

POLICY ISSUE NOTATION VOTE

January 9, 2012

SECY-12-0003

FOR: The Commissioners

FROM: R. W. Borchardt
Executive Director for Operations

SUBJECT: DRAFT FINAL POLICY STATEMENT ON VOLUME REDUCTION AND
LOW-LEVEL RADIOACTIVE WASTE MANAGEMENT

PURPOSE:

To obtain Commission approval to publish in the *Federal Register* a final revision of the Policy Statement on Volume Reduction and Low-Level Radioactive Waste Management (VRPS or Policy Statement). The revised statement specifies that licensees should consider all waste management strategies, not only volume reduction, when determining how to manage low-level radioactive waste (LLRW).

BACKGROUND:

In 1981, the U.S. Nuclear Regulatory Commission (NRC) published a policy statement regarding the volume reduction of LLRW (the 1981 Policy Statement).

The 1981 Policy Statement addressed:

- the need for a volume reduction policy;
- suggestions of volume reduction techniques.

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The NRC issued the 1981 Policy Statement in response to a General Accounting Office (now U.S. Government Accountability Office (GAO)) report¹ that recommended that the NRC take this step to help preserve disposal facility space. The 1981 Policy Statement was issued when disposal space was scarce, since two of the three operating LLRW disposal sites had threatened to close at that time, and one had recently reduced the annual amount authorized for disposal by half. Furthermore, volume reduction techniques were not yet in widespread use. The NRC's 1981 Policy Statement was meant to encourage the use of such techniques.

Volume reduction is widely practiced today. For example, from 1980 to 2000, pressurized water reactor licensees in the U.S. reduced the volume of LLRW disposed of by a factor of 25.² In addition to the 1981 Policy Statement's endorsement of volume reduction, the cost of disposal has been a significant incentive to reduce LLRW volumes. Given the success in volume reduction by industry, the staff believed that the 1981 Policy Statement could be updated to recognize the progress that has been achieved, and to acknowledge that licensees may consider other factors in determining how best to manage their LLRW.

The staff's recommendation to update the 1981 Policy Statement was also influenced largely by comments from stakeholders received in a series of public meetings in December 2009. Several stakeholders quoted the 1981 Policy Statement to support their opposition to intentional, large-scale blending by waste processors.³ They argued that blending of nuclear power plant ion exchange resins would result in an increase in waste volume, which is in direct contrast to volume reduction. These comments suggested that available volume reduction techniques should be used to reduce the actual volume of waste.

The staff disagreed that blending would increase the volume of waste. Blending, as defined by the staff, consists of creating a homogenous mixture from similar waste streams of different concentrations. The resulting blended mixture would result in the same volume of waste. For example, blending Class A waste with Class B waste could result in a larger volume of Class A waste with a requisite reduction in the volume of Class B waste, so the overall volume of waste would remain the same. In addressing this comment, the staff recognized the need to clarify the positions in the 1981 Policy Statement to better explain the Commission's position on large-scale blending and the role of volume reduction in the context of LLRW management.

DISCUSSION:

On April 7, 2010, staff issued SECY-10-0043, "Blending of Low-Level Radioactive Waste," and addressed the 1981 Policy Statement in response to stakeholder comments. On October 13, 2010, the Commission approved the staff's recommended Option 2 in a Staff Requirements

Memorandum (SRM) for SECY-10-0043, which included updating the existing Policy Statement to recognize the progress that has been achieved, and to acknowledge that other factors may

¹ U.S. Government Accountability Office (formerly General Accounting Office), "The Problem of Disposing of Nuclear Low-Level Waste: Where Do We Go From Here?" || GAO Report No. EMD- 80-68, March 31, 1980.

² Source: INPO-01-003 and 96-02, WANO Performance Indicators for U.S. Nuclear Utility Industry.

³ Summary of Public Meeting Between U.S. Nuclear Regulatory Commission and Studsvik on Low-Level Waste Blending (Agencywide Documents Access and Management System (ADAMS) Accession No. ML093650201) and Meeting Presentation "Changing NRC Policy on Waste Dilution to Alter Waste Classification: Why Now?" (ADAMS Accession No. ML093620115).

be used by licensees in determining how best to manage their LLRW. Therefore, the staff revised the 1981 Policy Statement to acknowledge the success in volume reduction since its publication in 1981. The revised VRPS clarifies that volume reduction has certain advantages, such as preserving disposal space, but it is one of a number of techniques that licensees can use to safely and responsibly manage LLRW that they generate. The revised VRPS explicitly acknowledges that other factors can be used by licensees in determining how best to manage their LLRW.

Consistent with the direction in the SRM for SECY-93-323, "Withdrawal of Proposed Rulemaking to Establish Procedures and Criteria for On-Site Storage of Low-Level Radioactive Waste After January 1, 1996," the revised VRPS reaffirms that disposal of LLRW is the preferred option for managing LLRW.

The specific changes to the revised VRPS are as follows:

- Changes the title to "Policy Statement on Volume Reduction and Low-Level Radioactive Waste Management";
- Deletes outdated "advanced" technologies (e.g., evaporation);
- Recognizes progress made in reducing waste volumes since the VRPS was first issued 30 years ago;
- Recognizes volume reduction is only one aspect of LLRW management;
- Suggests licensees consider all means available to manage LLRW in a manner that is secure and protects public health and safety, such as:
 - Waste minimization;
 - Short-term storage and decay;
 - Long-term storage;
 - Use of the alternate disposal provision in 10 CFR 20.2002;
 - Use of waste processing technologies; and
 - Use of licensed disposal facilities.
- Affirms disposal is considered the safest and most secure long-term management approach.

In a June 24, 2011, memorandum, the staff informed the Commission of its intent to publish, in the *Federal Register* for public comment, the proposed revision to the Policy Statement on Low-Level Waste Volume Reduction. The draft Policy Statement on Volume Reduction and Low-Level Radioactive Waste Management was published in the *Federal Register* on August 15, 2011. Ten (10) separate comment letters were received from stakeholders and the interested public. Based on the staff's consideration of written comments, the staff concluded that several minor changes should be made to the draft Policy Statement that was published for public comment. For example, a commenter stated that waste management practices (e.g., waste minimization and long-term storage) should be listed in a hierarchy of preferential order. Staff did not agree with this comment, but added a statement that the waste management practices were listed "in no particular order and thus not indicating any NRC preference".

Enclosed is the draft final version of the revised Policy Statement on Volume Reduction and Low-Level Radioactive Waste Management.

RECOMMENDATION:

The staff recommends that the Commission approve the draft final Policy Statement on Volume Reduction and Low-Level Radioactive Waste Management for publication in the *Federal Register*.

RESOURCES:

Revision of the VRPS was already accounted for in the FY2011 and FY2012 budgets; no additional resources were required.

COORDINATION:

The Office of the General Counsel has no legal objection to this paper.

The staff has coordinated with the Agreement States in the development and implementation of the Commission paper on LLRW blending, SECY-10-0043, including this revision to the VRPS. This coordination has consisted of conference calls, and presentations at the 2010 and 2011 Organization of Agreement States annual meetings. Additionally, a call was made to six Agreement States with waste processing and disposal facilities to further inform them of the progress of the VRPS revision.

The staff has submitted the required paperwork to the Office of Management and Budget (OMB) for non-major rule determination, which must be obtained before the final Policy Statement can be published in the *Federal Register*.

/RA by Michael F. Weber for/

R. W. Borchardt
Executive Director
for Operations

Enclosures:

1. [Draft Final Policy Statement on Volume Reduction and Low-Level Radioactive Waste Management](#)
2. [Original Policy Statement on Low-Level Waste Volume Reduction](#)
3. [Public Comments](#)
4. [Summary of Public Comment Letters Received](#)

NUCLEAR REGULATORY COMMISSION

[NRC-20XX-XXXX]

Volume Reduction and Low-Level Radioactive Waste Management

AGENCY: Nuclear Regulatory Commission.

ACTION: Policy statement; issuance.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC or the Commission) is revising its 1981 Policy Statement on Low-Level Radioactive Waste (LLRW) Volume Reduction (Policy Statement). This statement encouraged licensees to take steps to reduce the amount of waste generated and to reduce the volume of waste once generated. The purpose of the revised statement is to recognize that progress in reducing waste volume has been achieved since the 1981 Policy Statement was published, and to acknowledge that factors other than volume reduction may be used by licensees to determine how best to manage their LLRW.

DATES: This Policy Statement is effective on **[Insert date of publication in the *Federal Register*]**.

ADDRESSES: You can access publicly available documents related to this Policy Statement using the following methods:

- **NRC's Public Document Room (PDR):** The public may examine and have copied, for a fee, publicly available documents at the NRC's PDR, O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

- **NRC's Agencywide Documents Access and Management System (ADAMS):**

Publicly available documents created or received at the NRC are available online in the NRC Library at <http://www.nrc.gov/reading-rm/adams.html>. From this page, the public can gain entry into ADAMS, which provides text and image files of the NRC's public documents. If you do not have access to ADAMS or if you have problems accessing the documents located in ADAMS, contact the NRC's PDR reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to pdr.resource@nrc.gov. The Policy Statement is available in ADAMS under Accession No. ML113400177.

- **Federal Rulemaking Web Site:** Supporting materials related to this Policy Statement can be found at <http://www.regulations.gov> by searching on Docket ID NRC-20XX-XXXX. Address questions about NRC dockets to Carol Gallagher, telephone: 301-492-3668; e-mail: Carol.Gallagher@nrc.gov.

FOR FURTHER INFORMATION CONTACT: Donald Lowman, Office of Federal and State Materials and Environmental Management Programs, U.S. Nuclear Regulatory Commission, Washington, DC 20555; telephone: 301-415-5452, e-mail: Donald.Lowman@nrc.gov.

SUPPLEMENTARY INFORMATION:

I. Background

In 1981, the NRC published a Policy Statement regarding the volume reduction of LLRW. The Policy Statement addressed:

1. the need for a volume reduction policy; and
2. the need for waste generators to minimize the quantity of waste produced.

For 30 years, this Policy Statement has effectively conveyed the Commission's expectations that generators of LLRW should reduce the volume of waste shipped for disposal at licensed commercial waste disposal facilities. The Commission uses policy statements to communicate expectations about matters relating to activities that are within NRC jurisdiction and that are of particular interest and importance to the Commission. Policy statements help to guide the activities of the NRC staff. However, they are not regulations and are not accorded the status of a regulation within the meaning of the Administrative Procedure Act. The Agreement States, which are responsible for overseeing their material licensees, cannot be required to implement the elements of a policy statement because such statements, unlike NRC regulations, are not a matter of compatibility. Additionally, policy statements cannot be considered binding upon, or enforceable against, NRC or Agreement State licensees and certificate holders.

On April 7, 2010, the NRC staff issued SECY-10-0043, "Blending of Low-Level Radioactive Waste," and referenced the Policy Statement in response to stakeholder comments that large-scale blending might not be consistent with the Policy Statement because it would enable licensees to avoid the use of an available volume reduction technology. Subsequently, the Commission directed the staff to update the Policy Statement to recognize the progress that has been achieved in waste reduction, and to acknowledge that volume reduction continues to be important, and that other risk-informed, performance-based approaches to managing waste are also appropriate for managing LLRW safely.

A revised draft of the Policy Statement, "Volume Reduction and Low-Level Radioactive Waste Management," was published in the *Federal Register* for comment on August 15, 2011 (76 FR 50500), with the comment period ending on September 14, 2011, which the NRC later extended to October 14, 2011.

The NRC received written comments on the draft Policy Statement and considered these comments when finalizing the Policy Statement. None of the comments resulted in changes to the basic principles of the Policy Statement and the changes made to the draft Policy Statement were limited. Responses to these comments can be found in ADAMS under Accession No. ML120090117.

II. Congressional Review Act

In accordance with the Congressional Review Act of 1996, the NRC has determined that this action is not a major rule and has verified this determination with the Office of Information and Regulatory Affairs of the Office of Management and Budget (OMB).

III. Policy Statement of the U.S. Nuclear Regulatory Commission on Volume Reduction and Low-Level Radioactive Waste Management

Summary

In 1981, the Commission published a Policy Statement (46 FR 51100; October 16, 1981) regarding the volume reduction of LLRW. In October 2010, the Commission approved revisions to the Policy Statement, including updating to acknowledge that volume reduction continues to be important and adding that risk-informed, performance-based approaches to managing waste are also needed to safely manage LLRW.

Policy Statement

The Commission recognizes the substantial progress made by licensees in reducing volumes of LLRW shipped for disposal since the publication of the 1981 Policy Statement. The Congress, States, LLRW Compacts and nuclear industry groups have also played a central part

in this effort by encouraging waste minimization and volume reduction practices. Widespread use of these practices has resulted in a significant reduction in the amount of LLRW generated by licensees and the volume shipped for disposal. The Commission recognizes that the high cost of LLRW disposal has been a factor, along with limitations on LLRW disposal access, incentivizing increased use of volume reduction and waste minimization techniques.

The Commission continues to believe that volume reduction is important to the management of LLRW—a continued focus on volume reduction will extend the operational lifetime of the existing commercial LLRW disposal sites and will reduce the number of waste shipments.

Safety, administrative controls, and operational enhancements are the foundation of a successful radioactive waste management program. Therefore, the Commission encourages licensees to continue to adopt procedures that will minimize the volume of waste being transferred to disposal facilities. Additionally, as currently required by Title 10 of the *Code of Federal Regulations* (10 CFR), Part 20 Section 1406, “Minimization of contamination,” license applicants, with limited exceptions, shall describe in their applications how facility design and procedures for operation will minimize, to the extent practicable, the generation of radioactive waste.

The Commission also recognizes that volume reduction is only one aspect of an effective LLRW management program. Although the Commission continues to favor the disposal of LLRW over storage, it recognizes that licensees may safely manage waste in a variety of ways, consistent with NRC regulations and guidance. In addition to ensuring public health and safety, licensees may consider operational efficiency, reductions in occupational exposures, security, and cost in determining how best to manage LLRW. As part of their LLRW management strategies, although the Commission continues to favor disposal in a licensed disposal facility, licensees should consider all means available to manage waste in a manner

that is secure and protects public health and safety, such as (in no particular order and thus not indicating any NRC preference):

- Waste minimization;
- Short-term storage and decay;
- Long-term storage;
- Use of the alternate disposal provision in 10 CFR 20.2002, "Method for obtaining approval of proposed disposal procedures;" and
- Use of waste processing technologies.

The Commission understands that limited LLRW disposal access means that many licensees will be forced to store at least some of their LLRW. Agreement State and NRC licensees must continue to ensure that waste is safely and securely managed. However, waste minimization and disposal are still considered the safest and most secure long-term LLRW management approach.

Dated at Rockville, Maryland, this day of , 2012.

FOR THE NUCLEAR REGULATORY COMMISSION

Annette L. Vietti-Cook
Secretary of the Commission

Policy Statement on Low-Level Waste Volume Reduction

AGENCY: Nuclear Regulatory Commission.

ACTION: Policy statement on low-level waste volume reduction.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) has established a policy regarding the volume reduction of low-level radioactive waste. The policy statement addresses: (1) the need for volume reduction policy; and (2) the need for waste generators to minimize the quantity of waste produced. The policy also states that NRC will take expeditious action on requests for licensing of volume reduction systems. (A copy of this notice is being sent to all licensees and state authorities to advise them of this policy.)

EFFECTIVE DATE: October 16, 1981.

FOR FURTHER INFORMATION CONTACT: Robert E. Browning, Deputy Director, Division of Waste Management, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555; Phone 301/427-4200.

SUPPLEMENTARY INFORMATION:

Policy Statement

The Commission has established the following policy:

The Commission hereby adopts a policy calling on all generators of low-level radioactive waste to reduce the volume of waste for disposal; licensees are encouraged to establish programs commensurate with good volume reduction practices.

The Nuclear Regulatory Commission (NRC) considers it desirable that licensees reduce the volume of low-level radioactive waste generated and shipped to commercial waste disposal sites. Such action would:

1. Extend the operational lifetime of the existing commercial low-level disposal sites;
2. Alleviate concern for adequate storage capacity if there are delays in establishing additional regional sites;
3. Reduce the number of waste shipments.

The Commission acknowledges the active role taken by some nuclear

industry groups to encourage volume reduction practices among their membership. The increased awareness of the industry is reflected in stepped-up efforts to reduce the volumes of waste generated and by applications to implement waste processing systems by a growing number of licensees. The Commission believes that a positive statement of policy will add greater impetus and encouragement to the industry efforts already underway.

The Commission is encouraging licensees to adopt procedures that will reduce the volume of waste being transferred to disposal facilities. NRC believes it is in the best interest of licensees and the public that licensees extensively explore means by which waste volume may be reduced. The NRC views volume reduction activities as a two-step system. The first, volume minimization, is capable of immediate implementation, since it requires only a strict system of administrative controls on the part of licensee management to accomplish. The costs for an administrative controls program should be small, and these costs largely should be offset by reductions in shipping and disposal costs. The second step, if needed, would be installation of advanced equipment to achieve even greater reduction in volume than is possible through the use of administrative controls.

There are a number of means by which licensees may reduce volume through application of strict administrative controls. Some of these are: (1) Planning of laboratory and process activities prior to the actual operations; (2) provision of management control over the generation of waste to assure that all operations and plant equipment usage are conducted so as to minimize leakage, spills, and volume of waste generated; (3) improved segregation of radioactive and non-radioactive materials activities; and (4) provision of training programs to assure that personnel are thoroughly knowledgeable with laboratory and plant equipment and maintenance so as to minimize conditions which result in increased waste generation.

Apart from efforts to reduce waste volumes by administrative controls, licensees may benefit further by applying advanced volume reduction equipment to their processes.

A number of volume reduction techniques are in varying stages of development. These include, but are not limited to: (1) Incinerators; (2) evaporator-crystallizers; (3) fluidized bed dryers; (4) thin-film evaporators; (5) extruder evaporators; and (6)

compactors. Waste compactors are in general use at many nuclear facilities. Extruder evaporators are being installed in some power plants, while several utilities are looking into incineration as a volume reduction process.

Treatment or disposal of licensed material by incineration requires Commission approval under 10 CFR 20.305. Other modifications required to install volume reduction equipment at reactor plants can be accomplished without prior Commission approval under 10 CFR 50.59, unless the proposed modification involves a change in the technical specifications incorporated in the license or an unreviewed safety question. Non-reactor licensees who wish to apply volume reduction equipment to their wastes should contact the appropriate NRC licensing staff for guidance regarding licensing requirements.

The NRC staff is available to consult with licensees regarding volume reduction practices. NRC staff will cooperate with licensees in assessing the state-of-the-art of methods for achievement of volume reduction, and will take expeditious action on request for licensing volume reduction systems

Dated at Washington, D.C., this 12th day October 1981.

For the Nuclear Regulatory Commission.

Samuel J. Chilk,

Secretary of the Commission.

[FR Doc. 81-30123 Filed 10-15-81; 8:15 am]

BILLING CODE 7530-01-M

Public Comments on the Draft Policy Statement on Volume Reduction and Low-Level Radioactive Waste Management

January 2012

The U.S. Nuclear Regulatory Commission (NRC) staff solicited stakeholder input in developing the Policy Statement. The draft Policy Statement on Volume Reduction and Low-Level Radioactive Waste Management (VRPS) was published in the *Federal Register* on August 15, 2011, with a 30-day comment period ending on September 14, 2011. A 60-day extension to the comment period was requested, and a 30-day extension was granted extending the end of the comment period to October 14, 2011. Enclosure 4 lists the entities that commented on the draft VRPS published in the *Federal Register*, as well as the Agencywide Documents Access and Management System (ADAMS) accession numbers for their comment letters.

Listed below are the public comments and the NRC's response to each of the comments. The public comments have been grouped into eight categories based the content of the comments (10 CFR 20.2002 Authorizations, Volume Reduction Technologies, Safety, Cost, Public Outreach, Storage, Blending, and Miscellaneous). Many of the public comments were outside the scope of the VRPS because these comments addressed issues that were not related to the VRPS or the NRC's limited revision of the VRPS—such as general statements about the safety of radiation protection. The NRC revised the VRPS to acknowledge that volume reduction continues to be important to the effective management of low-level radioactive waste (LLRW), and that other risk-informed, performance-based approaches to managing LLRW should also be considered by licensees. The NRC has indicated in the comment responses below which comments are outside the scope of the VRPS.

1. 10 CFR 20.2002 AUTHORIZATIONS

a) **Disposal of licensed radioactive material in unlicensed sites via 10 CFR 20.2002 exemptions is regulation by exemption.**

Title 10 of the Code of Federal Regulations (10 CFR) Section 20.2002 specifically allows licensees and applicants to apply to the Commission for approval of alternate disposal (i.e., disposal not otherwise authorized in the regulations). Section 20.2002 is thus an existing regulatory process that provides a method for obtaining authorization for alternate disposal procedures. Approval under § 20.2002 does not constitute an exemption, but rather is expressly permitted by the regulations. The NRC issues an exemption (from the requirements to possess an NRC license) to the facility receiving waste approved for disposal under § 20.2002, not to the licensee or license applicant applying for authorization under § 20.2002.

b) **The connection to the NRC Volume reduction policy change (and 10 CFR 20.2002 exemptions) is that NRC is giving a green light to additional steps in the nuclear fuel chain, whether necessary or not, some of which allow nuclear waste out of regulatory control.**

This comment is outside the scope of the VRPS because a policy statement does not authorize release of nuclear waste from regulatory control. As stated in the previous comment response, 10 CFR 20.2002 specifically allows licensees and applicants to apply to the Commission for approval of alternate disposal (i.e., disposal not otherwise authorized in the regulations). Applications submitted under § 20.2002 must include a description of the waste and the physical and chemical properties important to risk evaluation, a description of the proposed manner and conditions of waste disposal, an analysis and evaluation of information on the nature of the environment, a description of the nature and location of other potentially affected licensed and unlicensed facilities, and analyses and procedures to ensure that doses are maintained as low as reasonably achievable (ALARA) and within the dose limits of 10 CFR Part 20. Therefore, 10 CFR 20.2002 ensures adequate protection of public health and safety, while allowing the NRC to approve alternate disposal procedures under certain circumstances.

- c) When radioactive waste is released under 10 CFR 20.2002 or other exemption or clearance (such as Tennessee Department of Environment & Conservation's Bulk Survey for Release, Bulk Waste Assay Program, Volumetric Clearance for Disposal and other TN state programs for release), it will not be tracked as radioactive at all. This is unacceptable.**

This comment is outside the scope of the VRPS because the tracking issues discussed in this comment are not related to the VRPS. The VRPS simply identifies general LLRW management techniques that licensees should consider using to effectively manage LLRW. However, it should be noted that records for LLRW disposed of using an alternate method approved under § 20.2002 are maintained by the NRC and the NRC licensees that receive approval to use these methods. Further, questions about specific regulatory actions taken by an Agreement State, such as Tennessee, should be addressed to the applicable Agreement State.

- d) [With regard to 10 CFR 20.2002 exemptions,] preventing radioactive releases and exposures, not permitting more and more of them is the job of NRC. Instead, NRC is once again Okaying more nuclear material handling (through volume reduction techniques such as incineration, metal melting, shredding, etc.) which ALWAYS results in more radioactive releases, worker and public exposures and contamination of the environment.**

This comment is outside the scope of the VRPS because a policy statement, like the VRPS, provides guidance, not binding requirements, and cannot in themselves authorize activities, such as additional nuclear material handling. To provide further clarification, the NRC ensures safe use of radioactive materials through its regulations, such as those in 10 CFR Part 20, that restrict the amount of radioactive releases to being within safe levels, while also requiring the handling and processing of radioactive materials to be conducted in a manner that radiation dose is ALARA. NRC licensees must comply with NRC regulations that ensure safe processing and disposal of LLRW, and Agreement State licensees must comply with State regulations that are adequate and compatible with NRC regulations. The regulations currently in place ensure adequate protection of the public, including protection of the public and workers from excessive radiation exposures, and protection of the environment from excessive radioactive contamination.

- e) **The cumulative impacts of repeated disposals in the same off-site location are not considered.**

This comment is outside the scope of the VRPS because the VRPS simply identifies general LLRW management techniques that licensees should consider using to effectively manage LLRW. The NRC's limited revision of the VRPS was intended to acknowledge that volume reduction continues to be important to the effective management of LLRW, but that other risk-informed, performance-based approaches to managing LLRW should also be considered by licensees. This comment addresses the impacts of waste after it has been processed and the issue of repeated disposals at the same off-site location—neither of these specific issues is mentioned in the VRPS. Disposal of waste in any specific location would be governed by NRC licensing requirements for disposal facilities and would not be authorized or governed by this policy statement. For these reasons, this comment is outside the scope of the VRPS.

- f) **If the Commission wishes to provide a mechanism for the disposal of low activity waste with the same or higher prominence as disposal at a licensed disposal site, it should be addressed in a rulemaking so that such sites can be properly regulated under the Atomic Energy Act, thus assuring public health and safety. Anything less is regulation by exemption.**

The commenter's request for the NRC to change its existing regulations or to undertake a new rulemaking is beyond the scope of the VRPS and the NRC's limited revision of the VRPS. The NRC's limited revision of the VRPS was intended to acknowledge in the VRPS that volume reduction continues to be important to the effective management of LLRW, and that other risk-informed, performance-based approaches to managing LLRW should also be considered by licensees. Further, as a policy statement, the VRPS does not have the effect of a regulation, but rather it provides guidance to stakeholders. (For clarification regarding "regulation by exemption," see the response to comment 1a.)

2. VOLUME REDUCTION TECHNOLOGIES

- a) **Recognize volume reduction innovation since 1981.**

The NRC recognizes in the revised VRPS the substantial progress made by licensees in reducing volumes of LLRW for disposal since the publication of the 1981 version of the VRPS. This progress has been achieved using techniques and practices to reduce the amount of waste generated as well as technological innovations to reduce the volumes once generated. Nuclear industry groups have also played a central part in this effort by encouraging volume reduction practices among their members. However, the NRC does not want to place an emphasis on any one technology. Also, the revised VRPS does not discuss specific technologies (as was done in the original policy statement) because specific technologies might become outdated and newer innovations might need to be added to the VRPS as they become available.

- b) **It would be instructive to create a hierarchy of waste management, which the staff has done.**

The NRC disagrees with this comment. The NRC does not believe that a hierarchy of waste management practices should be included in the VRPS—a general policy statement—because it would not be appropriate or applicable for all types of NRC licensees and all types of LLRW generated. The VRPS has been revised, however, to state that these practices are listed “in no particular order and thus not indicating any NRC preference”.

- c) **NRC strategies are permitting questionable volume reduction techniques which result in more workplace exposure and release of radiation. None of these techniques reduce the amount of radiation, just the volume of the contaminated material.**

The NRC disagrees with the first part of this comment. The Commission has established regulatory requirements that protect health and safety, including specific occupational and public dose limits, effluent release limits, and other requirements. Licensees are permitted flexibility in their uses of nuclear materials in order to conduct their operations, but nevertheless, must meet 10 CFR Part 20, “Standards for Protection Against Radiation,” and other NRC regulations. Moreover, the processing of radioactive material and waste requires an NRC license or Agreement State license in order to ensure protection of the public health and safety.

With regard to the second part of this comment, no volume reduction technique reduces the amount of “radiation.” However, as noted in the VRPS, waste minimization and volume reduction can be beneficial, as it extends the lifetime of disposal sites and reduces the number of shipments of waste.

- d) **The revised Policy Statement should reflect that the benefits that nuclear technologies provide are balanced against the small risk that the incidental waste generated poses to human health and the environment.**

The NRC agrees that, in general, the benefits of nuclear technologies are balanced against the risk that the incidental waste generated poses to human health and the environment. The uses of nuclear technologies are authorized in accordance with NRC and Agreement State requirements that reflect consideration of this balance. The NRC has not made changes to the VRPS in response to this comment because the scope of the recent revisions to the VRPS is narrow, updating the VRPS only to recognize other general waste management techniques (in addition to volume reduction) that are currently available to licensees and progress made in reducing waste volume.

3. **SAFETY**

- a) **The draft Policy Statement supports NRC’s flawed and deteriorating strategies to dispose of LLRW from nuclear power plants at the least cost to the generators. Public health and safety, and the prevention of escape of radionuclides into the biosphere are increasingly compromised by these highly objectionable management and disposal strategies.**

The staff disagrees with this comment. The purpose of the revised policy statement is to communicate the Commission's expectations that volume reduction continues to be important to the effective management of LLRW, and that other risk-informed, performance-based approaches to managing LLRW should also be considered by licensees. Though cost may be a factor in the waste management decision made by licensees, the NRC remains focused on the protection of public health and safety.

Licensees must comply with regulations that ensure safe processing and disposal of LLRW. The regulations currently in place ensure adequate protection of public and safety. In addition, as noted above, as a policy statement, the VRPS is guidance—not a requirement—and therefore cannot in itself authorize any activities.

- b) The radiation protection standards of NRC are not adequate. They allow exposures and lead to blanket determinations that practices are "acceptable" and "legal" which are inadequate because they ignore many of radiation's health effects, the impact on more vulnerable members of the population, the impacts on nonhuman populations (plant, animal, microorganism) and the environment. Yet, NRC and ICRP appear poised to reduce public protections in upcoming updates, in denial of the ongoing exposures from Fukushima, Chernobyl, Three Mile Island and other accidental and routine releases from nuclear fuel facilities.**

This comment is outside the scope of the VRPS because it is a general statement of opposition to the current NRC radiation standards. The VRPS provides guidance with regard to general LLRW management techniques that licensees should consider using in order to effectively manage LLRW. The NRC continues to believe that the radiation protection standards adequately protect public health and safety as noted in SRM-SECY-08-0197, "Options to Revise Radiation Protection Regulations and Guidance with Respect to the 2007 Recommendations of the International Commission on Radiation Protection" (ML090920103). The NRC's standards are also consistent with the U.S. Environmental Protection Agency's generally applicable environmental standards.

- c) Regarding disposal, all nuclear waste and manmade radioactive materials from the nuclear power fuel chain must remain under radioactive regulatory controls.**

This comment is outside the scope of the VRPS because it is a general statement addressing the applicability of regulatory controls to all radioactive material in the nuclear power fuel chain with regard to disposal. The VRPS was revised to acknowledge that volume reduction continues to be important to the effective management of LLRW, but that other risk-informed, performance-based approaches to managing LLRW should also be considered by licensees. The VRPS does not address specific LLRW disposal practices. See also responses to comments 1.a and 1.b.

4. COST

- a) While we agree that cost is an important consideration, NRC should focus on health, safety, security, and the environment.**

The NRC agrees with the comment, and believes that the NRC's focus should be and is on health, safety, security, and the environment; this is reflected in the NRC's mission, which is

to regulate the nation's civilian use of nuclear materials to ensure adequate protection of public health and safety, promotion of the common defense and security, and protection of the environment. However, the NRC understands that cost is a relevant consideration, especially to licensees and license applicants, in managing LLRW. The NRC does not want to imply in the Policy Statement that licensees and license applicants cannot consider costs when deciding how to manage LLRW and how to reduce waste volumes. As this commenter stated in its comment letter, "it is up to the licensee to decide how best to consider cost in weighing its waste management options;" it remains this way in the revised Policy Statement. In conclusion, as guidance, the VRPS does not prevent licensees and license applicants from considering cost when choosing how to manage LLRW, even though the NRC's focus is on health, safety, security, and the environment.

- b) The national compact system does not encourage volume reduction, since sites have a monopoly in their compact. Disposal rates at the few operating sites are not driven by competition. While high rates would seem to promote volume reduction, the rates are prohibitively high for many waste generators. Paying further costs to reduce volume beyond basic techniques simply adds to a company's waste management costs.**

The VRPS does not advocate the use of any one LLRW volume management technique, such as volume reduction. Instead, the Policy Statement recognizes volume reduction as one of the techniques that can be used to manage LLRW safely. Licensees can choose to use volume reduction when that strategy makes sense for their operations and cost structure after ensuring that the applicable safety and environmental requirements are met. With respect to the national compact system, this system is authorized by the Low-Level Radioactive Waste Policy Amendments Act of 1985 and cannot be modified by the Volume Reduction Policy Statement.

5. PUBLIC OUTREACH

- a) NRC should invite or notify national and regional public interest groups regarding changes to NRC's regulations and guidance.**

The NRC agrees with this comment to the extent that the NRC provides public notice (i.e., in the Federal Register) of amendments to the NRC's regulations and guidance documents, with limited exceptions. The NRC provided public notice of the revision to the VRPS in the Federal Register in August 2011. The NRC has also held a number of public workshops and meetings on the LLRW initiatives, and has provided public notice of these meetings in advance. Both national and local advocacy groups have been invited and have participated on panels in some of the workshops.

Staff has also recently initiated a LLRW distribution list in an effort to provide greater public outreach. All public correspondence related to LLRW will be sent to this distribution list. Organizations and members of the public who have requested to be added to the list have been added to the list and others will be added when requested.

- b) The public needs to have input into whether processing is done at all and the kinds of processing done at both offsite and at the site of generation. Exposures and risks from emissions into air and water are cumulative and ongoing especially when the radionuclides are long lasting.**

The NRC provides many opportunities for the public to provide input into its licensing activities, including adjudicatory hearings, staff-initiated public meetings, and Federal Register notices that seek public comment on NRC actions. The NRC establishes its regulations in a public forum, whereby a Federal Register notice is published advising the public of the intent to establish regulations, and inviting public participation in the rulemaking process. The NRC also seeks public comments on many guidance documents—both formally requesting written comments and informally soliciting stakeholder feedback at public meetings.

- c) Funding should be provided to the public for technical support to participate in each of the NRC's ongoing and expanding bureaucratic processes if these are the legal avenues for public comment. Providing such funding for public participation should also be a matter of Agreement State adequacy and compatibility.**

This comment is outside the scope of the VRPS because it raises issues concerning generic funding of public participation in NRC activities that is not addressed or affected by this policy statement. In any event, the NRC does not have specific legislative authority to currently provide such funding as is suggested in the comment, the NRC has specific limitations on funding participation in some NRC proceedings, and Federal budget constraints make it unlikely that Congress would approve such funding in any event.

Despite these limitations, the NRC has worked to provide stakeholders with more cost-effective ways to participate in NRC proceedings. For example, rulemaking comments can now be submitted online, which provides a cost- and time-saving option to commenters. The NRC has also expanded the use of teleconferences, video conferences, and webinars, which allows stakeholders to participate in NRC meetings without the significant cost of traveling to a meeting location.

Members of the public are provided with many opportunities to comment on the NRC's activities. For example, the NRC frequently holds early public meetings and solicits public comment on draft proposed rules and guidance documents before starting the formal notice-and-comment process (which includes another opportunity for public comment). Further, all documents that are produced by the NRC should be clear and comprehensible. When a commenter believes that a document is unclear or incomprehensible, such concerns can be brought to the NRC's attention, which will allow the NRC to provide clarification in the future draft of the document.

6. STORAGE

- a) **The decision in the 1980's or 1990's to allow onsite storage of "low-level" radioactive waste at reactors for more than 5 years without licensing or license changes was done completely absent public knowledge or meaningful, if any, notification.**

This comment is outside the scope of the VRPS because this comment addresses the length of on-site storage of LLRW at reactor sites—a topic that is not addressed in the VRPS. The VRPS identifies general LLRW management techniques that licensees should consider using to effectively manage LLRW.

However, the NRC should clarify that the NRC recommended a 5-year onsite storage limit in a 1981 guidance document (Generic Letter 81-38, "Storage of Low-Level Wastes at Power Reactor Sites" – ADAMS Accession No. ML051730025); there was never a regulatory prohibition to store LLW onsite storage beyond 5 years. Thus, even when a 5-year limit was recommended in NRC guidance, licensees could store for longer periods of time, so long as such storage was otherwise consistent with their license and NRC regulations. The staff's primary intention in recommending a 5-year limit in guidance was to encourage the development of new disposal facilities. In SECY-94-198, "Review of Existing Guidance Concerning the Extended Storage of Low-Level Radioactive Waste" (ADAMS Accession No. ML071640462), NRC staff examined a number of LLW storage issues, including the recommended 5-year onsite storage limit in guidance. The NRC staff concluded in that paper that it was not necessary to recommend a 5-year limit for onsite storage of LLW in guidance, and that onsite LLW storage can be safely accomplished for longer periods of time. For more information on the NRC staff's basis for this conclusion, see SECY-94-198.

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- b) **Utilities can simply state they will be able to manage the waste generated in years to come from existing or proposed new reactors, and that is all that is needed for unlimited continued generation of waste.**

The NRC disagrees with this comment. The VRPS identifies general LLRW management techniques that licensees should consider using to manage LLRW in a manner that is protective of public health and safety. Licensees and license applicants must demonstrate that the LLRW generated by their facilities can be safely managed per their license (or license application) over the time period that it may be stored onsite. Licensees and license applicants typically demonstrate this by entering into an agreement with an NRC-licensed facility that accepts LLRW and by extending the capacity of onsite storage if necessary. Licensees and license applicants can also use third party contractors to process, store, own, and ultimately dispose of LLRW.

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- c) **To our best knowledge, there is not even a requirement for utilities to report the amount of "low-level" radioactive waste stored at reactors. This should be a matter of public record. As should any incineration of radioactive waste at reactors.**

This comment is outside the scope of the VRPS because the reporting issues discussed in this comment are not related to the VRPS, which simply identifies general LLRW management techniques that licensees should consider using to effectively manage LLRW. The NRC's limited revision of the VRPS was intended to acknowledge in the VRPS that volume reduction continues to be important to the effective management of LLRW, and that

other risk-informed, performance-based approaches to managing LLRW should also be considered by licensees.

7. BLENDING

- a) The NRC should reject the proposal for waste blending. There is no reason for the NRC to embark upon an overhaul of its policies on Volume Reduction and Low-Level Radioactive Waste Management. There is no need to rework a key section of NRC policy to address a problem which no longer exists (disposal of Class B/C wastes).**
- b) Due to the opening of the WCS [Waste Control Specialists] disposal facility in Texas, there is no need to revise the policy to allow blending.**

These comments, which relate to blending, are outside the scope of the VRPS because, as acknowledged in SECY-10-0043, "Blending of Low-Level Radioactive Waste," the VRPS does not directly address blending. In SECY-10-0043, the staff recommended that the NRC revise its blending positions to be risk-informed and performance-based. In this SECY paper, the staff also recommended that, while the VRPS "does not address blending directly," the VRPS could also be updated to clarify that licensees should consider all means available to them to manage LLRW in a manner that protects public health and safety, and that risk-informed, performance-based approaches to managing LLRW (in addition to volume reduction) are appropriate in managing LLRW safely. The Commission approved these recommendations in the SRM for SECY-10-0043. Consequently, aside from citing SECY-10-0043 as being the impetus for revising the Policy Statement, there is no mention of blending in the revised VRPS.

- c) The revised policy statement is at odds, on a technical level, with the NRC's policy on blending. Volume reduction increases the concentration of Class A waste closer to the Class A limit, encouraging the production of waste not considered in the EIS (Environmental Impact Statement).**
- d) Large-scale blending is inconsistent with the technical basis for 10 CFR Part 61 and a case-by-case performance assessment is completely inadequate to deal with the proposed changes in NRC's blending position.**

These comments, which relate to blending, are outside the scope of the VRPS because, as explained in the previous comment response, the VRPS does not directly address blending. Notwithstanding, the VRPS clarifies that licensees should consider all means available to them to manage LLRW in a manner that protects public health and safety. Blending and volume reduction are two of a number of waste management strategies that can be employed by waste generators and processors.

- e) Blending of LLRW would require a new NEPA document (EIS) before any new position could be put into place.**
- f) NRC should prohibit disposal of blended waste at current LLRW facilities until the NEPA process is complete.**

These comments, which relate to blending, are outside the scope of the VRPS because, as explained in the response to Comments 7a and 7b, the VRPS does not directly address blending. However, the NRC should note that the staff is developing an environmental evaluation as described in option 2 of SECY-10-0043 as part of a separate regulatory effort. This environmental evaluation is scheduled to be completed in early-to-mid 2012 and will be issued for public comment.

- g) NRC is finalizing its policy change/clarification now, when its own technical analysis is not even expected until January 2012, clearly indicating the industry driven policy comes first then the so-called "science" to back up that policy.**

To the extent that this comment suggests that a technical analysis must be completed before the NRC finalizes the revision to the VRPS, the NRC disagrees with this comment because no technical analysis is required for the limited revision to the VRPS.

To the extent that this comment relates to blending, this comment is outside the scope of the VRPS because, as explained in the response to Comments 7a and 7b, the VRPS does not directly address blending. The Commission directed the staff to revise the NRC's position on blending to be risk-informed and performance-based through the limited Part 61 rulemaking and the revision of the Branch Technical Position (BTP) on Concentration Averaging and Encapsulation. However, the staff issued interim guidance to the Agreement States regarding how to evaluate any proposal for large-scale blending prior to the completion of the BTP and limited Part 61 rulemaking (ADAMS Accession No. ML110480847). The Commission directed the staff in the interim (until the BTP revision is in final form) to evaluate licensing actions received by the NRC requesting approval of large-scale blending on a case-by-case basis. Consequently, no large-scale blending would be approved by the NRC or the Agreement States without further site-specific evaluation.

- h) Waste blending would dramatically transform the waste that comes to Utah. It offers a loophole to bypass our ban on class B&C wastes, and locks Clive in as the sole depository for nearly all the nation's LLRW.**

This comment, which relates to blending, is outside the scope of the VRPS because, as explained in the response to Comments 7a and 7b, the VRPS does not directly address blending. Furthermore, as an Agreement State, Utah retains responsibility for the licensing and regulation of LLRW disposal facilities within its borders; however, the State must maintain a program that is adequate to protect public health and safety and compatible with the NRC's regulatory program.

8. MISCELLANEOUS

- a) The terms minimization and volume reduction are used interchangeably and inconsistently in the Policy Statement. These terms should be defined and appropriate revisions should be made to clarify when one or both terms apply to specific portions of the Policy Statement.**

The NRC disagrees with this comment. In the 1981 version of the VRPS, the NRC stated that "the NRC views volume reduction activities as a two-step system. The first, volume minimization, is capable of immediate implementation, since it requires only a strict system

of administrative controls on the part of licensee management to accomplish. The costs for an administrative controls program should be small, and these costs largely should be offset by reductions in shipping and disposal costs. The second step, if needed, would be installation of advanced equipment to achieve even greater reduction in volume than is possible through the use of administrative controls.”

Thus, “waste minimization” means generating less waste, and “volume reduction” includes not only waste minimization but also other techniques used to reduce waste volumes once generated, such as compaction and incineration. The NRC believes that these terms are now well-understood and that a detailed description of the differences between these terms is no longer needed. The staff believes that the VRPS, with the addition of a few clarifying words, clearly and consistently uses these terms.

b) The revised Policy Statement should be updated to reflect lessons learned and emerging issues that may challenge the radioactive material licensed community.

The NRC agrees that there have been substantial changes in LLRW management and disposal since the original VRPS was issued. Similarly, there have been significant changes in nuclear technology and regulation in the last 30 years. The NRC has issued a variety of Policy Statements addressing topics where Commission policy guidance has been needed, and will continue to do so. The scope of the changes to this Policy Statement is limited, however, and is intended to clarify the Commission’s expectations on the use of volume reduction and waste management practices.

c) Volume reduction has both benefits (increased stability of site because of higher density waste and more disposal capacity, e.g.) and side effects (cell trenches must stay open longer, allowing for more water infiltration; higher concentrations of radionuclides from volume reduction may increase exposure to an inadvertent intruder).

The NRC agrees with this comment, and the revised Policy Statement’s clarification that volume reduction is one of a number of waste management techniques that licensees may consider reinforces that there are tradeoffs. This revision to the VRPS broadens the description of LLRW management techniques in the VRPS. However, NRC and Agreement State licensees must still comply with regulations that ensure the safe disposal of LLRW.

d) The draft Policy Statement should encourage Agreement States and Compacts, especially those with disposal sites, to adopt the policy.

The NRC cannot compel States or Compacts to adopt NRC Policy Statements. The Commission uses policy statements to communicate expectations about matters relating to activities that are within NRC jurisdiction and that are of particular interest and importance to the Commission. Policy statements help to guide the activities of the NRC staff. However, they are not regulations and are not accorded the status of a regulation within the meaning of the Administrative Procedure Act. The Agreement States, which are responsible for overseeing their material licensees, cannot be required to implement the elements of a policy statement because such statements, unlike NRC regulations, are not a matter of compatibility. Additionally, policy statements cannot be considered binding upon, or

enforceable against, Compacts or NRC or Agreement State licensees and certificate holders.

- e) There is no comprehensive national policy for dealing with LLRW, and yet NRC continues to license new facilities and relicense old ones that generate LLRW with no regard for the fact that there is nowhere to isolate them. The system is broken and totally ignores policies adopted to prohibit one state from become the destination for the nation's radioactive waste.**

This comment is outside the scope of the VRPS because the comment discusses issues associated with national waste policy and LLRW disposal access and capacity, and the revised VRPS does not address these issues.

- f) The NRC should pursue avenues for disposal of long-lived sources that are currently stored by licensees because they have no reasonable method for disposal.**

This comment is outside the scope of the VRPS because this comment raises issues concerning the disposal of long-lived sealed sources. The VRPS identifies general LLRW management techniques that licensees should consider using to effectively manage LLRW. The NRC's limited revision of the VRPS was intended to acknowledge in the VRPS that volume reduction continues to be important to the effective management of LLRW, and that other risk-informed, performance-based approaches to managing LLRW should also be considered by licensees. Challenges related to the disposal of long-lived sources are beyond the scope of the VRPS.

However, the NRC agrees that disposal of long-lived sources is the preferred method for managing these types of waste. The NRC is addressing this issue in its regulatory framework by revising the Branch Technical Position on Concentration Averaging and Encapsulation to allow larger activity limits of sealed sources that can be safely disposed of, and through participation on the Radiation Source Protection and Security Task Force.

- g) Public interest groups contend that their views are being ignored.**
- h) What is needed is for NRC to truly understand and value (not "consider" and dismiss) these concerns so that licensing decisions are made that prevent making more radioactive waste and prevent radioactive and hazardous releases.**

The NRC disagrees with these comments. In addition to the legal requirements, which require extensive public involvement in rulemaking, licensing hearings, and NEPA document development, the NRC has a longstanding policy of encouraging voluntary public involvement. For example, the NRC has consistently invited the public's comments, and the staff makes every effort to understand the public's comments, and to evaluate those comments against NRC's mission to enable the nation to safely use radioactive materials for beneficial civilian purposes while ensuring that people and the environment are protected. Whenever the NRC solicits public comments, whether a formal responses is prepared or not, the NRC considers the public comments as part of the development of its rulemakings, NEPA documents, Policy Statements, and guidance documents. Consideration of public comments does not mean that the NRC will adopt the proposals and positions in these

comments; it means that the NRC will evaluate the comments that it receives, and will, as appropriate, modify its documents in response.

- i) Under the current system Tennessee has become the nation's default destination for so called "low-level" radioactive waste and the NRC has relied on an inadequate Tennessee regulatory regime to protect the public health. With NRC's approval of the import of 1000 tons of German radioactive waste to be burned in Oak Ridge, Tennessee is becoming the world's destination for "low" and intermediate radioactive waste processing.**

This comment is outside the scope of the VRPS because it raises concerns regarding the Tennessee Agreement State program and the approval of the importation of waste into Tennessee—neither of which are addressed in the VRPS. The VRPS identifies general LLRW management techniques that licensees should consider using to effectively manage LLRW. The NRC's limited revision of the VRPS was intended to acknowledge in the VRPS that volume reduction continues to be important to the effective management of LLRW, and that other risk-informed, performance-based approaches to managing LLRW should also be considered by licensees. Questions about specific regulatory actions taken by an Agreement State, such as Tennessee, should be addressed to the applicable Agreement State.

- j) NRC protocols for handling "low-level" radioactive waste are being driven by the scarcity/absence of proper disposal options. This has resulted in a convoluted system which is far from science based with results that are far from optimal in terms of isolation of these radionuclides from the atmosphere.**

To the extent that this comment is challenging the regulatory regime for handling LLRW that appears in the NRC's regulations, this comment is outside the scope of this policy statement. Additionally, the comment incorrectly asserts that the lack of disposal options for LLRW is determining the NRC's protocols for managing waste and resulting in decisions not based on science. The NRC's existing LLRW regulatory framework is science-based and is adequate to protect public health and safety. This policy statement provides guidance for activities within this existing regulatory framework.

- k) The VRPS revisions are one of many related "low-level" projects NRC has underway. The segmentation of these efforts facilitates secrecy and deception. NRC is increasing staff hours and divisions dedicated to making it look like there is a way to manage "low level" radioactive waste with each division claiming its contribution to the radiation burden is insignificant. The whole underpinning of the waste management scheme is changing but without the reality that ionizing radiation is actually more harmful than previously thought, thus failing to incorporate the publicly known reality that greater protection and a goal of no release/exposure is needed. NRC is simultaneously changing its 10 CFR Part 61 burial regulations, changing its guidance on LLRW including onsite storage at operating and proposed new reactors, changing its Branch Technical Position on Concentration averaging, holding meetings with industry (not public), and planning for site specific analyses of disposal sites. The local communities and national and regional public interest groups need to be invited to or notified of these specific planning discussions.**

The NRC disagrees with this comment. The NRC is revisiting a number of LLRW regulations and guidance documents (e.g., the site-specific analysis rulemaking, which would require new and updated analyses prior to the disposal of large quantities of blended waste). The objective of these efforts is to enhance the effectiveness and efficiency of NRC regulation. These efforts are being conducted in a transparent and open manner. The NRC has made extensive efforts to involve the public in these LLRW projects. For example, the NRC held a public workshop on blending in January 2010, in which several advocacy groups participated as panel members (including two of the organizations that submitted this comment). (A meeting transcript can be found at ADAMS Accession No. ML100220019.) The NRC has held many other public meetings on LLRW topics. Information from these meetings can be found at the LLRW public website: <http://www.nrc.gov/waste/llw-disposal.html>.

In addition to public meeting summaries, the LLRW public website includes background material and schedules for upcoming actions. Additionally, all meetings related to these tasks are noticed on the NRC's public website, and many documents are issued in the Federal Register for formal public comment.

With respect to safety, and as noted in response to comment 3b, the NRC's regulations continue to ensure protection of the public health and safety.

- l) NRC is losing whatever shreds of credibility it has in dealing with both high and "low" level nuclear waste as it devises plans and schemes with the nuclear waste generators to claim the waste problem is solved when in fact there is nowhere that can truly permanently isolate the long-lasting waste generated by the nuclear fuel chain.**

This comment is outside the scope of the VRPS because it is a general statement of opposition to the NRC's approach to managing high-level and low-level waste, and this general opposition is beyond the scope of the NRC's limited revision of the VRPS. The NRC's limited revision of the VRPS was intended to acknowledge that volume reduction continues to be important to the effective management of LLRW, but that other risk-informed, performance-based approaches to managing LLRW should be considered by licensees.

- m) Are any reactors now incinerating nuclear waste on site?**

This comment, which asks a specific question regarding on-site incineration of nuclear waste, is beyond the scope of the VRPS because the VRPS does not directly address incineration. The VRPS identifies general LLRW management techniques that licensees should consider using to effectively manage LLRW.

- n) The reality is that there is no publicly reported, meaningful monitoring being done at radioactive processing facilities to justify industry and regulator claims about safety.**

This comment is outside the scope of the VRPS because the reporting and monitoring issues discussed in this comment are not related to the VRPS, which simply identifies general LLRW management techniques that licensees should consider using to effectively manage LLRW. The NRC's limited revision of the VRPS was intended to acknowledge in

the VRPS that volume reduction continues to be important to the effective management of LLRW, and that other risk-informed, performance-based approaches to managing LLRW should also be considered by licensees. Further, as a policy statement, the VRPS does not have the effect of an order or regulation, but rather it provides guidance to stakeholders; it cannot impose binding requirements.

- o) We are extremely concerned about transporting waste back and forth across the country for potentially unnecessary processing and some amount of "clearance" or release to regular landfills and into commercial recycling streams.**

This comment is outside the scope of the VRPS because this comment addresses the transportation impacts associated with waste processing and disposal—a topic that is not addressed in the VRPS. The VRPS identifies general LLRW management techniques that licensees should consider using to effectively manage LLRW. Transportation was not evaluated in the VRPS; however, transportation issues, along with other environmental factors, are currently being examined by the NRC in an environmental analysis of the impacts of blending and its alternatives. Upon its completion, the environmental analysis will be issued for public comment; this analysis is scheduled to be completed in early 2012.

- p) NRC continues with the folly of considering depleted uranium and its extremely long-lasting progeny to be Class A “low-level” radioactive waste without increasing the protections and disposal requirements for Class A. The public has long called for institutional control periods that last as long as the waste. We also contend that liability must remain with the generators for the length of the hazard of the waste. Since uranium’s decay products far exceed the institutional control period in 10 CFR Part 61, depleted uranium should not be permitted in this class. For the record, many of our groups have opposed the inclusion of plutonium and other long-lasting radionuclides in “low-level” waste at any amount with its 100 year institutional control period, and especially in Class A with the least control.**

This comment is outside the scope of the VRPS because it raises issues that are not addressed in the VRPS. The comment raises opposition to the classification of depleted uranium (DU) as Class A and the disposal of DU and other long-lived radionuclides in a LLRW facility. The classification of waste is governed by NRC regulations and not by this policy statement. The VRPS identifies general LLRW management techniques that licensees should consider using to effectively manage LLRW. The NRC’s limited revision of the VRPS was intended to acknowledge in the VRPS that volume reduction continues to be important to the effective management of LLRW, and that other risk-informed, performance-based approaches to managing LLRW should also be considered by licensees. Specific comments, such as this comment, regarding the disposal of long-lived radionuclides are beyond the scope of the VRPS.

Notwithstanding, it should be noted that the Part 61 site-specific analysis rulemaking, which is addressing depleted uranium, is being conducted in an open, transparent manner. The NRC received public comments on the preliminary proposed rule language and an associated regulatory basis document for the Part 61 site-specific analysis rulemaking. The NRC considered these public comments during the development of the proposed rule and an additional opportunity for public comment will be available when any proposed rule is issued for public comment as part of the rulemaking process.

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- q) The changes [to the VRPS] will affect on-site and offsite-reactor waste operations, transport routes, number and frequency of shipments, routine and accidental releases in processor communities, amounts of wastes at final disposal sites(s) both radioactively licensed and otherwise. Issues of waste title, liability, and storage impact the public.**

The revisions to the VRPS will not directly affect any of the items listed in this comment. The VRPS identifies general LLRW management techniques that licensees should consider using to effectively manage LLRW. The NRC's limited revision of the VRPS was intended to acknowledge in the VRPS that volume reduction continues to be important to the effective management of LLRW, and that other risk-informed, performance-based approaches to managing LLRW should also be considered by licensees. The VRPS has been expanded to include general LLRW management techniques that have previously been used by licensees, in addition to volume reduction, and does not include any LLRW management techniques that have not been previously used. The revised VRPS simply places volume reduction into context with other available management options. The issues raised by this comment are governed by applicable regulations or existing legal frameworks that are not covered by this policy statement.

Public Comment Letters

An important part of the development of this policy statement was public input. The NRC published a request for public comments on August 15, 2011, in the *Federal Register*. This appendix contains information to locate the comment submissions within the NRC's Agencywide Documents Access and Management System (ADAMS), which can be accessed via www.nrc.gov.

Federal Register/Vol. 76, No. 157/08-15-2011 (NRC-2011-0183): Request for Comments on the Draft Policy Statement on Volume Reduction and Low-Level Radioactive Waste Management

Below is information regarding the comment submissions received in response to the NRC's request for public comment:

Commenter	Date	ADAMS Number
Kathryn Pryor on behalf of Health Physics Society	09/06/2011	ML11252B047
Several public interest groups (Diane D'Arrigo, Nuclear Information & Resource Service; Donald Safer, Tennessee Environmental Council; Matt Pacenza, HEAL UTAH; Ann P. Harris, We The People, Inc. of the US; Susan Corbett, Sierra Club Nuclear Issues Action Team; Arjun Makhijani, Institute for Energy and Environmental Research; Bill Reynolds, Tennessee Sierra Club; Tom Clements, Friends of the Earth; Harry Gregory, South Carolina Sierra Club; Karen Hadden, SEED Coalition; Doris Bradshaw, Gilbert Sanchez, Wilbur Slockish, Military Toxics Project; Tom Smith, Public Citizen TX; and Kathleen Ferris, Citizens to ENDIT- End Nuclear Dumping in Tennessee)	09/06/2011	ML11252B048
J. Scott Kirk on behalf of Waste Control Specialists, LLC	09/09/2011	ML11257A085
Mike Elsen on behalf of Washington State Department of Health	09/12/2011	ML11257A086
Joseph DiCamillo on behalf of Studsvik, Inc.	09/12/2011	ML11257A087
Lisa Edwards on behalf of the Electric Power Research Institute (EPRI)	10/13/2011	ML11291A154
Matt Pacenza on behalf of HEAL Utah	10/14/2011	ML11291A137
Arjun Makhijani on behalf of Institute for Energy and Environmental Research (IEER)	10/14/2011	ML11291A138
Several public interest groups (Don Safer, Tennessee Environmental Council; Diane D'Arrigo, Nuclear Information and Resource Service; Tom Clements, Friends of the Earth; Karen Hadden, Sustainable Energy and Economic Development Coalition; Tom Smith, Public Citizen; Ann Harris, We the People; Doris Bradshaw, Military Toxics Project; and Kathleen Ferris, Citizens to ENDIT- End Nuclear Dumping in Tennessee)	10/14/2011	ML11291A139
Thomas E. Magette on behalf of EnergySolutions	10/14/2011	ML11293A046