

LOW-LEVEL RADIOACTIVE WASTE FORUM, INC.

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U.S. Nuclear Regulatory Commission (NRC)

Comment Opportunity re Category 3 Source Protection and Accountability *Comments Due by Close of Business on March 10, 2017*

On January 9, 2017, the U.S. Nuclear Regulatory Commission (NRC) published a notice in the *Federal Register* seeking input from licensees, Agreement States, and the public to inform the agency staff's assessment of potential revisions to regulations or processes requiring Category 3 source protection and accountability. Comments on the notice, which contains specific questions that NRC has developed to assist the agency in its analysis that are separated into sections based on the topics and applicability to relevant stakeholders, are due by the close of business on March 10, 2017.

"The NRC is committed to keeping the public informed and values public involvement in its assessment effort," states the *Federal Register* notice. "Responses to this solicitation will be considered by NRC in preparing a report to the Committees on Appropriations of the House of Representatives and the Senate, pursuant to Public Law 113– 235, Section 403 and will inform staff consideration of the regulatory impacts for any recommendations related to Category 3 source security and accountability, which will be documented in a paper to be provided to the Commission in August 2017."

The notice further states that the NRC plans to hold three public meetings and two webinars during the public comment period for this action. The first public meeting will be held at the NRC headquarters in Rockville, Maryland on January 31, 2017. The two other public meetings will be held outside of the Washington, DC area. The webinars are scheduled for February 21, 2017 and March 2, 2017. The public meetings and webinars will provide forums for the NRC staff to discuss the issues and questions with members of the public. NRC plans to use the information received to develop a report to the Commission.

Overview

On October 18, 2016, NRC issued a Staff Requirements Memorandum (SRM) for COMJMB–16–0001 and directed NRC staff to take specific actions to evaluate whether it is necessary to revise NRC regulations or processes governing source protection and accountability. (See *LLW Notes*, September/October 2016, pp. 39-41.)

Specifically, the Commission asked the staff to conduct an evaluation of, among other things, the pros and cons of different methods of requiring transferors of Category 3 quantities of radioactive material to verify the validity of a transferee's license prior to transfer; the pros and cons of including Category 3 sources in the National Source Tracking System (NSTS); and, the risks posed by aggregation of Category 3 sources into Category 2 quantities.

As part of this evaluation, the NRC is seeking input from licensees, Agreement States, and the public to inform the staff's assessment of potential revisions to regulations or processes requiring Category 3 source protection and accountability.

Specific Considerations

The NRC has developed specific questions that are separated into sections based on the topics and applicability to relevant stakeholders including:

- general questions related to license verification;
- general questions related to the NSTS;
- specific questions for licensees related to license verification;
- specific questions for licensees related to the NSTS;
- specific questions for Agreement States related to license verification;
- specific questions for Agreement States related to the NSTS; and,
- other questions.

The NRC is requesting comments on license verification involving transfers of Category 3 quantities of radioactive material and the inclusion of Category 3 sources in the NSTS. In so doing, NRC notes that Table 1 of Appendix A to 10 CFR Part 37 provides the thresholds for Category 1 and Category 2 quantities of radioactive material and Appendix E of 10 CFR Part 20 provides the thresholds for Category 1 and 2 sources included in NSTS. The list of radionuclides subject to physical security requirements in 10 CFR Part 37 is different than the list of radionuclides included in NSTS. NRC regulations do not include a definition for Category 3; however, the NRC has historically considered the Category 3 threshold to be greater than 1/10th of the Category 2 threshold, but less than the Category 2 threshold.

The NRC requests that interested stakeholders be cautious in providing comments that contain specific examples and do not provide any specific official-use-only, safeguards, and/or classified information related to a specific facility.

The following questions were listed in the *Federal Register* notice:

General Questions Related to License Verification

1. Should the current methods for verification of licenses prior to transferring Category 3 quantities of radioactive material listed in 10 CFR 30.41(d)(1)–(5), 10 CFR 40.51(d)(1)–(5), and 10 CFR 70.42(d)(1)–(5) be changed such that only the methods prescribed in 10 CFR 37.71 are allowed?
2. Would there be an increase in safety and/or security if the regulations were changed to only allow license verification through the NRC's License Verification System (LVS) or the transferee's license issuing authority for transfers of Category 3 quantities of radioactive material? If so, how much of an increase would there be?
3. If the NRC changed the regulations to limit license verification only through the LVS or the transferee's license issuing authority for transfers of Category 3 quantities of radioactive material, should licensees transferring Category 3 quantities to manufacturers and distributors be excepted from the limitation?
4. Is there anything else that the NRC should consider when evaluating different methods of license verification prior to transferring Category 3 quantities of radioactive material?

General Questions Related to the NSTS

1. Should Category 3 sources be included in the NSTS? Please provide a rationale for your answer.
2. If Category 3 sources are included in the NSTS, should the NRC consider imposing the same reporting requirements currently required for Category 1 and 2 sources (10 CFR 20.2207(f))?
3. Should the NRC consider alternatives to the current NSTS reporting requirements for Category 1 and 2 sources to increase the immediacy of information availability, such as requiring the source transfers to be reported prior to, or on the same day as, the source shipment date?
4. Would there be an increase in safety and/or security if the regulations were changed to include Category 3 sources in the NSTS? If so, how much of an increase would there be?
5. Is there anything else that NRC should consider as part of the agency's evaluation of including Category 3 sources in the NSTS?

Specific Questions for Licensees Related to License Verification

1. It currently takes approximately one month to get credentialed to access the LVS. If you currently do not have online access to LVS, and NRC establishes new requirements for license verification involving Category 3 quantities of radioactive material, would you be inclined to sign up for online access, or would you use alternative methods for license verification such as emailing the NRC Form 748 "Manual License Verification Report" to the LVS Help Desk or calling the license-issuing regulatory authority directly?
2. Approximately how many transfers involving Category 3 quantities of radioactive material do you do monthly? What percentage involves transfers directly to/from a manufacturer?
3. Should license verification be required when transferring to an established manufacturer?
4. Do you have online access to LVS? If so, have you experienced any issues with the LVS? Do you have any recommendations on how to improve LVS?

Specific Questions for Licensees Related to the NSTS

1. It currently takes approximately one month to get credentialed to access the NSTS. If you currently do not have online access to the NSTS and NRC establishes new requirements for the tracking of Category 3 sources in the NSTS, would you be inclined to sign up for online access or would you use alternative methods for NSTS reporting such as emailing or faxing the NRC Form 748 "National Source Tracking Transaction Report" to the NSTS Help Desk?
2. Do you have online access to the NSTS? If so, have you experienced any issues with the NSTS? Do you have any recommendations on how to improve the NSTS?

Specific Questions for Agreement States Related to License Verification

1. Approximately how many licenses do you authorize for Category 1, 2, and 3 quantities of radioactive material?
2. If license verification through the LVS or the transferee's license issuing authority is required for transfers involving Category 3 quantities of radioactive material, would you encourage the use of LVS among your licensees, or plan for the additional burden imposed by the manual license verification process?

3. If license verification through the LVS or the transferee's license issuing authority is required for transfers involving Category 3 quantities of radioactive material, would you consider adopting the Web-Based Licensing System (WBL) to ensure that the most up-to-date licenses are available for license verification using the LVS or voluntarily provide your Category 3 licenses (similar to what some Agreement States do now for Category 1 and 2 licenses) to be included in WBL, or would you do neither and prefer licensees to use the manual license verification process?
4. What would the impact in time and resources be on your program to handle the additional regulatory oversight needed for Category 3 licensees if license verification through the LVS or the transferee's license issuing authority was required for transfers involving Category 3 quantities of radioactive material?

Specific Question for Agreement States Related to the NSTS

1. The NRC currently administers the annual inventory reconciliation process on behalf of the Agreement States. This process involves providing hard copy inventories to every licensee that possesses nationally tracked sources at the end of the year, processing corrections to inventories, and processing confirmations of completion of the reconciliation into the NSTS. The process involves a significant amount of staff time and resources from November to February. If the Agreement States were to adopt administration of the annual inventory reconciliation process and if Category 3 sources were included in the NSTS, what would the additional regulatory burden be on the Agreement States to perform the annual inventory reconciliation for Category 1, 2, and 3 sources?

Other Questions

1. Should physical security requirements for Category 1 and 2 quantities of radioactive material be expanded to include Category 3 quantities?
2. Some Category 3 sources are covered under a general license (10 CFR 31.5). Should the NRC consider establishing maximum quantities in general licensed devices, thereby reserving authorization to possess Category 1, 2, and 3 quantities of radioactive material to specific licensees?

Meetings

The NRC plans to hold three public meetings and two webinars during the public comment period for this action. The first public meeting will be held at the NRC headquarters in Rockville, Maryland on January 31, 2017. The two other public meetings will be held outside of the Washington, DC area. The webinars are scheduled for February 21, 2017 and March 2, 2017.

The public meetings and webinars will provide forums for the NRC staff to discuss the issues and questions with members of the public. NRC staff will use the information received to develop a report to the Commission. The NRC does not intend to provide any responses to comments submitted during the public meetings and webinars.

Each public meeting and webinar will be noticed on the NRC's public meeting website at least 10 calendar days before the meeting. The NRC will post the notices for the public meetings and webinars and may post additional material related to this action to the Federal Rulemaking Web site at www.regulations.gov under Docket ID NRC-2016-0276. The Federal Rulemaking Web site allows you to receive alerts when changes or additions occur in a docket folder. To subscribe: (1) Navigate to the docket folder (NRC- 2016-0276); (2) click the "Sign up for Email Alerts" link; and, (3) enter your email address and select how frequently you would like to receive emails (daily, weekly, or monthly).

Interested stakeholders may monitor the NRC's public meeting website for additional information about the public meetings at <http://www.nrc.gov/public-involve/public-meetings/index.cfm>.

Comments

Interested stakeholders may submit comments by any of the following methods:

- Federal Rulemaking Website: Go to <http://www.regulations.gov> and search for Docket ID NRC–2016–0276.
- Mail comments to: Cindy Bladey, Office of Administration, Mail Stop: OWFN–12–H08, U.S. Nuclear Regulatory Commission, Washington, DC 20555–0001.

Interested stakeholders are requested to please include Docket ID NRC–2016– 0276 in any comment submission. Comments are due by the close of business on March 10, 2017.

Background

In 2007, the U.S. Government Accountability Office (GAO) conducted an investigation (GAO–07–1038T) on NRC's licensing program and was able to obtain a radioactive materials license using a fictitious company and place orders that would have resulted, if actually obtained, in receipt of an aggregated Category 3 quantity of radioactive material. After the 2007 investigation, the NRC and the Agreement States made a number of important changes to strengthen the licensing and regulatory processes to prevent malevolent individuals from obtaining a radioactive material license. The NRC staff submitted an Action Plan (SECY–07–0147) to the Commission to respond to recommendations for addressing security issues in the National Materials Program. (The Action Plan can be found on NRC's website at www.nrc.gov using ADAMS Accession No. ML072360206.) In SRM– SECY–07–0147, the Commission approved the staff's Action Plan, which included a consideration of expanding the NSTS to include Category 3 sources plus a subset of "high-end" Category 4 sources. (See ADAMS Accession No. ML072620088.) The proposed rule on Expansion of NSTS to include additional nationally tracked sources was published in April 2008 at 73 *Federal Register* 19,749.

In January 2009, licensees began reporting information on Category 1 and 2 sources to the NSTS. In SECY–09–0011, the NRC staff submitted a request to the Commission to defer further expansion of the NSTS to allow staff to monitor operation of the NSTS for one year and to apply insights gained for the decision on system expansion. (See ADAMS Accession No. ML083540566.) This request for deferral was not approved. In June 2009, in SECY–09–0086, NRC staff requested approval of the final rule amending parts 20 and 32 title 10 of the *Code of Federal Regulations* (10 CFR) to expand reporting to the NSTS to include Category 3 sources. (See ADAMS Accession No. ML091390202). In June 2009, the Commission did not reach a decision on the proposed rulemaking due to a 2 to 2 split vote, so the final rule was not approved (See SRM– SECY–09–0086 using ADAMS Accession No. ML091811125.) Some of the Commission votes indicated that further expansion of the NSTS should be based upon a vulnerability assessment, built off an interagency risk study for sources, and that the original recommendation lacked a risk-informed foundation for proposed regulatory action.

In 2014, the GAO initiated an audit of the materials licensing program to determine whether the regulatory framework and other improvements implemented by the NRC and the Agreement States had addressed the identified licensing vulnerabilities identified in the 2007 GAO investigation. In 2015, as part of the audit, GAO conducted an investigation that attempted to obtain radioactive materials licenses from one NRC regional office and two separate Agreement States. The investigation sought approval of licenses authorizing the procurement of one Category 3 source using a fictitious company. The 2015 investigation went beyond the 2007 investigation in its sophistication and planning, such that GAO rented storefront/warehouse space to demonstrate their legitimacy during pre-licensing visits. Despite this level of effort, the GAO was unsuccessful in two of three

attempts; however, the GAO was able to acquire a license for a Category 3 well logging source in one attempt. GAO successfully placed an order for one Category 3 source using the license, then altered it and used it to place an order for a second Category 3 source. The investigation demonstrated that GAO could have acquired an aggregated Category 2 quantity of material, although at no point in the investigation were radioactive materials actually shipped to the fictitious company. Once notified of the investigation by GAO in October 2015, the NRC and Agreement States took a number of actions, one of which included forming two NRC-Agreement State working groups to evaluate vulnerabilities identified as a result of the 2015 GAO investigation. Specifically, one working group considered enhancements to the pre-licensing guidance, while the second working group evaluated the need for enhancements to existing requirements or guidance for license verification and source tracking beyond Category 1 and Category 2 thresholds.

On July 15, 2016, the GAO published its final report of the material licensing audit and investigation, GAO-16-330, entitled "Nuclear Security: NRC Has Enhanced the Controls of Dangerous Radioactive Materials, but Vulnerabilities Remain." (See *LLW Notes*, July/August 2016, pp. 1, 18-20.) The report made three recommendations as follows:

1. NRC should take steps needed to include Category 3 sources in the NSTS and add Agreement State Category 3 licenses to the Web-based Licensing System as quickly as reasonably possible.
2. At least until such time that Category 3 licenses can be verified using the License Verification System, NRC and Agreement States should require that transferors of Category 3 quantities of radioactive materials confirm the validity of a would-be purchaser's radioactive materials license with the appropriate regulatory authority before transferring any Category 3 quantities of licensed materials.
3. As part of the ongoing efforts of NRC working groups meeting to develop enhancements to the pre-licensing requirements for Category 3 licenses, NRC should consider requiring that an on-site security review be conducted for all unknown applicants of Category 3 licenses to verify that each applicant is prepared to implement the required security measures before taking possession of licensed radioactive materials.

Given the NRC's operating experience with higher-risk sources and in response to the findings by GAO, the Commission directed the staff to take specific actions to evaluate whether it is necessary to revise NRC regulations or processes governing source protection and accountability. Specifically, on October 18, 2016, the Commission issued its SRM for COMJMB-16-0001, "Proposed Staff Re-Evaluation of Category 3 Source Accountability." (See ADAMS Accession No. ML16292A812). The SRM required the NRC staff to conduct the following tasks:

1. an evaluation of the pros and cons of different methods of requiring transferors of Category 3 sources to verify the validity of a transferee's license prior to transfer;
2. an evaluation of the pros and cons of including Category 3 sources in NSTS;
3. an assessment, based on these evaluations, of these and any additional options that the staff identifies for addressing the source accountability recommendations made by the GAO;
4. a vulnerability assessment which identifies changes in the threat environment between 2009 and today that argue in favor of or against expansion of the NSTS to include Category 3 sources;
5. a regulatory impact analysis of the accrued benefit and costs of the change that includes impacts to the NRC, Agreement States, non-Agreement States and regulated entities;
6. a discussion of potential regulatory actions that would not require changes to NRC regulations that arose from or were considered by the staff working groups, to include changes to guidance, training, and other program improvements such as more closely monitoring the implementation of

the staff recommendations using the Integrated Materials Performance Evaluation Program (IMPEP) process; and,

7. any other factors arising from the staff's currently ongoing assessment that the staff concludes would bear on the Commission's deliberation on the proposed change.

The SRM also directed the staff to assess the risks posed by the aggregation of Category 3 sources into Category 2 quantities and to collaborate with its Agreement State partners, non- Agreement States, regulated entities, public interest groups, industry groups and the reactor community.

Additionally, the SRM directed the staff to consider the results of the assessment of the security requirements in 10 CFR Part 37, "Physical Protection of Category 1 and 2 Quantities of Radioactive Material," as required by the Energy and Water Development and Related Agencies Appropriations Bills for Fiscal Year 2015, as a means to inform the staff's evaluation. This assessment, referred to as the "program review" of 10 CFR Part 37, encompassed an evaluation of nine review areas related to implementation of the security requirements in the rule. These areas included the results of inspections conducted of NRC licensees in the first two years of rule implementation, as well as an evaluation of events reported under the provisions of the rule. The program review also included consideration of the definition of aggregation as it applies to well logging sources and an evaluation of enhanced tracking and accounting of radioactive sources. A report detailing the program review was provided to Congress on December 14, 2016. (See ADAMS Accession No. ML16348A230.)

For additional information, please contact Irene Wu of the NRC's Office of Nuclear Material Safety and Safeguards (NMSS) at (301) 415- 1951 or at Irene.Wu@nrc.gov.

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