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10/31/90

LOW-LEVEL WASTE MANAGEMENT

The main objective of this program is to ensure adequate protection of public health and safety in the management of low-level radioactive waste, in conformance with the Low-Level Radioactive Waste Policy Amendments Act of 1985 (LLRWPA).

Regulations and Guidance

The NRC staff continued its efforts to provide guidance that will assist the States and State Compacts in developing the safe disposal capacity for low-level waste that the LLRWPA requires.

At the request of the Commission, the Low-Level Waste Management staff, along with the Office of General Counsel, evaluated whether the principal staff guidance documents used in licensing comport with the requirements in 10 CFR Part 61. These two documents are the Standard Format and Content Guide (SF&C) and the Standard Review Plan (SRP). Staff guidance should be based on the specific requirements in the regulations and not go beyond what is reasonably needed to demonstrate compliance. Four areas were found to not comport with 10 CFR Part 61--meteorology, seismology, reference to 10 CFR Part 20, and quality assurance.

In addition to the comport review, the staff also evaluated the need for revisions as a result of its review of the Prototype License Application Safety Analysis Reports (PLASARS) submitted by the Department of Energy in the prior year. Additional areas of the SF&C and SRP were identified for revision based on the PLASAR review.

The results of these reviews will be used to update the two staff guidance documents in the coming year.

In 1990 the NRC staff continued its efforts to amend Parts 20 and 61 to: (1) augment and improve the quality of information contained in manifests accompanying shipments of LLW to disposal facilities; (2) require operators of LLW disposal facilities to store this manifest information in computerized recordkeeping systems; and (3) require operators to routinely submit to NRC in an electronic format, reports of manifest information. These amendments will ensure that the chain of custody for LLW can be tracked--from generation through processing and disposal.

In 1990, at the request of the States, the staff explored the addition of a uniform manifest requirement to the ongoing rulemaking. A uniform manifest used by all of the generators in the U.S. is expected to provide an additional measure of protection of the public health and safety. This requirement is being considered for addition to the existing rulemaking package.

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Technical Assistance to States

LLWM staff has continued to provide assistance, including: 1) publication of a five volume set, "Background Information for the Development of a Low-Level Waste Performance Assessment Methodology," (NUREG/CR-5453) and the publication of a summary report entitled, "A Performance Assessment Methodology for Low-Level Waste Facilities," (NUREG/CR-5532); 2) holding a performance assessment workshop for state regulators; 3) holding a Regulators' Workshop for the Agreement State regulatory agencies; and 4) conducting program reviews of Agreement State Regulatory Program.

Performance Assessment Guidance

Each volume of the "Background Information for the Development of a Low-Level Waste Performance Assessment Methodology" documents and describes the phases involved in the development of the methodology. The first volume identifies and describes the potential pathways for radioactive releases from low-level waste disposal facility to man. Volume two is an assessment of the significance of pathways from a low-level waste disposal facility to man. The third volume describes the selection of conceptual models required to assess the effects of releases from low-level waste facilities. Volume four identifies computer codes that can be used to implement the performance assessment methodology. The fifth volume documents the implementation and assessment of computer codes for the methodology.

The summary Performance Assessment Methodology document summarizes the background reports on the development and an overview of the models and codes selected for the methodology. The overview includes discussions of the philosophy and structure of the methodology and a sequential procedure for applying the methodology. Discussions are provided of models and associated assumptions that are appropriate for each phase of the methodology, the goals of each phase, data required to implement the models, significant sources of uncertainty associated with each phase, and the computer codes used to implement the appropriate models. In addition, a sample demonstration of the methodology is presented for a simple conceptual model.

Performance Assessment Workshop

On September 26-28, 1990, the NRC's Office of Nuclear Material Safety and Safeguards (NMSS) and the Office of Governmental and Public Affairs (GPA) hosted a workshop with Agreement State regulatory staff who will be involved in licensing LLW disposal facilities. Contractor staff from Sandia National Labs had the responsibility for conducting and leading the technical discussions and hands-on computer work. The workshop provided the Agreement State staffs an opportunity to gain an in-depth knowledge of the Performance Assessment Methodology as developed by SNL and, perhaps more importantly, to gain hands-on experience with the computer codes on computer terminals. Sixteen regulatory staff attended from thirteen states which currently regulate the disposal of LLW or are developing licensing programs pursuant to the LLRWPA.

LLW Disposal Regulators' Workshop

On June 19-21, 1990, GPA hosted a workshop with Agreement State regulatory staff who will be involved in licensing LLW disposal facilities. NMSS staff had the lead responsibility for conducting the technical discussions. The workshop provided the NRC and Agreement State staffs an opportunity to exchange information and to improve their technical licensing reviews.

The NRC staff gave presentations on a variety of topics, including performance assessment, staff experience with the PLASAR reviews, stabilization of Class B and C waste, and results from the staff reviews of the Agreement State LLW programs. The participants also conducted a mock licensing review of sections of the PLASAR to provide hands on experience for the participants.

Agreement State Program Reviews and Visits

As part of a team led by GPA, LLWM staff conducted reviews and visits of Agreement State LLW regulatory programs in 1990. These efforts were aimed at identifying areas that needed improvement to help ensure high quality licensing reviews of LLW disposal facility applications. The programs reviewed and visited were in the States of Washington, Illinois, South Carolina, Texas, California, Utah, North Carolina, and Nebraska.

Work With Other Federal Agencies

The NRC staff continued to work with the U.S. Department of Energy (DOE) and Environmental Protection Agency (EPA) in resolving LLW management issues. Interaction with DOE has focused on providing guidance to States on meeting the requirements of the LLRWPA. The NRC and EPA staffs continued to work on resolving the mixed low-level radioactive and hazardous waste (mixed waste) issue. EPA and NRC have sponsored workshops, for Federal and State regulatory personnel, to allow them to better understand the problems and issues involved in mixed waste management. In addition NRC and EPA are developing a national mixed waste profile. When completed this profile should provide valuable information on the volumes, characteristics and treatability of commercially generated mixed waste. Work has continued on two joint guidance documents that will address the requirements for sampling and storage of mixed waste. On June 21, 1990, NRC Chairman Kenneth Carr sent a letter to EPA Administrator William Reilly that outlined the Commission's preferred approach to resolving differences that have arisen between the two agencies relating to regulatory initiatives of the EPA directed at activities licensed or otherwise regulated by the NRC. This letter also proposed the development of an NRC/EPA senior-level task force to focus on specific interface issues.

Section 5 of the LLRWPA requires NRC to transmit certifications to Congress and DOE that the States and compacts demonstrate the ability to manage all radioactive waste produced within its borders, after 1992. Certification of this ability is of two forms: submittal of a complete application for license of a disposal facility, or a certification by the Governor of the State, indicating that State would be capable of managing its waste after 1992. Thirty-three states, the District of Columbia, and the Commonwealth of Puerto Rico submitted Governor's certifications during 1990. These certifications were reviewed and transmitted as required.

URANIUM RECOVERY AND MILL TAILINGS

Under this program area, the NRC licenses and regulates uranium mills, commercial in-situ solution mining operations, and uranium extraction research and development projects. NRC also evaluates and concurs in DOE's remedial action plans for inactive uranium mill tailings sites, as required by Title I of the Uranium Mill Tailings Radiation Control Act of 1978.

Regulatory Development

The Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA), which was enacted to prevent or minimize environmental hazards from active or inactive mill operations, requires the EPA to develop radiation standards for mill tailings sites and the NRC to develop regulations for uranium recovery operations. The final EPA standards for active sites were issued in October 1983. NRC then embarked on a two-step process to conform its regulations (10 CFR Part 40) to these standards. The first step, completed in October 1985, was modification of NRC regulations on radiological protection and long-term stabilization of mill tailings sites, to bring them into congruence with the EPA standards. The second step incorporated the EPA groundwater protection standards. The NRC's final rule addressing groundwater protection was published November 13, 1987. The NRC also developed a proposed rule for licensing the custody and long-term care of uranium mill tailings sites covering commercially licensed as well as Uranium Mill Tailings Remedial Action Program (UMTRAP) sites. The draft rule was issued on February 6, 1990. As a result of comments received, several clarifying changes were made to the statement of considerations and the rule itself. The rule will be issued in final form early in fiscal year 1991.

In 1989, NRC staff worked with DOE and EPA in implementing EPA's proposed groundwater protection standards at inactive uranium mill tailings sites. Section 84a(3) of the Atomic Energy Act requires that the NRC's regulations for mill tailings be comparable to the EPA's requirements that are applicable to similar wastes under the Solid Waste Disposal Act, as amended. The NRC completed an initial evaluation of the two regulatory frameworks as a first step in determining whether additional rulemaking is needed to achieve comparability. The EPA has this assessment under review.

The NRC staff continued its work on regulatory guidance for uranium recovery operations by issuing a final staff technical position on the design of erosion-protection covers.

Licensing and Inspection Activities

The NRC's Uranium Recovery Field Office (URFO) performed 35 inspections of uranium recovery facilities. In other regulatory actions, the URFO staff completed 26 major license amendments, and 68 minor license amendments.

Of the 28 NRC-licensed uranium recovery facilities, 19 are uranium mills, three are either heap leach or other byproduct recovery operations, three are research and development solution mining operations, and three are commercial in-situ facilities. Only six of the licensed facilities were in operation at the end of fiscal year 1990: two uranium mills, one research and development solution mining operation, two commercial scale-solution mining facilities, and one secondary recovery operation. One additional commercial-scale solution mining facility was licensed during the year and is under construction. As a result of the low market price of uranium, few new facilities are expected to be licensed in the near term, except for solution mining operations; and the two operating uranium mills are in intermittent operation/standby mode. The NRC has five new commercial-scale solution mining applications under review, and two more expected in fiscal year 1991. Over the next few years, much of the casework confronting the uranium recovery program will be in the areas of remedial activity and decommissioning, including remedies for groundwater contamination.

The facility pictured is a uranium reclamation operation. The recovery is subject to NRC regulation, with particular regulatory concern for the radioactive waste products of the recovery process.

Remedial Action at Inactive Sites

During FY90, pursuant to this responsibility, the NRC staff completed 56 review actions. These included seven Remedial Action Plan (RAP) reviews, six inspection plan reviews, four RAP modification reviews, 17 other site-specific reviews, one Certification Report review, three Surveillance and Maintenance Plan reviews, and nine reviews of generic items related to the program. The

NRC staff prepared six Technical Evaluation Reports (TERs) documenting its review of DOE's remedial action selection for the Rifle, Colo.; Green River, Utah; Ambrosia Lake and Shiprock, N.M.; Belfield/Bowman, N.D.; and Spook, Wyo. sites; and prepared one Completion Review Report (CRR) documenting its review of DOE's remedial action performance at the Canonsburg, Pa. site. Inspections of remedial action activities were performed at the Tuba City, Ariz. and Green River sites; and additional site visits were conducted by NRC technical staff at the Rifle, Grand Junction, Gunnison and Durango, Colo.; Canonsburg, Pa.; Shiprock, N.M.; and Lowman, Idaho sites. The NRC staff also completed seven reviews of requests for application of supplemental standards at vicinity properties.

In addition to the handling of site-specific casework, the NRC staff focused efforts on programmatic improvements to ensure effective NRC involvement in the UMTRA Project. The DOE/NRC Memorandum of Understanding (MOU) was modified to reflect recently implemented improvements to the review process and remedial action documentation. Periodic NRC/DOE management meetings and weekly telephone conference calls have been and will continue to be held to improve UMTRA Project interactions through discussion of programmatic actions and issues.

DECOMMISSIONING OF NUCLEAR FACILITIES

NRC staff activities have continued to focus on developing the guidance that licensing staff and licensees need to implement amendments to Commission regulations for decommissioning nuclear facilities. These amendments pertain to planning, financial assurance and record-keeping for decommissioning, and procedures for terminating licenses.

Guidance Documents

The staff has a number of guidance documents being developed for decommissioning activities. Regulatory Guide 3.66 "Standard Format and Content of Financial Assurance Mechanisms Required for Decommissioning under 10 CFR Parts 30, 40, 70, and 72" was developed in 1990. The NRC staff is also preparing standard review plans (SRP) for the review of preliminary decommissioning plans for reactors (which must be submitted five years before projected end of operations) and for the review of decommissioning plans for reactors and for materials facilities (submitted at the time of termination of operations). These SRPs will provide information to licensees and NRC staff on methods for review of the licensee submittals. The staff is also preparing a rulemaking on timeliness of decontamination and decommissioning at materials facilities.

Reactor Decommissioning

NMSS staff has continued to assist NRR licensing staff in reviewing decommissioning plans for power reactors that have been shut down. The staff developed and has implemented a protocol for the transfer from NRR to NMSS of licensing responsibility for power reactors, after approval of a decommissioning plan and issuance of a possession-only license.

Under the new protocol, licensing responsibility for the Humboldt Bay Unit 3, Vallecitos, and Fermi Unit 1 inactive nuclear facilities was transferred from NRR to NMSS in fiscal year 1989. The Peach Bottom Unit 1 facility was transferred in 1990. A dismantlement plan submitted for the Pathfinder facility, which had been partially decommissioned in 1970, was received in July, 1989 and approved by license amendment in June, 1990. The Public Service Company of Colorado has informed the NRC that it plans to decommission the Fort St. Vrain plant, and the NRC staff reviewed its Preliminary Decommissioning Plan. In addition, Sacramento Municipal Utility District notified the NRC of its intent to decommission the Rancho Seco facility, and Long Island Lighting Company was working out plans with the State of New York for the decommissioning of the Shoreham nuclear power plant (see Chapter 9), at the end of the fiscal year.

Site Decommissioning Management Program

On March 29, 1990, NMSS sent to the Commission the Site Decommissioning Management Program (SDMP) which is the program that the staff has developed and intends to use to achieve the timely cleanup of contaminated materials facilities. To meet the objective of the timely cleanup of those facilities, the SDMP contains the following program elements: 1) definition of project management plan; 2) identification of the sites requiring decontamination; 3) prioritization of NRC efforts in the review of the contaminated sites; 4) schedule and resources needed for NRC actions on contaminated site cleanup; and 5) resolution of policy and Congressman Synar hearing issues for SDMP implementation.

Since issuance of the SDMP in March 1990, NMSS staff and regional office staff have been actively engaged in the implementation of the site cleanup schedules. This has included review of site characterization plans and review of decommissioning plans, review of actual decommissioning activities, and review of site radiological surveys. Based on these implementation efforts, the estimated SDMP site cleanup schedules have been updated. It is planned that a full updated revision of the SDMP will be prepared by NMSS in December 1990.

(SIGNED) ~~Richard L. Bangart~~ ~~Richard L. Bangart~~
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 Division of Low-Level Waste Management
 and Decommissioning
 Office of Nuclear Material Safety
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Distribution: (NMSS 90-467) Central File # NMSS r/f C Jenkins t/f
 RBangart JGreeves JAustin JSurmeier PLohaus
 JKennedy RHogg LLWM t/f LLOB r/f
 PDR YES
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 ACNW YES NO
 SUBJECT ABSTRACT: 1990 NRC ANNUAL REPORT

OCT 31 1990

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NAME:RHogg/jj	:JKennedy	:PLohaus	:JGreeves	:RBangart
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OFC :LLOB	:LLOB	:LLOB	:LLWM	:LLWM
NAME:RHogg	:JKennedy	:Plohaus	:JGreeves	:RBangart
DATE: 2/2/90	: 10/7/90	: 10/21/90	: 10/31/90	: / /90

Ticket

DATE RECEIVED: 09/25/90 ORIGINAL DUE DT: 11/02/90
FROM: DIVISION DATE: 10/26/90
TIME:

CONTROL NO: 9000467 ✓
DDC DT: 09/25/90
COMP DT:

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NMSS

TO:

Division Directors

FOR SIGNATURE OF:

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SECY NO:

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1990 NRC ANNUAL REPORT

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SPECIAL INSTRUCTIONS OR REMARKS:

DUE DIVISIONS - 10/17/90 - DIVISION REPRESENTATIVE
DUE FIB - 10/5/90

DUE DIVISIONS - 10/26/90 - FIRST DRAFT COPY
DUE F.I.B. - 11/02/90

All division info is to be provided to FIB (Cornell). The ticket will be closed after the 2nd due date is completed. If the first due date is not met, the whole ticket will be counted late.

ACTION:

Lok...
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BY: _____

Copy: Greeves
BCs

I left a message for Sally Cornell on 9/25 that Arlotto will be our contact. Please have someone contact Sally on 10/11 the message. RLB