

# POLICY ISSUE

## (Notation Vote)

December 11, 2002

SECY-02-0216

**FOR:** The Commissioners

**FROM:** William D. Travers  
Executive Director for Operations /RA/

**SUBJECT:** PROPOSED PROCESS FOR PROVIDING INFORMATION ON  
SIGNIFICANT NUCLEAR MATERIALS ISSUES AND ADVERSE LICENSEE  
PERFORMANCE

### PURPOSE:

To obtain Commission approval of the process the staff intends to use to provide the Commission with annual updates on significant nuclear materials issues and on adverse licensee performance and to inform the Commission of the final criteria that it will use to determine those material licensees that will be discussed at the Agency Action Review Meeting.

### BACKGROUND:

The Commission issued Staff Requirements Memorandum (SRM) M020501, concerning the Agency Action Review Meeting (AARM), on June 28, 2002 (Attachment 1). One item of the SRM stated:

The staff should propose a process for providing the Commission with annual updates on significant nuclear materials issues (such as, overexposures, medical misadministrations, and lost or stolen sources) and on adverse licensee performance. This information could be provided in conjunction with the Agency Action Review Meeting results and Commission meeting or through another appropriate mechanism. The staff should inform the Commission of the final criteria that it will use to determine those material licensees that will be discussed at the Agency Action Review Meeting.

**CONTACT:** Samuel L. Pettijohn, NMSS/IMNS  
(301) 415-6822

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DISCUSSION:

The staff has developed a near term approach for discussing materials licensees at the AARM and providing the Commission with annual updates on significant nuclear materials issues that: (1) builds on existing processes and systems; and (2) has minimal impact on staff resources. In the long term, the staff expects to use a more risk-informed, performance-based approach to identify significant nuclear materials issues at the AARM.

The near term approach has two major components: (1) an evaluation of the performance of individual licensees and groups of licensees (i.e., licensees that use material in a similar way and are having similar performance problems); and (2) an evaluation of performance trends and major issues within the Materials and Waste Arenas. These evaluations are based on: aggregated information on the performance of licensees; an evaluation of operating experience associated with reportable events; and generic issues affecting the industry. References to licensees in this paper include certificate holders.

Identification of Individual Licensees/Groups of Licensees for Discussion at the AARM

Utilizing the existing AARM process, staff proposes that individual materials licensees or a group of licensees with performance problems be considered for discussion at the AARM. The Office of Nuclear Material Safety and Safeguards (NMSS) and Regional management currently identify material licensees for AARM discussion based on operating performance, inspection results, and judgment of the severity of problems of safety performance. The first column of Table 1 in Attachment 2 summarizes the basic criteria under which individual licensees and groups of licensees will be considered for discussion at the AARM (candidate licensees). The staff of the Materials Safety and Inspection Branch, within the Division of Industrial and Medical Nuclear Safety, with input from the Office of State and Tribal Programs (STP), the Regional Divisions of Nuclear Materials Safety, the Division of Fuel Cycle Safety and Safeguards, the Division of Waste Management, the Spent Fuel Project Office, and the Office of Nuclear Security and Incident Response (NSIR), will identify candidate licensees using these basic criteria. The Director, NMSS, after consultation with the Regional Administrators, the Director, NSIR, and the Director, STP, will decide which, if any, candidate licensees or groups of licensees will be discussed at the AARM, using the criteria identified in the second column of Table 1, Attachment 2.

The above process encompasses all NRC Materials and Waste Arena licensees, and Agreement State licensees that are identified through an analysis of operational experience; however, agency action would not normally be taken with respect to non-NRC licensees. The Agreement States routinely provide a summary event report for all material events. NRC does not routinely receive or review individual Agreement State licensee letters, or Agreement State inspection reports or investigation reports. Additional technical information is provided by Agreement States for those events that reach the level of an Abnormal Occurrence.

In implementing the revised process of discussing individual licensees and groups of licensees at the AARM, as described above, the staff would develop a short summary (not to exceed one page) for each NRC licensee or Agreement State licensee to be discussed at the AARM. This summary will be supported by excerpts of the pertinent inspection reports, event notifications, etc.

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Additional information may be requested from an Agreement State, as necessary. Summaries for groups may be somewhat lengthier. After the completion of the AARM, this information will be forwarded to the Commission as part of the record of the meeting minutes. This approach is consistent with the existing AARM process under Management Directive 8.14, "Agency Action Review Meeting", and will have minimal impact on staff resources.

### Identification of Performance Trends and Significant Issues for Transmittal to the Commission

Staff can enhance the methods used to keep the Commission informed of the overall performance trends among NMSS and Agreement State licensees, as well as significant issues affecting these licensees. Many of the existing agency Strategic Plan Performance Measures (losses and thefts, overexposures, etc.) provide a benchmark against which performance can be measured (i.e., the measures have non-zero criteria, so actual performance, rather than the absence of performance, is measured). The primary source of data used for the Performance Measures is the events data collected and maintained in the Nuclear Materials Events Database (NMED).

NMED is the agency database for tracking nuclear materials events and includes data reported to NRC by NRC licensees and Agreement States. The data are aggregated and compiled quarterly and presented in trend and pattern charts in the NMED Quarterly Report. Using the NMED data, the status of arena performance is monitored on a monthly and quarterly basis by technical staff and management within NMSS. In some cases, evaluations will also be performed through a mechanism being developed under the pilot National Materials Program (NMP). For example, an evaluation of radiography overexposures is being undertaken by a NMP working group as a result of the identification of a significant increase in radiography overexposures in the 2<sup>nd</sup> quarter fiscal year NMED Quarterly Report. Strategic Plan (Materials and Waste Arena) Performance Goal and Measures data are verified on a monthly basis, and distributed for evaluation by Headquarters and Regional management. A quarterly and annual review of this data is performed as part of the operating plan review.

In 1997, the staff initiated a process for the development and implementation of a risk analysis methodology appropriate to the systems regulated under 10 CFR Parts 30 through 36 and 39. A risk assessment methodology was developed, implemented, and used to develop options for regulating materials activities. The methodology and its results were reported in NUREG/CR-6642, "Risk Analysis and Evaluation of Regulatory Options for Nuclear Byproduct Material." The NUREG provides a method for ranking byproduct materials systems (BMS) according to risk potential. The staff concluded that the risk models and supporting database for BMS can further be used to evaluate the operational experience to provide insights into a licensee's program that could be of interest to NRC. To facilitate these evaluations, the staff has developed a procedural guide for using the BMS database to assist in identifying significant activities or areas of non-compliance that could potentially result in an unacceptable risk. A goal is to use risk insights during evaluation of operating experience including quarterly reviews and to follow-up to specific events as this methodology develops.

Currently, an annual report on performance is provided to the Commission, and ultimately the Congress, in the "Budget Estimate and Performance Report, NUREG-1100." The staff recognizes the limitations created by having such a large number of licensees, performing markedly different

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tasks, lumped together in NUREG-1100. Staff therefore proposes to provide the Commission with additional information on arena performance and trends that is available from two existing processes. The first is the compilation, review, and analysis of event data performed by contractor and NMSS staff and documented in the NMED Quarterly Report. The second existing process is: (1) the monthly review of NMED data to verify Performance Goals and Measures; and (2) an independent review, performed quarterly by the NRC staff of NMED data for trends. Staff currently uses these processes to identify: the need for generic communications (e.g., Information Notices, Regulatory Information Summaries, etc.); Generic Safety Issues; and information pertinent to internal and external assessments, such as the Integrated Materials Performance Evaluation Program. The focus of each process is the data associated with the Performance Goal and Measures. Staff will treat both an actual failure to meet any Performance Goal or Measure, and the projection that it is likely to be exceeded (Performance Goal or Measure is within 80% of the maximum value), based on recent experience, as significant issues affecting the Materials and Waste Arenas. Both processes are based on evaluating operating experience gained through the event-reporting requirements, to identify issues for further study. Additional data, including data derived through NRC inspections, investigations, and enforcement activities, are used in event evaluations. The Agreement States provide additional equivalent event information, as necessary, for significant events. Event reporting data (except safeguards events) for all materials licensees, including Agreement State licensees, are subject to these evaluations. The above processes are summarized in Table 2, Attachment 2.

Use of the existing processes would be both responsive to the Commission's request and conducted within the existing allocation limits. Staff proposes to provide the Commission information on the Materials and Waste Arenas' performance in an annual report. The preparation of this report would be in parallel with the preparation for the AARM, so that the information is circulated at the time of the annual Commission briefing. The report will include an elaboration of Strategic Plan performance measurement data and will summarize operating experience data and generic event studies. The report will be the product of an evolving process. A longer term goal is to also use risk insights derived from the application of NUREG/CR-6642, and to incorporate inspection findings data in the analysis of trends so as to perform an integrated assessment of nuclear material safety. To reach this goal, future allocation of additional resources may be required.

### CONCLUSION:

Materials licensees and groups of licensees with significant performance problems, as defined in this paper, will be discussed at the AARM and at the subsequent Commission briefings. Evaluations of Materials and Waste Arenas' performance trends and significant issues, as defined in this paper, will be provided to the Commission separately as background for the Commission briefing on the results of the AARM.

### RESOURCES:

The proposed process uses existing sources of data, assessment processes, and criteria, to integrate information from the Materials and Waste Arenas. For the most part, these activities are already included in the NMSS budget, under "Event Evaluation." There will only be a slight

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incremental cost to implement this new process. If additional resources are required, they will be allocated according to the Planning, Budgeting, and Performance Measurement process.

COORDINATION:

The Office of the General Counsel has reviewed this paper and has no legal objections. The Office of the Chief Financial Officer has reviewed this paper for resource implications and has no objections.

RECOMMENDATION:

That the Commission approve the staff to:

- (1) proceed as discussed in this paper to evaluate licensees and groups of licensees with performance problems for discussion at the AARM and the Commission Briefing; and
- (2) provide the Commission information on the Materials and Waste Arenas' performance in an annual report.

***/RA by Carl J. Paperiello Acting For/***

William D. Travers  
Executive Director  
for Operations

Attachments:

1. SRM, dated June 28, 2002
2. Criteria and Process Description  
(Table 1 and 2)

IN RESPONSE, PLEASE  
REFER TO: M020501

June 28, 2002

MEMORANDUM TO: William D. Travers  
Executive Director for Operations

FROM: Annette L. Vietti-Cook, Secretary **/RA/**

SUBJECT: STAFF REQUIREMENTS - BRIEFING ON RESULTS OF AGENCY  
ACTION REVIEW MEETING - REACTORS, 9:00 A.M.,  
WEDNESDAY, MAY 1, 2002, COMMISSIONERS' CONFERENCE  
ROOM, ONE WHITE FLINT NORTH, ROCKVILLE, MARYLAND  
(OPEN TO PUBLIC ATTENDANCE)

The Commission was briefed by the NRC staff and representatives of the Nuclear Energy Institute, Exelon, the Union of Concerned Scientists, and the Commonwealth of Pennsylvania on the Reactor Oversight Process (ROP) and the results of the Agency Action Review Meeting.

In SECY-02-0062, "Calendar Year 2001 Reactor Oversight Process Self Assessment," the staff indicated their intent to change the authorization level for deviations to the action matrix from the Executive Director for Operations (EDO) to the Regional Administrator and Office of Nuclear Reactor Regulation Director (except for plants in the multiple/repetitive degraded cornerstone column of the action matrix). The Commission disapproves this change; the EDO should remain the approval authority for action matrix deviations.

In SECY-02-0062 the staff indicated that annual updates to the Commission on resident inspector demographic data would be discontinued. The Commission disapproves this change; the staff should continue to provide annual updates as part of the annual ROP self-assessment results.

The staff should propose a process for providing the Commission with annual updates on significant nuclear materials issues (such as overexposures, medical misadministrations, and lost or stolen sources) and on adverse licensee performance. This information could be provided in conjunction with the Agency Action Review Meeting results and Commission meeting or through another appropriate mechanism. The staff should inform the Commission of the final criteria that it will use to determine those material licensees that will be discussed at the Agency Action Review Meeting.

(EDO)

(SECY Suspense: 8/30/02)

The staff should re-examine the treatment within the Reactor Oversight Program of findings that the staff currently characterizes as "old design issues." The staff should reconsider the criteria for determining when a design issue should be treated outside the action matrix framework. The staff should also develop decision-making criteria for situations where a supplemental inspection need not be performed.

In SECY-02-0062, the staff stated (page 10) that "SDP evaluations are often more driven by underlying assumptions than the risk tools themselves." The staff should inform the Commission of the steps it is taking to improve the scrutability of SDP input assumptions, including the increased use of realistic best estimates.

cc: Chairman Meserve  
Commissioner Dicus  
Commissioner Diaz  
Commissioner McGaffigan  
Commissioner Merrifield  
OGC  
CFO  
OCA  
OIG  
OPA  
Office Directors, Regions, ACRS, ACNW, ASLBP (via E-Mail)  
PDR

## CRITERIA AND PROCESS DESCRIPTION

Table 1  
Performance by Individual NRC Licensees and Groups of Licensees and Selected Agreement  
State Licensees-Evaluation Criteria

Criteria for identifying candidate licensees for AARM consideration	Criteria NMSS will use in evaluating whether candidate licensees will be forwarded for discussion at the AARM.
Licensee has an event that results in the failure to meet a Safety Measure (e.g., a death, release with a significant impact on the environment, etc.).	These licensees will typically be discussed at the AARM unless the matters have already been adequately addressed and discussed before the AARM.
Licensee has an event that results in an Abnormal Occurrence, or an event that qualifies for a Severity Level I or II violation, or multiple events that meet the criteria of the agency Strategic Plan Performance Measures (e.g., reportable loss of material, breakdown of physical protection, etc.), <b>and</b> technical staff believes that there are unique or unusual aspects of the cases that are not adequately or appropriately handled within the normal inspection and enforcement processes.	These licensees will only be discussed at the AARM if Agency actions beyond the normal inspection and enforcement processes are necessary, and other Offices will be required to support these actions, <b>or</b> other Offices would benefit from an awareness of the issues and circumstances associated with licensee performance.
Licensees that have significant breakdowns in their licensed programs, where the breakdowns involve more than one compliance item (e.g., a dose monitoring breakdown and also wide-spread failure to implement and maintain required procedures) <b>and</b> technical staff believe that there are unique or unusual aspects of the cases that are not adequately or appropriately handled within the normal inspection and enforcement processes.	These licensees will only be discussed at the AARM if Agency actions beyond the normal inspection and enforcement processes are necessary, and other Offices will be required to support these actions, <b>or</b> other Offices would benefit from an awareness of the issues and circumstances associated with licensee performance.

Note: MSIB/IMNS: Materials Safety and Inspection Branch; AARM: Agency Action Review Meeting.

Table 2

Summary of Review and Assessment Process of Operating Experience

Area of Consideration	Evaluation Process	Criteria
Strategic Plan, Performance Goals and Measures	Verify Performance Goal and Performance Measure counts as part of the operating plan.	(1) Exceed a performance goal or measure; (2) likely to exceed performance goal or measure (within 80% of goal or measure).
Performance Trends	Quarterly compilation of rolling 18 months of data. Staff analyzes trends indicating declining performance, further, to determine follow-up action. Observations from trend data can lead to selection of specific-event categories for in-depth review and examination, to integrate information.	Statistically significant declining performance trend.
Significant Issues	Staff routine review and screening of event data, to determine if immediate follow-up action is needed. Staff for follow-up study and analysis; NMSS and region management may also refer potential significant issues identified through the inspection program for follow-up study and analysis. Performance trend data used in follow-up study and analysis.	Actual or demonstrated high potential to impact public health and safety.