

MIXED WASTE REGULATION: CURRENT LEGAL AND REGULATORY ISSUES AFFECTING MIXED WASTE GENERATORS

Donald J. Silverman
Newman & Holtzinger, P.C.
1615 L Street, N.W.
Washington, D.C. 20036

ABSTRACT

The Nuclear Regulatory Commission and the Environmental Protection Agency are developing a dual regulatory program governing mixed low-level radioactive and hazardous waste. Due to the absence of a facility authorized to accept such waste for disposal, mixed waste generators will be forced to store such waste on-site and thereby subject themselves to complex technical standards and permitting requirements under the Resource Conservation and Recovery Act. The paper discusses the results to date of the nuclear utility industry's technical analyses on the mixed waste issue, describes the industry's proposals for a legislative resolution of the issue, and provides general guidance for development of a facility-specific regulatory strategy by individual mixed waste generators.

INTRODUCTION

During its deliberations at the end of 1985 on the Low-Level Radioactive Waste Policy Amendments Act of 1985, Congress chose to not include language addressing the issue of mixed low-level radioactive and hazardous waste (mixed waste) regulation. When Congress again considered the issue in early 1986, it encouraged the Nuclear Regulatory Commission (NRC) and the Environmental Protection Agency (EPA) to establish an appropriate regulatory program for mixed waste. Since that time the NRC and EPA have attempted to clarify and implement a regulatory program under which mixed waste would be regulated by both agencies. To date the agencies have issued several important notices and regulatory guidance documents on the subject.

On July 3, 1986, EPA published a Federal Register notice (51 Fed. Reg. 24504) informing States that, in order to obtain or maintain EPA-approved hazardous waste regulatory programs under the Resource Conservation and Recovery Act (RCRA), they must demonstrate that they possess the authority to regulate mixed waste. Under the July 3, 1986 notice (as modified by a subsequent EPA State Program Advisory memorandum discussed below), States previously authorized to regulate purely hazardous waste were required to demonstrate to EPA that they possess the authority to regulate mixed waste by July, 1988 or by July, 1989 if a State statutory amendment is required. To date, several States have made the requisite demonstration to EPA and have approved mixed waste regulatory programs. States applying for authorization to regulate purely hazardous waste under RCRA after the July 3, 1986 notice are required to incorporate mixed waste provisions in their authorization applications to EPA.

On April 7, 1987, NRC and EPA noticed the availability of another critical document, the agencies' joint "Guidance on the Definition and Identification of Commercial Mixed Low-Level Radioactive and Hazardous Waste" (52 Fed. Reg. 11147). The agencies' Joint Guidance defines mixed

waste as waste which satisfies the definition of low-level radioactive waste in the Amendments Act and which contains hazardous waste as defined in EPA's hazardous waste regulations (40 CFR Part 261, Subparts C and D). The Joint Guidance also describes a general methodology for determining whether a particular waste is a mixed waste, and sets forth the agencies' joint interpretation of section 1006(a) of RCRA, which prohibits the imposition of any requirement which is "inconsistent" with the requirements of the Atomic Energy Act. The Joint Guidance states that such inconsistencies include "situations where satisfying both sets of regulations (RCRA and AEA regulations) would increase the radiation hazard, [or] would be technically infeasible."

A third document of particular importance in the developing mixed waste regulatory program is a July 30, 1987 State Program Advisory (SPA) memorandum from EPA's Director, Permits and State Programs Division, Office of Solid Waste, to RCRA Branch Chiefs in EPA Regions I-X. The memorandum, among other things, advises EPA's RCRA Branch Chiefs that mixed waste generators in States authorized to regulate purely hazardous waste under RCRA "are not subject to RCRA regulation [of mixed waste] until the State's [regulatory] program is revised and approved by EPA to include [authority to regulate mixed waste]. Emphasis added.

The memorandum goes on to state, however, that mixed waste treatment, storage and disposal facilities "in existence" on the date of the State's authorization "may qualify for interim status . . . if they submit a Part A permit application within 6 months of that date," and that a Federal Register notice is being prepared to "clarify interim status qualification requirements" for treatment, storage and disposal facilities in unauthorized States. That Federal Register notice has not yet been released, but is expected to establish a similar deadline for the filing of Part A applications and the qualification for interim status in States where EPA, rather than a State agency, continues to regulate hazardous waste under RCRA (i.e., in unauthorized States).

While the documents described above are the ones which most directly affect mixed waste generators, NRC and EPA have also published "Combined NRC-EPA Siting Guidelines for Disposal of Mixed Low-Level Radioactive and Hazardous Waste" (March 13, 1987) and "Joint NRC-EPA Guidance on a Conceptual Design Approach for Commercial Mixed Low-Level Radioactive and Hazardous Waste Disposal Facilities" (August 3, 1987). To the extent that these two documents affect the ability of States or regions to develop mixed waste disposal facilities, they are, of course, significant for mixed waste generators.

The primary purpose of this paper, however, is to describe the developing regulatory program that directly affects mixed waste generators, (particularly nuclear utilities), to identify the principal problems inherent in the agencies' current approach and to suggest methods of addressing those problems.

THE BASIC PROBLEM

Many nuclear utilities are already subject to certain RCRA requirements as "generators" of purely hazardous (but non-radioactive) waste. Such waste is typically disposed of promptly after generation in a hazardous waste disposal facility.

At present, however, there is no NRC-licensed and RCRA-authorized mixed waste disposal facility in the United States. While U.S. Ecology, as site operator and licensee at the Hanford low-level radioactive waste disposal facility in Washington State, has been engaged in discussions with NRC and EPA on the development and permitting of a mixed waste disposal unit, it seems unlikely that a facility will be available for the disposal of mixed waste anytime soon. Accordingly, nuclear utilities and other generators of mixed waste must typically store such waste on-site pending RCRA authorization of a mixed waste disposal facility.

Under EPA's and NRC's current interpretation, such generators become "owners or operators" of mixed waste storage facilities subject to EPA's 40 CFR Part 264 and 265 regulations. The effect of such a designation is to subject these generators to the extensive set of technical standards and permitting requirements which are applicable to storage facility "owners or operators," but not to mixed waste "generators".

DEADLINE FOR FILING OF THE PART A APPLICATION

Under the EPA's July 30, 1987 State Programs Advisory memorandum (governing RCRA-authorized States) and the pending Federal Register notice addressing mixed waste regulation in unauthorized States, specific deadlines are being established for owners and operators of mixed waste storage facilities to file "Part A" applications and to

qualify for "interim status" as the first step in seeking full "Part B" RCRA permits. The July 30, 1987 memorandum contemplates that such owners and operators will be expected to file their Part A applications *within 6 months* of the date when the State in which they reside obtains EPA authorization to regulate mixed waste under RCRA.

Since States with regulatory programs previously authorized for purely hazardous waste must obtain mixed waste authorization by July, 1988 (unless statutory amendments are required), owners and operators of storage facilities in such States will be required to file their Part A applications no later than January, 1989. In fact, several States have already received mixed waste authorization from EPA, and the time for preparing and submitting Part A applications in those States is already running.

It appears that owners and operators in unauthorized states will be required to file their Part A applications within 6 months of publication of the pending Federal Register notice. The notice is expected to be issued shortly, resulting in a Part A application filing deadline in some States as early as June, 1988.

INTERIM STATUS TECHNICAL STANDARDS AND INDUSTRY ANALYSES

While the Part A application itself is a relatively simple form, the effect of filing the application is to impose upon the applicant the broad range of technical requirements set forth in EPA's 40 CFR Part 265 "interim status" regulations. Those requirements encompass, among other things, emergency preparedness and prevention standards, record-keeping and reporting standards, groundwater monitoring provisions, financial assurance requirements, and technical standards governing hazardous waste storage and treatment containers and tanks.

The utility industry (in particular the Utility Nuclear Waste Management Group (UNWWMG) and the Utility Solid Waste Activities Group (USWAG)) has taken the position that many of these requirements may be inconsistent with NRC's regulatory program or are unnecessary in light of the degree of protection afforded by existing NRC requirements. As discussed below, industry analyses to date suggest that the extensive controls inherent in nuclear power plant design, construction, operation, testing, maintenance and inspection render application of the full scope of RCRA requirements unnecessary and unwarranted by legitimate health and safety concerns. The program presently envisioned by the agencies is a deceptively simple "resolution" of the mixed waste issue that may ultimately result in considerable problems for mixed waste generators and the regulatory agencies alike.

Several industry studies are underway or will shortly be initiated to analyze, among other things, the extent to which specific EPA storage and treatment facility regulations (40

CFR Parts 264 and/or 265) need be applied to mixed waste. One study currently being performed for USWAG and UNWWMG analyzes in detail EPA's regulations governing hazardous waste storage and treatment tanks (40 CFR Part 265, Subpart J). The study compares the Subpart J regulations to relevant NRC requirements and guidelines in order to determine if the NRC provisions provide at least an equivalent level of protection of human health and the environment. To the extent that it is determined that specific NRC requirements do provide at least equivalent protection, there would be no **technical** justification for enforcing specific compliance with the EPA provisions. The USWAG/UNWWMG study focuses on EPA tank standards since those standards are one of the most complex and prescriptive areas of RCRA regulation.

Although the USWAG/UNWWMG study is still underway, several important general conclusions are emerging. The EPA tank regulations, in and of themselves, are more prescriptive than NRC's comparable regulations. However, if one considers not only NRC's regulations, but also the important regulatory guidance documents (such as Regulatory Guides) and the industry codes and standards (such as ASME) incorporated into the NRC regulatory program, there appears to be a substantially **greater** level of prescription in the NRC program than in EPA's.

Another general conclusion that is developing from the industry's ongoing study is that, while the NRC regulations were developed to protect against radiation hazards, it appears that in most cases the NRC provisions do provide a level of public protection from the hazardous component of mixed waste at least equivalent and often **more** stringent than EPA's provisions. As the industry's analyses progress, there is greater confidence that NRC controls over the radioactive component of mixed waste are more than sufficient to ensure adequate protection from the hazardous component.

The industry analyses suggest that equivalent NRC regulatory counterparts can be found for most, if not all, of EPA's Subpart J tank standards. Thus, requiring nuclear utilities to comply with the full scope of EPA's tank standards could be very costly and may not provide a corresponding benefit to public health and safety. If this proves to be the case, it is probable that similar conclusions could be drawn regarding other aspects of EPA's RCRA regulations. Further industry studies are planned, including a study commissioned by NUMARC/NESP that should, among other things, continue the process of analyzing the relationship between the NRC's regulatory program and EPA's.

NRC AND EPA TECHNICAL ANALYSES

It should be noted that NRC and EPA have previously conducted a comparison of their respective regulations and, apparently, are presently conducting a second analysis.

However, there are several critical problems with the agencies' analyses. First, the earlier comparison specifically focused on the identification of possible "inconsistencies" rather than on areas where EPA provisions, while not technically inconsistent, might be unnecessary in light of applicable NRC requirements.

In addition, it is not clear whether the agencies' utilized their current definition of an "inconsistency" (set forth in the Joint Guidance) in the analysis. Since the current definition includes EPA requirements that are "technically infeasible" to implement, failure to apply this definition in the analysis could have resulted in determinations of "consistency" in cases where the specific EPA requirement may be very costly to apply and may provide no incremental safety benefit. Moreover, the only publicly available documentation of the agencies' analysis is essentially devoid of explanation, analysis or supporting information and provides little useful information.

Of greater concern, however, is that both the original agency study and the one that is presently underway apparently examine only NRC **regulations** and their relationship to EPA regulations. If there is one lesson that has been learned from the USWAG/UNWWMG study, it is that it is absolutely essential for a meaningful analysis that applicable RCRA requirements be compared to the full NRC regulatory program governing low-level radioactive waste, including NRC Regulatory Guides and incorporated codes and standards. Any comparison that fails to do this is an essentially meaningless exercise that ignores a huge body of relevant NRC regulatory requirements and guidelines.

The industry's regulatory position to date has been that in the absence of demonstrable evidence of the need for application of specific RCRA requirements, there is no technical basis for the imposition of such requirements. However, whether or not the agencies agree on the technical issues, EPA believes that it is under a statutory mandate to regulate mixed waste. Accordingly, the industry is also pursuing a legislative resolution of the mixed waste issue.

LEGISLATIVE RESOLUTION OF THE MIXED WASTE ISSUE

Two bills presently before Congress have the ostensible purpose of clarifying EPA authority over mixed waste at Department of Energy facilities. Title III of S. 1085 and H.R. 3123 (both entitled the "Mixed Hazardous Waste Amendment Act of 1987"), purports to clarify EPA's RCRA authority to regulate mixed waste at DOE facilities, while not affecting or addressing EPA's authority over commercial nuclear facilities. There are several significant problems with the proposed bills.

First, while their expressed purpose is to affect only DOE facilities, they modify the statutory definition of a "solid waste" (applicable to both DOE and commercial

facilities) by including "source, special nuclear and byproduct" material mixed with a solid waste in that definition. The effect of such a change is to establish that the radioactive materials traditionally subject to exclusive NRC jurisdiction, as well as the hazardous wastes with which they may be mixed, are now subject to EPA jurisdiction. The expansion of the definition of "solid waste" to include radioactive materials, rather than simply the solid wastes mixed with such materials, goes well beyond the agencies' current regulatory definition and is unnecessary. Moreover, this broad redefinition could be misconstrued to apply to non-DOE facilities, contrary to the bills' explicit purpose.

Another significant problem with the two bills is that they exempt high-level wastes "at the time they are emplaced at a repository" from mixed waste regulation, thereby creating the implication that such wastes are subject to such regulation prior to emplacement in a repository. Thus, for example, spent fuel in spent fuel pools at nuclear power plants (if mixed with hazardous waste) could be subjected to EPA mixed waste regulation. Given the results to date of the industry's analyses of the NRC provisions governing low-level radioactive waste, it is very likely that NRC high-level waste requirements are and will be more than sufficient to assure adequate protection of human health and the environment.

To address these and other concerns with the two pending bills and to correct the current regulatory dilemma discussed earlier, the industry is considering certain amendments that would: (1) clearly limit the effect of the bills to DOE facilities consistent with their expressed intent; (2) clarify that high-level waste and spent fuel is not subject to RCRA prior to or after emplacement in a repository; and (3) exempt mixed waste at commercial nuclear power plants licensed by the NRC from RCRA regulation including RCRA's permitting requirements.

As discussed earlier, since nuclear utilities and other mixed waste generators must store their waste on-site due to the absence of an NRC-licensed and EPA-authorized mixed waste disposal facility, they become "owners or operators" of hazardous waste storage facilities (under the agencies' current interpretation). Under RCRA such owners and operators must eventually file complex "Part B" permit applications and subject themselves to significant public hearing requirements.

It is unfair to require utilities and other generators to go through the complicated permitting and hearing process

under these circumstances. Were mixed waste disposal capacity

available, most if not all such generators would promptly ship their mixed waste for disposal (as they typically do with their radioactive and hazardous wastes) and would avoid becoming "storage" facilities subject to EPA's permitting requirements. Accordingly, until such time as mixed waste disposal capacity becomes available and generators may choose whether to promptly dispose of such waste or to "become" storage facilities subject to the permitting requirements, the RCRA permitting and hearing provisions should not be imposed.

RECOMMENDATIONS FOR INDIVIDUAL GENERATORS

Apart from supporting the industry efforts discussed above, there are several things individual nuclear utilities and other potential mixed waste generators should do. Until a legislative or regulatory solution is found, each generator must identify the applicable deadline for filing Part A applications in their State and determine whether or not it engages in activities that would trigger the filing process. If a generator is unsure whether it produces mixed waste (or is not aware of the approximate quantities or types it produces) such a generator should conduct an analysis to collect the requisite information. Information on the sources, types and quantities of mixed waste at the specific facility may enable the generator to develop a facility-specific regulatory strategy for addressing the issue. Such a strategy might include: (1) consideration of possible methods of eliminating or reducing the quantities of such waste; (2) identification of existing NRC and/or EPA regulatory exemptions that may be applicable; and (3) evaluation of the extent to which specific EPA requirements are satisfied under existing operating practices or could be satisfied with reasonable modifications.

CONCLUSION

The nuclear utility industry is engaged in efforts on both the regulatory and legislative fronts to address the problems associated with the NRC's and EPA's current program for regulating mixed waste. While generators should support the industry's initiatives, individual utilities should be engaged in establishing the most effective regulatory strategy for their individual facilities.