UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

July 21, 2000

MEMORANDUM TO: Chairman Meserve
Commissioner Dicus
Commissioner Diaz
Commissioner McGaffigan
Commissioner Merrifield

FROM: Dennis K. Rathbun, Director
Office of Congressional Affairs

SUBJECT: FINAL STAFF TESTIMONY FOR SENATE ENVIRONMENT AND PUBLIC WORKS COMMITTEE HEARING ON MANAGEMENT AND DISPOSAL OF LOW-LEVEL RADIOACTIVE WASTE (LLW)

Attached is a copy of the final staff testimony for the subject hearing which is scheduled for Tuesday, July 25, 2000. The testimony will be forwarded to the Committee on Monday morning. Also attached is a copy of the final witness list.

Attachments: As stated

cc: OEDO
NMSS
NRR
RES
OGC
OGC (Cyr)
OPA
SECY
OIG
ACNW
OCIO
OCFO
OCAA

CONTACT: Tom Combs, 415-1776

STATEMENT SUBMITTED

BY THE

UNITED STATES NUCLEAR REGULATORY COMMISSION

TO THE

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

UNITED STATES SENATE

CONCERNING

THE MANAGEMENT AND DISPOSAL OF LOW ACTIVITY RADIOACTIVE WASTE

PRESENTED BY

CARL J. PAPERIELLO

DEPUTY EXECUTIVE DIRECTOR FOR

MATERIALS, RESEARCH AND STATE PROGRAMS

SUBMITTED: JULY 25, 2000

TESTIMONY

U.S. NUCLEAR REGULATORY COMMISSION

July 25, 2000

Mr. Chairman, and Members of the Committee:

It is my pleasure to be here today to present the U.S. Nuclear Regulatory Commission's (NRC) views on the management and disposal of low-activity radioactive waste. In that context, I also offer NRC's views on the Formerly Utilized Sites Remedial Action Program (FUSRAP) of the U.S. Army Corps of Engineers (the Corps). Because the Uranium Mill Tailings Radiation Control Act (UMTRCA) does not direct the NRC to exercise regulatory authority over milling activities and facilities that were not subject to license at the time of the effective date of UMTRCA, the NRC has not regulated the disposal of mill tailings resulting from the FUSRAP program.

The Commission has stated that, absent specific direction from Congress to the contrary, NRC will continue to refrain from regulating the Corps in its cleanup activities at FUSRAP sites. Attachment 1 to my testimony is a copy of the Director's Decision which I issued on March 26, 1999, which is probably the most complete exposition of the Commission's position on this matter. Former Chairman Jackson laid out a briefer description of our policy in a April 28, 1999 letter (Attachment 2) which was reiterated in a July 29, 1999 letter signed by former Chairman Dicus (Attachment 3). Stated succinctly, the NRC recommends legislation if Congress intends that NRC regulate pre-UMTRCA mill tailings in the FUSRAP program. The NRC has not sought such authority or the necessary resources to regulate that material, and the Appropriations Committees, most recently in the House Appropriations Committee Report on

the Energy and Water Development Bill for FY 2000 (which was adopted by the conferees), have clearly indicated that Congress does not intend NRC to undertake licensing the Corps' cleanup of contaminated FUSRAP sites.

In my testimony, I will address not only how the disposal practices of the Corps compare with those that the NRC regulates, but also the broader topic of risk-informed disposal of radioactive material. In my presentation, I will address the following questions, among others:

- How do FUSRAP wastes compare with other similar radioactive wastes and the disposal of other wastes?

- Why are radioactive wastes with similar concentrations and hazards disposed of in different ways?

- What safety issues need to be addressed in the disposal of materials like FUSRAP wastes in RCRA Subtitle C hazardous waste landfills?

In the more than two years since responsibility for the FUSRAP program was transferred by Congress from the U.S. Department of Energy (DOE) to the Corps, we have heard from State officials; the Conference of Radiation Control Program Directors; commercial firms; legislators, both Federal and State, including two members of this Committee; members of the public; and environmental groups asking us to exert our regulatory authority over the disposal of pre-UMTRCA mill tailings, often within the context of activities of the Corps as it remediates FUSRAP sites. More recent concerns with respect to the disposal of mill tailings from FUSRAP

sites have been raised in petitions submitted to NRC this year. These petitions are currently under review.

Some of the reasons offered for NRC regulation of FUSRAP material are legal and involve interpretation of the Atomic Energy Act (AEA) and the Uranium Mill Tailings Radiation Control Act (UMTRCA). In my March 1999 Director's Decision, I concluded we do not have the authority to regulate the Corps' handling of radioactive material at FUSRAP sites. Moreover, Congress has not provided NRC with any money or personnel to undertake an oversight role of any kind, and as I stated earlier, the Appropriations Committees have given the Commission clear guidance not to involve itself in FUSRAP.

Some of the arguments made by those who would have NRC license the Corps' activities are based on the observation that the pre-UMTRCA and post-UMTRCA materials are similar in radiological characteristics and should be treated the same. However, it is not unusual for similar radioactive materials to be regulated differently. This is the result of the fragmented statutory regime governing radioactive materials.

Finally, some reasons offered for NRC regulation of FUSRAP material are expressed in terms of health and safety and environmental concerns. Despite this view, we believe Congress has clearly given the Corps authority for remediation of FUSRAP sites pursuant to CERCLA in a manner that protects the public health and safety.

Nonetheless, if Congress believes NRC should regulate this area, the NRC stands ready to assist. However, the NRC would need additional resources to regulate FUSRAP material.

My testimony focuses on disposal of mill tailings from FUSRAP sites in non-NRC regulated facilities, in particular in Resource Conservation and Recovery Act (RCRA) Subtitle C hazardous waste disposal facilities. NRC mill tailings licensees do not use such facilities for radioactive waste disposal, because NRC-controlled radioactive materials and wastes are regulated under the Atomic Energy Act and, absent the addition of hazardous waste, are not subject to RCRA.

In order to put this discussion into context, I will address other types of radioactive wastes that are similar to mill tailings because of their radioactivity levels, and the presence of long-lived radioactive materials such as uranium, thorium, and radium. These similar materials with comparable hazards may or may not be regulated. If they are, then this may be accomplished by other agencies under programs which require disposal in specific kinds of facilities. I will compare the facilities used for disposal of these different materials and will discuss how they differ in their approaches for managing risk to the public and the environment.

FUSRAP

As part of the Nation's early atomic energy program, the Manhattan Engineering District and the Atomic Energy Commission performed work during the 1940s through the 1960s at a number of sites throughout the United States. The radiological contaminants at these sites involved primarily low levels of uranium, thorium, and radium, with their associated decay products. DOE began FUSRAP in 1974 to study these sites and take appropriate cleanup action. By 1997, DOE had placed 46 sites in the program and had completed remediation at 25 sites. Remedial action was planned, underway, or pending final closeout at the remaining 21 sites.

DOE managed the program under its AEA authority. The AEA provided that NRC did not regulate these sites or have any oversight role as to their cleanup. On October 13, 1997, Congress passed the Fiscal Year 1998 Energy and Water Development Appropriations Act which transferred administration of FUSRAP to the Corps and appropriated funds to the Corps for the completion of FUSRAP activities.

Pursuant to a provision of the Fiscal Year 1999 Energy and Water Development Appropriations Act, the Corps is executing FUSRAP in accordance with the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (CERCLA). Under CERCLA, the Federal lead agency is exempt from licensing and permitting regulations for work done on site, but not from the substantive requirements of any applicable or relevant and appropriate regulations.

A number, but by no means all, of FUSRAP sites contain pre-UMTRCA mill tailings, the focus of my testimony today. Section 11e.(2) of the AEA defines the tailings or residue produced by the extraction of uranium or thorium from ore processed primarily for its source material content as byproduct material. Mill tailings typically have most of the uranium or thorium removed, but still contain other radioactive elements in the decay chains for uranium and thorium, especially thorium 230 and radium. Mill tailings also can contain hazardous chemicals used in or released from the processing to extract uranium, and these can include nitric, hydrofluoric, and sulfuric acids; ammonia; heavy metals; and benzene.

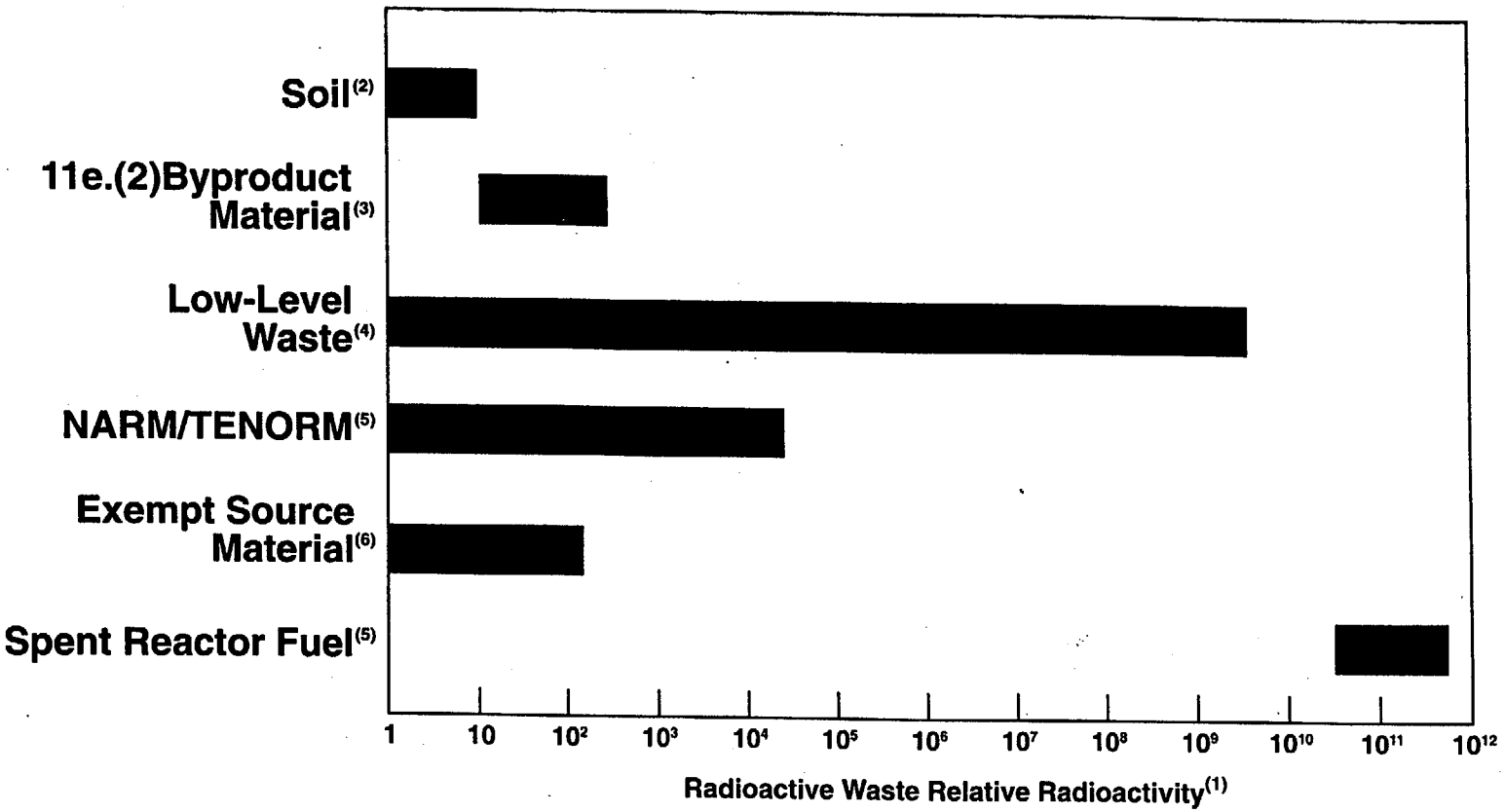
The standards applicable to the disposal of mill tailings cells were promulgated by the U.S. Environmental Protection Agency (EPA) and NRC conformed its regulations to these standards.

For the non-radiological components of mill tailings, Congress directed EPA in UMTRCA to develop standards that offered a comparable level of protection as RCRA Subtitle C facilities. Therefore, tailings and related waste that were produced at facilities under an NRC license at the effective date of UMTRCA, or licensed thereafter, are regulated by NRC or Agreement States to meet regulations derived from RCRA. Those tailings produced at facilities (such as FUSRAP sites) not under an NRC license at that time, or thereafter, have not been regulated by NRC, based on the understanding that NRC's authority does not extend to such facilities. Thus, no NRC requirements have been applied to such tailings. Because of this, the Corps may dispose of its pre-UMTRCA mill tailings in RCRA hazardous waste facilities, subject to the authority of regulatory bodies such as EPA or State permitting agencies that administer hazardous waste programs. According to the Corps, the use of RCRA Subtitle C facilities in the FUSRAP program for disposal of certain kinds of radioactive wastes fosters competition, precludes capacity limitations, and minimizes schedule delays. The Corps' disposal contracts for FUSRAP wastes total several hundred million dollars.

To put these disposals in different types of facilities into a risk context, I will discuss several kinds of radioactive wastes, how they compare in their radioactivity concentration, especially for long-lived radionuclides, and how each is disposed of.

Comparison of mill tailings with other radioactive waste

Figure 1 illustrates the relative radioactivity of different kinds of radioactive waste, including spent fuel, naturally-occurring and accelerator-produced radioactive material (NARM), exempt source material, technologically enhanced naturally occurring radioactive material (TENORM),



(1) Relative radioactivity is the ratio of the radioactivity concentrations for each material divided by the low-end for soil radioactivity. Numbers are approximate.

(2) Range for soils is from National Council on Radiation Protection and Measurements Report 50, "Environmental Radiation Measurements."

(3) 11e.(2) byproduct material is defined by its origin, not by any lower or upper bounds on concentrations. Byproduct material derived from ores with very high uranium or thorium content would be slightly higher than shown.

(4) Low-level wastes are defined in part by their origin, and some may be just above background levels in soil. Upper limits for Class A, B, and C LLW are defined in 10 CFR Part 61, but are not shown. Upper limit for LLW is average of Greater Than Class C waste in DOE Integrated Data Base Report (see note 5).

(5) Spent fuel from DOE Integrated Data Base Report, 1995, Revision 12, DOE/RW-0006. NARM/TENORM from same report and "An Assessment of the Disposal of Petroleum Industry Norm in Nonhazardous Landfills," Argonne National Laboratory, October 1999. Report No. DOE/BC/W-31-109-ENG-38-8.

(6) 0.05% by weight uranium or thorium.

Figure 1. Comparison of Radioactivity Levels in Radioactive Wastes.

low-level waste, mill tailings, and, for reference, soil (the units are relative with background soil radioactivity set at one). Low-level waste, NARM, TENORM, and mill tailings are characterized by wide ranges of radioactivity -- from background or near background soil levels to levels that are 100 million times more concentrated than natural concentrations in soil. Although concentrations of radioactive material at the high end of the range for LLW are within a factor of 100 of the concentrations in spent fuel (and in fact overlap with some U.S. Department of Energy high-level radioactive waste), most radioactivity in LLW decays away within a few hundred years. The radioactivity of HLW and spent fuel also decays, but these wastes are more highly radioactive for very long periods of time.

TENORM is material whose radioactivity has been enhanced (i.e., increased or concentrated) as a result of human intervention. It includes coal ash from coal-fired power plants, uranium mining overburden, phosphate ore, pipe scale from oil and gas production, and water treatment sludge. In addition, the mineral extraction industry produces large volumes of TENORM with some of the characteristics of uranium mill tailings, including processing chemical residues. The EPA reports that TENORM volumes produced annually in the U.S. may be in excess of one billion tons. For comparison, the annual amount of LLW produced for disposal under the Low-Level Radioactive Waste Policy Amendments Act of 1985 is less than 100,000 tons, or one ten-thousandth as much as TENORM. If uranium mill tailings were not defined as 11e.(2) byproduct material by the AEA, they would be considered to be TENORM.

The range in radioactivity found in mill tailings, LLW, exempt source material, and TENORM significantly overlaps. These four groups of wastes are also similar in that they contain or may contain (for LLW) the long-lived isotopes of uranium, thorium, and/or radium. Thus, from a risk

perspective, LLW, exempt source material, TENORM, and mill tailings are similar in that each contains very long-lived radionuclides, often in the same range of concentrations. However, from a legal perspective, they are regulated differently.

Laws and regulations for disposal of mill tailings and hazardous wastes

Different laws and programs that apply to these different materials affect how they are regulated, even though they may pose a similar risk. Mill tailings at licensed sites covered by UMTRCA are regulated by NRC under the AEA, and must be disposed of in tailings impoundments that meet applicable NRC regulations. As noted above, mill tailings not associated with licensed activities under UMTRCA are understood to be outside the NRC's regulatory authority, but they must be disposed of in a facility authorized by a permitting authority to receive such wastes. Our understanding is that a number of laws apply or may apply to such materials and to other forms of TENORM, including the Clean Air Act, Clean Water Act, Safe Drinking Water Act, CERCLA, and Toxic Substances Control Act (TSCA). None of these acts provides EPA with explicit authority over TENORM, but EPA is working under them to establish standards for TENORM. In the absence of such standards, the National Academy of Sciences has observed that public exposures to TENORM are regulated by EPA in a rather fragmentary manner.[1] In the absence of more definitive EPA regulations, some States have adopted their own regulations for TENORM. In practice, TENORM waste that is disposed of (as opposed to remaining in place at the site of generation or stored) may be placed in a RCRA Subtitle D landfill, a Subtitle C hazardous waste facility, or an NRC or

---

[1] Evaluation of Guidelines for Exposures to Technologically Enhanced Naturally Occurring Radioactive Materials, 1999, National Academy of Sciences, Board on Radiation Effects Research, National Academy Press, 281 p.

Agreement State licensed LLW facility, depending on the State and the hazard of the TENORM. Exempt source material, source material with less than 500 parts per million uranium or thorium, has also been disposed of in RCRA Subtitle C hazardous waste facilities. The NRC is currently looking at its source material regulatory framework in consultation with EPA and a host of other Federal agencies and the States with the objective of more rationally addressing risks from these similar materials.

Because FUSRAP material mill tailings from FUSRAP sites are understood to be outside the regulatory authority of the NRC, the Corps has additional options for disposal of this material, instead of just placing it in an NRC-licensed tailings impoundment. As with TENORM, the Corps has allowed some FUSRAP material to be disposed of in RCRA hazardous waste facilities. FUSRAP material also has been disposed of in an NRC-licensed 11e.(2) disposal facility (Envirocare). The Corps has indicated that none of this material has been disposed of in a Subtitle D landfill.

Comparison of hazardous waste facilities with mill tailings impoundments -- isolation of waste from the environment

Mill tailings produced under an NRC license are required to be disposed of in special impoundments which meet detailed requirements. The NRC regulation is based on the EPA standards for mill tailings, which, in turn, are based on the EPA hazardous waste standards applicable to RCRA waste impoundments and landfills. State-of-the-art mill tailings impoundments, like RCRA hazardous waste disposal cells, rely, in part, on a system of liners and leachate detection and collection systems to prevent releases of hazardous and

radioactive materials to the environment. Environmental monitoring, inspection, site selection, and other detailed requirements are also employed at these sites. Because mill tailings impoundments and hazardous waste cells are based in large part on the same EPA requirements, the NRC believes that both RCRA landfills and NRC-licensed disposal facilities are protective. It should be noted that NRC mill tailings regulations include requirements not found in EPA's RCRA regulations, such as government ownership of the tailings piles, and designs that provide for long-term stability (long-term is taken to mean a period of 1000 years, to the extent practicable, but in no case less than 200 years). EPA's regulations, on the other hand, have requirements for enduring institutional controls which are aimed at achieving a similar level of protection.

Practices at RCRA facilities vary depending upon the permit conditions for radioactive materials imposed by EPA or the State permitting agency, and the radioactivity of the waste ~~for~~ intended to be disposed. The Buttonwillow hazardous waste facility in California, for example, accepts TENORM that is less than 2000 pCi/gram (approximately 200 on the chart in Figure 1) in radioactivity concentration. The 2000 pCi/gram threshold derives apparently in part from Department of Transportation regulations on shipment of radioactive material. Under those regulations, material with concentrations of radioactivity below 2000 pCi/gram is not considered radioactive material for purposes of transportation. The Envirosafe facility in Idaho, which accepts naturally occurring radioactive material and FUSRAP waste, is subject to permit conditions that specify limits for uranium, thorium, and other isotopes, and impose the same radioactivity concentration limit as specified for the Buttonwillow facility in California.

Comparison of hazardous waste facilities with mill tailings impoundments -- worker protection

NRC and Agreement State requirements for uranium mills and mill tailings impoundments specify that a radiation protection program be implemented. This program is designed, among other things, to ensure that doses to radiation workers do not exceed 5000 millirem/year. NRC regulations also limit radiation doses from licensed operations to individual members of the public to 100 millirem/year. The program requires monitoring, recordkeeping, and implementation of design measures and operating procedures to keep radiation doses as low as is reasonably achievable.

It is our understanding that the State-issued RCRA permit for the Envirosafe facility in Idaho provides that the criteria contained in the permit will assure that the potential dose to a worker handling FUSRAP material should never exceed 400 millirem/year. This is approximately the dose received on average by commercial aircraft flight crews and is more than an order of magnitude below NRC's worker standard. Because the NRC has no authority over this facility, it has not conducted any reviews of the procedures for controlling doses to workers. The actual doses to workers from FUSRAP material would depend upon the concentrations of the material received, the types of radionuclides, whether or not the waste was in a container (dust from soil, for example, could be inhaled by a worker), the number of shipments per year, the work practices, and the duration of exposure.

Conclusion

As I noted in the beginning of this testimony, if Congress believes NRC should regulate the

disposal of pre-UMTRCA mill tailings in the FUSRAP program, the NRC is ready to assist Congress in amending UMTRCA. However, the NRC would need additional resources to regulate FUSRAP material. In my testimony today, I have provided a context in which a more comprehensive approach to regulating FUSRAP and similar materials might be considered by the Congress.

This completes my statement. I would be pleased to answer any questions from the Committee.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

March 26, 1999

Dr. Thomas B. Cochran, Director
Nuclear Program
Natural Resources Defense Council
1200 New York Avenue
Suite 400
Washington, DC 20005

Dear Dr. Cochran:

I am providing you with the Director's Decision that responds to your 10 CFR 2.206 petition, filed on October 15, 1998. The petition requested that NRC exert authority to ensure that the U.S. Army Corps of Engineers' (Corps) handling of radioactive materials in connection with the Formerly Utilized Sites Remedial Action Program (FUSRAP) is executed in accordance with a properly issued license and all other applicable requirements.

I have completed my review of the issues raised in your petition and the responses to your petition provided by the Corps and the Department of Energy (DOE). For reasons explained in the enclosed Director's Decision, DD-99-07 , dated March 26 1999 (Enclosure 1), your request has been denied.

As provided by 10 CFR 2.206(c), a copy of this Decision will be filed with the Secretary of the Commission, for the Commission's review. As provided by this regulation, the Decision will constitute the final action of the Commission 25 days after the date of issuance of the Decision, unless the Commission, on its own motion, institutes a review of the Decision within that time. In addition, a copy of the notice that is being filed for publication with the Office of the Federal Register is also included as Enclosure 2, for your information.

Sincerely,

Carl J. Paperiello

Carl J. Paperiello, Director
Office of Nuclear Material Safety
and Safeguards

Enclosures: As stated (2)

cc: William J. Dennison, U.S. DOE
Robert M. Andersen, U.S. Army Corps
of Engineers

Enclosure 1

UNITED STATES OF AMERICA NUCLEAR REGULATORY COMMISSION

OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS
Carl J. Paperiello, Director

In the Matter of	)	
	)	
The United States Army Corps of Engineers	)	
	)	Docket No. N/A
	)	
	)	
	)	(10 C.F.R. 2.206)

DIRECTOR'S DECISION UNDER 10 CFR § 2.206

I. INTRODUCTION

On October 15, 1998, Thomas B. Cochran, Ph.D., Director, Nuclear Program, Natural Resources Defense Council (NRDC) and James Sottile, IV, Caplin & Drysdale, Chartered, filed a petition on behalf of NRDC (the "petitioner") addressed to L. Joseph Callan, Executive Director for Operations, U.S. Nuclear Regulatory Commission (NRC). The petition requests that NRC exert authority to ensure that the Corps of Engineers' handling of radioactive materials in connection with the Formerly Utilized Sites Remedial Action Program (FUSRAP) is effected in accord with a properly issued license and all other applicable requirements.

II. BACKGROUND

During the 1940s, 1950s, and 1960s, the Manhattan Engineer District and the Atomic Energy Commission performed work at a number of sites throughout the United States as part of the nation's early atomic energy program. Although many of the sites were cleaned up under guidelines in effect at the time, residual contamination remains at many of the sites today. The contaminants at these sites involved primarily low levels of uranium, thorium, and radium, with

their associated decay products. The U.S. Department of Energy (DOE) began FUSRAP in 1974 to study these sites and take appropriate cleanup action. By 1997, DOE had identified 46 sites in the program and had completed remediation at 25 sites with some ongoing operation, maintenance, and monitoring being undertaken by DOE. Remedial action was planned, underway, or pending final closeout at the remaining 21 sites.

On October 13, 1997, Congress passed the 1998 Energy and Water Development Appropriations Act,[1] which transferred administration of FUSRAP to the U.S. Army Corps of Engineers (the Corps or USACE) and appropriated $140,000,000 to the Corps for the completion of FUSRAP activities. The language in the law reads as follows:

> For the expenses necessary to administer and execute the Formerly Utilized Sites Remedial Action Program to clean up contaminated sites throughout the United States where work was performed as part of the nation's early atomic energy program, $140,000,000, to remain available until expended: *Provided*, that the unexpended balances of prior appropriations provided for these activities in this Act or any previous Energy and Water Development Appropriations Act may be transferred to and merged with this appropriation account, and thereafter, may be accounted for as one fund for the same time period as originally enacted.[2]

The legislative history behind this provision offers little guidance regarding the details of the Corps' new involvement. The Conference Committee report states that "(t)he conferees have agreed to transfer the Formerly Utilized Sites Remedial Action Program (FUSRAP) to the

---

[1]Energy and Water Development Appropriations Act, 1998, Pub. L. No. 105-62, 111 Stat. 1326 (1997)

[2] Id.

Corps of Engineers, and funding for this program is contained in Title I of the bill."[3] The House Appropriations Committee report indicates that this change stems from concerns over the cost of the FUSRAP program under DOE. The Committee report concludes that "(c)learly, the problem must be in the contract management and contract administration function performed by the Department of Energy and the management and operating contractors who actually subcontract for most of the cleanup work."[4] Finally, citing the Corps' efforts under the Formerly Used Defense Sites (FUDS) program, the report indicates that there are significant cost and schedule efficiencies to be gained by "... having the Corps of Engineers manage the Department of Energy's FUSRAP program as well."[5]

Given the lack of guidance in the legislative history, two members of Congress sought to clarify the law's intent through subsequent correspondence. In a November 6, 1997, letter to Energy Secretary Federico Pena and Defense Secretary William Cohen, Senator Pete Domenici and Representative Joseph McDade indicated, among other things, that:

> Transfer of the FUSRAP program to the U.S. Army Corps of Engineers makes management, oversight, programming and budgeting, technical investigations, designs, administration, and other such activities directly associated with the execution of remediation work at the currently eligible sites a responsibility of the Corps of Engineers. It should be emphasized that *basic underlying authorities for the program remain unaltered and the responsibility of DOE* [emphasis added].

---

3 H.R. Conf. Rep. No. 271, 105th Cong., 1st Sess., 85 (1997).

4 H.R. Rep. No. 190, 105th Sess., 99 (1997).

5 Id.

The Energy and Water Development Appropriations Act for fiscal year 1999 (FY99), P.L. 105-245, continued the Corps' involvement as the implementing agency for the FUSRAP. In particular, the 1999 Act provided that response actions by the United States Army Corps of Engineers under FUSRAP shall be subject to the administrative, procedural, and regulatory provisions of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (42 U.S.C. 9601 et seq.), and the National Oil and Hazardous Substances Pollution Contingency Plan, 40 CFR, Chapter 1, Part 300. In addition, the 1999 Act provided that, "...except as stated herein, these provisions do not alter, curtail or limit the authorities, functions or responsibilities of other agencies under the Atomic Energy Act (42 U.S.C. 2011 et seq.)..."[6]

To date, NRC has not regulated activities conducted under FUSRAP, including those activities conducted by the Corps since the transfer of the program. The petitioner, however, believes that NRC should regulate the Corps' FUSRAP activities, arguing that the Appropriations Act did not purport to transfer authority over FUSRAP to the Corps. As such, according to the petitioner, the Corps may not legally administer the program absent proper oversight because, unlike DOE and (in most cases) DOE contractors, the Corps is not exempt from the licensing requirements of the Atomic Energy Act (see 42 U.S.C. § 2014(s)). The petitioner further indicates that DOE has publicly stated that it cannot extend its licensing exemption for private contractors to the Corps and that DOE has no regulatory authority over the Corps for the latter's FUSRAP activities. The petitioner concludes that "... the Corps does not have the legal authority to run FUSRAP without first obtaining a license from the NRC."

---

[6]Pub. L. No. 105-245, Title I.

In support of its position, the petitioner notes that the institutional mission of the Corps is not focused on the safety and security of the nation's nuclear activities. In addition, NRC's failure to regulate the Corps' FUSRAP activities is claimed to be inconsistent with the intent of the laws governing the utilization and cleanup of nuclear materials. Finally, the petitioner adds that, with very few exceptions, Congress intended that no person should be permitted to handle nuclear materials except in accordance with a license issued by NRC.

In a November 30, 1998, letter NRC informed the petitioner that the petition had been received and was currently under review. On the same date, NRC forwarded the petition to the DOE and the Corps for their comment. In a January 12, 1999, letter, the Chief Counsel for the Corps, Robert M. Andersen, responded to NRC's request. DOE responded to NRC's request in a January 14, 1999, letter from William J. Dennison, Assistant General Counsel for Environment.

The Corps' Response

In its response, the Corps states that it is not required to obtain a license from NRC for its FUSRAP activities. The Corps' response emphasizes that Congress directed the Corps to conduct its FUSRAP activities pursuant to the CERCLA.[7] The Corps' principal argument is that no NRC license is required because of the federal permit waiver for on-site removal or remedial actions in § 121(e)(1) of CERCLA. The Corps also believes that the AEA exempts FUSRAP activity from NRC licensing. In its opinion, "Congress intended for USACE to fill the shoes of the

[7]42 USC §9601 et seq.

AEC successor agency responsible for FUSRAP cleanup, that is DOE, an agency not considered a 'person' subject to licensing under the AEA." The Corps further posits that, in transferring the FUSRAP program, Congress expressed no intent that the agency obtain an NRC license for that activity and, instead, sought a seamless transition "unimpeded by procedural requirements outside of CERCLA."

Nevertheless, the Corps commits to meeting the substantive requirements of both the Atomic Energy Act (AEA) and CERCLA. It acknowledges that NRC license requirements may apply to portions of FUSRAP response actions conducted off-site, beyond the scope of the permit waiver. The letter concludes by acknowledging that the substantive provisions of NRC regulations are applicable or relevant and appropriate requirements (ARARs) for many FUSRAP response actions under CERCLA and, as such, the Corps will look "... to NRC for guidance in interpreting and implementing these requirements on the sites."

DOE's Response

DOE's response differs in several respects from that of the Corps. On the matter of DOE's continued involvement with FUSRAP and oversight of the Corps, the Department "respectfully disagrees" with the Corps. According to its submittal, DOE is not authorized to regulate the Corps' FUSRAP activities and cannot transfer its AEA authorities to the Corps. In the Department's view, "(t)he transfer legislation did not make the Corps a DOE contractor, or otherwise subject the Corps' activities to the control or direction of DOE." The letter also indicates that DOE and the Corps are currently developing a memorandum of understanding (MOU) to clarify their respective roles and responsibilities as a result of the legislative transfer.

Nevertheless, DOE believes that, with the exception of a few "administrative issues," there are no remaining issues between the two agencies that should affect NRC's disposition of the NRDC petition. The letter concludes that NRC should "evaluate the licensability of the Corps' activities in the same manner as it would evaluate the activities of any other 'person' within the meaning of the Atomic Energy Act." DOE defers to NRC on this question. The letter does not contain a DOE position concerning the viability of the Corps' CERCLA argument.

III. DISCUSSION

The NRC staff has completed its evaluation of the petitioner's requests and the responses from the Corps of Engineers and the Department of Energy. For the reasons discussed below, the NRC denies the petitioner's request insofar as it calls on NRC to require the Corps to obtain a license for activities conducted at FUSRAP sites.

CERCLA Permit Waiver

Pursuant to § 121(e)(1) of CERCLA, "(n)o Federal, State, or local permit shall be required for the portion of any removal or remedial action conducted entirely onsite, where such remedial action is selected and carried out in compliance with this section."[8] This provision waives any NRC license requirements that would apply to the Corps' activities at FUSRAP sites conducted pursuant to CERCLA.

---

[8]See also, 10 CFR § 300.400(e).

The Corps argues that, because Congress specifically subjected FUSRAP sites to the provisions of CERCLA in the 1999 Act, section 121(e)(1) applies to Corps' response actions at FUSRAP sites. In developing regulations for the implementation of CERCLA, the Environmental Protection Agency (EPA) addressed the § 121(e)(1) waiver provision for federal agency CERCLA response actions in § 300.400(e) of the National Contingency Plan (NCP). That provision states, in pertinent part:

> "*Permit requirements.* (1) No federal, state, or local permits are required for on-site response actions conducted pursuant to CERCLA sections 104, 106, 120, 121, or 122. The term on-site means the areal extent of contamination and all suitable areas in very close proximity to the contamination necessary for implementation of response actions."[9]

In the preamble of the final rule which proposed this section, EPA provided:

> Proposed § 300.400(e)(1) states that the permit waiver applies to all on-site actions conducted pursuant to CERCLA sections 104, 106, or 122; in effect, this covers all CERCLA removal and remedial actions (all "response" actions). However, a number of other federal agencies have inquired as to whether this language would reach response actions conducted pursuant to CERCLA sections 121 and 120. In response, EPA has made a non substantive clarification of the applicability of the permit waiver in CERCLA section 121(e)(1) to include on-site response actions conducted pursuant to CERCLA sections 120 and 121. . . . The addition of CERCLA section 120 simply recognizes that the permit waiver applies to federal facility cleanups conducted pursuant to CERCLA section 120(e), which are also selected and carried out in compliance with CERCLA section 121.[10]

---

[9]40 CFR 300.400(e)(1).

[10]55 Fed. Reg. 8666, 8689 (1990) ("National Oil and Hazardous Substances Pollution Contingency Plan; Final Rule) (emphasis added). This change echoed EPA's intentions stated in the proposed rule: "EPA proposes to state that on-site permits are not required for response actions taken by EPA, other federal agencies, States, or private parties pursuant to CERCLA sections 104, 106, or 122." 53 Fed. Reg. 51394, 51406 (1988) ("National Oil and Hazardous Substances Pollution Contingency Plan; Proposed Rule) (emphasis added).

Section 121(e)(1) applies to federal agencies such as the Corps in this case. The Corps may take the role of "lead agency" in a CERCLA cleanup action. The NCP defines "lead agency" as "the agency that provides the OSC/RPM to plan and implement response actions under the NCP. EPA, the USCG, another federal agency, or a state . . . may be the lead agency for a response action."[11] The NCP also states that "Federal agencies listed in § 300.175 have duties established by statute, executive order, or Presidential directive which may apply to federal response actions following, or in prevention of, the discharge of oil or release of a hazardous substance, pollutant, or contaminant."[12] The Corps, a branch of the U.S. Department of Defense, is among the agencies listed.[13] In the case of the FUSRAP program, Congress specifically designated the Corps as the "lead agency" in passing the 1999 Appropriations Act.[14]

As the Corps acknowledges in its letter, the permit waiver in § 121(e)(1) has been rarely addressed in the courts. In support of its position, the Corps does cite McClellan Ecological Seepage Situation (MESS) v. Cheney, a case which held that a Resource Conservation and Recovery Act (RCRA) permit was not required when activities which might otherwise require a RCRA permit took place at a site only as part of a CERCLA removal or remedial action.[15] In

---

[11]40 CFR 300.5 (emphasis added). The definition goes on to state, "The federal agency maintains its lead agency responsibilities whether the remedy is selected by the federal agency for non-NPL sites or by EPA and the federal agency or by EPA alone under CERCLA section 120."

[12]40 CFR 300.170.

[13]See 40 CFR 300.175(b)(4)(i).

[14]Pub. L. No. 105-245, Title I.

[15]763 F. Supp. 431 (E.D. Cal. 1989). This holding was later vacated on the basis of subject matter jurisdiction. See McClellan Ecological Seepage Situation (MESS) v. Perry, 47 F.3d 325 (9th Cir. 1995).

McClellan, MESS, a citizens' group, filed suit against the Secretary of Defense, with regard to cleanup actions being taken at McClellan Air Force Base, under RCRA and certain state laws. MESS claimed, inter alia, that McClellan was required to obtain a RCRA permit for the management of certain hazardous wastes on the base. The court held that an RCRA permit was not required, because the remedial activities were taken pursuant to CERCLA. The court relied on § 121(e)(1), stating, "Section 121(e) expressly provides that the activity does not have to be separately permitted."[16]

The Corps also cites United States v. City of Denver to uphold this interpretation of §121(e)(1).[17] In that case, the court held that CERCLA preempted a zoning ordinance which was in actual conflict with EPA's remedial order. The court stated, "[T]o hold that Congress intended that non-uniform and potentially conflicting zoning laws could override CERCLA remedies would fly in the face of Congress's [sic] goal of effecting prompt cleanups of the literally thousands of hazardous waste sites across the country."[18]

In passing the 1998 and 1999 Appropriations Acts, Congress gave no indication that it intended to suspend the waiver provision in §121(e)(1) of CERCLA in the context of the Corps'

---

[16]763 F. Supp. 431, at 435. The court went on to note in dicta that where there has been treatment that requires a RCRA permit which is not associated with a remedial or removal action under CERCLA, such a permit would be required. Id.

[17]100 F.3d 1509 (10th Cir. 1996).

[18]Id. at 1513. The Corps cited Ohio v. USEPA, 997 F.2d 1520 (D.C. Cir. 1993) in support of its § 121(e)(1) position. NRC would note that the case upholds a number of provisions in EPA's 1990 revision of the NCP, including § 121(e)(1). However, the court's discussion centers on EPA's definition of the term "onsite," and does not discuss the exemption provision, as a whole, in detail.

FUSRAP activities. The 1999 Act does say: "Provided further, That, except as stated herein, these provisions do not alter, curtail or limit the authorities, functions or responsibilities of other agencies under the Atomic Energy Act (42 U.S.C. 2011 et seq.)..." In its letter, DOE points to this language to support its argument that the Appropriations Act does not create any authority for it to regulate the Corps. In doing so, DOE interprets the term "provisions" as referring to the provisions of the Appropriations Act and not the provisions of CERCLA. The NRC staff agrees with DOE on this point. While the language appears to indicate that the transfer of the program to the Corps does not alter the extent of DOE and perhaps NRC authority under the AEA, there is no specific indication that the language is intended to direct NRC to regulate the Corps' administration of the FUSRAP program. In particular, there is no evidence that in including this phrase, Congress intended to limit the application of the §121(e)(1) permit waiver to the Corps' FUSRAP activities. In fact, nowhere in the reports for either the 1998 or 1999 Acts or in the text of the laws themselves did Congress give any hint that it intended NRC to regulate the Corps in its administration of the FUSRAP program. Instead, the inclusion of the specific reference to CERCLA suggests that Congress intended NRC to continue to refrain from regulating activities under the FUSRAP program even after DOE's role was reduced or discontinued.

As DOE states in its letter, the Corps has "consistently expressed the view that its authorities under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) ..." are sufficient for the Corps' administration of the FUSRAP program. By the time the 1999 Appropriations Act was passed, the Corps' administration of the FUSRAP program under CERCLA was a matter of public record[19] and NRC had not taken any steps to require the

---

[19] See, e.g., Letter from Albert J. Genetti, Jr., U.S. Army Deputy Commander, U.S. Army Corps of Engineers, to Mr. Thomas B. Cochran and Ms. Barbara A. Finamore, Natural

Corps to obtain a license from NRC. If Congress had intended NRC to regulate the Corps' activities at FUSRAP sites, it is likely that it would have specifically directed NRC to do so in passing the 1999 Appropriations Act.

We note, however, that the waiver in §121(e)(1) does not apply to off-site activities. To the extent that NRC and U.S. Department of Transportation (DOT) requirements apply to the transportation, transfer and disposal of Atomic Energy Act material taken off of FUSRAP sites, the Corps has committed to following applicable requirements, including those for transfer under the AEA, shipment under the Hazardous Materials Transportation Act, 49 U.S.C. § 5101, and NRC manifest requirements (e.g., 10 CFR §20.2006).[20]

NRC Authority Under UMTRCA

Many FUSRAP sites contain material over which NRC would have no regulatory jurisdiction regardless of whether the Corps is the lead agency in implementing the program and regardless of whether response actions by the Corps under the program are subject to CERCLA. In particular, of the 21 sites at which remediation has not yet been completed, 12 sites contain residual material resulting from activities that were not licensed by NRC at the time the Uranium Mill Tailings Act of 1978 (UMTRCA) became effective or at any time thereafter. As

---

Resources Defense Council, May 20, 1998.

[20]While the Corps will be following NRC's requirements in this area, it is unlikely that any specific NRC license requirements would apply to shipments from FUSRAP sites. However, the staff will request that the Corps contact NRC if it plans to ship material that does not meet one of the exemptions for a specific license in NRC regulations. See, e.g., 10 C.F.R. § 71.10.

defined by the UMTRCA, NRC does not have authority to regulate cleanup of covered residual material resulting from an activity that was not so licensed.

The language of section 83 of the Atomic Energy Act (42 U.S.C. 2113(a)), was added to that Act by UMTRCA. Section 83 a. requires NRC to impose certain terms and conditions relating to cleanup with respect to any "license issued or renewed after the effective date" of section 83 for covered activities, and also imposes such terms or conditions on any such "license in effect on the date of enactment" of the section. No such responsibility was imposed upon NRC with respect to activities that were not under NRC license before the date of the enactment of section 83, if they were not licensed thereafter.

Prior to the enactment of UMTRCA, neither the AEC nor the NRC had statutory jurisdiction over residual material resulting from the processing of ore for source material. This position was taken by the AEC after careful legal analysis, and was subsequently adopted by the NRC when it succeeded to the AEC's regulatory functions. Though NRC exercised some control over such material in connection with licensed processing of ore for source material, it did not exercise jurisdiction at inactive sites where no license was in effect. UMTRCA was enacted because the Congress recognized that NRC did not have jurisdiction over radioactive residuals resulting from the extraction of uranium or thorium from ore processed for its source material content at inactive sites. This is evidenced by the floor remarks regarding the amended version of H.R. 13650, the bill that was enacted as UMTRCA. Senator Hart explained:

> Although the NRC licenses active uranium mining and milling activities, existing law does not permit the Commission to regulate the disposal of mill tailings once milling and

> mining operations cease and the operating license expires. It is that authority to regulate tailings after milling operations cease, that we propose be given to the NRC.[21]

Because the residual material at many FUSRAP sites was generated in activities that were not licensed when UMTRCA was enacted, or thereafter, NRC today has no basis to assert any regulatory authority over handling of the residuals at those sites.

The NRC staff notes that many of the remaining sites (i.e., sites containing materials other than mill tailings) also raise some significant jurisdictional questions in their own right. For instance, a few of the sites may still be in legal possession of DOE even though the Corps is conducting clean up at the site under FUSRAP. While the issue of possession appears to be a matter of continuing discussion between the Corps and DOE, it is highly unlikely that NRC would have authority to require a license for cleanup activities conducted at a site which continues to be a DOE-owned or controlled site. In addition, the concentration of radioactive material at some of the remaining sites may not be sufficient to trigger NRC license requirements. While NRC does not have information sufficient to reach a final conclusion for specific sites, it is the NRC staff's understanding that some of these sites may contain only "unimportant quantities" of source material as defined under 10 CFR §40.13(a). If this is the case, the amount of material at these sites would not be sufficient to implicate NRC license requirements. Given the limitations of NRC jurisdiction under UMTRCA, the potential DOE ownership issues, and the possibility that several sites may contain "unimportant quantities" of source material, it is likely that the number of FUSRAP sites over which NRC may have jurisdiction would be very small even absent the CERCLA permit waiver.

---

[21] 124 Cong. Rec. S18,748 (October 13, 1978).

The Corps' Authority Under the Appropriations Act

In its response, the Corps states that the AEA also exempts FUSRAP activity from NRC licensing because Congress intended the Corps to fill the shoes of DOE, an agency exempt from NRC regulatory requirements under most circumstances. DOE disagrees with this characterization, claiming that, for the most part, it has no role in the FUSRAP program at this time (regulatory, contractual, or otherwise). As such, in DOE's view, the Corps cannot rely on any exemption in the AEA to avoid regulation by NRC. Nevertheless, DOE acknowledges that the transfer to the Corps did not completely eliminate the Department's involvement with FUSRAP. While the issues have yet to be resolved, DOE may have responsibility for inventory reporting of government-owned FUSRAP sites to the General Services Administration and may be required to conduct post-cleanup monitoring at some sites after the Corps' clean up activities cease.

DOE and the Corps are working on an MOU to address their disagreements regarding the nature of the transfer of the FUSRAP program and their respective responsibilities under the program. Until the disagreement has been resolved, either by the agencies or by further direction from Congress, the NRC staff need not reach a conclusion on the matter. Nevertheless, in view of the clear applicability of CERCLA §121(e)(1) to the Corps' activity at FUSRAP sites, the staff does not believe that it would be appropriate to require the Corps to obtain an NRC license for its activity at FUSRAP sites.

IV. CONCLUSION

In sum, Congress has given NRC no clear directive to oversee USACE's ongoing effort under CERCLA to complete the FUSRAP cleanup project. Indeed, Congress has provided NRC no money and no personnel to undertake an oversight role. In addition, Congress has made it clear that the Corps is to undertake FUSRAP cleanup pursuant to CERCLA which waives permit requirements for onsite activities. In these circumstances, we are disinclined to read our statutory authority expansively, and to commit scarce NRC resources, to establish and maintain a regulatory program in an area where, under Congressional direction, a sister federal agency already is at work and has committed itself to following appropriate safety and environmental standards.

Accordingly, I deny the petition insofar as it requests NRC to impose licensing and other regulatory requirements on the Corps for that agency's handling of radioactive material at FUSRAP sites. Both the permit waiver provision of CERCLA and the ambiguity regarding DOE's role in the program lead me to the conclusion that NRC should not inject itself into the FUSRAP program at this time. Absent specific direction from Congress to the contrary, NRC will continue to refrain from regulating the Corps in its clean up activities at FUSRAP sites.

As provided by 10 C.F.R. § 2.206, a copy of this Decision will be filed with the Secretary of the Commission for the Commission's review. The Decision will become the final action of the Commission 25 days after issuance, unless the Commission, on its own motion, institutes review of the Decision within that time.

Dated at Rockville, Maryland this 24 day of March 1999.

FOR THE NUCLEAR REGULATORY COMMISSION

Carl J. Paperiello

Carl J. Paperiello, Director
Office of Nuclear Material Safety
and Safeguards

Enclosure 2

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

March 26, 1999

MEMORANDUM TO: David L. Meyer, Chief
Rules Review and Directives Branch
Division of Freedom of Information
and Publication Services
Office of Administration, T 6D-39

FROM: John T. Greeves, Director
Division of Waste Management
Office of Nuclear Material Safety
and Safeguards

SUBJECT: PUBLISHING NOTICE IN THE FEDERAL REGISTER CONCERNING DIRECTOR'S DECISION UNDER 10 CFR 2.206

Attached please find one signed original, five copies, and an electronic version on a floppy diskette of the Federal Register Notice identified below for your transmittal to the office of the Federal Register for publication.

☐ Notice of Finding of No Significant Impact _____

☐ Notice of Availability of Environmental Report _____

☐ Notice of Opportunity for Hearing _____

☐ Notice of Availability of License Amendment Application for: _____

☐ Notice of Availability of Draft EIS for: _____

☐ Notice of Availability of Final EIS for: _____

☐ Notice of Preparation of Environmental Assessment _____

CONTACT: John H. Lusher, NMSS/DWM
(301) 415-7694

☐ Environmental Assessment _____

_____

☐ Notice of Availability of Final EIS for: _____

_____

☐ Other Directors Decision Under 10 CFR § 2.206 to deny the NRDC petition to regulate the U.S. Corps of Engineers in performing FUSRAP site cleanups.

Attachments: As stated (2)

[7590-01-P]

NUCLEAR REGULATORY COMMISSION

AGENCY: U.S. NUCLEAR REGULATORY COMMISSION

ACTION: ISSUANCE OF DIRECTORS DECISION UNDER 10 CFR 2.206

Notice is hereby given that by petition dated October 15, 1998, the Natural Resources Defense Council (NRDC) has requested that the U.S. Nuclear Regulatory Commission (NRC) exert authority to ensure that the U.S. Army Corps of Engineers' (the Corps) handling of radioactive materials in connection with the Formerly Utilized Sites Remedial Action Program (FUSRAP) is effected in accord with properly issued license and all other applicable requirements. As NRDC notes in its petition, FUSRAP began in 1974 as a program of the U.S. Department of Energy (DOE), and that DOE had identified a total of 46 sites for cleanup under FUSRAP. By 1997, cleanup of 25 of these sites had been completed. There are currently 21 sites still in need of remediation. In October 1997, Congress transferred funding for FUSRAP from DOE to the Corps. NRDC believes that the Corps should obtain an NRC license to conduct activities under FUSRAP. At this time, the NRC has not required the Corps to obtain a license.

The request has been referred to the Director of the Office of Nuclear Material Safety and Safeguards. A copy of the petition was sent to DOE and the Corps, and DOE and the Corps were given the opportunity to comment.

By letter dated November 30, 1998, NRC acknowledged receipt of the October 15, 1998, Petition.

The Director, Office of Nuclear Materials Safety and Safeguards, has determined that the request should be denied for the reasons stated in the "Director's Decision Under 10 CFR 2.206" (DD-99-07), the complete text of which follows this notice and which is available for public inspection in the Commission's Public Document Room, the Gelman Building, located at 2120 L Street, N.W. , Washington D.C. 20555, and is also available on the NRC Electronic Bulletin Board at (800) 952-9676.

A copy of this Decision has been filed with the Secretary of the Commission for the Commission's review in accordance with 10 CFR 2.206(c) of the Commission's regulations. As provided by this regulation, this Decision will constitute the final action of the Commission 25 days after the date of issuance unless the Commission, on its own motion, institutes review of the Decision within that time.

Dated at Rockville, Maryland, this 26 day of March 1999.

FOR THE NUCLEAR REGULATORY COMMISSION

Carl J. Paperiello

Carl J. Paperiello, Director
Office of Nuclear Material Safety
and Safeguards

PDR ✓

CHAIRMAN

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

April 28, 1999

Mr. Charles A. Judd, President
Envirocare of Utah, Inc.
46 West Broadway
Suite 240
Salt Lake City, Utah 84101

Dear Mr. Judd:

On behalf of the Commission, I am responding to your letter to Commissioner Merrifield dated January 25, 1999, in which you requested that the U.S. Nuclear Regulatory Commission (NRC) revisit its position regarding NRC jurisdiction over 11e.(2) byproduct material produced as a result of processing ore before November 1978. You compared the NRC current position to the NRC former policies on "Below Regulatory Concern" (BRC). In addition, you voiced a concern that the NRC position that we lack authority over certain pre-1978 11e.(2) byproduct material will allow such material to be disposed of in sanitary landfills. This letter also responds to a separate letter of February 3, 1999, on the same subject from Mr. Anthony Breard, who at that time was your Manager of Government and Industry Affairs.

In response to your concerns, I will begin by clarifying that the NRC position on pre-1978 11e.(2) byproduct material is in no way related to the BRC policies. The NRC developed these policies in response to a Congressional directive in the Low-Level Radioactive Waste Policy Amendments Act of 1985. The BRC policies were intended to establish a level below which NRC would not regulate low-level waste (LLW) and other practices. Although the NRC has the statutory authority to regulate all LLW, the BRC policies would have established a framework for exempting, by rule or license, certain LLW from regulation based on the judgment that the health and safety impact from such LLW would have been below regulatory concern. As directed in the Energy Policy Act of 1992, the NRC withdrew the BRC policies in 1993.

Unlike the BRC policies, the NRC statutory authority to regulate pre-1978 11e.(2) byproduct material is limited. NRC jurisdiction to determine the disposition of waste or tailings from ore processed primarily for its source material content at a site not licensed by the NRC on or after 1978, was established by Congress in the Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA). Briefly stated, UMTRCA was enacted in 1978, amending the Atomic Energy Act of 1954 (AEA), and providing the NRC with jurisdiction over the byproduct material generated by the processing of ore at NRC-licensed sites. Section 83a. of the AEA was added by the UMTRCA and became effective on November 8, 1978, when UMTRCA was enacted. That section provides that any NRC license issued pursuant to Section 62 (which addresses the licensing of activities regarding source material) or Section 81 (which addresses the licensing of activities regarding byproduct material), which was issued or renewed on or after the effective date of Section 83a., must include conditions and terms related to the final disposition of all

byproduct material created by the activity at such sites, as well as the sites themselves. Therefore, NRC has statutory authority for the pre-1978 11e.(2) byproduct material that exists at sites licensed by the NRC on or after November 8, 1978. The critical factor in determining the NRC jurisdiction over the byproduct material in question is whether the site at which the processing took place was licensed by the NRC on or after the date Section 83a. became effective, not when the material was generated. As such, there are sites with pre-1978 11e.(2) byproduct material that are not under NRC authority, because these sites were not licensed by NRC at or after the time UMTRCA was passed. However, the pre-1978 11e.(2) byproduct material not regulated by the NRC is under the jurisdiction of other Federal and State agencies, including the Department of Transportation (DOT) and the Environmental Protection Agency (EPA).

Regarding your concern that disposal of unregulated pre-1978 11e.(2) radioactive waste would occur in community solid waste landfills, the U.S. Army Corps of Engineers (USACE), in its letter dated January 12, 1999 (enclosure), has indicated its commitment to protect the public health and safety, and the environment under the Formerly Utilized Sites Remedial Action Program (FUSRAP). The USACE states that it requires that "all waste materials sent off-site for disposal go to facilities with either a license or a federal or state permit for the proper disposal of these materials," and that off-site shipments of FUSRAP waste will be transported in accordance with the Hazardous Materials Transportation Act, 49 U.S.C. §5101 et seq. The USACE also must comply with applicable NRC, EPA, and DOT manifest requirements.

I trust that this reply clarifies our position and responds to your concerns.

Sincerely,

Shirley Ann Jackson

Enclosure: As stated

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

CHAIRMAN

July 29, 1999

The Honorable John D. Dingell
United States House of Representatives
Washington, D.C. 20515-6115

Dear Congressman Dingell:

I am responding to your letter dated July 12, 1999, in which you discussed your concern about the U.S. Nuclear Regulatory Commission's (NRC's) regulation of the disposal of 11e.(2) byproduct material located at several Formerly Utilized Sites Remedial Action Program (FUSRAP) sites. Under the Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA), which added a new section 83 to the Atomic Energy Act of 1954 (AEA) as amended, the NRC does not have authority to regulate the cleanup of this material if the material was not generated by an activity licensed by the NRC on the effective date of UMTRCA (November 8, 1978), or thereafter. (Note that I am using the term "pre-1978 section 11e.(2) byproduct material" in this letter in order to follow the terminology used in your letter, and assume that the term is intended as a shorthand reference to residual radioactive material resulting from the processing of ores before the enactment of UMTRCA.)

You expressed a concern that because of its position on pre-1978 11e.(2) byproduct material, the NRC has determined that such material may be sent to sites regulated under the Resource Conservation and Recovery Act (RCRA) rather than to disposal sites regulated by the NRC. The NRC has stated only that there are no NRC rules or regulations that preclude disposal of the material at a RCRA facility, and that disposal of this material is subject to the jurisdiction of other Federal and State agencies. Additionally, there are NRC licensed facilities that have accepted pre-1978 11e.(2) byproduct material for direct disposal or processing and disposal in their mill tailings impoundments. For example, Envirocare of Utah has an NRC license that allows it to accept some forms of this material directly for disposal. Pre-1978 11e.(2) byproduct material presented to NRC or Agreement State licensed facilities for disposal or processing must comply with all requirements applicable to those facilities.

With regard to your specific questions:

1. How will this action improve protection of the public health and the environment?

Based on our knowledge of RCRA requirements, we believe that both RCRA landfills and NRC-regulated and licensed disposal facilities are protective. However, protection of the public health and environment is improved with the availability of additional waste disposal options, resulting in the cleanup and release of these sites for other uses. Also, see our response to Question 5 below.

2. Please provide copies of the studies NRC used in making its health and safety determinations.

To our knowledge, no formal NRC studies have been conducted to compare RCRA landfills and NRC licensed 11e.(2) byproduct disposal facilities. Rather, our position is based on our knowledge of RCRA and NRC requirements and experience in regulating waste disposal. In fact, NRC's groundwater protection requirements in 10 CFR Part 40, Appendix A, are based upon RCRA requirements in 40 CFR Part 264 (see, 40 CFR 192).

3. What are the qualitative differences in the radioactive constituents of pre- and post-1978 Section 11e(2) by-product material that compel NRC to require two distinct disposal standards?

The NRC does not have two distinct disposal standards in 10 CFR Part 40. It has no standard for FUSRAP material not within its legal competence. It is important to note that pre-1978 and post-1978 11e.(2) byproduct material have similar radiological characteristics, and in some cases, pose less risk than naturally-occurring radioactive material (NORM) disposed of at some RCRA facilities. It is possible that pre-1978 11e.(2) byproduct material at unlicensed sites may have been commingled with other radioactive or hazardous material that may or may not currently be under NRC's jurisdiction. For post-1978 11e.(2) byproduct material, however, commingling has generally been prevented under NRC or Agreement State regulatory programs.

4. Please detail the differences between NRC requirements in radioactive waste disposal and disposal under RCRA, specifically:

   a. What controls or protections exist at RCRA landfills that ensure the protection of public health, safety and the environment from radioactive byproduct material disposed at such facilities?

      The Environmental Protection Agency (EPA) has an extensive set of regulations in 40 CFR 260 through 272 for the management of hazardous wastes. RCRA disposal facilities rely in part on a system of liners and leachate detection and collection systems to prevent releases of hazardous materials to the environment. RCRA regulations for disposal also address monitoring and inspection, site selection, and other detailed requirements. Most, if not all, of these controls would also help to protect public health, safety, and the environment from radioactive byproduct material. Indeed, some RCRA facilities are licensed to receive NORM and exempt source material, the controls for which would be similar to radioactive byproduct material.

   b. What protections are in place to ensure worker health and safety from the risks of exposure to radioactivity at RCRA landfills that have accepted Section 11e.(2) byproduct material for disposal from the Army Corps of Engineers under the FUSRAP program?

      EPA is in a better position to answer this question on the controls and protection of worker health and safety afforded by RCRA sites that may have accepted pre-1978

11e.(2) byproduct material for disposal from the U.S. Army Corps of Engineers under the FUSRAP program.

c. Do RCRA sites require a performance assessment to demonstrate long-term protectiveness for the disposal of radionuclides?

We do not know of any performance assessment required by EPA under RCRA to demonstrate long-term protectiveness for disposal of radionuclides. However, EPA is in a better position to answer this question. We are aware that some RCRA sites accept NORM and exempt source material. As noted in response to question 4(a), RCRA regulations for management of hazardous wastes would also be protective for management of radioactive materials.

d. What type of groundwater modeling is required of RCRA sites to ensure protection of groundwater quality for at least 1,000 years?

Our understanding is that EPA's requirements in 40 CFR 264, which cover RCRA facilities, do not require groundwater modeling. However, we understand that EPA does have policies that allow the appropriate use of groundwater modeling as a means of demonstrating compliance with the closure provisions at RCRA regulated units and the determination of groundwater Alternate Concentration Limits that are protective of human health and the environment. The specific applications and decisions based on the use of groundwater modeling will likely depend on the individual site conditions, and would be best answered by the EPA.

e. What type of public involvement have RCRA sites provided to allow for public input to allow the disposal of radioactive waste in facilities that have not been permitted or designed for the disposal of Section 11e.(2) byproduct material?

EPA is in a better position to answer this question on public involvement in the development of RCRA site requirements.

5. Overall, which sites are more protective of public health, safety and the environment relative to the disposal of radioactive byproduct wastes, RCRA landfills or NRC-regulated and licensed disposal facilities?

Based on our knowledge of RCRA requirements, we believe that both RCRA landfills and NRC-regulated and licensed disposal facilities are protective. While RCRA requires a more prescriptive design approach and relies, for example, on active institutional controls for long-term control of a site, NRC uses a more performance-based approach, pursuant to the requirements in UMTRCA, such that active, on-going maintenance is unnecessary to protect the public heath and safety and the environment from the effects of 11e.(2) byproduct material that has an extremely long half-life (e.g., about 80,000 year half-life for thorium-230). For that reason, EPA standards that have been incorporated in 10 CFR Part 40, Appendix A, require that uranium mill tailings impoundments be designed to be stable for 1,000 years, to the extent practicable, but in no case, less than 200 years. In general, we believe that NRC-regulated and licensed disposal facilities, because they are subject to requirements that focus on protection of public health, safety, and the environment from radiological hazards, may afford slightly more protection against radiological hazards.

6. In a [Director's Decision] dated March 26, 1999, NRC's Office of Nuclear Material Safety and Safeguards concluded that a waiver under the Comprehensive Environmental Response, Cleanup, and Liability Act of 1980 (CERCLA) does not apply to off-site FUSRAP disposal activities. What steps has the Commission taken to regulate off-site handling and disposal of Section 11e.(2) byproduct material?

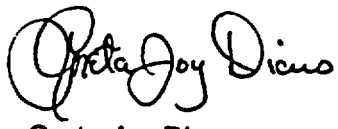
The NRC has licensed Envirocare of Utah to provide disposal for this type of material. The Commission has also addressed the disposal of this type of material in impoundments at specific milling sites. Any material in the possession of an NRC or Agreement State licensee for disposal or for processing and disposal of the residuals from the processing in an NRC- or Agreement State-licenced facility is subject to the NRC's or Agreement State's jurisdiction and must meet all applicable Commission requirements. This includes, in the case of pre-1978 11e.(2) byproduct material, the applicable requirements in 10 CFR Parts 20 and 40 and the requirements for storage, processing, and disposal in the applicable NRC or Agreement State license.

7. Does NRC require additional Congressional direction or authority to regulate pre-1978 Section 11e.(2) byproduct material?

We believe legislation would be required to give NRC authority to regulate Section 11e.(2) byproduct material in the FUSRAP program. The NRC has not sought authority or the necessary resources to regulate that material, and we note that the House Appropriations Committee Report on the Energy and Water Development Appropriations Bill for FY 2000 contains language that the NRC is not intended to license the Corps of Engineers in the Corps' cleanup of contaminated FUSRAP sites. If Congress believes that the NRC should regulate the mill tailings resulting from activities not licensed by the NRC at the time or after UMTRCA was enacted, we stand ready to provide information and assistance to Congress in amending the Act. NRC would need additional resources to regulate pre-1978 section 11e.(2) byproduct material.

We trust this reply is responsive to your concerns. Please contact me if I can be of further assistance.

Sincerely,



Greta Joy Dicus

cc: The Honorable Carol M. Browner
Administrator, Environmental Protection Agency

SENATE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

Hearing to receive testimony on the Disposal of Low Activity Radioactive Waste

Tuesday, July 25, 2000
9:30 a.m.
Hearing Room (SD-406)

Panel I

Dr. Joseph Westphal
Assistant Secretary of the Army (for Civil Works)
Department of the Army

Dr. Carl Paperiello
Deputy Executive Director for Materials, Research and State Programs
Nuclear Regulatory Commission

Mr. Mike Shapiro
Deputy Assistant Administrator of OSWER
Environmental Protection Agency

Panel II

Mr. Edgar Bailey, C.H.P.
Chief of Radiological Health Branch
California Department of Health Services

Panel III

Dr. Max Scott, C.H.P.
Professor
Louisiana State University

Mr. David Adelman
Staff Attorney
Natural Resources Defense Council

Mr. Scott Slessinger
Environmental Technology Council

Anthony J. Thompson
Uranium Recovery Industry