

**DIVISION OF URANIUM RECOVERY, DECOMMISSIONING, AND WASTE PROGRAMS  
GUIDANCE DOCUMENT**

**(REVISION TO PREVIOUS EPPAD 3.5)**

**GUIDANCE FOR THE REVIEWS OF PROPOSED DISPOSAL  
PROCEDURES AND TRANSFERS OF RADIOACTIVE MATERIAL  
UNDER 10 CFR 20.2002 AND 10 CFR 40.13(a)**

*Final Draft*

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SUBJECT: GUIDANCE FOR THE REVIEWS OF PROPOSED DISPOSAL PROCEDURES AND TRANSFERS OF RADIOACTIVE MATERIAL UNDER 10 CFR 20.2002 AND 10 CFR 40.13(a) – **DATED OCTOBER 16, 2017**

**Revision Notes**

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0	August 2009	ML092460058	This version of the guidance was the initial draft for interim use and was EPPAD 3.5.
0.1	September 2017	ML16326A063	This draft final revision provides additional information and detail to various sections throughout the guidance, as well as more consistency, clarity, and descriptions for processes, instructions, and bases. It also adds information regarding regulatory documents that have been issued, such as the All Agreement States Letter, various reference documents, and Commission papers.

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**Examples**

These examples are accessible via the Agency-Wide Documents Access and Management System (ADAMS). These examples are provided for reference only. When preparing an approval package for an alternative disposal request, be sure to follow all current laws, guidance, policies, and procedures.

Example 1	Request for Alternative Disposal of Wastes from the Safety Light Corporation Site at the US Ecology Idaho Facility Under 10 CFR 20.2002 (October 28, 2013): Approval Letter, Safety Evaluation Report, <i>Federal Register</i> notice, and Environmental Assessment (ADAMS Accession Nos. ML13263A297, ML13263A314, ML13263A069, ML13295A688, ML13295A705, ML13296A807)
Example 2	Response to Honeywell Request to Ship Unimportant Quantities (September 21, 2012): § 40.13(a) Approval Letter and Safety Evaluation Report (ADAMS Accession Nos. ML12242A388 and ML12235A303)
Example 3	Request to Dispose of Camp Doha Waste per 10 CFR Part 40.13 (September 13, 2007): § 40.13(a) Disposal Request and Approval Letter with Safety Evaluation Report (ADAMS Accession No. ML072340221)
Example 4	Issuance of Hematite Amendment No. 65 Approving Westinghouse Hematite Request For Alternate Disposal of Specified Low-Activity Radioactive Material and Granting Exemptions to 10 CFR 30.3 and 10 CFR 70.3 (April 29, 2015): § 20.2002 Approval Letter, Safety Evaluation, Environmental Assessment, and Amendment (ADAMS Accession Nos. ML15086A365, ML15086A413, ML15029A064, and ML15086A419)

## Abbreviations and Acronyms

ACMUI	Advisory Committee on the Medical Uses of Isotopes
ACRS	Advisory Committee on Reactor Safeguards
ADAMS	Agency-Wide Documents Access and Management System
ADR	Alternative Disposal Request
ALARA	As Low As is Reasonably Achievable
CAC	Cost Activity Code
CFR	<i>Code of Federal Regulations</i>
DCD	Document Control Desk
DUWP	Division of Decommissioning, Uranium Recovery, and Waste Programs
DWMEP	Division of Waste Management and Environmental Protection (previous FSME division)
EA	Environmental Assessment
EIS	Environmental Impact Statement
ERB	Environmental Review Branch
EDO	Office of the Executive Director
EPPAD	Environmental Protection and Performance Assessment Directorate (previous directorate)
EPID	Enterprise Project Identifier
FONSI	Finding of No Significant Impact
FRN	<i>Federal Register</i> Notice
FSME	Office of Federal and State Materials and Environmental Management Programs (previous office)
LA	Licensing Assistant
LAW	Low-Activity Waste or Low-Activity Radioactive Waste
LLW	Low-Level Waste or Low-Level Radioactive Waste
LLWB	Low-Level Waste Branch
LTR	License Termination Rule
mrem	millirem
mSV	millisievert
OGC	Office of General Counsel
NARM	Naturally-Occurring and Accelerator-Produced Radioactive Material
NEPA	National Environmental Policy Act
NRC	Nuclear Regulatory Commission
NMSS	Office of Nuclear Materials Safety and Safeguards
NRR	Office of Nuclear Reactor Regulation
PM	Project Manager
PA	Performance Assessment
RCRA	Resource Conservation and Recovery Act
SUNSI	Sensitive Unclassified Non-Safeguards Information
SER	Safety Evaluation Report
TAR	Technical Assistance Request
TB	Technical Branch
TER	Technical Evaluation Report
VLLW	Very Low-Level Waste
WDTS	Waste Disposal Tracking System

**DIVISION OF URANIUM RECOVERY, DECOMMISSIONING, AND WASTE PROGRAMS**  
**(Revision to Previous EPPAD 3.5, Final Draft)**

## **1.0 Purpose**

The purpose of this procedure is to provide guidance for U.S. Nuclear Regulatory Commission (NRC) staff and describe the process for documenting, reviewing, and approving (on a case-by-case basis) requests received from licensees, license applicants, and other entities for alternative disposal of licensed material. The staff may authorize these requests under the provisions of Title 10 of the *Code of Federal Regulations* (10 CFR) 20.2002 and 10 CFR 40.13(a).

## **2.0 Scope**

This procedure covers the steps that NRC staff need to take in order to review, document, and approve a request for alternative disposal of licensed material, including:

- entering documents into the NRC public document system (Agency-Wide Documents Access and Management System (ADAMS));
- establishing an Enterprise Project Identifier (EPID) and/or Cost Activity Code (CAC) for monitoring time charged to the project;
- conducting a technical review of the disposal request, including performing dose assessments;
- preparing a Safety Evaluation Report (SER) or Technical Evaluation Report (TER);
- preparing an Environmental Assessment (EA);
- coordinating with State regulatory agencies and disposal site operators;
- implementing a Communications Plan, where applicable, including conducting public meetings; and
- implementing the approaches included within the All Agreement States Letter.

The original version of this guidance document (ADAMS Accession No. ML092460058, dated August 31, 2009) was prepared for use by the NRC's Office of Federal and State Materials and Environmental Management Programs (FSME) Division of Waste Management and Environmental Protection (DWMEP) staff. Following the merger of FSME and the Office of Nuclear Material Safety and Safeguards (NMSS),<sup>1</sup> the corresponding division is the NMSS Division of Decommissioning, Uranium Recovery, and Waste Programs (DUWP). This document is being revised in order to update this guidance as well as provide more clarity, consistency, and transparency to the process. Within the NRC, the NMSS Performance Assessment Branch staff within NMSS DUWP are often requested to perform these technical reviews. Accordingly, this guidance has been prepared for use primarily by NMSS DUWP staff. However, since disposal requests are also received by the Regions, the Office of Nuclear Reactor Regulation (NRR), and Agreement States, this procedure has been developed to support those reviews as well.

Although § 20.2002 and § 40.13(a) reviews are similar in most respects, there are a few differences that are described in this document. Where there are differences between the procedures for handling the different types of requests, a sub-section for each type of request is

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<sup>1</sup> As noted in NMSS Policy and Procedures 5-1, "Reactor Decommissioning Program Procedures for Interfacing with the Office of Nuclear Reactor Regulation," Revision 3, dated March 31, 2016, this merger occurred on October 1, 2014 as the result of an NRC internal reorganization.

provided. Otherwise, they will be referred to collectively as ADRs.

This procedure does not cover all releases of solid materials from a licensee's control, only those that are submitted for NRC approval under 10 CFR 20.2002 and 10 CFR 40.13(a). The NRC's procedures for release of solid materials are described in NUREG-1757, Vol. 1, Rev. 2, Section 15.11.

### **3.0 Background**

The regulations in 10 CFR 20.1001 state, in part, that the purpose of Part 20 is "to control the receipt, possession, use, transfer, and disposal of licensed material." The disposal mechanisms within the scope of 10 CFR 20.2001 include decay in storage, release into sanitary sewerage, incineration, release in effluents, and use of a land disposal facility. Thus, the term "dispose" in 10 CFR 20.2001 encompasses a variety of disposal methods. As a result of this, and because "disposal" is not otherwise defined in 10 CFR Part 20, NRC staff understands the meaning to encompass discarding, transferring, or destroying.

The regulations in 10 CFR 20.2001 refer to several different disposal methods, including § 20.2002, a provision for "alternative disposal" authorizations. Section 20.2002 is a general provision that allows for disposal methods that are different from those already defined in the regulations. To obtain a § 20.2002 authorization, a licensee or applicant must demonstrate that doses are maintained as low as is reasonably achievable (ALARA) and within the dose limits in Part 20. In practice, § 20.2002 (formerly § 20.304 and § 20.302<sup>2</sup>) is most often used for burial of waste in hazardous or solid waste landfills that are permitted under Resource Conservation and Recovery Act (RCRA), but it may be used for a method of alternative disposal not already defined in the regulations, such as burial on a licensee's site, burial on off-site private property, and recycle or reuse of materials and equipment. Throughout this guidance, staff uses the term "dispose" or "disposal" in this broad sense, but also may use more specific terms that apply to certain disposal methods (e.g., burial).

The term very low-level waste (VLLW), which is synonymous with "low-activity waste" (LAW), does not have a statutory or regulatory definition, but generally means wastes that contain some residual radioactivity, including naturally occurring radionuclides, which can be safely disposed of without need of the extensive controls in Part 61 to ensure protection of the public health and safety and the environment.<sup>3</sup> Although these materials could be disposed of in a LLW disposal facility licensed under 10 CFR Part 61, use of alternative disposal methods under § 20.2002 may reduce overall risk (e.g., risk associated with increased transportation distances and

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<sup>2</sup> Licensee burial of certain quantities of radioactive waste in soil was authorized under the Commission's regulations in 10 CFR 20.304, "Disposal by Burial in Soil" on January 29, 1959 (22 FR 548). The NRC's regulations did not require that licensees obtain NRC's prior approval for these burials. On January 28, 1981, the Commission concluded that it was inappropriate to continue generic authorizations of burials pursuant to 10 CFR 20.304 without regard to factors such as location of burial, concentrations of radioactive material, form of packaging, and notification of NRC, and as a result, NRC rescinded 10 CFR 20.304 (45 FR 71761). After January 1981, licensees were only authorized to dispose of radioactive material under 10 CFR 20.302, "Obtaining Approval for Disposal of Very-Low-Level Radioactive Waste," which required NRC's prior approval. The NRC later revised this regulation, which is currently 10 CFR 20.2002.

<sup>3</sup> SECY-06-0056, enclosure 2, included: "[a]lthough most of the radioactivity in LLW generated by NRC licensees is disposed in facilities licensed under Agreement State regulations compatible with and/or similar to Part 61, 10 CFR 20.2002 continues to be available for use by licensees for wastes that are a small fraction of the Class A limits contained in Part 61, for which the extensive controls in the [sic] Part 61 are not needed to ensure protection of the public health and safety and the environment."

associated radiological and non-radiological impacts) and may preserve disposal capacity at LLW disposal facilities for higher risk waste streams, while maintaining adequate protection of public health and safety and protection of the environment.

The NRC regulatory framework requires possessors of radioactive materials to have a license governing such possession or to be exempted from licensing requirements (e.g., §§ 30.11(a), 40.14(a), and 70.17(a)). For off-site disposals, the NRC or the Agreement State issues an exemption from the requirement for a license for possession of the radioactive material by the off-site facility, in conjunction with the § 20.2002 authorization. For cases where material is recycled or reused, NRC or the Agreement State issues an exemption for any person who possesses or uses the material in the future. On-site § 20.2002 disposal approvals by the NRC remain under license and must be addressed by licensees as part of the decommissioning of the facility to ensure that when the license is terminated, the site meets the criteria in the license termination rule (LTR) in Subpart E of 10 CFR Part 20. NUREG-1757, Rev 2, "Consolidated NMSS Decommissioning Guidance," addresses in greater detail the unique considerations for on-site disposal.

The regulations in 10 CFR 20.2002 require that the following be included in the applications:

- a) A description of the waste containing licensed material to be disposed of, including the physical and chemical properties important to risk evaluation, and the proposed manner and conditions of waste disposal;
- b) An analysis and evaluation of pertinent information on the nature of the environment;
- c) The nature and location of other potentially affected licensed and unlicensed facilities; and
- d) Analyses and procedures to ensure that doses are maintained ALARA<sup>4</sup> and within the dose limits in this part.

With regard to discrete sources of Ra-226, the Energy Policy Act of 2005 (EPAc) expanded the Atomic Energy Act of 1954, as Amended (AEA), definition of byproduct material to include discrete sources of Ra-226 that are used for "commercial, medical, or research activity."<sup>5</sup> The regulations in 10 CFR 20.2008 include provisions for the disposal of discrete sources of radium (i) in a low-level waste disposal facility or (ii) at a disposal facility authorized to dispose of such material in accordance with any Federal or State solid or hazardous waste law (e.g., a RCRA Subtitle C disposal facility). Disposals of discrete sources of Ra-226 under § 20.2008 do not require prior approval by the NRC and are outside of the scope of this guidance.<sup>6</sup>

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<sup>4</sup> The regulations in 10 CFR 20.1003, "Definitions," define "ALARA" ("as low as is reasonably achievable") as "making every reasonable effort to maintain exposures to radiation as far below the dose limits in this part as is practical consistent with the purpose for which the licensed activity is undertaken, taking into account the state of technology, the economics of improvements in relation to state of technology, the economics of improvements in relation to benefits to the public health and safety, and other societal and socioeconomic considerations, and in relation to utilization of nuclear energy and licensed materials in the public interest."

<sup>5</sup> The regulations in 10 CFR 20.1003, "Definitions," provide definitions for "discrete source" and "byproduct material." "Byproduct material" is defined later in this guidance document and in the regulations. The NRC has defined a "discrete source" as "a radionuclide that has been processed so that its concentration within a material has been purposefully increased for use for commercial, medical, or research activities." Discrete sources of Ra-226 and naturally occurring radioactive material (other than source material) are referenced and included within the definition for byproduct material.

<sup>6</sup> Section 651(e)(3)(A) of the EPAc (§11e.(3) of the AEA; 42 U.S.C. 2014(e)) amended the definition of byproduct material to include "any discrete source of radium-226 that is produced, extracted, or converted after extraction, before, on, or after [August 8, 2005] for use for a commercial, medical, or research activity." On November 30, 2007, the NRC implemented this provision of the EPAc by amending the definition of byproduct material in 10 CFR Parts 20, 30, 50, 72, 150, 170, and 171 to be consistent with the EPAc in the final rule "Requirements for Expanded

The regulations in 10 CFR Part 30 apply to byproduct material. The regulation in 10 CFR 30.3 provides requirements for obtaining a license for byproduct material. The regulation in 10 CFR 30.11(a) states that the Commission may, upon application of any interested person or upon its own initiative, grant exemptions from the requirements of the regulations in Part 30-36 and 39 as authorized by law, and upon determination that the exemptions will not endanger life or property or the common defense and security and are in the public interest.

For cases of recycle or reuse of byproduct material with concentrations within the exempt concentration values of 10 CFR 30.14, "Exempt Concentrations," there is the potential that alternate disposition may be evaluated either under § 20.2002 or under 10 CFR 32.11, "Introduction of byproduct material in exempt concentrations into products or materials, and transfer of ownership or possession: Requirements for license." One requirement for applications for an exempt distribution license, under §32.11(b), is that the applicant describe the intended use of the byproduct material. Most cases of a licensee proposing alternate disposition by reuse or recycle would involve material or equipment into which the introduction of byproduct material was incidental or unintentional (e.g., residual contamination). NRC staff considers it unlikely that byproduct material that was incidentally or unintentionally introduced into a product or material would have a functional purpose or intended use.<sup>7</sup> NRC staff will not approve exempt distribution licenses if there is not an intended use of the byproduct material. Thus, licensees should not apply for an exempt distribution license as the means to obtain approval of an alternate disposition method unless the licensee can describe the intended use of the byproduct material (i.e., taking advantage of the radioactive, physical, or chemical properties of the radioactive byproduct material) and satisfy all other criteria in § 32.11 for an exempt distribution license. Additional guidance on the evaluation of applications for an exempt distribution license can be found in NUREG-1556, Volume 8, "Consolidated Guidance About Materials Licenses: Program-Specific Guidance About Exempt Distribution Licenses."<sup>8</sup>

The regulations in 10 CFR Part 40 "establish procedures and criteria for the issuance of licenses to receive title to, receive, possess, use, transfer, or deliver source and byproduct materials, and establish and provide for the terms and conditions upon which the Commission will issue such licenses."<sup>9</sup> The regulation in 10 CFR 40.3 provides requirements for obtaining a license for source material. The regulation in 10 CFR 40.14 states that the Commission may, upon application of any interested person or upon its own initiative, grant exemptions from the requirements of the regulations in Part 40 as authorized by law, and upon determination that the exemptions will not endanger life or property or the common defense and security and are in the public interest.

In addition, the regulations in 10 CFR 40.51(b)(3) apply to transfers of licensed source material to any person exempt from the licensing requirements of the AEA, and regulations in Part 40, to the extent permitted by the exemption. The regulations in 10 CFR 40.13 allow for exemptions from the licensing requirements for certain materials containing uranium and thorium that are referred to as "unimportant quantities." One of these exemptions, § 40.13(a), is for "chemical

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Definition of Byproduct Material" (72 FR 55864; October 1, 2007), which is referred to as the Naturally-Occurring and Accelerator-Produced Radioactive Material (NARM) rule.

<sup>7</sup> See the NRC letter dated January 7, 2000 (ADAMS Accession No. ML003675924)

<sup>8</sup> NMSS Administrative Policy & Procedure 1-9, "Administrative and Technical Review of Applications and Annual Reports for Exempt Distribution Licenses," is an internal NRC procedure that contains additional information regarding exempt distribution licenses.

<sup>9</sup> 10 CFR 40.1, "Purpose."

mixtures, compounds, solutions, or alloys" in which the source material is by weight less than 0.05 percent. Section 40.13(a) exempts any person from NRC licensing requirements "to the extent that such person receives, possesses, uses, transfers, or delivers source material in any chemical mixture, compound, solution, or alloy in which source material is by weight less than one-twentieth of 1 percent (0.05 percent) of the mixture, compound, solution, or alloy." The 0.05 percent by weight limit was chosen on the basis of concentrations of source material that are necessary to be a useful source of fissionable material. Therefore, 10 CFR 40.51(b)(3) provides licensees a mechanism for transfer of unimportant quantities of source material, which are exempt from licensing under 40.13(a). For consistency, these requests will be referred to as 10 CFR 40.13(a) requests or ADRs.

The regulations in 10 CFR Part 70 establish procedures and criteria for the issuance of licenses to own, acquire, deliver, receive, possess, use, and transfer special nuclear material; and provide the terms and conditions upon which the Commission will issue such licenses.<sup>10</sup> The regulation in 10 CFR 70.3 provides requirements for obtaining a license for special nuclear material. The regulations in 10 CFR 70.17 state that the Commission may, upon application of any interested person or upon its own initiative, grant exemptions from the requirements of the regulations in this part as authorized by law, and upon determination that the exemptions will not endanger life or property or the common defense and security and are in the public interest.

## **4.0 Schedule**

The level of effort required for the review should be commensurate with the risk, safety, and security significance, and as well as the complexity, associated with the request. It is anticipated that a request for alternative disposal will take several months to complete if it is not considered unusually complex. Simple requests may have shorter review periods, but more complex requests, such as those that require Requests for Additional Information (RAIs) (see Section 7.5) and/or enhanced stakeholder interactions (see Sections 10.2 and 10.3) could take significantly longer.

Examples of situations in which a regulatory action may be considered complex include: (1) it is a first of a kind; (2) it is especially voluminous; (3) it involves a large number of branches in the review (i.e., it will require extensive coordination to determine scope for each branch and development of the evaluation); (4) it will require Advisory Committee on Reactor Safeguards (ACRS) (or another advisory committee, such as Advisory Committee on the Medical Uses of Isotopes (ACMUI)) review; (5) it relates to an unresolved generic issue; (6) it involves issues with parameters that have a limited margin of acceptable values; or (7) the initial schedule developed, if not related to lack of resources, indicates the review will take longer than 1 year.

## **5.0 Responsibilities**

### **5.1 Project Manager**

The role of the NMSS Project Manager (PM) in the process is to manage the NRC's review of the ADR, either by performing the review (for instance, see Section 8) or by coordinating the reviews performed by other NRC staff. The PM is principally responsible for both the technical and administrative quality of all documents. The PM also ensures that the guidelines in the regulation, this document, and the NRC's Principles of Good Regulation are adhered to

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<sup>10</sup> 10 CFR 70.1, "Purpose."

throughout the process, and PMs and technical staff are jointly responsible for ensuring that the NRC's goals are met.

The PM will coordinate among all external and internal parties involved in the disposal request and its reviews, including any affected States. The PM is responsible for ensuring agency procedures for documentation and meetings are completed. The PM will maintain the relevant documents for ready access by the technical staff and will be responsible for transmitting information to and from the licensee or applicant and the technical reviewers. The PM will keep management updated on the status of the review of the disposal request. The PM is also responsible for working with the licensing assistant (LA) and other staff as applicable in order to open EPID numbers to ensure fee recovery and allow for tracking of the work activities.

If the PM receives incoming documents from the licensee or applicant, the PM will ensure they have been placed into ADAMS, as applicable. The PM is responsible for setting up and conducting meetings with licensees, including providing opportunities for public participation as necessary. When appropriate, the PM will develop a public meeting notice, to be posted on the external NRC website prior to the meeting date, as well as a public meeting summary following it.

Briefings related to a specific facility are typically handled by the PM for that facility with support from technical staff. Depending on the complexity of the review, the PM may need technical assistance from various technical reviewers in various areas, including environmental assessment, criticality, transportation, security, and dose modeling. If it is determined during the review that RAIs are required, the PM is responsible for evaluating and transmitting RAIs to the licensee or applicant.

Allegations regarding a specific request are to be referred to the appropriate Allegations Coordinator for action.

## **5.2 Performance Assessment (PA) Analyst**

Technical staff who review dose modeling aspects of § 20.2002 or § 40.13(a) ADRs are typically selected from the PA Branch (PAB) of DUWP. The PA analyst is responsible for conducting a technical review of the licensee's ADR in accordance with the guidance in this procedure, and ensuring that radiation exposures to members of the public are within the dose limits established by the NRC (see Section 7). Specifically, the PA analyst will perform the following:

- An acceptance review and a technical review of the licensee's dose assessment and associated documents will be conducted, including review of technical reports, and/or review of the development and implementation of conceptual and mathematical models to assess radiological impacts relating to the disposal. The dose assessment could include evaluation of radiological impacts to members of the public, including transportation workers, resulting from the transport of radioactive materials to a disposal facility or other location, or to a disposal facility or other worker at the receiving facility or site. For some types of disposals, the dose assessment could include unique exposure scenarios and pathways related to the reuse or recycle of the material not related to disposals involving burial of material.
- In conducting the analysis, the analyst should use a risk-informed, performance-based approach, focusing on those aspects of the review that are expected to have the greatest effect on the results. Sensitivity analysis could be conducted or consulted to help inform the analyst's review.

- The analyst may be asked to provide information to support the environmental review, in addition to the safety review, and should be cognizant of how the review results will be integrated into the overall evaluation and decision-making process.
- The analyst should document their findings, usually in the form of a TER or by simply providing informal SER input to the PM. The analyst should confer with the PM, at the initial stage of the technical review, on the form or type of document needed. The TER usually provides the main content of the SER. A TER needs to describe the nature of the technical review, specifically what the analyst reviewed, and a basis for why the analyst finds the analysis to be acceptable or unacceptable. The documentation of the analyst's findings should be reviewed by the PA Branch Chief prior to providing it to the PM. All Branch Chiefs whose staff contribute significantly to the SER will review and concur on the SER, including the PA Branch Chief. Accordingly, the plan for the technical review needs to allow time in the schedule for the SER reviews.
- The PA analyst also supports meetings with licensees to address dose modeling and other aspects of the technical review. The analyst is expected to take the lead during parts of the meeting related to their technical review area.

### **5.3 Licensing Assistant**

LAs provide overall support for the ADR process, including, but not limited to, reviewing documents for editorial requirements and fulfilling other responsibilities described in this document. In addition, upon receipt of a § 20.2002 or § 40.13(a) ADR from a licensee or applicant and its assignment to the responsible office or region, the LA will work with the PM, time and labor coordinator, and applicable staff to obtain an EPID number (and/or CAC if required) for the request, as applicable. EPIDs and CACs provide a means of tracking the work and billing, and as such, should be linked to the initial letter with the ADR from the licensee or applicant.

## **6.0 Processing**

### **6.1 Receipt and Initial Processing**

The following sections provide information to be considered when the ADR is received.

#### **6.1.1 Initial Review**

NMSS has the overall lead responsibility for the NRC alternative disposal request review process. In particular, NMSS will perform the review and approval of requests by materials licensees and for requests from decommissioning of shutdown reactors after they have been transitioned from NRR to NMSS. However, other offices also conduct alternative disposal request reviews, and regions may also submit Technical Assistance Requests. For instance, the NRR Division of Operating Reactor Licensing (DORL) will coordinate all reviews within NRR, and the Radiation Protection and Consequence Branch (ARCB) within the Division of Risk Assessment (DRA) of NRR will conduct technical reviews for operating reactors and shutdown reactors until transferred to NMSS. NRC staff should consult NMSS Policy and Procedures 5-1, "Reactor Decommissioning Program Procedures for Interfacing with the Office of Nuclear Reactor Regulation," and NRR Office Instruction COM-101, "NRR Interfaces with NMSS," for additional information and for roles and responsibilities for reactors that are in transition from

NRR to NMSS.<sup>11</sup>

Licensees, applicants, and other entities should submit the original document(s) in accordance with NRC regulations and guidance. They may be submitted by mail or electronically. This also applies to supplements to the ADR (e.g., responses to RAIs). This document should be placed into ADAMS and distributed according to the distribution established by the PM.

The PM and technical staff will also review the submittal for the presence of any sensitive unclassified non-safeguards information (SUNSI), which includes proprietary information and security-related information. SUNSI requires special handling in accordance with applicable regulations and processes. As a part of the review, the PM and the technical staff will review the information to determine if they agree with the licensee's justification and determine whether any information should be withheld. Specific information on NRC's procedures for handling SUNSI can be found in Management Directive 12.6, "NRC Sensitive Unclassified Information Security Program," and in applicable NMSS guidance.<sup>12</sup> Normally, disposal requests do not contain proprietary information.

Licensees and applicants should submit the original document(s) in accordance with the applicable regulatory requirements. For instance, 10 CFR 20.1007 provides several options for submittal of documents regarding 10 CFR Part 20.

PMs will ensure that a copy has been placed into ADAMS.<sup>13</sup> As appropriate, the Document Control Desk (DCD)<sup>14</sup> will docket the document and distribute it according to the internal distribution established by the PM. To facilitate processing, the PMs may also request that a licensee or applicant also submit a copy directly to the PM, along with an original submittal sent to the DCD.

### **6.1.2 Tracking Requests**

The Waste Disposal Tracking System (WDTS), which was initially developed by the FSME Division of Waste Management and Environmental Protection (now DUWP in NMSS) and is no longer maintained, was created to track § 20.2002 requests.<sup>15</sup> This database included a listing of requests from 1981 to 2006. Future requests and associated documentation should be entered into ADAMS with the appropriate profiles ("20.2002 Requests" or "40.13(a) and 40.51(b) Requests") so that they can be accessed and tracked, and the PM should ensure that this has

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<sup>11</sup> NMSS Policy and Procedures 5-1, Reactor Decommissioning Program Procedures for Interfacing with the Office of Nuclear Reactor Regulation, Revision 3, dated March 31, 2016, and NRR Office Instruction COM-101 can be used to enhance the NRC staff oversight of the decommissioning of the nuclear power reactors and research and test reactors as they transition from reactor operation to decommissioning. Both of these documents are internal procedures that are non-public.

<sup>12</sup> Previously, this was DWMEP Procedure 1.9, Section 1.9.5, "Handling Sensitive Information."

<sup>13</sup> Management Directive 3.53, "NRC Records and Document Management Program" and other applicable guidance provides information that should be utilized.

<sup>14</sup> The regulations provided within 10 CFR 20.1007, 10 CFR 30.6, 10 CFR 40.5, and 10 CFR 70.5, "Communications," and 10 CFR 50.4, "Written Communications," provide information on how applications filed under applicable regulations may be submitted to the Commission.

<sup>15</sup> A memorandum from DWMEP to NRR and the Regions (ML060180325) has instructions for use of the WDTS, including inputting data, when the database was used. The database is on the NRC internal webpage at <http://papaya.nrc.gov/NMSS/WDTS/home/login.cfm>. In the future, 20.2002 reviews may also be captured in other databases to be developed.

been performed.<sup>16</sup>

## **6.2 Acceptance Review**

After the PM requests an EPID number and as soon as practical following receipt of the ADR, the PM and the technical staff will perform an acceptance review. The acceptance review will typically include, but shall not be limited to: (1) an evaluation of the sufficiency of the disposal request to address the criteria in § 20.2002 and/or § 40.13(a), including associated guidance; and (2) a determination that there are no significant technical deficiencies that may preclude completion of the safety evaluation report and environmental review (see Sections 7 and 8). The acceptance review should be completed within 30 working days. The objective of the acceptance review is to verify that the ADR contains sufficient information before the staff begins an in-depth technical review. Following the acceptance review, the PM will send a letter to the licensee acknowledging the start of the review. In addition, the NRC staff should review the justification for proprietary information (see Section 6.1.1) as soon as practical.

Licensees and applicants may include the information listed below in their ADRs, which may not be explicitly listed in 10 CFR 20.2002. For example, some of the following items may be useful for NRC staff in preparing the Safety Evaluation Report and Environmental Assessment:

- Requested issuance date;
- Requested implementation period;
- Discussion of whether the submittal includes any regulatory commitments;
- Discussion of environmental considerations; and
- Discussion of whether the submittal is based on precedent.

## **7.0 Safety/Security Review**

### **7.1 Dose Assessments**

The PA analyst will review the dose assessment(s) provided by the licensee as part of their ADR, considering guidance provided in NUREG-1757, Volume 2, "Consolidated Decommissioning Guidance – Characterization, Survey, and Determination of Radiological Criteria - Final Report." Specifically, guidance in Chapters 5 and Appendix I provide information on conducting dose assessment reviews, and Appendix J provides guidance specifically related to burials. NUREG-2175, "Guidance for Conducting Technical Analyses for 10 CFR Part 61," and NUREG-1573, "A Performance Assessment Methodology for Low-Level Radioactive Waste Disposal Facilities," may also be consulted for guidance on performing dose assessment reviews for disposals involving burial of radioactive material. Specific acceptability of licensee approaches will depend on the alternative method of disposal requested.

At a minimum, the analyst will ensure that the description of the site conceptual and mathematical models, source term, and parameters used in the licensee's dose assessment are appropriate for the alternative method of disposal requested. In some cases, the applicant may provide screening, or other types of bounding arguments or analyses that do not necessitate development of site- or problem-specific assessments, nor use of sensitivity and uncertainty analyses. In those cases, the analyst should ensure that conditions are consistent with or bounded by the underlying assumptions in the screening analyses used to estimate radiological

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<sup>16</sup> SECY-07-0180, "Strategic Assessment of Low-Level Radioactive Waste Regulatory Program," listed Task 10, "Develop and implement national waste tracking system," as one of the low priority tasks that may be completed as resources allow. VLLW associated with ADRs will be considered for inclusion in this tracking system.

impacts to members of the public and demonstrate that the radiological criteria in Section 7.2 are met. Depending on the complexity of the request, the analyst may need to review or perform sensitivity and uncertainty analyses to provide confidence that the potential dose from the disposal is not underestimated.

Approaches outlined in previously-approved disposals and/or other technical reports, such as NUREG-1640, "Radiological Assessments for Clearance of Equipment and Materials from Nuclear Facilities," and NUREG-1717, "Systematic Radiological Assessment of Exemptions for Source and Byproduct Materials," for similar materials and site conditions can be used to provide support for the proposed approach and calculations being used to assess doses associated with specific sites and specific exposure scenarios. However, when considering these previously approved approaches and guidance, it is important to consider the intent for which the original documents were developed. For instance, NUREG-1640 was originally developed to support rulemaking efforts and was not intended to be used as a reference document with scenario-specific parameter values that could be used in place of site-specific parameter values. Therefore, although the exposure scenarios may be relevant and applicable to the disposal options being considered, specific parameter values published with these scenarios may not be accurate and require further justification by the licensee beyond simply referencing the scenarios documented in the report. The analyst should note where the assumptions in previously approved disposals and technical reports differ from the actual ADR and how this was accounted for in the licensee's and/or NRC's analysis.

### **7.1.1 On-Site Disposals (§ 20.2002 requests only)**

Licensees may request approval of onsite disposals during the course of operations prior to decommissioning and license termination. In these cases, the dose from on-site disposals will be included in any future dose evaluations for license termination. The contributions to potential dose to the average member of the critical group from all sources of residual radioactivity remaining at the site, including any on-site disposals, must be considered in demonstrating that LTR criteria are met.<sup>17</sup>

To ensure consistency with future dose modeling to demonstrate compliance with radiological criteria for license termination, the licensee may choose to develop site-specific scenarios and models following guidance in NUREG-1757, Volume 2, when evaluating the potential dose associated with on-site disposals (e.g., see Appendix I, "Technical Basis for Site-Specific Dose Modeling Evaluations," and Appendix J, "Assessment Strategy for Buried Material").

Guidance provided in NUREG-1757, Volume 1, Section 15.12 indicates that NRC's current practice is to approve requests for onsite disposal that result in doses not exceeding a "few millirem" per year consistent with SRM-SECY-06-0143. The NRC will also consider requests for onsite disposals, using dose criteria other than a few millirem per year; however, ADRs with projected doses significantly greater than a few millirem per year should be carefully reviewed to ensure that the benefit of approval outweighs the risk of creating a future legacy site. Section 15.12.2.1 goes on to state that a "few millirem" per year criterion encompasses 0-0.05 millisieverts (mSv), or 0-5 millirem (mrem) per year, total effective dose equivalent. Since, at the time of license termination, there may be multiple sources of residual radioactivity, including onsite disposals, constraining doses from onsite disposals to a few millirem per year will help increase the likelihood that the entire site will meet the LTR criteria without the need for remediation of the onsite disposal. Requests for onsite disposal should consider the doses from

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<sup>17</sup> Guidance on consideration of cumulative dose impacts is provided in Appendix K of NUREG-1757, Volume 2.

all previous onsite disposals. Thus, the few millirem per year dose criterion applies to the cumulative dose from all previous onsite disposals, although the doses from each of the disposals does not necessarily need to be summed (e.g., if the areas are not co-located or along the same flow path, it may not be necessary to sum the doses from each of the disposals).

In most cases, because doses from on-site disposals are expected to be a small fraction of the dose limit for unrestricted use of a site found in § 20.1402, the analyst does not need to consider potential dose from radon from source material, byproduct, or special nuclear material, consistent with the statements of consideration for the LTR found in Subpart E of 10 CFR Part 20 (62 FR 39083; July 21, 1997).<sup>18</sup> Likewise, in most cases, on-site disposal analyses should be calculated to peak dose within 1,000 years of the expected date of license termination of the facility, consistent with regulations in the LTR in Subpart E of 10 CFR Part 20. If controls are in place to limit receptor activities and access that may otherwise result in exposure from the onsite disposal, the licensee may be able to take credit for radioactive decay up until the expected date of license termination.

### **7.1.2 Off-Site Burial Disposals**

Licensees or applicants may request approval of off-site disposals at a disposal facility permitted by a State or Federal agency that is not a low-level waste disposal facility. Although 10 CFR 20.2002 does not specify a dose limit, as stated above, guidance in NUREG-1757, Volume 1, references “a few mrem” (or 0.05 mSv (5 mrem) per year) as one potential guideline for onsite disposals. While NUREG-1757, Volume 1, refers specifically to onsite disposals, 0.05 mSv/year (5 mrem/year) may be and has previously been used as a benchmark for offsite disposals. Nonetheless, acceptable values for the dose may vary based on unique scenarios for both onsite and offsite disposals and are evaluated on a case-by-case basis.

With respect to the exposure scenarios that should be evaluated for offsite burial disposals, guidance provided in NUREG-1757, Volume 2, Appendix I, “Technical Basis for Site-Specific Dose Modeling Evaluations,” and Appendix J, “Assessment Strategy for Buried Material,” can be used for evaluation of § 20.2002 requests for off-site disposals. For modeling disposal in waste facilities, additional guidance found in NUREG-2175, “Guidance for Conducting Technical Analyses for 10 CFR Part 61,” and NUREG-1573, “A Performance Assessment Methodology for Low-Level Radioactive Waste Disposal Facilities,” may also be used. For waste disposal facilities, timeframes specified in NUREG-2175 for performance assessment should be used for evaluation of a 10 CFR 20.2002 request, unless other timeframes have been appropriately justified in a licensee’s submittal.

The analyst should ensure that potential exposure groups are evaluated for each stage of the off-site disposal, such as workers transporting radioactive materials to the disposal facility, and disposal workers at the receiving site. The Division of Spent Fuel Management within NMSS may be able to assist with the transportation assessment, if needed or determined to be appropriate. NUREG-1640, “Radiological Assessments for Clearance of Materials from Nuclear Facilities,” and NUREG-1717, “Systematic Radiological Assessment of Exemptions for Source and Byproduct Materials,” may be leveraged to assess potential dose to members of the public

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<sup>18</sup> The statements of consideration for the LTR indicate that due to the impracticality of distinguishing between naturally occurring radon and radon resulting from licensed activities, the licensee does not need to demonstrate that radon from licensed activities is indistinguishable from background.

from various exposure scenarios, including dose to a worker transporting the radioactive materials or dose to a disposal worker at the disposal facility, or other exposure scenarios.

Both on- and off-site receptors should be considered in dose assessments for waste disposal facilities. The analyst may initially use simple methods to scope or bound the problem and then use more sophisticated approaches, if necessary. Radon from source, byproduct or special nuclear material should be considered, as appropriate, for off-site disposals.

The following general guidelines should also be considered in evaluations related to offsite disposals in a waste disposal facility:

- Dose assessments should consider transport of the material to the disposal facility and evaluate dose to members of the public, including transportation workers. In several cases, dose to the transportation worker resulted in the highest dose based on evaluation of a number of exposure scenarios for disposal of contaminated soils and other materials to RCRA disposal facilities (see, for example, the 10 CFR 20.2002 disposal request to send contaminated soils from Aberdeen Proving Ground to the U.S. Ecology Idaho disposal facility [NRC, 2010]). Dose assessments should consider placement of a well at the point of maximum exposure at the boundary of the disposal facility, unless appropriate justification can be made to eliminate the groundwater pathway. Well placement should bound the cumulative impacts of multiple sources at the downgradient boundary of the site if the radioactivity is assumed to be homogeneously distributed.
- Sensitivity analysis may be helpful in better understanding the impact of placing a well within the disposal facility if elevated areas of radioactivity are present, or if there is a large distance between the source and facility boundary.
- Dose assessments should consider intrusion into the waste (e.g., a basement is excavated or a well is drilled into the waste and the waste is brought to the surface where it can potentially expose a member of the public).<sup>19</sup>
- The licensee or applicant may take credit for a thick cover to eliminate exposure scenarios involving intrusion into the waste (e.g., if a cover is not expected to be eroded to a thickness less than 3 meters (m), or 10 feet (ft), during the evaluation period, then the basement excavation could be eliminated as basement excavations are typically less than 3 m (10 ft)).
- The licensee or applicant may take credit for waste acceptance criteria (WAC) that may constrain the total inventory or concentrations of waste placed in the disposal facility. For example, WAC for the U.S. Ecology Idaho disposal facility were used to limit the dose from intrusion into the waste for 10 CFR 20.2002 requests submitted by Hematite.

The licensee or applicant should use a graded approach for dose modeling. For example, if the licensee or applicant can demonstrate that the dose is less than the benchmark dose limits using screening or bounding exposure scenarios, no additional analysis may be necessary. In

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<sup>19</sup> The analyst should be aware that commonly used decommissioning codes such as RESRAD and RESRAD-OFFSITE are not equipped to calculate external dose to members of the public who may be exposed to residual radioactivity underground (e.g., dose to a member of the public residing in a basement). RESRAD and RESRAD-OFFSITE consider receptors located on the ground surface and not within a basement located under-ground and surrounded by a source of radioactivity. The analyst may be able to use other codes such as MCNP or Microshield to calculate effective “shielding factors” for use in RESRAD to estimate the dose to members of the public for the basement excavation scenario or other source/receptor geometries not included in the RESRAD conceptual model, or the licensee may be able to manage uncertainty with conservative assumptions using information from the literature or other arguments (Barr et. al., 2010).

some cases, the licensee or applicant may need to evaluate reasonably foreseeable exposure scenarios. For more complex<sup>20</sup> disposal requests, the licensee or applicant may also need to consider less likely, but plausible exposure scenarios. In those cases, ADRs with doses above a few millirem per year may be acceptable considering the likelihood of the scenario (e.g., doses may be higher than a few millirem for less likely but plausible scenarios).

### **7.1.3 Reuse or Recycle of Licensed Materials**

Licensees or applicants may request approval to reuse or recycle licensed materials as a means of alternative disposal. In these cases, the evaluated exposure scenarios are likely to differ from the exposure scenarios evaluated for disposals involving burial of radioactive material. As mentioned in the previous sections, NUREG-1640, "Radiological Assessments for Clearance of Materials from Nuclear Facilities," and NUREG-1717, "Systematic Radiological Assessment of Exemptions for Source and Byproduct Materials," may be useful for assessing potential dose to workers involved in the transport of the materials or involved in other activities related to the recycle or reuse of the materials. Licensees or applicants may also propose the use of consensus standards or other information from the literature to support the § 20.2002 request. When relying on previously published documents, the licensee or applicant should provide sufficient information to demonstrate that the specific conditions associated with their site are consistent with or bounded by the underlying assumptions in the dose modeling of the consensus standard or other technical report (e.g., comparison of the chemical and physical forms of the materials, expected disposition paths, exposure scenarios). In some cases, the licensee may need to provide additional supplemental analysis to support the disposal request. This includes justification for the parameter values being considered when evaluating specific scenarios previously considered in other publications. NRC staff should verify that the use of the consensus standard or technical report in lieu of a disposal-specific dose assessment is appropriate, and that use of the consensus standard (or technical report) for the particular disposal request will not significantly underestimate the dose to members of the public from the disposal.

Dose assessments related to the reuse and recycle of radioactively contaminated materials should consider members of the public, including transportation, facility and disposal facility workers, as well as other members of the public who may be exposed to reused or recycled radioactive materials in the future. The following general guidelines should be considered in evaluations related to offsite disposals involving reuse or recycle of radioactive materials:

- Dose assessments should consider dose to members of the public, including workers involved with transport or handling of materials at receiving facilities.
- Dose assessments should consider transport of the material to facilities that may reuse or recycle the material.
- Dose assessments should consider reasonably foreseeable chemical, physical or other material processing activities that may lead to unique worker exposure scenarios (e.g., heating of radioactively contaminated material leading to vaporization of radioactivity and potential worker inhalation dose) at the site of reuse or recycle.
- The licensee or applicant should consider all reasonably foreseeable disposition paths of the radioactively contaminated material. (For example, radioactively contaminated calcium

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<sup>20</sup> A more complex disposal request may be characterized by higher projected doses close to the dose limit benchmark, or one in which there is less certainty with respect to future exposure scenarios. If the risk from the disposal is expected to be very low, the licensee or applicant may be able to perform the dose modeling using bounding exposure scenarios without the need to evaluate alternative exposure scenarios.

fluoride, a byproduct of the uranium hexafluoride conversion process, is reused by a briquette manufacturer. The briquettes are used as a fluxing agent in the production of steel, resulting in the creation of slightly contaminated slag. The slag may be used as a component in cement or as road fill [NRC, 1992]. The final disposition of the uranium contaminated materials (used as a component of cement or in road fill) should be assessed or arguments presented for why other scenarios are more limiting).

- For radioactively contaminated material where disposition paths are not well known (e.g., reuse of radioactively contaminated metals), use of a lower dose limit benchmark may be appropriate to account for uncertainty in exposure pathways and presence of multiple sources.
- A graded approach can be used for performing the dose assessment with more risk-significant problems requiring more rigorous technical analyses. In some cases, the licensee or applicant can present arguments on why only a subset of exposure scenarios need to be considered based on the low likelihood or risk of alternative exposure scenarios.
- Technical references can be used to support conclusions regarding the expected risk to members of the public if the supporting analyses are clearly described and related to the disposal or transfer request (e.g., a licensee used an IAEA report [Jones et al., 2011] on assessment of impacts related to the recycling of light bulbs containing tritium, krypton-85, and thorium when requesting approval for recycle of lamps containing krypton-85 [NRC, 2010]). Supplemental analyses can be prepared to complement the analyses in the technical reports to provide adequate information to support the request.
- Licensees and applicants may take credit for contractual obligations or agreements that limit the quantity of radioactive material released (e.g., Cabot Supermetals submitted a request to allow reuse of uranium contaminated wastewater filtercake, a waste from ore processing, as feed material to a cement kiln. Limits on uranium concentrations in the filtercake and ratios of filtercake to other feed materials were established in the contract between the licensee and the receiving facility [NRC, 2005]).

NRC's approach generally does not allow recycle and reuse into consumer products, including food preparation, personal items, household items, and products used by children. Only certain acceptable restricted industrial uses have been approved where direct contact of solid materials with the general public can be minimized and/or avoided.

## **7.2 Dose Guidelines**

### **7.2.1 § 20.2002 Requests**

The 10 CFR Part 20 dose limit for individual members of the public is 1 mSv/year (100 millirem/year).<sup>21</sup> The NRC typically approves § 20.2002 requests that will result in a dose to a member of the public (including all exposure groups) that is no more than "a few millirem/year" (see SECY-07-0060, Attachment 1, and NUREG-1757).<sup>22</sup> NRC selected this criterion because it is a fraction of the natural radiation dose (approximately one percent of the radiation exposure received by members of the public from background radiation), a fraction of the annual public

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<sup>21</sup> See § 20.1301.

<sup>22</sup> NUREG-1757, Volume 1, Rev. 2, Section 15.12.2.1 clarifies that doses less than 0.05 mSv/year (5 mrem/year) is consistent with the "few millirem per year" criterion, the current practice for approval of onsite disposals. At the time of license termination, there may be multiple sources of residual radioactivity, including onsite disposals. By generally constraining doses from onsite disposals to a few millirem per year, it is likely that the entire site will meet the LTR criteria without remediation of the onsite disposal. The guidance also recognizes other dose criteria higher than a few millirem per year may be approved, but that approvals of higher allowable doses should consider the risk of creating a future legacy site (see NUREG-1757, Volume 1, Rev. 2, Section 15.12.2.2 for additional details).

dose limit, and an attainable objective in the majority of cases.

For the dose assessment, licensees or applicants proposing disposals that result in doses not exceeding a 0.01 mSv (1 mrem/year) dose criterion generally do not have to consider cumulative doses from multiple sources. There is a possibility that an individual would be exposed to very low amounts of radioactivity as a result of more than one alternative disposal due to material released from licensed facilities (e.g., from products made from solid materials, disposal in landfills, material present in a road bed, etc.). The potential for the same individual to be involved in concurrent scenarios is physically constrained by the relatively limited amount of materials that could be released from licensed facilities, geographical distances between licensees, and the different locations where scenarios could occur. Based on these considerations, the likelihood of multiple exposure scenarios for a single individual is very small. If the dose from a proposed disposal results in doses of around 0.01 mSv (1 mrem/year), any combined exposure to an individual from multiple disposals would still be a very small fraction of the NRC's public dose limit of 1 mSv/year (100 mrem/year).

### **7.2.2 § 40.13(a) Requests**

The regulations in 10 CFR 40.51(b)(3) provide for the transfer of source material to persons "exempt from the licensing requirements of the Act and regulations" in Part 40. Licensees have requested approval for the transfer of unimportant quantities of source material defined in 40.13(a), which provides an exemption from the licensing and other requirements in Part 40. The regulations do not require NRC's prior written approval for transfers of unimportant quantities of source material to exempt persons. However, for some limited types and quantities of materials that fall under the exemption for unimportant quantities of source material in § 40.13(a), transfers under § 40.51(b)(3) could potentially result in scenarios where public dose limits in 10 CFR Part 20 could be exceeded. Therefore, licensees and applicants should request NRC review and approval of such transfers, which provides the NRC staff an opportunity to develop or evaluate dose assessments prior to transfer of these unimportant quantities. The dose benchmarks associated with review of § 40.51(b)(3)/40.13(a) transfer requests involving disposal in appropriate facilities such as a RCRA Subtitle C facility (see additional information below about other types of transfers/disposals) are detailed in SRM-SECY-00-0201, and summarized below.

- Requests for transfers would normally be approved if the estimated dose to a member of the public is unlikely to exceed a dose limit of 0.25 mSv (25 mrem/year).
- The Commission should be kept informed of transfer and disposal requests that the NRC receives for evaluation of material within the 0.25 mSv (25 mrem/year) to 1 mSv (100 mrem/year) range, as well as their resolution status.
- Staff may also submit applications for Commission approval with calculated exposures above 1 mSv (100 mrem/year) if the staff believes such approvals are justified due to the unique circumstances of the specific case under review.

SRM-SECY-00-0201 refers specifically to releases of material for disposal in certain facilities (e.g., a RCRA Subtitle C facility authorized for such material). The SRM goes on to note that if releases of exempt material for other purposes are sought (e.g., recycle), the staff should evaluate the acceptability of the potential dose on a case-by-case basis until the Commission's approach for the release of solid material is resolved. Therefore, the dose benchmarks listed above are not directly applicable for the recycle of exempt or unimportant quantities of source material under § 40.51(b)(3)/40.13(a). Since larger uncertainty exists with respect to ultimate

disposal pathways and exposure scenarios associated with reuse and recycle of contaminated material, lower dose limit benchmarks may be more appropriate for those types of disposals.

### **7.3 Criticality and Physical Security Reviews**

For 20.2002 requests involving special nuclear material, the potential for criticality will need to be addressed in the SER. These requests should be coordinated with NMSS DUWP, which will ensure that it is sent to the appropriate division for review by staff who will provide expertise in review and evaluation of criticality safety. NMSS may also provide input for an SER for these instances.

Although physical security is not expected to be an issue for these types of disposals because the concentrations are so low, certain cases may require special consideration. For example, disposals of special nuclear material would require an exemption from Part 70 requirements for security. The PM should request technical assistance from the Office of Nuclear Safety and Incident Response (NSIR) in reviewing and evaluating any security issues associated with a proposed disposal involving special nuclear material. NSIR should also provide input to the SER.

### **7.4 Safety Evaluation Reports**

Although there is no specific regulatory requirement to issue a safety evaluation report (SER) as part of the disposition of an ADR, the NRC staff is obligated to document significant decisions in accordance with NRC Management Directive (MD) 3.53, "NRC Records and Document Management Program," Handbook 1, Part I, "Recordkeeping Requirements." Specifically, MD 3.53 requires that, in order to provide adequate documentation of the organization, functions, policies, decisions, procedures, and essential transactions of the NRC, records shall be created and maintained that are sufficient to document the formulation and execution of basic policies and decisions and necessary actions taken, including all significant decisions and commitments reached orally (person to person, by telecommunications, or in conference).

Consistent with the above discussion, the SER provides the technical, safety, and regulatory basis for the NRC's decision regarding a request. The SER should provide sufficient information to explain the staff's rationale to someone unfamiliar with the licensee or applicant's request. The SER includes a brief description of the proposed request, the regulatory requirements related to the issue, and an evaluation that explains why the staff's disposition of the request satisfies the regulatory requirements. Given that the SER serves as the record of the staff's disposition of an ADR, the information relied upon in the SER and supplied by the applicant should be appropriately maintained. This is not meant to hinder the effectiveness or use of questions and clarifications by telephone or in meetings. However, if the information is important in the staff's decision-making process and is not otherwise in the public domain or reasonably inferred by the staff, it must be formally provided by the licensee.

For most disposal requests, the PA analyst provides SER input or the content of the SER is based on a TER developed by the PA analyst (see Section 5.2). In some cases, the PM will add input as appropriate from criticality safety and/or physical security reviewers, where disposals involve special nuclear material (see Section 7.3). When the PA analyst determines that there is sufficient information to complete a technical review of a disposal request, they should develop the draft SER or TER for the analyst's Branch Chief's review. A draft SER or TER is also requested to support an RAI. Subsequently, the PA analyst will submit a final SER input or TER to the PM. The PM will then prepare the final SER and obtain concurrence from

the PA Branch Chief, in addition to Branch Chiefs for other branches that may have contributed to the review, the PM's Branch Chief, OGC, and the PM's Division Director or Deputy Director.

For offsite disposals in within NRC's jurisdiction, not Agreement State jurisdiction, such as disposals in a landfill, the SER should contain the following or similar language in the conclusions section for 10 CFR 20.2002 authorizations, as appropriate:

"Further, in accordance with the provisions of 10 CFR [30.11, 40.14, and/or 70.17],<sup>23</sup> "the Commission may, upon application by an interested person or upon its own initiative, grant such exemptions from the requirements of the regulations as it determines are authorized by law and will not endanger life or property or the common defense and security and are otherwise in the public interest." Based on the above analyses, this material authorized for disposal poses no danger to public health and safety, does not involve information or activities that could potentially impact the common defense and security of the United States, and it is in the public interest to dispose of wastes in a controlled environment such as that provided by the licensed landfills [may want to add more descriptive detail on case-specific basis e.g. state-regulated landfill]. Therefore, to the extent that this material authorized for disposal in this 20.2002 authorization is otherwise licensable, the staff concludes that the material authorized for disposal is exempt from further Atomic Energy Act (AEA) and NRC licensing requirements."

See the list of historical ADR reviews, provided in an appendix to this guidance document, for examples of SERs.

## **7.5 Requests for Additional Information**

The NRC staff may issue RAIs to licensees that request approval of alternative disposal procedures. RAIs enable the staff to obtain relevant information needed to make a regulatory decision on a request that is fully informed, technically correct, and legally defensible. RAIs are necessary when the information is not included in the initial submittal, is not contained in any other docketed correspondence, or cannot reasonably be inferred from the information available to the staff. RAIs should be directly related to the applicable regulatory requirements associated with the request. RAIs should also be consistent with the applicable codes, standards, and guidance (e.g., Regulatory Guides, NUREGs). RAIs should not be used as general information requests or as a means to encourage commitments from licensees.

During the review, the analyst(s) will draft a TER/SER. During this timeframe, the analyst(s) may also develop draft RAIs for the PM's review.<sup>24</sup> The purpose of these drafts is to ensure that all technical areas are addressed in the TER/SER and to help determine the importance (or relative insignificance) of additional information needs. RAIs should be in the form of a request for information, clarification, or revision to the applicant's submittal. RAIs should also be as specific as possible to avoid confusion by the applicant and should reference specific portions of regulations and/or guidance, when applicable. In all cases, the regulatory and technical basis (e.g., reference to a specific regulation or guidance) and risk significance, if applicable, for the requested information should be included.

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<sup>23</sup> The regulations in 10 CFR 30.11, 40.14, and 70.17 all provide criteria for "Specific exemptions."

<sup>24</sup> A draft SER and EA (see Sections 7 and 8) should be prepared prior to transmittal of the draft RAI. Although RAIs may be developed during the acceptance review, they should be limited to obvious information insufficiencies.

For ADRs, the analyst(s) conducting the review should notify the PM that information gaps in the licensee's submittal may require issuing RAIs. Following the development of the draft RAI, the PM should review the draft RAI and consider the need for the RAI. It should then be transmitted to the licensee, including an opportunity for the licensee to have a clarifying call with NRC staff and a request for the licensee to determine if SUNSI is present and properly marked. If requested or otherwise practical, the PM should hold a meeting or conduct a telephone conference with the licensee prior to transmittal of the formal RAI letter to identify and discuss significant issues/deficiencies and staff's expectations. The PM and the analyst(s) should use these meetings or teleconferences to clarify issues and answer basic questions. The PM and the analyst(s) will also highlight any significant issues/deficiencies for management attention as they arise.

The PM will create a concurrence package containing the RAI and cover letter for review by the PM's Branch Chief. The RAI questions should normally be included as an enclosure to a letter to the licensee. The PM would develop this cover letter, which should:

- Identify the document being reviewed and any previous RAIs (as appropriate);
- Summarize significant questions;
- Refer to the enclosure(s) for the complete questions (if one is provided);
- Include an expected response date;
- Discuss a meeting or conference call, if appropriate, to discuss the RAI; and
- Identify the PM as the point of contact for the response.

The staff should leverage appropriate communications means, such as public meetings and teleconferences, to the maximum extent possible, in order to improve clarity and understanding both during the development of draft RAIs and after sending RAIs to licensees. Engagement with licensees should facilitate staff understanding of licensee submittals, reduce the number of RAIs needed, and heighten licensees' understanding of RAIs and their ability to respond effectively. These interactions are to be conducted in accordance with our NRC openness policies and documented, as appropriate, in ADAMS.

Site visits and conference calls with the licensee have been found to limit the number of RAIs and decrease the overall review time. The PM should document any site visits and conference calls with the licensee. In some cases, it may be warranted to perform a regulatory audit in order to identify additional information that a licensee should formally submit. Following the audit, the information needed should be requested via the RAI process.

## **8.0 Environmental Reviews**

NRC approvals of ADRs generally require preparation of an EA. NUREG-1748, "Environmental Review Guidance for Licensing Actions Associated with NMSS Programs," contains guidance for staff on how to comply with the National Environmental Policy Act (NEPA) for NRC licensing decisions. NUREG-1748 should be referred to for additional guidance, including the proper format and content of an EA.

An EA is a concise public document that provides sufficient evidence and analysis for determining whether to prepare an environmental impact statement (EIS)<sup>25</sup> or a Finding of No

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<sup>25</sup> As stated in NUREG-1748, "An EIS is a publicly available document detailing the environmental impacts associated with the proposed action and reasonable alternatives."

Significant Impact (FONSI).<sup>26</sup> In the majority of the cases, the EA will result in a FONSI. The regulations in 10 CFR 51.21, "Criteria for and identification of licensing and regulatory actions requiring environmental assessments," and 10 CFR 51.30, "Environmental assessment," provide requirements for EAs. The regulations in 10 CFR 51.32, "Finding of No Significant Impact," specify the content of a FONSI and the regulations in 10 CFR 51.35, "Requirement to publish finding of no significant impact; limitation on Commission action," require that the FONSI be published in a *Federal Register* notice (FRN) before the approval of the ADR is issued. Before the FONSI is published, the approved EA should be placed in ADAMS under the appropriate docket and made publicly available. An example FRN containing an EA/FONSI is referenced in the Table of Contents of this document, as well as a sample memorandum letter regarding the FRN.

With regard to the content of EAs, both radiological and non-radiological impacts should be considered when preparing an EA, including consideration of impacts associated with transportation of radioactive materials to the receiving facility. In some cases, licensees, applicants, or NRC staff may rely on assessments performed and documented in generic environmental impact statements, such as NUREG-0586, "Final Generic Environmental Impact Statement on Decommissioning of Nuclear Facilities," NUREG-1496, "Generic Environmental Impact Statement in Support of Rulemaking on Radiological Criteria for License Termination of NRC-Licensed Nuclear Facilities," and NUREG-0170, "Final Environmental Statement on the Transportation of Radioactive Materials by Air and Other Modes," to support preparation of the environmental assessment. Technical analyses conducted to support the SER may also be summarized in the EA. Alternatives to the proposed action should be considered, as appropriate, including evaluation of alternative disposal methods and alternative transportation modes or routes. In some cases, it may be appropriate for licensees or applicants to include mitigating actions that can be taken to reduce environmental impacts (e.g., constraints on concentrations or quantities of materials disposed; depth of burials; or other constraints). The staff initially will rely on the analyses and information provided by the licensee in its ADR.

The EA for disposal requests is prepared by the PM, technical staff, regional staff, or Environmental Review Branch (ERB) staff. The PM may receive support from the ERB to review EAs that are developed by the PM or other staff. The PM should consult with the ERB Chief to determine if a Technical Assistance Request (TAR) is needed to review an EA or if ERB assistance is needed to prepare the EA. The ERB Chief will respond to the PM with the name of the staff member assigned to conduct the review. The results of the ERB review of an EA may be documented in an email or memo to the PM and their BC. The basic details of the environmental review process are in Sections 1.3 and 1.4 of NUREG-1748.

After appropriate review and development of a basis for issuing an EA, the EA should be developed and include statements similar to the following, as appropriate:

- For the introduction and/or identification of the proposed action: "[t]his proposed action would also exempt the site authorized for disposal of the low-contaminated material from further Atomic Energy Act (AEA) and NRC licensing requirements."
- For the environmental impacts of the proposed action: "[t]he proposed action and attendant exemption of the site from further AEA and NRC licensing requirements will not significantly

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<sup>26</sup> As indicated in NUREG-1748, the EA should provide sufficient evidence and analysis of impacts to support a determination of a finding of no significant impacts (i.e., FONSI). If an EA does not result in a FONSI, then the potential impacts from the proposed activities require the preparation of an EIS.

increase the probability or consequences of accidents, no changes are being made in the types of any effluents that may be released off site, and there is no significant increase in occupational or public radiation exposure at the offsite disposal facility.”<sup>27</sup>

Prior to finalizing the EA, the PM should consult with the appropriate State regulatory agencies.<sup>28</sup> In general, this may include coordination with agencies such as their Department of Health. The PM should seek the assistance of the Federal, State, and Tribal Liaison Branch in NMSS to identify the appropriate State official(s) in which to send the EA. The PM should send the draft EA to the State where the proposed disposal (or receiving) facility is located as well as the State where the licensee submitting the disposal request is located, with a specified review schedule provided (a 30-day review period is recommended). Any comments received should be addressed as appropriate and incorporated into the final EA, which will be included in the FRN. A summary of the EA or the entire EA can be provided in the FRN.

In consultation with the LA, the PM will prepare the FRN for the EA/FONSI and forward it to the Office of Administration for publication in the *Federal Register*. If applicable, ERB should be on concurrence for the FRN. The PM will perform a SUNSI review to make sure all referenced documents are publicly available. Accordingly, the PM should also send it to the licensee (or other, as appropriate) for a review to ensure all SUNSI is appropriately marked.

See Section 11.0 of this guidance for additional coordination measures for disposal requests. In certain cases, an EA may be issued for public comment. Section 10 of this guidance, as well as SECY-06-0056, Enclosure 3, provides guidelines on when a request may require public outreach to improve transparency in the approval process. As applicable, ERB should also be consulted to determine if public outreach should be conducted.

## 9.0 Final Documentation

There are three possible outcomes from the NRC staff ADR review that require formal final documentation: (1) approval of the request (with a license amendment or with a letter, which may include an enclosed Safety Evaluation Report); (2) denial of the request; or (3) an acknowledgement letter if the applicant/licensee withdraws the request.

As identified in “Clarification of the Authorization for Alternate Disposal of Material Issued Under 10 CFR 20.2002 and Exemption Provisions in 10 CFR (FSME-12-025),” there are several situations in which the NRC and an Agreement State would be involved in the ADR approval for offsite disposal at an unlicensed facility. If the requester is an NRC licensee and the unlicensed facility is located in an Agreement State, then the NRC would approve the disposal request and the Agreement State would issue an exemption to the unlicensed facility. If the requester is an Agreement State licensee and the unlicensed facility is located within NRC jurisdiction, then the Agreement State would approve the disposal request and the NRC would issue an exemption to the unlicensed facility. In all of these cases, the NRC should document NRC and Agreement State involvement in the approval of the disposal request. For instance, if an Agreement State approves the disposal and the NRC issues the exemption, the NRC will still document the approval and the exemption.

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<sup>27</sup> Note that the second bullet is referring to releases that occur at the offsite disposal facility after the transfer of radioactive material is complete, and is not referring to the transfer of material from the licensee’s site to another site, which could be considered an increase in offsite releases.

<sup>28</sup> See NUREG-1748, and Appendix D in particular, for additional guidance on these consultations.

## 9.1 License Amendments

Typically, the NRC approves ADR requests from materials and fuel cycle licensees with a license amendment and approves ADRs from reactors with a letter and an enclosed Safety Evaluation Report.<sup>29</sup>

### 9.1.1 Notice for Opportunity for Hearing

Any person whose interest may be affected by the granting, renewal, or licensee-initiated amendment of a license may file a request for a hearing. Regulations governing a request for a hearing are contained in 10 CFR Part 2, "Agency Rules of Practice and Procedure," and in particular, 10 CFR 2.309, "Hearing requests, petitions to intervene, requirements for standing, and contentions."<sup>30</sup> A license amendment is typically not required for reactor disposal requests but typically is required for disposals for materials and fuel cycle licensees, as noted in the preceding section. If a license amendment is required, then as soon as practicable following the satisfactory completion of the acceptance review for a license amendment, the PM will, as necessary, provide notice of an opportunity for a hearing. It is recommended that staff prepare and publish a *Federal Register Notice* (FRN) announcing, as appropriate: (1) the staff's consideration of the license amendment request; (2) an opportunity for public comment, and (3) an opportunity for a hearing. A notice may also be posted on the NRC's public webpage, as applicable.<sup>31</sup>

If the licensee or applicant submits supplemental information that expands the scope of the proposed license amendment beyond the description on the NRC staff's original notice, then re-noticing of the proposed amendment might be required. As such, it is recommended that the description of the proposed amendment in the original notice be brief and broadly characterize the aspects of the amendment in a form such that the general public can readily understand the purpose of the amendment. The notice should not be prescriptive as to a precise section number, technical specification, wording, or specific engineering parameter values.

If an ADR is a part of a license amendment or license issuance, there would be an opportunity for a hearing on the amendment or license, and the disposal or transfer could be part of that hearing. The PM should consult OGC if further clarification is needed on individual ADRs, as needed.

As applicable, an FRN should be prepared in accordance with the instructions provided above and applicable regulations and guidance.

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<sup>29</sup> SECY-06-0056, "Improving Transparency in the 10 CFR 20.2002 Process," and SECY-07-0060, "Basis and Justification for Approval Process for 10 CFR 20.2002 Authorizations and Options for Change," indicate that the agency uses two different approval processes for § 20.2002 disposal requests and provide the bases for these processes. As noted in SECY-07-0060, the NRC typically does not amend reactor licenses as it does licenses for materials and fuel cycle facilities. In SRM-SECY-07-0060, the Commission approved the staff's recommendation to continue approving reactor 10 CFR 20.2002 requests by letter and fuel cycle and material licensee requests by license amendment. Likewise, the staff should also approve 40.13(a) requests from reactor licensees by letter and requests from fuel cycle and material licensees by license amendment.

<sup>30</sup> Instructions and requirements are also provided in 10 CFR Part 2: Rules of Practice for Domestic Licensing Proceedings and Issuance of Orders (<https://www.nrc.gov/about-nrc/regulatory/adjudicatory/part2revisions.html>). FSME Policy and Procedures 6-9, "FSME Staff Support of the Hearing Process in 10 CFR Part 2" (non-public) and other documents provide additional guidance.

<sup>31</sup> See the webpage currently entitled, "Hearing Opportunities and License Applications" (<https://www.nrc.gov/about-nrc/regulatory/adjudicatory/hearing-license-applications.html>).

## **9.2 Exemptions**

### **9.2.1 Exemptions for §20.2002 off-site burial cases**

The § 20.2002 authorization is issued to the NRC licensee who is using the ADR to dispose of the material. For off-site disposals, the NRC or an Agreement State issues an exemption from the requirements for a license for possession of the radioactive material to the off-site facility. This exemption is cited in the approval letter and/or license amendment. The specific language in the cover letter should be similar to the following, as appropriate, if the request is approved:

"In accordance with the provisions of 10 CFR [30.11, 40.14, and/or 70.17], "the Commission may, upon application by an interested person or upon its own initiative, grant such exemptions from the requirements of the regulations . . . as it determines are authorized by law and will not endanger life or property or the common defense and security and are otherwise in the public interest." To the extent that the material authorized for disposal in this 20.2002 authorization is otherwise licensable, the staff concludes that the site authorized for disposal is exempt from further AEA and NRC licensing requirements. The enclosed safety evaluation report concludes that the exemptions are authorized by law and will not endanger life or property or the common defense and security and are otherwise in the public interest. The staff also evaluated the environmental impacts of the exemptions and determined that granting these exemption(s) would not result in any significant impacts. For this action, an Environmental Assessment and Finding of No Significant Impact were prepared and published in the Federal Register (XX FR XXXXX). Accordingly, pursuant to 10 CFR [30.11, 40.14, and/or 70.17], the exemptions are granted and effective immediately."

For onsite disposals, no exemption is needed, because the radioactive material is already licensed and remains under license. When the license is terminated, the dose associated with residual radioactivity remaining at the site, including the onsite disposals, will be evaluated to ensure the LTR criteria are met for release of the site.

### **9.2.2 Exemptions for §20.2002 reuse or recycle use cases**

For cases of reuse or recycle, the exemption will be different from that in the section above for offsite burial disposals. For reuse or recycle, the specific exemption must be written to apply to any person who possesses or uses, in the future, the licensed materials being recycled or reused. As for the offsite burial case, the exemption must clearly describe the material, including the concentration acceptable to NRC staff.

The exemption for reuse or recycle cases is expected to be issued by the regulator of the licensee dispositioning the material. In this case, the regulator for an Agreement State receiving the material does not need to issue another exemption, as the exemption issued by the regulator would apply to all possessors of the material.

### **9.2.3 Exemptions for § 40.13(a) Requests**

The regulations in 10 CFR 40.13(a) codify an exemption, so the regulator would not issue a concurrent specific exemption. The regulations in § 40.13(a) exempt any person from NRC licensing requirements "to the extent that such person receives, possesses, uses, transfers, or delivers source material in any chemical mixture, compound, solution, or alloy in which source material is by weight less than one-twentieth of 1 percent (0.05 percent) of the mixture, compound, solution, or alloy." The regulations in § 40.51(b)(3) provide licensees a mechanism

for transfer of unimportant quantities of source material, which are exempt from licensing under 40.13(a).

### **9.3 Approval of ADRs**

The PM and LA will prepare the approval package for concurrence (see Sections 7 and 8 for more information). This package should include:

- A cover letter;
- A license amendment as an enclosure (if required);
- The SER as an enclosure; and
- Reference to the EA (which may result in a FONSI) that was published in an FRN.

In addition, OGC shall review and concur on all packages for legal adequacy and defensibility (i.e., no legal objection).<sup>32</sup>

Following approval, the LA will update the docket file (if applicable), and will close the EPID if no follow-up actions are required.

An Environmental Review should be completed in accordance with Section 8 of this guidance document. Although standard practice is to publish a final EA after consultation with the affected States, in certain cases, a draft EA may also be published for public comment. The regulations in 10 CFR 51.33(b) provide a list of circumstances in which it may be appropriate to issue a draft FONSI for public comment, including a finding by the appropriate NRC staff director that the preparation of a draft FONSI would further the purposes of NEPA. The PM should consult with NMSS management to determine if this additional step is appropriate.

### **9.4 Denial of ADRs**

Early management attention and engagement should be provided whenever staff is considering denial of a request. Management recognizes that some requests may not satisfy NRC safety regulations and warrant a denial. Whenever a denial is being considered, a BC-level meeting between the technical branches (TBs), PMs, and other applicable NRC staff should be held at the earliest opportunity. If the outcome of that meeting is anything other than alignment to continue the staff's review, and in particular, if it is determined that the ADR should be denied, the appropriate managerial level should be briefed expeditiously. The BCs should collaborate to prepare a joint briefing with options and recommendations, even if differing views exist. If a denial recommendation is supported, a denial SER should be prepared and processing initiated.

Assuming the Division Director (or other delegated authority) agrees with this path going forward, the PM will have initial contact with the licensee or applicant to arrange for a teleconference, informing the licensee or applicant that the staff plans to deny the ADR, and informing the licensee or applicant that the staff will discuss the basis for denial during the call (which will include the Division Director). The PM should also coordinate with the applicable TB reviewers to arrange for them to be available during the teleconference. TB reviewers should be prepared to discuss their technical positions.

During the call, the Division Director (with assistance from TB reviewers as necessary) will

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<sup>32</sup> Although specific to NRR, refer to NRR Office Instruction COM-109, "NRR Interfaces with the Office of General Counsel," for further details regarding OGC review.

provide the basis for the staff's plan to deny the request. The Division Director will offer the licensee an opportunity to withdraw<sup>33</sup> the ADR or to request a public meeting for further discussion of the issues. The Division Director should make it clear that if the licensee or applicant neither submits a formal withdrawal in writing by a specific date (e.g., 2 or 3 days from the call) nor requests a public meeting by the same date, the NRC staff will issue the denial.

As indicated previously, the staff should prepare an SER documenting the basis for a denial, which can be done in parallel with the activities described above. The denial SER does not need to address all aspects of the licensee's or applicant's request, but should be sufficient to support a conclusion that the ADR is not acceptable (i.e., the SER does not need to address aspects of the ADR that are acceptable). The PM should also prepare a denial transmittal letter and an FRN of the denial, if applicable. The PM should obtain concurrences from the LA, applicable TBs, OGC, and the applicable Branch Chiefs. The Division Director (or Deputy Director, if delegated this responsibility) is added to the concurrence block and is the signature authority for the denial transmittal letter.

### **9.5 Withdrawal of ADRs**

The licensee may choose to withdraw its ADR based upon its own initiative or as the result of a planned denial by the NRC.

If the licensee or applicant decides to withdraw the ADR, the PM should prepare a transmittal letter documenting the withdrawal (see ADAMS Accession No. ML082260953 for a 10 CFR Part 50 license amendment withdrawal template as an example). If applicable, the PM should also prepare a *Federal Register* Notice of Withdrawal (see ADAMS Accession No. ML14013A020 for a 10 CFR Part 50 license amendment withdrawal FRN template as an example).

If the licensee or applicant decided to withdraw the ADR based upon a planned denial by the NRC as described in Section 9, the draft SER documenting the basis for the planned denial of the amendment should be included as an enclosure to the memo to ensure that an adequate record of the staff's decision-making process is captured as an Official Agency Record (i.e., consistent with requirements in MD 3.53 as discussed previously in this document). If the applicant does not withdraw the ADR or request a public meeting by the date set during the formal call, the PM should obtain the Division Director's concurrence and signature on the denial package and formally issue the denial.

## **10.0 Communications**

It is expected that most ADRs will involve routine communications as described in this document, such as submission of an ADR, RAIs and RAI responses, and issuance of an SER. However, there may be some ADRs for which the PM, technical staff, and management may decide that additional communications are needed, and for which a communication plan may be completed.<sup>34</sup> In addition, for ADRs that meet the criteria within SRM-SECY-06-0056 for "significant," the Commission has directed the staff to provide enhanced communications implementing special outreach measures.

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<sup>33</sup> The regulations in 10 CFR 2.107 provide criteria for "Withdrawal of applications."

<sup>34</sup> More information on communication plans is provided in "Communication Plan: Disposal of Low-Activity Radioactive Waste Using the U.S. Nuclear Regulatory Commission's Regulation in 10 CFR 20.2002" (ML092460037) and SECY-06-0056. These documents also discussed enhanced communications.

## **10.1 Communication Plans for ADRs with High Public Interest**

For ADRs that involve or are expected to involve a high level of interest from the public, as determined on a case-by-case basis by the PM, technical staff, and management, a communication plan should be completed. The goal of a communication plan is to develop methods to effectively communicate with stakeholders regarding the NRC's review of ADRs. The primary purpose of these communications is to further facilitate stakeholder awareness and understanding of the means by which the NRC assures the safety of these disposals and to support the NRC's goal of ensuring openness in its regulatory processes.

A communication plan may include information to identify key messages, the audience and stakeholders, and other information, such as the availability of documents in ADAMS and applicable information on the NRC website. The communication plan may also include a public meeting<sup>35</sup> or teleconference and other opportunities for stakeholder interaction.

## **10.2 Determination of the Need for Enhanced Communications**

The Commission directed the staff, in SRM-SECY-06-0056, to implement special outreach measures for significant § 20.2002 requests. Implementing these outreach measures will help to anticipate stakeholder concerns and requests for involvement, will increase transparency for these requests, and should help to reduce staff resources used to respond to stakeholder concerns. Although these enhanced measures were developed for § 20.2002 requests, they may also be implemented for significant § 40.51(b)(3) requests to transfer unimportant quantities of source materials under § 40.13(a) to exempt persons.

Early in the review process, the PM should determine which, if any, outreach measures are needed for a specific § 20.2002 request. The Commission requested provisions for increased stakeholder involvement for "significant" disposal requests and NRC staff developed preliminary criteria that would guide decisions on whether additional outreach measures were necessary. The preliminary criteria listed in SECY-06-0056, Enclosure 3, indicated that a request would not be considered significant and no special measures would be necessary when:

- The proposed § 20.2002 disposal will be in a facility that routinely disposes of large quantities of similar radioactive materials, in accordance with its permit;
- The proposed § 20.2002 disposal involves small quantities and concentrations of materials (would not apply to disposals such as incinerator ash from research facilities disposed of in accordance with Policy and Guidance Directive 8-10, "Disposal of Incinerator Ash as Ordinary Waste"<sup>36</sup>);
- The proposed disposals involve a high degree of certainty that the scenarios and assumptions used for the dose analyses are appropriate, based on past approvals, and will ensure that doses to a member of the public will not be above "a few millirem per year;"<sup>37</sup> or
- The proposed disposal is on a licensee's site.

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<sup>35</sup> All public meetings should be conducted in accordance with NRC Management Directive 3.5, "Attendance at NRC Staff-Sponsored Meetings" and posted on the public NRC website in accordance with agency procedures. Currently, public meeting notification is to be provided 10 days in advance of the meeting date.

<sup>36</sup> ADAMS Accession No. ML003744979

<sup>37</sup> As noted in Section 7 of this document, less likely but plausible exposure scenarios may be conducted to risk-inform the decision. NRC staff should evaluate the relative likelihood and magnitude of the peak predicted dose for less likely, but plausible alternative exposure scenarios when determining the risk-significance of the 20.2002 disposal request and the need for enhanced public outreach efforts.

In SRM-SECY-06-0056, the Commission indicated the staff should inform the Commission when it receives a § 20.2002 request that it deems “significant.” The PM should do this through communications determined to be appropriate.

### **10.3 Outreach Measures for Enhanced Communications**

The PM and analyst should determine early in the review process whether additional outreach measures are warranted, typically judging from the level of stakeholder interest. If outreach measures are necessary, the PM and analyst should discuss the need for these measures with their Branch Chiefs.

Notwithstanding the above guidelines, there could also be instances in which a public meeting is warranted, based on requests from the public, elected officials, the State, the licensee, or for other reasons. When a specific § 20.2002 request is deemed to require special measures for communicating with or involving the public, the PM should prepare a communication plan specific to the request. The following tools should be included in the plan (from the direction provided in SRM-SECY-06-0056):

- An FRN announcing the receipt of the § 20.2002 request;
- If necessary, one or more public meetings, preferably in the vicinity of the proposed disposal facility; and
- A Fact Sheet describing the proposed disposal.

Additionally, when enhanced outreach is appropriate, the PM should also consider sending the draft final SER for review to the State where the disposal will take place as well as the State where the applicant is located.

Additional details on the outreach measures to be employed for enhanced communication will be contained within the communication plan.

### **11.0 Coordination**

Since State agencies typically regulate alternative disposals of waste under RCRA, PMs should ensure that appropriate coordination has occurred with these regulators as well as the proposed disposal site operators. This coordination is important because § 20.2002 approvals do not supersede or override a disposal facility’s state RCRA permit.

Upon receipt of the § 20.2002 request, the PM should review the incoming request from the licensee or applicant to determine what, if any, coordination it has had with the State regulatory agency regarding the acceptability of the proposed disposal at a specific facility. Except for the exception identified below, the PM should contact the RCRA permitting agency and, if necessary and acceptable to the State agency, the disposal facility operator, and provide them with a copy of the disposal authorization request, if the licensee or applicant has not already provided it.

As described in Section 8, the PM should send the draft EA to the State where the proposed disposal (or receiving) facility is located as well as the state where the licensee submitting the disposal request is located. As described in Section 10, the PM should also consider sending the draft final SER for review to the State where the disposal will take place and the State where the applicant is located. The State’s documented conclusions on the acceptability of the disposal should be included in ADAMS and referenced in the SER (see Section 7.4).

For the U.S. Ecology Idaho RCRA hazardous waste disposal site, the State of Idaho receives notification of disposals from U.S. Ecology, in accordance with its permit. The PM should verify that the proposed disposal is in accordance with the Waste Acceptance Criteria for the facility (available at [www.usecology.com](http://www.usecology.com)). The permittee will normally handle coordination with the State, as required in the permit; therefore, the PM does not need to furnish a copy of the licensee's disposal request to the State. If, however, the proposed disposal requires enhanced outreach with stakeholders (see Section 10), the PM should contact the appropriate personnel at the Idaho Department of Environmental Quality. As noted above, as part of enhanced outreach with stakeholders, the PM should also send the draft EA and draft final SER for review to the State where the disposal will take place (i.e., Idaho) as well as the State where the applicant is located.

## **12.0 Jurisdiction**

### **12.1 Agreement States**

Under section 274 of the AEA, the NRC may enter into an agreement with a State for discontinuance of the NRC's regulatory authority over some materials licensees within the State. The State must first show that its regulatory program is compatible with the NRC's and adequate to protect public health and safety. The NRC retains authority over, among other things, nuclear power plants within the State.<sup>38</sup>

By letter dated March 13, 2012 (ADAMS Accession No. ML12065A038), the Nuclear Regulatory Commission (NRC) issued a letter to all Agreement States<sup>39</sup> entitled, "Clarification of the Authorization for Alternate Disposal of Material Issued Under 10 CFR 20.2002 and Exemption Provisions in 10 CFR (FSME-12-025)." This letter, also referred to as the "All Agreement States Letter," provided clarification regarding the disposal of radioactive materials in RCRA disposal facilities or other unlicensed facilities. The letter provides several situations in which the NRC or an Agreement State or multiple Agreement States may be involved in the approval of the disposal at an unlicensed facility.

Regulatory Issue Summary (RIS) 2016-11, "Requests to Dispose of Very Low-Level Radioactive Waste Pursuant to 10 CFR 20.2002," superseded Information Notice (IN) 86-90, "Requests to Dispose of Very Low-Level Radioactive Waste Pursuant to 10 CFR 20.302," and clarifies the application process for obtaining approvals to dispose of LLW in accordance with 10 CFR 20.2002 regulations, or equivalent Agreement State regulations. The NRC expects recipients to review the information for applicability to their facilities and to consider what action to take, as appropriate.

### **12.2 Non-Licensees**

Approvals of ADRs apply to NRC licensees and non-licensees. In some instances, the NRC may receive requests to dispose of waste under § 20.2002 from former NRC licensees, whose licenses have been terminated through the site decommissioning process. Such disposal requests would be considered to be requested by non-licensees.

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<sup>38</sup> See the NRC webpage, "Governing Legislation," (<https://www.nrc.gov/about-nrc/governing-laws.html>) for more information.

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No.	Title	Date	Link
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