

POLICY ISSUE INFORMATION

April 4, 2012

SECY-12-0052

FOR: The Commissioners

FROM: Mark A. Satorius, Director
Office of Federal and State Materials
and Environmental Management Programs

SUBJECT: ANNUAL REPORT TO THE COMMISSION ON LICENSEE
PERFORMANCE IN THE MATERIALS AND WASTE PROGRAMS
FISCAL YEAR 2011

PURPOSE:

This paper provides the tenth annual report on significant nuclear materials issues and licensee performance trends in the Materials and Waste Programs pursuant to Staff Requirements Memorandum (SRM) SECY-02-0216, "Proposed Process for Providing Information on Significant Nuclear Materials Issues and Adverse Licensee Performance," dated February 25, 2003 (ML030560328). This report covers fiscal year (FY) 2011. This paper does not address any new commitments or resource implications.

SUMMARY:

For FY 2011, the staff evaluated significant nuclear materials issues and performance trends based on aggregated information obtained from operating experience associated with reportable events and generic issues affecting the industry. With the exception of the review of escalated enforcement actions, this evaluation included both U.S. Nuclear Regulatory Commission (NRC) and Agreement State licensees. The staff concluded, from the assessment

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of the overall performance data, that there are no discernable performance trends or generic issues and that public health and safety was protected. The staff identified one nuclear material licensee that met the criteria, as described in the enclosure of SECY-11-0132, "Revision of the Criteria for Identifying Nuclear Materials Licensees for Discussion at the Agency Action Review Meeting," for identifying nuclear materials licensees for discussion at the Agency Action Review Meeting (AARM).

BACKGROUND:

On June 28, 2002, the Commission issued SRM M020501 concerning the AARM. In the SRM, the Commission directed the staff to propose a process for providing the Commission with annual updates on significant nuclear materials issues (such as overexposures, medical events, and lost or stolen sources) and on adverse licensee performance.

In response to this SRM, on December 11, 2002, the staff issued SECY-02-0216, providing criteria for determining the nuclear materials licensees to be discussed at the AARM and the process the staff would use to provide the Commission with annual updates on significant nuclear materials issues and adverse licensee performance. On February 25, 2003, the Commission issued an SRM for SECY-02-0216, which approved the staff's proposal to evaluate materials licensees with performance issues for discussion at the AARM, and to provide the Commission with information on the Materials and Waste Programs' performance in an annual report.

On September 16, 2008, the staff issued SECY-08-0135 "Revision of the Criteria for Identifying Nuclear Materials Licensees for Discussion at the Agency Action Review Meeting" (ML082480564), which provided a revision to the criteria provided in Table 1 of SECY-02-0216 for determining nuclear materials licensees that warrant discussion at the AARM. The criteria were revised to provide additional clarity and incorporate NRC's current policies and procedures. In 2011, the criteria for identifying nuclear material licensees for discussion at the AARM was revised again to include an additional criterion to address licensees who previously were discussed at the AARM but their corrective actions were ineffective in correcting the underlying issues. The information regarding this latest revision to the criteria for identifying nuclear materials licensees for discussion at the AARM was provided to the Commission in SECY-11-0132.

DISCUSSION:

The evaluation of significant adverse performance issues and performance trends is based on aggregated information that includes operating experience associated with reportable events and generic issues affecting the industry. As committed to in SECY-02-0216, the staff has developed a process for providing the Commission with annual updates on significant issues and performance trends that builds on existing processes and systems and has minimal impact on staff resources.

The aggregated information used to evaluate significant adverse performance issues and performance trends was obtained through existing processes and systems and includes the following information: strategic outcomes and performance measures data; annual assessment of events reported to the Nuclear Material Events Database (NMED); Abnormal Occurrence (AO) data; generic and/or special event study results; data derived through escalated

enforcement actions; and significant licensee performance issues that were identified based on the criteria described in SECY-11-0132. The following sections represent an evaluation of this information followed by overall conclusions of the licensee performance in the Materials and Waste Programs.

Strategic Outcomes and Performance Measures Data

NRC staff focused on verification and validation of data generated by NRC and the Agreement States to determine the impact on strategic outcomes and performance measures related to nuclear material events as reported in NRC's "Fiscal Year 2011 Performance and Accountability Report." There were no occurrences related to nuclear materials that met any of the safety or security strategic outcomes for FY 2011. For the safety and security performance measures relating to nuclear materials, the safety performance measure was met, but the security performance measure for unrecovered losses or thefts of risk-significant radioactive sources, which is zero occurrences, was exceeded by one occurrence. The one occurrence involved a stolen radiography camera in an Agreement State, and the source has not been recovered. The staff will continue to monitor industry performance as it relates to source security and, if warranted, will make additional recommendations to the Commission to revise existing requirements.

Assessment of Data Reported to NMED

The NMED contains records of events involving nuclear material reported to NRC by its licensees, Agreement States, and non-licensees. These reported events are sorted by the event reporting requirements as defined in NRC regulations. The event reports are evaluated to identify any safety significant events and their causes. NMED data is analyzed for the main event types and is presented in an annual summary report; in this report historical data is aggregated for evaluation of potential trends. It should be noted that for the FY 2011 NMED Annual Report, events involving irretrievable well-logging sources abandoned in accordance with 10 CFR 39.77 have been added to the total number of events reported. Therefore, a comparison of the number of events in this report against previous reports will show an increase in the number of events. A copy of the FY 2011 NMED Annual Report is available in Enclosure 1. Copies of previous NMED Annual Reports may be found at <http://nmed.inl.gov/>.

For the purposes of the NMED Annual Report data, it should be noted that a single occurrence/event report may be captured in multiple NMED event categories (e.g., a report may describe an equipment failure that also resulted in a radiation overexposure). For the data in the NMED Annual Report and in this section, the term "event" is used to describe an individual event category and not a single occurrence/event report.

In order to account for the potential random fluctuations in the event data from year to year and to assess an average trend of the data, the data from the last 10 FYs are reviewed. For the 10 year period covering October 1, 2001, through September 30, 2011 (i.e., FY 2002 through FY 2011), a total of 5,788 events (2,021 NRC and 3,767 Agreement State events) associated with materials licensees were reported to NRC, compared to 5,918 events that were reported for the previous 10 consecutive year period, covering October 1, 2000, through September 30, 2010 (i.e., FY 2001 through FY 2010).

For the current 10 year period, the review of the overall current and prior event data did not indicate any significant performance trends. The NMED annual report indicated some statistically significant trends related to narrow sections of the data (See Enclosure 1, page 4, Table 1. Summary of Trending Analysis). For example, the total number of NRC reportable events and NRC lost/abandoned/stolen material events indicated statistically significant decreasing trends. However, based on the current analysis of the statistically significant trends, no significant performance issues were identified. It should be noted that a change in the number of NRC and Agreement State licensees due to States becoming Agreement States may contribute to some of the statistically significant trends.

For FY 2011, 28 of the 444 reportable events were considered to be of higher significance and are described in the FY 2011 NMED Annual Report. The breakdown of these significant events was as follows:

- 6 lost/abandoned/stolen material events;
- 14 medical events;
- 1 radiation overexposure event;
- 6 fuel cycle process events; and
- 1 event, an embryo/fetus dose event, which met the "Other" event category.

A summary of the significant events that took place in FY 2011 may be found on Page xi of the enclosed NMED Annual Report, and a detailed description of the significant events and events of interest may be found in the main body of the report for the specific event categories.

AO Data

The staff determined that 23 events involving nuclear material were identified as AOs during FY 2011. It should be noted that the number of events that were considered to be of higher significance, as described in the NMED annual report, does not relate directly to the number of AOs identified in FY 2011 because some of the significant events described in the NMED report did not meet the criteria for an AO. Also, 9 of the 23 AOs occurred in previous fiscal years. The 23 AOs that were identified in FY 2011 include 4 events at NRC licensed or regulated facilities and 19 events at Agreement State licensed facilities. Two of the AOs involved radiation exposure to an embryo fetus, one AO involved an exposure to the extremities of a radiographer, and another AO involved a stolen radiography camera. The remaining 19 AOs were medical events as defined in 10 CFR Part 35. These medical related AOs are a small number of events given the significantly large number of medical procedures performed annually.

In addition to these 23 AOs that were identified in FY 2011, the staff has identified an additional 11 events that took place in FY 2007 - FY 2011 that are potential AOs for which additional information is required. Generally, this additional information has not been provided due to ongoing pre-decisional enforcement actions that have not been resolved, and/or due to the additional time needed for follow-up of certain events. The staff is working with the Agreement States and NRC licensees to obtain the necessary information, and the events will be included in a future report.

Special Event Study Results

Last year, in the annual report to the Commission on licensee performance in the materials and waste programs, the staff indicated that after performing an analysis of the NRC and Agreement State AO data, there was a statistically significant increase in the number of NRC AOs being reported.

Due to this statistically significant trend, the staff performed a special study of the AO data for the last 10 years to identify the possible cause for the increasing trend that was found in last year's analysis.

A total of 105 events were found to meet the AO criteria for the period FY 2001-2010. Enclosure 2 displays the 105 AO events according to the number of AOs for the FY that were published in NRC's NUREG-0090, "Report to Congress on Abnormal Occurrences." The trend analysis for this data indicated that NRC-regulated events represented a statistically significant increasing trend. However, due to the lengthy amount of time it takes to identify, investigate, and classify an event as an AO and due to the late reporting or discovery of an AO, some of the AOs reported for a given FY actually took place in a previous FY. After performing a trending analysis on the AOs for the last 10 FYs based on the date the actual event took place, the staff found that there were no statistically significant trends or generic concerns in the data (see Enclosure 2, Figure 2).

Data Derived Through Escalated Enforcement Actions

For enforcement actions, Agreement State enforcement data is not included in this review because enforcement requirements widely vary among the individual Agreement States and are not required for compatibility. The Integrated Materials Performance Evaluation Program does review an Agreement State's enforcement actions to ensure appropriate action is taken commensurate with the significance of the inspection findings. Therefore, this review of escalated enforcement actions only includes NRC's escalated enforcement actions. For the 2011 calendar year (CY) period (January 1, 2011, through December 31, 2011), NRC issued 65 escalated enforcement actions involving NRC materials licensees (including fuel cycle licensees). NRC's escalated enforcement actions include civil penalties and Notices of Violation (NOV) for Severity Levels I, II, and III violations (some of these actions involved multiple violations that were grouped together and issued as one violation), as well as Orders and Demands for Information (DFI). The escalated enforcement actions issued in CY 2011 by the NRC include 2 Severity Level II NOVs, 54 Severity Level III NOVs, and 9 Orders. The nine Orders consisted of six Confirmatory Orders that were issued to confirm commitments associated with Alternative Dispute Resolution (ADR) agreements, one Order suspending a license, and two individual action Orders. Also, for these 65 escalated enforcement actions, 14 of them involved issuing a civil penalty.

For CY 2011, the number of NRC escalated enforcement actions decreased by 23 actions from what was issued in CY 2010 (i.e., 88 escalated actions in CY 2010). This decrease may be attributable to three States (New Jersey, Pennsylvania, and Virginia) achieving Agreement State status in the past few years. However, the number of escalated enforcement actions issued in CY 2011 is consistent with the distribution of escalated enforcement actions issued in the last 10 years. No significant performance trends were identified after review of the escalated enforcement action data.

Licensees Identified with Significant Performance Issues

SECY-11-0132 defines the criteria used to identify licensees with significant performance issues and licensees that warrant the highest level of NRC management attention. The criteria target the most critical issues involving: very serious events (those triggering NRC's strategic level measures); significant licensee issues; or licensee performance trends. For FY 2011, there was one nuclear material licensee that met the criteria. This licensee met the criteria due to significant issues regarding information security. Due to the classified nature of the information related to this licensee, the details regarding this licensee will not be provided in this report, but will be provided to the Commission separately.

OVERALL PERFORMANCE CONCLUSIONS:

Based on the review of event data and assessment of key events, the staff concludes that the Materials and Waste Programs are functioning effectively to protect public health and safety. Based on the significant-issues criteria, one licensee was identified as having significant performance issues during FY 2011. NRC staff is addressing the issues surrounding this licensee.

COORDINATION:

The Office of the General Counsel has reviewed this paper and has no legal objections.

/RA/

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Enclosures:

1. Nuclear Material Events Database
Annual Report FY 2011
2. Abnormal Occurrence Event Study Breakdown

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