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NRC REGULATORY INITIATIVES

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INTRODUCTION

The U.S. Nuclear Regulatory Commission (NRC) is addressing several low-level waste disposal issues that will be important to waste generators and to States and Compacts developing new disposal capacity. These issues include Greater-Than-Class C (GTCC) waste, mixed waste, below regulatory concern (BRC) waste, and the low-level waste data base. This paper discusses these issues and their current status.

GREATER-THAN CLASS C WASTE

The Low-Level Radioactive Waste Policy Amendments Act of 1985 (Amendments Act), which was signed into law in January 1986, makes disposal of GTCC waste the responsibility of the Federal government. The Amendments Act also requires the NRC to license the disposal facility for commercial GTCC wastes.

In February 1987 the Department of Energy (DOE) published "Recommendations for Management of Greater-Than-Class C Low-Level Radioactive Waste" (DOE/NE-0077). In this report DOE accepted responsibility for the disposal of GTCC waste, but did not address disposal options. Rather, DOE stated that disposal recommendations could not be made until the NRC and the Environmental Protection Agency (EPA) first addressed a number of regulatory actions. The NRC, however, responded that DOE need not wait to make a decision on a disposal option and pointed out that, if DOE were to decide to dispose of commercial GTCC waste in a high-level waste geologic repository, many of DOE's concerns would be eliminated.

DOE did offer to store GTCC waste until disposal capacity could be developed. They expected to have a program in place for accepting GTCC waste for storage within two years. In the interim DOE would consider requests for acceptance of commercial GTCC on a case-by-case basis. DOE is currently considering the location for an interim storage facility and the scheduling of the availability of a dedicated GTCC waste storage facility and a GTCC waste disposal facility.

On May 25, 1989 NRC published in the Federal Register (54 FR 22578) a final rule amending 10 CFR Part 61 to require disposal of GTCC waste in a deep geologic repository, unless disposal elsewhere has been approved by the Commission.

Currently, the NRC staff continues to support DOE efforts to establish storage capacity for GTCC wastes. The NRC staff considers that interim storage of sealed sources and other material exceeding the Class C concentrations is

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clearly in the public interest to help prevent possible unauthorized use or loss of control of these radioactive materials. The NRC staff is working to characterize the quantities of GTCC waste being generated, particularly the number and characteristics of unneeded sealed sources.

BELOW REGULATORY CONCERN WASTES

Section 10 of the Amendments Act requires that, within six months, the NRC establish standards and procedures, and the technical capability to act in an expedited manner on petitions to exempt specific waste streams from regulation. NRC responded with three actions.

First, On August 29, 1986 the NRC published in the Federal Register (51 FR 30839) a Commission Policy Statement and Staff Implementation Plan. These two documents provide guidance to potential rulemaking petitioners outlining the decision criteria the Commission intends to use to expeditiously process petitions.

Second, the IMPACTS-BRC computer code for calculating radiological impacts from unregulated disposal was adapted for personal computer use and a draft user guide was published in July 1986 (Volume 2 of NUREG/CR-3585). Subsequently, the NRC staff contracted with Sandia National Laboratory for technical assistance to critique, validate, and verify the computer code.

Third, on December 2, 1986 the NRC published in the Federal Register an advanced notice of proposed rulemaking (ANPR) (51 FR 43367) requesting comments on the development of a generic BRC level for wastes. Over 50 comments were received in response to the ANPR reflecting diverse views on how the NRC should proceed. Many commenters opposed the concept of any level of radioactivity being BRC and others urged NRC to proceed promptly on the generic rulemaking. In March 1988 the Commission delayed the rulemaking and directed the staff to first prepare for Commission consideration options for a broad policy statement that establishes a generic limit for exposures that are below regulatory concern.

The policy statement addresses BRC issues not only for waste management but for all licensing applications including consumer products, existing exempt quantity limits, and effluent releases. This policy statement would provide for more efficient and consistent regulatory actions in connection with exemptions from specific NRC requirements. A draft policy statement was prepared and discussed at the International Workshop on Rules for Exemption from Regulatory Control sponsored by the NRC and the Nuclear Energy Agency in October 1988. An advance notice of a policy statement was issued for public comment in the Federal Register on December 12, 1988 (53 FR 49886). The Advance Notice recommended a 10 mRem/yr dose level as a floor for ALARA based on consideration of the variations in background, risk perceptions, BRC versus *de minimis* distinctions, the linear non-threshold hypothesis, and practical implementation. The policy and the comments received are currently being

considered by the Commission. We expect the Commission to take action this summer.

The NRC expects to receive a petition for rulemaking from the Nuclear Management and Resources Council (NUMARC) to have specific commercial reactor waste streams designated as BRC. The petition, which is being prepared on behalf of 54 nuclear utilities, is expected to be submitted to the NRC in August 1989. NUMARC has indicated that the potential BRC wastes considered in the petition represents 20 to 30 percent by volume and 0.018 percent of the activity of low-level wastes generated by commercial reactors. The various waste streams addressed in the petition are considered as one large waste stream characterized by certain bounding physical and radioactive properties. The petition would exclude wastes with the potential for recycle.

MIXED WASTE

Mixed waste continues to be a very controversial and confusing area for States and commercial waste generators. Under the Resource Conservation and Recovery Act (RCRA), the EPA has jurisdiction over the management of solid wastes with the exception of source, byproduct, and special nuclear material, which are regulated by the NRC under the Atomic Energy Act (AEA). Low-level radioactive wastes contain source, byproduct, and special nuclear material, but they may also contain chemical constituents that are hazardous under EPA regulations promulgated under Subtitle C of RCRA. Consequently, under Federal law mixed wastes are subject to both NRC and EPA regulations with the NRC having jurisdiction over the radioactive component and the EPA having jurisdiction over the hazardous chemical component of the waste. Due to the nature of dual jurisdiction over mixed wastes, organizations that treat, store, or dispose of mixed wastes will need both a license for possession and use of the radioactive material issued under the AEA and a treatment, storage, or disposal permit issued under RCRA.

While both RCRA and the AEA are intended to protect public health and safety and the environment, both laws take different paths to achieve their goals. For example, the AEA is a very general, performance-oriented law while RCRA provides prescriptive requirements including detailed disposal facility design requirements. RCRA was also never intended to address a radiation hazard in hazardous chemical wastes. This has resulted in implementation issues that in some cases involve higher occupational exposures than would occur under only the AEA.

To minimize confusion resulting from dual jurisdiction, the EPA and NRC staffs have prepared three joint guidance documents. These documents address the definition of mixed waste, mixed waste disposal facility siting, and mixed waste disposal facility design. The EPA and NRC received seven comments on the joint definition document and have revised the document. This revision makes no substantial changes in the mixed waste definition but does clarify several

areas of confusion raised by the commenters. The final definition document has been signed by EPA and is in concurrence at the NRC.

The EPA and NRC staffs are also developing additional joint guidance documents. Joint guidance documents on waste characterization, inspection, and storage are currently under development. The characterization guidance will address the need for consideration of occupational exposures during testing. A final draft characterization document is currently under review and is scheduled for completion October 1989. The inspection guidance will provide NRC Regional, Agreement State, EPA Regional, and Authorized State inspectors with background information on mixed waste licensing and permitting, inspection planning and coordination, cross-training, and the conduct of mixed waste inspections. A draft inspection document is currently under review and is scheduled for completion in January 1990. The storage guidance will combine the NRC radioactive waste storage recommendations with EPA storage requirements. A draft storage document is being prepared by an EPA contractor.

One of the major issues in the mixed waste area is the Land Disposal Restrictions (LDR). The LDR require that wastes be treated prior to disposal and prohibit storage of wastes except to accumulate sufficient quantities for treatment. The LDR requirements are being implemented in a time phased program. However, because licensed treatment capacity of radioactive waste is limited, waste generators are placed in a situation where they cannot dispose of their wastes nor can they treat them nor can they store them. The EPA staff is currently developing a statement designed to clarify this issue.

The NRC staff is also supporting an initiative by the DOE Energy Information Agency (EIA) to obtain a data base on mixed waste. The EIA is planning a survey of mixed waste generators to obtain information on mixed waste generation, the volume in storage, and projected generation rates in the future. This program will be very important to States and Compacts that are developing capacity projections for mixed waste disposal units. Although this EIA program is currently at a conceptual stage, the EIA hopes to initiate it next year.

LOW-LEVEL WASTE DATA BASE

The NRC has initiated a rulemaking to ensure that adequate technical information on low-level wastes is available and in a form that can be used for performance assessments, technical analyses, and other activities needed to ensure the low-level waste disposal is conducted in a manner that protects public health and safety. This rulemaking will amend 10 CFR Parts 20 and 61 to

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1. Augment and improve information contained in manifests accompanying shipments of low-level wastes to disposal facilities

2. Require that operators of disposal facilities store portions of this manifest information in computer recordkeeping systems.

Require that operators periodically submit, in an electronic format, reports of shipment manifest information.

The NRC staff intends to incorporate the submitted electronic data into a large computerized waste disposal data base to be operated by DOE under the provisions of the Amendments Act.

The NRC staff has scheduled a proposed rule to be published in the Federal Register in June 1990.

DECOMMISSIONING

On June 27, 1988 the NRC published in the Federal Register (53 FR 24018) a final decommissioning rule amending its regulations to set forth technical and financial criteria for decommissioning nuclear facilities. These new regulations address decommissioning planning, timing, financial assurance, acceptable funding methods, and license termination procedures. These regulations affect both reactor and materials licensees.

To implement the regulations the NRC is preparing a series of guidance documents in the areas of funding, cost estimating, recordkeeping, facilitation of decommissioning, termination procedures, and the content of decommissioning plans.

In July 1989 the NRC received for review of the Pathfinder reactor dismantlement plan and the Fort St. Vrain preliminary decommissioning plan. The Pathfinder reactor is a 66 Mwe experimental boiling water reactor located in Sioux Falls, SD. This plant will be the first NRC power reactor licensee to be dismantled. Fort St. Vrain is a 330 Mwe high temperature gas cooled reactor located in Platteville, CO. This facility will be placed in SAFSTOR.