are in order. First, if RCRA regulatory requirements and the AEA regulatory requirements are in irreconcilable conflict, the AEA requirements take precedence (*See*, [EPA] RO 12992 (July 30, 1987), *RCRA Authorization to Regulate Mixed* Wastes). Second, if faced with regulation of mixed wastes under RCRA, consult 40 CFR part 266, subpart N to determine if the exemptions set forth at the cited subpart apply. Finally, keep in mind that the RCRA regulatory scheme is, in most instances, run by the respective States. In our view, State regulatory entities have the same obligation to coordinate their corrective action requirements with the NRC decommissioning process as EPA would in like circumstance.

Conclusion. CERCLA is somewhat broader than RCRA in terms of jurisdictional coverage. Nonetheless, EPA generally defers to the NRC unless an MCL standard is not being met by an NRC applied standard in response to a release of a "hazardous substance" as defined in CERCLA. RCRA corrective action authority does not apply unless a listed or characteristic waste is being addressed that is defined for purposes of this memo as a "mixed waste" (see, SWDA § 1004(41)). Otherwise, radioactive materials are excluded from coverage under RCRA by operation of 40 CFR part 261.4(a)(4). If either regulatory scheme is invoked, one must look at the CERCLA/RCRA protective standard to ensure that the mixed waste is being treated to that specific standard during the decontamination process because both regulatory authorities control (i.e., under either CERCLA or RCRA as appropriate, and the AEA). Furthermore, if the ionizing contaminant and the hazardous waste are one and the same, the treatment would be to the lower of the two protective standards. Keep in mind though per our discussion above in this memo that if RCRA is the statutory scheme being employed that the NRC may invoke national security considerations per the cited EPA memo (RO 12992, *supra)* to decline application of RCRA based protective standards.

If you have any questions, please contact me at DSN 945-1717 or Mr. Marc Trost at 945-2237.

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Replies to NRC Decommissioning Questions

NRC Question c: Regarding Table submitted last year on the burial sites, what is the distinction between AEA and NRC regulated? Is it that NRC regulated sites are permitted and AEA sites are not?

USAF Radioisotope Committee (RIC) Secretariat Reply: First, for some points of clarity. The Table in the Attachment lists in the header, "former AEC regulated," not AEA. As well, this header was intended to cover sites that are under the Section 91 exemption of the Atomic Energy Act (AEA) of 1954, and could have been more appropriately labeled, "former AEC self-regulated" or "Section 91, AEA Exempt." The sites under this column encompass those with radioactive materials from:

a. former AEC defense-related operations that were turned over to the DoD,
b. former DoD defense-related operations that had some AEC-oversight, but were retained by the DoD, and
c. sites that involved nuclear weapon accidents.

The NRC regulated sites are permitted by the AF RIC, while HQ Air Force Safety Center (AFSC) currently permits actions on Section 91 sites that the Air Force has administrative control. The permits issued by HQ AFSC are similar to those issued by the AF RIC, except HQ AFSC is not held to NRC rules. Most of the NRC-regulated burial sites currently permitted by the AF RIC are:

d. byproduct material sources such as Co-60, Cs-137, Am-241 etc.,
e. byproduct materials source exempt quantities such as electron tubes as per 10 CFR 30.15,
f. generally-licensed items under 10 CFR part 31, and
g. source materials like DU, magnesium-thorium alloys, and thorium ore or tailings.

Some of the sites that the Air Force currently has permitted for remedial action are for radioactive material licensed under the AEC, predecessor to the NRC, (e.g., RW-06, Kirtland AFB). A number of AEA Section 91 sites had oversight and some permitting accomplished by the AF RIC in the past, though NRC rules were not a required part of these restoration activities. Headquarters Air Force responsibility for oversight on these sites was transferred from the AF RIC to HQ AFSC in 1994.

NRC Question d: Regarding decon sites, when are permits issued? Before or after the work begins?

USAF RIC Secretariat Reply: The USAF RIC Secretariat issues the possession only permit before the work begins.

NRC Decommissioning Questions:

a. Are all AF decon sites CERCLA sites? Examples, four training sites at Kirtland and the DU range at Eglin

b. If not, when does CERCLA "kick in"?

c. Regarding Table submitted last year on the burial sites, what is the distinction between AEA and NRC regulated? Is it that NRC regulated sites are permitted and AEA sites are not?

d. Regarding decon sites, when are permits issued? Before or after the work begins?