

THE IMPACT OF DUPLICATIVE REGULATIONS ON ENVIRONMENTAL RESTORATION ACTIVITIES

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ABSTRACT

Environmental restoration activities are conducted to minimize potential harm to the public and environment from hazardous materials left unremediated in the environment. The complexity of this work is increased when duplicative regulations are imposed by multiple federal agencies. In the case of the Department of Energy's (DOE) Uranium Mill Tailings Remedial Action (UMTRA) Project, the Environmental Protection Agency (EPA) established regulations under the Uranium Mill Tailings Radiation Control Act (UMTRCA), the National Environmental Policy Act (NEPA), and the Clean Air Act (CAA), and enforces NEPA and CAA regulations; the Nuclear Regulatory Agency (NRC) enforces the UMTRCA regulations, approves remedial action plans, and ultimately licenses the disposal cells. Additionally, the states in which remedial actions are conducted share in the cost of remediation, participate in project planning via cooperative agreements, and concur on remedial action plans (RAP). In this setting, the UMTRA Project must conduct remedial actions in a timely manner while complying with DOE Orders, as well as EPA, NRC, and state regulations. The regulations from these various agencies often conflict and/or duplicate each other. These situations cause significant project delays which in turn cost the taxpayers money. This paper discusses the difficulties encountered when duplicate regulations are imposed by multiple federal agencies. A possible solution to the problem would be to develop a policy where Memorandums of Understanding (MOUs) exist between the regulatory agencies which would eliminate duplicate regulations.

INTRODUCTION

The Uranium Mill Tailings Radiation Control Act was passed by Congress in 1978. This law gave DOE authority to remediate 24 abandoned uranium mill sites in various locations across the continental United States. Congress recognized that existing regulations pertained to operating fixed facilities, and were not appropriate for this type of work, thereby mandating EPA to establish requirements for the remediation of these sites. Additionally, Congress mandated that the NRC provide regulatory oversight to the remediation and ultimately license the completed disposal sites. Finally, state participation in the UMTRA Project was established by requiring states to pay 10% of the remedial action cost, concur on remedial action plans, and establish cooperative agreements for project planning and scheduling with DOE.

As a result of this legislation, DOE formed the UMTRA Project Office, and EPA promulgated 40 CFR 192 to establish clean-up standards for the remedial action work, and set basic design criteria for disposal cells which would contain and stabilize the uranium mill tailings. The following criteria are established in 40 CFR 192 for the UMTRA Project.

Remediation Standards

- < 5 pCi/g above background of Ra-226 in the top 15 cm of soil or,
- < 15 pCi/g above background of Ra-226 in soil which was > 15 cm from the surface.

DOE remediates the mill tailings sites in compliance with these standards and performs verification measurements to demonstrate compliance. DOE then develops a certification report which is reviewed and approved by the affected states and NRC.

Disposal Cell Design Standards

- Average radon flux from the cell not to exceed 20 pCi/m²-s
- 1000 year integrity (200 year min).

The disposal cell design standards did not provide for any verification to demonstrate compliance with the criteria since they were intended to be purely design standards. The NRC is required to review and approve the RAP, which is prepared by DOE to determine if the disposal cell will meet these criteria. The state in which remedial action occurs is also required to concur on the RAP.

The information provided above defines the regulatory environment that Congress legislated under UMTRCA to remediate the uranium mill sites. However, the UMTRA Project rapidly became much more complex than intended. The following list identifies some of the new requirements which have been imposed on the project since UMTRCA was signed into law.

5400 Series DOE Orders

- Since UMTRA is a DOE Project, DOE Orders must be followed. In many cases, the DOE Orders mirror EPA requirements which Congress deemed to be inappropriate for this type of work.
- DOE Orders, while not strictly regulations, also invoke requirements such as safety analysis, conduct of operations, radiological safety criteria, and other Environmental Safety & Health (ES&H) criteria.

EPA Requirements

- 40 CFR 61, Sub-part T (NESHAPS)

The NESHAPs regulations established the following criteria: 1) to demonstrate compliance with the 20 pCi/m²-s disposal cell design flux standard and, 2) demonstrate compliance with the flux standard for the disposal cells by December 15, 1991 or enter into compliance agreements with EPA.

- NEPA Documentation

The NEPA process established the requirement for an Environmental Assessment/Environmental Impact Statement (EA/EIS) for each remedial action project and allowed for public participation where its participants could voice their opinions on how the remedial actions should be conducted.

- State ES&H Regulations

States share in the cost of remediation and concur on RAPs. However, the states review these plans against state requirements, which in many cases are more stringent than the federal regulations.

The impact of compliance with all these regulations and dealing with three to five agencies for approval of each document or plan can be estimated in the millions of dollars and person years of effort. This paper attempts to address two areas where the current regulatory environment for environmental restoration projects can be improved: 1) assurance that regulations are applicable to the work being performed and, 2) elimination of duplicative regulation by multiple agencies.

Applicability of Regulations

EPA promulgated 40 CFR 192 specifically for UMTRA because it was recognized that many of the existing regulations, which were written primarily for fixed facilities, were not appropriate for remedial action projects. At fixed facilities, operations can be stopped or isolated upon the occurrence of a release. Unlike operations at most fixed facilities, the UMTRA Project is being conducted to reduce environmental releases and to minimize potential harm to the public and environment from hazardous materials (e.g., mill tailings, etc.) which are already present in the environment. Three examples where existing regulations cause problems for remedial action projects are: 1) continuous air monitoring requirements, 2) demonstrating compliance with environmental radionuclide air concentration limits, 3) annual dose assessment to members of the public.

1. According to the current DOE Orders, continuous air monitoring (CAM) is required when the potential exists to exceed 10% of the Derived Air Concentration (DAC) for radionuclides. This requirement has limited applicability to remedial action projects for two reasons: 1) CAMs are generally used to alert a fixed facility of a rapid change in airborne concentrations. These rapid changes may result from an upset in operations or some type of equipment failure such as a leaking valve. In a fixed facility, the area can be secured or an operation can be stopped to mitigate the release. These types of releases and mitigating actions are not present at remedial action projects like UMTRA. On the UMTRA Project, a uranium mill tailings pile which emits radon and its daughters at a fairly constant rate. A CAM does not provide any better information than

a routine sampling program. In fact, CAMs are useless the majority of the time. 2) CAMs are designed for use in clean air environments. For a CAM to monitor ambient air concentrations in the vicinity of workers on the UMTRA Project, it would have to be placed in the field, next to the heavy earth-moving and excavation equipment. Clearly, dust loading becomes a serious limitation to the CAMs ability to function properly.

2. Another area where current regulations may not be appropriate is the requirement to demonstrate compliance with environment air concentration limits. The UMTRA Project was authorized by Congress because these same environmental limits were being exceeded. The only way that these tailings sites will come into compliance with these requirements is through the completion of remedial actions. In the interim, the requirement to monitor environmental concentrations provides no new information (the limits are still likely being exceeded) and takes resources away from the primary mission of reducing exposure to the general population. Again, we are not dealing with a fixed facility which could shut down operations to reduce releases. The opposite is true, we must continue operations to reduce releases. Devoting manpower and resources to collect repetitive data is not productive. These resources should be devoted to completing the remedial actions and reducing public exposure rather than providing additional documentation of well-characterized releases.
3. Finally, DOE requires an annual report of the public dose assessment from releases from the site. DOE assesses these doses at fixed facilities to demonstrate that limits are not being exceeded. This reasoning does not apply to the UMTRA Project. The releases from these sites have been occurring for the last 25 years without monitoring or reporting. Additionally, DOE does not own these sites, they are merely tasked with remediating a legacy of the past. It was clear at the beginning of the project that public exposures were not acceptable, which is why Congress authorized the remedial action activities. Again, spending time, effort, and the tax payers money on public dose assessment appears to be of little value. It is clear that public exposure is unacceptable, but the only way to reduce the exposure is to expeditiously complete the remediation. DOE is not creating, it is eliminating this source of public exposure.

These three cases only represent a sample of the regulations which may not be appropriate for remedial action projects such as the UMTRA Project. Effort must be placed on identifying opportunities which would minimize unnecessary regulatory impacts.

Dual Regulation

The current regulatory environment of the UMTRA Project is summarized in Fig. 1. UMTRA Regulatory Environment. The UMTRA Project must ultimately cooperate with at least four regulatory agencies. Several examples where this becomes difficult are identified below.

1. The UMTRA Project conducts its operations in accordance with EPA regulation 40 CFR 192. These regula-

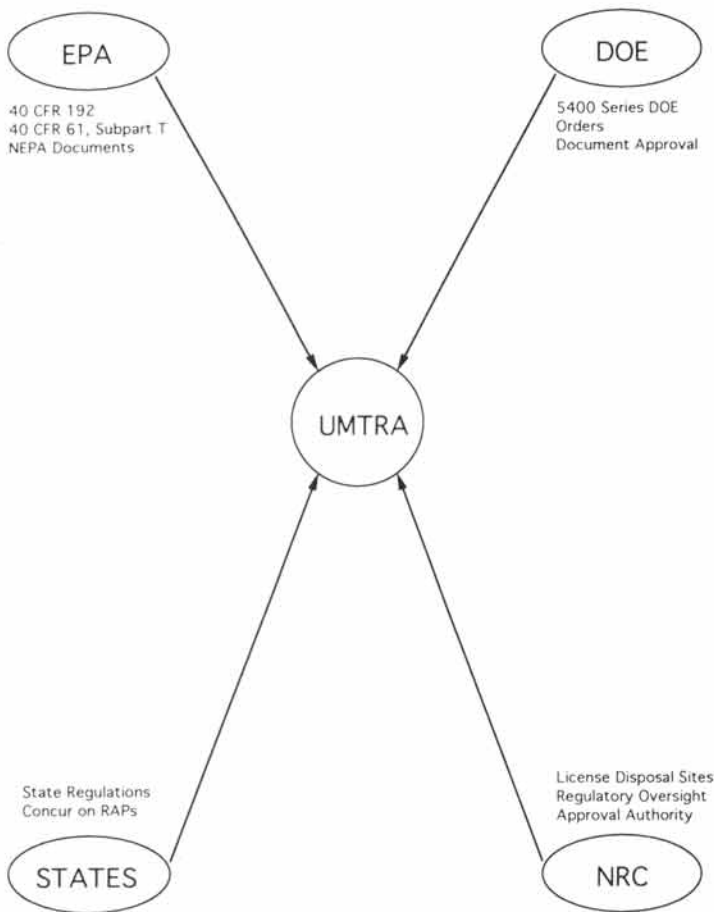


Fig. 1. UMTRA regulatory environment.

tions establish remediation criteria for the UMTRA Project as well as establishing design criteria for the disposal cells. One design criteria requires that a complete disposal cell shall be designed so the maximum radon emanation does not exceed 20 pCi/m²-s. In addition to the UMTRA regulations, EPA also established NESHAPs (40 CFR 61 Sub-part T) for mill tailings disposal cells in 1989. This regulation requires monitoring of disposal cells to demonstrate compliance with the 20 pCi/m²-s standard. According to the NESHAPs, all disposal cells must have been in compliance with the standard prior to December 15, 1991, or enter into compliance agreements with the EPA to establish a schedule for coming into compliance. These agreements have the potential of giving EPA some regulatory authority on the UMTRA Project under the CAA. NRC is currently responsible for regulatory oversight under UMTRCA. EPA becoming involved in the regulation of the Project will provide no benefit to the Project and will cause unnecessary delays in the completion of work. Additionally, entering to a Compliance Agreement (CA) is a very lengthy process. Although negotiation of the CA has not yet impacted schedules, it has caused *manpower problems* (approximately 1 year of part time effort for several people). Since the CA does not alter Project schedules, priorities, or methods of doing business, it represents signif-

icant expenditure of resources and effort with no apparent benefit to human health or the environment.

2. Regulations also become a problem when they are not correctly duplicated. Calculating annual public dose is required by 40 CFR 61, Sub-part H. However, this regulation specifically exempts from its requirements all operation conducted under 40 CFR 192 (i.e., the UMTRA Project). As discussed earlier, DOE Order 5400.5 contains the same requirement nearly word for word. The only difference is that DOE did not include the exemptions upon incorporating these requirements into the DOE Order System. This requirement is not appropriate for the UMTRA Project. This duplication of regulation has again an unnecessary regulatory burden on the Project.
3. As discussed earlier, the states in which remedial actions are conducted under a cooperative agreement must concur with remedial action plans. In many cases, the state may review these plans against the state requirements which are not necessarily enforceable regulations. When states attempt to impose their requirements on the UMTRA Project, problems arise since these requirements may be more stringent than federal requirements. Delays and cost increases occur when negotiations are required to resolve disputes.

What the UMTRA Project is Doing

Currently, the UMTRA Project has several outstanding requests for exemption at in areas where the current regulations do not appear to be applicable or appropriate. However, with the December 1, 1992 implementation of the Radiation Control (Rad Con. manual, some relief may be in sight). In several areas, the Rad Con manual gives special consideration to remedial action projects by allowing the demonstration of technical equivalency. The UMTRA Project is going to use technical equivalencies, rather than asking for exemptions, in areas where current regulations are required inappropriately.

Regarding dual regulation, the UMTRA Project is negotiating a compliance agreement with the EPA which uses the existing schedule for completing remedial actions. Additionally, DOE has taken the position that NRC has regulatory authority over the Project and the agreement with EPA does not in any way alter this authority or give EPA any authority not previously recognized by the other agencies.

Furthermore, the UMTRA Project has developed a regulatory analysis group which will define and defend the Projects regulatory operating envelope. It is hoped that by clearly defining the regulatory position of the Project that some of the issues addressed above can be resolved.

Long-Term Solution

Ensuring compliance with existing regulations and gaining approval of schedules and plans from four separate agencies is a very complicated and expensive task. Therefore, the regulators should make an effort to consolidate regulation, eliminate needless overlap, and enter into MOUs to establish streamlined regulatory jurisdiction. Recently, EPA and NRC have been forced in this direction by new legislation which discourages dual regulation by the two agencies. EPA and NRC have entered into an MOU which gives NRC regulatory authority in areas where EPA believes NRC requirements are equivalent to EPA standards.