

# U.S. NUCLEAR REGULATORY COMMISSION

## DIRECTIVE TRANSMITTAL

TN: DT-97-20

To: NRC Management Directives Custodians

Subject: Transmittal of Directive 8.5, "Operational Safety Data Review"

Purpose: Directive and Handbook 8.5 are being revised to accurately reflect the staff's management of generic safety issues. Specifically, the text describing the functions of the Office of Nuclear Regulatory Research is being revised to provide more clarification on the management of generic safety issues. The rest of the management directive is changed to reflect the Office of Nuclear Regulatory Research changes.

Office Origin: Office for Analysis and Evaluation of Operational Data

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# Operational Safety Data Review

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Directive  
8.5

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# U. S. Nuclear Regulatory Commission

Volume: 8 Licensee Oversight Programs

AEOD

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## Operational Safety Data Review

### Directive 8.5

#### Policy

(8.5-01)

It is the policy of the U.S. Nuclear Regulatory Commission to have an effective coordinated program to systematically review operating experience of the nuclear power industry, of nonpower reactors, of licensed material in nonreactor applications, and of the control of nuclear material in accordance with regulations and to communicate the lessons learned.

#### Objectives

(8.5-02)

- To ensure that the immediate and long-term safety and safeguards concerns identified from operating experiences are documented, analyzed, resolved, and disseminated so that the margin of safety is maintained. (021)
- To ensure that program and regional offices maintain a coordinated and efficient capability to effectively collect, review, and analyze operational and occupational data as related to radiation safety, including identification of potential generic issues. (022)
- To establish responsibilities for tracking and resolving potential generic issues, as they relate to the functional responsibilities of each office. (023)

## Objectives

(8.5-02) (continued)

- To increase the effectiveness of NRC regulatory programs and licensee operations to ensure safety and safeguards by prompt dissemination of concerns and lessons learned from operating experience. (024)
- To ensure that the Congress, the public, the Agreement States, and the nuclear industry are provided with current information regarding operational and occupational experience, including the actual or potential hazards to health and safety that have been inferred from operational data. (025)
- To increase coordination among the offices to delete unwarranted duplication of efforts and increase the effectiveness of operational safety data review. (026)

## Organizational Responsibilities and Delegations of Authority

(8.5-03)

### The Commission

(031)

Acts on the most serious operational and occupational events that are brought to its attention after an operational safety data review determines that the significance of the event to public health and safety requires the immediate attention of the Commission.

### Advisory Committee on Reactor Safeguards (ACRS)

(032)

Reviews significant operational and occupational events and safety studies from the operational safety data reviews and

Organizational Responsibilities and  
Delegations of Authority  
(8.5-03) (continued)

Advisory Committee on Reactor  
Safeguards (ACRS)  
(032) (continued)

advises the Commission with regard to hazards at proposed or existing reactor facilities.

Director, Office of International  
Programs (OIP)  
(033)

- Serves as the principal contact for the establishment and administration of formal arrangements between NRC and the agencies of foreign countries and international organizations for the exchange and collection of operational safety data. (a)
- Assists the Office for Analysis and Evaluation of Operational Data in the establishment and administration of systems for the effective review, tabulation, storage, and retrieval of foreign reactor operational and occupational experience as it relates to safety issues. (b)
- Coordinates U.S. participation in the Nuclear Energy Agency's incident reporting system and the International Atomic Energy Agency's reporting system and distributes foreign reports to applicable offices. (c)

Executive Director for Operations (EDO)  
(034)

Oversees significant operational and occupational events and safety studies from the operational safety data reviews and directs the required action to the appropriate offices.

Organizational Responsibilities and  
Delegations of Authority  
(8.5-03) (continued)

Chief Information Officer (CIO)  
(035)

- Manages the agency's automated document management system for collection, storage, retrieval, indexing, and distribution control of documents involving operational events and evaluations. (a)
- Disseminates licensee event reports and other selected documents associated with operational safety data in accordance with distribution directions from the responsible NRC program office. (b)

Director, Office for Analysis and  
Evaluation of Operational  
Data (AEOD)  
(036)

- Develops and implements independent programs for reviews and analyses of reactor and other nuclear-related operational safety data including trends and patterns, probabilistic risk and reliability assessments, statistical analysis, and deterministic evaluations. (a)
- Develops and maintains the criteria that define the operational and occupational events and data that must be reported to the NRC. (b)
- Develops the requirements for and maintenance of databases for the storage and retrieval of operational and occupational experience data. (c)

Organizational Responsibilities and  
Delegations of Authority  
(8.5-03) (continued)

Director, Office for Analysis and  
Evaluation of Operational  
Data (AEOD)  
(036) (continued)

- Coordinates AEOD efforts with other offices that share responsibility for operational safety data reviews. (d)
- Provides principal NRC support to OIP for activities related to the international reporting systems. (e)
- Serves as principal technical contact for foreign operational and occupational data and events. (f)

Director, Office of Nuclear Reactor  
Regulation (NRR)  
(037)

- Directs the prompt review of significant operational safety and safeguards events. (a)
- Conducts reviews and analyses of potentially significant reactor operational safety and safeguards data. (b)
- Coordinates NRR efforts with other offices that share responsibility for operational safety data reviews. (c)
- Takes licensing-related action (except where specific licensing authority has been delegated to the regional administrators) for reactor facilities and activities when potential operational and occupational safety issues from reviews of operational and occupational safety data are determined to affect the current licensing basis. (d)



Organizational Responsibilities and  
Delegations of Authority  
(8.5-03) (continued)

Director, Office of Nuclear Reactor  
Regulation (NRR)  
(037) (continued)

- Provides technical support to regional offices, as requested, for events with generic or licensee-specific health and safety implications related to operational safety data reviews. (e)

Director, Office of Nuclear Material  
Safety and Safeguards (NMSS)  
(038)

- Conducts reviews and analyses of potentially significant operational and occupational safety and safeguard events involving nuclear materials, including information on foreign nuclear-related activities. (a)
- Refers potentially significant generic or licensee-specific safety and safeguards issues identified by operational safety data reviews, including threat assessment, to the appropriate lead office for closeout. (b)
- Takes licensing-related action (except where specific licensing authority has been delegated to the regional administrators) for nonreactor facilities and activities when potential operational and occupational safety issues from reviews of operational and occupational safety data are determined to affect the current licensing basis. (c)
- Provides technical support to regional offices, as requested, for events with generic or licensee-specific health and safety, safeguards or implications related to operational safety data reviews. (d)

Organizational Responsibilities and  
Delegations of Authority  
(8.5-03) (continued)

Director, Office of Nuclear Material  
Safety and Safeguards (NMSS)  
(038) (continued)

- Directs the prompt review of significant operational safety and safeguards non-reactor events. (e)

Director, Office of Nuclear Regulatory  
Research (RES)  
(039)

- Conducts the assessment of operational safety data to the extent necessary to confirm or revise ongoing and planned safety research programs and associated RES policies to ensure proper alignment of resources to priority operational problems and concerns. Considers the need to revisit the regulatory application on the basis of completed research programs and operational safety data reviews. (a)
- Screens proposed generic issues for duplication; classifies, prioritizes, and tracks the resolution of selected generic issues. (b)
- Develops methodologies to perform operational safety data analyses related to quantitative risk assessment; human factor analyses; system, component, and human quantitative reliability studies; and accident sequence probabilities. (c)
- Coordinates guidance to organizations, such as the American National Standards Institute and the American Society of Mechanical Engineers, with regard to the incorporation of operational data safety reviews into ongoing code and standard development activities. (d)

## Organizational Responsibilities and Delegations of Authority

(8.5-03) (continued)

### Regional Administrators

(0310)

- Conduct prompt reviews of plant-specific events, including onsite followup and the identification of violations of NRC requirements for enforcement purposes. (a)
- Take licensing-related action, where the authority has been delegated to them, when potential operational and occupational radiation safety issues are determined to affect the current licensing basis. (b)
- Coordinate regional efforts with other NRC offices that share responsibility for operational safety data reviews. (c)

### Director, Office of State Programs (OSP)

(0311)

- Advises and coordinates Agreement State participation in identifying potentially significant nuclear materials operational event information associated with Agreement State licensee reports of operational and occupational incidents and events reported by Agreements States to the NRC Operations Center. (a)
- Advises on and coordinates Agreement State participation in the AEOD-managed nuclear materials events database (NMED) system to ensure that Agreement State licensee nuclear materials operational and occupational event data are reported and are available to applicable NRC offices for review and assessment. (b)

Organizational Responsibilities and  
Delegations of Authority  
(8.5-03) (continued)

Director, Office of State Programs (OSP)  
(0311) (continued)

- Conducts review of Agreement State programs, through the Integrated Materials Performance Evaluation Program, to assess their activities to respond to, evaluate, investigate, and close out nuclear material incidents and events involving Agreement State-licensed activities. (c)

Director, Office of Administration (ADM)  
(0312)

- Provides translation services for foreign documents associated with operational safety data to NRC offices, as requested. (a)
- Provides for prompt security support when requested or, as appropriate, in the review, handling, and protection of classified or sensitive unclassified documents on operational safety data in accordance with Management Directives in Volume 12, "Security," and 3.7, "Unclassified Staff Publications in the NUREG Series." (b)

Director, Office of Enforcement (OE)  
(0313)

Oversees, manages, and directs the development of policies and programs for enforcement of NRC requirements.

Applicability  
(8.5-04)

The policy and guidance in this directive and handbook apply to all NRC employees.

Handbook  
(8.5-05)

Handbook 8.5 describes activities involved in the processing of operational safety data, provides guidelines to facilitate coordination of the activities of the NRC offices responsible for review of operational safety data, and the elements necessary for a program for the systematic processing and management of the resolution of generic safety issues resulting from operational safety data.

References  
(8.5-06)

*Code of Federal Regulations*, Title 10, "Energy."

Energy Reorganization Act of 1974, as amended, Section 208, Abnormal Occurrence Reporting (42 U.S.C. 5801 et seq.).

Management Directive 2.2, "Planning and Budgeting for Federal Information Processing Resources."

--- 3.7, "Unclassified Staff Publications in the NUREG Series."

--- 3.50, "Document Management."

--- 8.1, "Abnormal Occurrence Reporting Procedure."

--- 8.2, "NRC Incident Response Plan."

--- Volume 12, "Security."

NRC "Statement of Principle and Policy for the Agreement State Program; Policy Statement on Adequacy and Compatibility of Agreement State Programs," 62 FR 46517, September 3, 1997.

NUREG-0933, "A Prioritization of Generic Safety Issues."

# Operational Safety Data Review

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Handbook

8.5

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## Part I Introduction

Operational safety data receive wide distribution and review within the agency to ensure that all data are adequately assessed. Although the same data are reviewed within a number of NRC offices, the reviews are conducted to satisfy the different functional responsibilities of each office as they relate to operational safety data. Coordination by the offices prevents unintentional duplication of effort and increases the effectiveness of each office's functional responsibilities. As an example, operational and occupational events related to radiation safety are routinely discussed in telephone conferences with headquarters and the regional offices after which the events are reviewed by— (A)

- The appropriate regional office to identify licensee-specific issues including nonconformance with NRC requirements (1)
- The Office of Nuclear Reactor Regulation (NRR) and/or the Office of Nuclear Material Safety and Safeguards (NMSS) to identify issues of nonconformance with NRC requirements and/or licensee-specific or generic issues that affect the basis for licensing (2)
- The Office of Nuclear Regulatory Research (RES) to screen proposed generic issues and to classify, prioritize, and track the resolution of generic issues on the basis of existing research programs and specific issues (3)
- The Office for Analysis and Evaluation of Operational Data (AEOD) to identify potential generic and licensee-specific issues that warrant in-depth, relatively long-term evaluation (4)

AEOD, NRR, NMSS, RES, the Office of State Programs (OSP), and the regions shall establish and implement a coordinated program for the collection, storage, review, analysis, and feedback



of operational safety data as these activities relate to the functional responsibilities of each office, while ensuring no unwarranted duplication of effort. Additionally, the Offices of International Programs, the Chief Information Officer, Administration, OSP, and others shall provide support as needed to ensure an effective and efficient operational safety data program. (B)

A coordinated system that prevents unintentional duplication of efforts is defined for staff actions necessary to ensure proper screening, analysis, dissemination, and implementation of appropriate actions resulting from operational safety data. (C)

Operational safety data are reported to or identified by NRC in the conduct of authorized activities. Sources of data include licensee event reports; morning reports; inspection reports; component failure reports; preliminary notification of significant operating events; 10 CFR Part 21 reports; industry reports; reports on operational, safeguards, and security events; reports on licensed material in nonreactor application and medical misadministration; and reports of operational experience at foreign facilities. Operational safety data do not include economics or data associated with routine operations such as normal occupational radiation exposure or effluent releases. (D)

## Part II

### Operational Safety Data Review Processing

#### Reporting of Operational Safety Data (A)

Licensees are required to submit reports of operating experience in a manner consistent with their importance and regulatory requirements. The Agreement States are required to provide NRC reports of Agreement State licensee incidents and events in accordance with the Policy Statement on Adequacy and Compatibility of Agreement State Programs. (1)

The Office for Analysis and Evaluation of Operational Data (AEOD) and the Offices of Nuclear Reactor Regulation (NRR), Nuclear Material Safety and Safeguards (NMSS), State Programs (OSP), Nuclear Regulatory Research (RES), Enforcement (OE), and the regions shall be on distribution for reports, correspondence, and evaluations of operational and occupational events and potential generic issues consistent with their responsibilities. (2)

In cases where the information collected on an operational or occupational event is insufficient for review purposes, the office conducting the review should obtain essential information from appropriate sources. (3)

The involved NRC office should promptly inform the Commission, Office of the Executive Director for Operations (EDO), Advisory Committee on Reactor Safeguards (ACRS), and other NRC offices, as appropriate, of any matters of immediate safety concern it identifies during the course of its data collection and assessment activities. (4)

## Reporting of Operational Safety Data (A) (continued)

AEOD, NRR, NMSS, OSP, RES, and the regions should periodically inform other NRC offices, as appropriate, regarding significant studies of operational safety reviews in progress. (5)

## Preliminary Analyses (B)

The cognizant offices for licensing and inspection (e.g., the region, the NRR, NMSS) shall perform prompt reviews of operational and occupational events to identify health and safety and safeguards concerns of an immediate nature. The Agreement States perform similar reviews of operational and occupational events and provide the information to NRC. RES incorporates, if applicable, the experience from previously resolved issues. After the operational safety review is completed, appropriate action shall be initiated by the cognizant regional office and other NRC offices to ensure public health and safety and, if applicable, to notify other organizations.

## Dissemination (C)

The Office of the Chief Information Officer (OCIO), using the agency's automated document management system (NUDOCS), will routinely distribute operational and safety review documents to the appropriate NRC offices. Documents related to operational safety data shall be indexed and maintained on NUDOCS in accordance with Handbook 3.50, "Document Management."

## Management of Data (D)

The offices will maintain, in a timely, thorough, and responsive manner, operational data management systems to collect, log, collate, categorize, store, and retrieve available information

Management of Data (D) (continued)

concerning operational and occupational experience both in U.S. and foreign facilities.

The following databases are utilized routinely to gather operational safety data:

<b>Database</b>	<b>Content</b>
Nuclear documents (NUDOCS)	Licensee event reports (LERS), licensee and staff letters, generic communications
Sequence coding and search system (SCSS)	LER sequence data
Nuclear plant reliability data system (NPRDS) will be replaced by equipment performance and information exchange (EPIX) in 1998	Equipment plant failure data (INPO proprietary) will be replaced by component performance risk and reliability data
FOLIO text search	Generic communications, events, staff documents
ZYINDEX text search	Inspection reports, staff documents
Headquarters daily report	Morning event reports
Preliminary notification	Preliminary notification of notable events
Event notification system (ENS)	10 CFR 50.72 reports
Accident sequence precursor (ASP)	Accident assessment data
Performance indicator	Performance indicator data

Management of Data (D) (continued)

<b>Database</b>	<b>Content</b>
Advanced incident reporting system (AIRS)	International incident reports
Human factors information system (HFIS)	Human factors event data
Human system event classification scheme (HSECS)	Human factors classification
Nuclear materials event database (NMED)	Materials, medical, facilities events
Gaseous diffusion	Gaseous diffusion information
Radiography reports	10 CFR 34.30 reports
Interim misadministration	Misadministration events
Nuclear medicine	Nuclear medicine data
Part 21 material licenses	Material Part 21 reports

Screening of Operational  
 Data Reports (E)

The responsible office and/or region will individually screen and determine the need to track and record the disposition of licensee event reports, immediate notification reports, the *Code of Federal Regulations* reports (10 CFR 21 and 10 CFR 50.55(e)) concerning commercial reactors, event reports from fuel cycle and material licensees (including 10 CFR 21), event reports from Agreement State licensees, and reports of foreign operating experience. The results of this initial process, if documented by the organization involved, will be made available to other NRC offices.

## Detailed Analysis and Evaluation (F)

AEOD, NRR, NMSS, RES, OSP through coordination with Agreement States, and the regions, in the context of their functional responsibilities, will perform detailed analyses and evaluation of operational safety events in a coordinated manner that avoids unwarranted duplication. Analytical efforts by other organizations (e.g., Institute of Nuclear Power Operations [INPO]) should be considered, as appropriate. The various elements of this analysis program follow:

- Initial determination of operational safety importance and possible generic implications, using, as applicable, information from previous determinations of safety significance. (1)
- Assessment to establish whether licensee actions or responses to the events should be treated as safety enhancements or matters of compliance with existing regulations. (2)
- Coordination of agency reviews and information to ensure the interchange of relevant information and prevent unnecessary duplication of effort (see Part III of this handbook for more detail). (3)
- Evaluation of specific operational and occupational events to identify potential safety or generic problems, unexpected system behavior, and unanticipated accident sequences; identify potential abnormal occurrences; notify licensing boards of relevant significant operational information; and assess the adequacy of safety margins and the current licensing basis. The nature and extent of the evaluation will be determined by the circumstances and judgment. Some events can require analysis from several perspectives, perhaps by several different NRC offices in the context of each office's responsibilities. (4)

## Detailed Analysis and Evaluation (F) (continued)

- Analysis of trends or patterns of events to study and determine implications for safety concerns arising from operational and occupational events, inadequacy or unreliability of specific equipment or training programs, and the adequacy of the current licensing basis. (5)
- Documentation of the operational event analysis and evaluation effort should incorporate bases for judgments, uncertainties, and assumptions in the analysis and be sufficient to allow independent review of the process and to determine disposition of the item. (6)
- Reviews by independent organizations when analysis raises issues judged to be of major operational significance to safety and safeguards. These reviews may include requests for comments from cognizant offices, the ACRS, the public, consultants and colleagues in the broad technical community, or affected parties in the nuclear industry. For safety or national security issues of great significance, it may be necessary to initiate corrective actions before completion of the independent operational safety review process. Nonetheless, independent reviews to the extent deemed necessary and cost beneficial should be considered in the long term, as required. (7)
- Recommendations for feedback and follow-on actions resulting from the operational safety data reviews. (8)

## Generic Issues Resulting From Operational Safety Data (G)

The Offices of NRR, NMSS, and RES shall utilize appropriate mechanisms for consideration of generic issues resulting from the

## Generic Issues Resulting From Operational Safety Data (G) (continued)

review of operational safety data in the areas of reactor plant operations; safeguards; material and fuel cycle operations and transportation activities; construction and decommissioning operations; vendor activities; and research program activities. (1)

All generic issues identified by AEOD, NMSS, and NRR that may have the potential to require licensees to make safety improvements and/or require promulgation of new or revised regulations or guidance will be sent to RES for assessment (using the process and information in NUREG-0933) so that actions of other offices are not duplicated unnecessarily. (2)

Elements considered for inclusion in the program and associated office procedures are discussed below. (3)

- The organizations participating in the program should have a clear definition and uniform understanding of their roles and responsibilities (see Part III of this handbook). (a)
- The activities of the participating organizations should be complementary to the extent practical and overlapping activities and responsibilities minimized. (b)
- Procedures should be established to control activities within individual offices. (c)
- Potential generic operational issues having safety or safeguards importance should be promptly recognized, properly documented, and distributed to the appropriate office for action and interfacing offices for information. (d)
- Each potential generic operational safety issue should be entered into a tracking system where it is logged, action is assigned, and a schedule for resolution is established. Access



Generic Issues Resulting From  
Operational Safety Data (G) (continued)

to the tracking system should be made available to the NRC headquarters and regional offices. (e)

- The potential generic operational issue should be technically assessed to confirm that it is indeed a valid safety issue, the experience from the prioritization and resolution of previously identified generic safety issues is considered, and its significance is determined to establish its relative priority, schedule, and depth of review. (f)
- Resources should be assigned in relation to the safety or safeguards significance of the issues to assess and resolve the issues, to initiate regulatory action when warranted, and to feed back the results of the completed action to licensees, other NRC offices, and interested organizations such as INPO, international organizations, and the public. (g)
- A mechanism should be in place for management to periodically monitor the status and priority of action on the operational safety data reviews. (h)
- Periodic reports on the identification, status, and priority of operational safety issues being studied should be made available to involved and interested organizations. (i)
- Issues should be closed out only after all applicable milestones are met on the operational safety reviews. (j)
- The Offices of NRR, NMSS, and OE shall utilize appropriate mechanisms for consideration of compliance activities resulting from the review of operational safety data. (k)

## Feedback and Follow-On Actions (H)

Feedback of operational and occupational experience consists of implementing the actions that are identified through analysis to maintain or improve licensees' safety and safeguards activities and NRC regulatory programs. Follow-on measures may include collection of additional relevant information and recommendations for immediate or long-term changes. Specific follow-on action may involve changes in facility operations or procedures; modifications to the facility components, systems, or structures; improvements in operator or staff training; changes in regulations or regulatory guides; changes in licensing review procedures or criteria; changes in the inspection program; changes in research and risk assessment activities; or the issuance of a generic communication. These actions shall be subject to and consistent with NRC controls on imposition of regulatory requirements. Actions related to needed improvement in the data collection, assessment, and feedback program also shall be considered.

## Implementation and Verification of Follow-On Actions (I)

Once approved, follow-on actions will be implemented by the appropriate NRC office. Follow-on actions shall be given a priority consistent with their safety significance, other work efforts, and budget constraints of the implementing office. This priority assignment should be the prerogative of the NRC office responsible for the action. (1)

The implementation of follow-on actions identified through operational safety data analysis shall be verified consistent with their safety significance, priorities of other work, budget constraints, and operating plans. (2)

## Overview (J)

Regular assessments of operational and occupational safety data activities will be performed. The NRC Advisory Committees (whose membership can provide an independent perspective) and NRC management are expected to be involved in such reviews. These assessments will ensure that the above activities are being effectively conducted and should contribute to the success of the NRC and the nuclear industry in achieving overall program goals.

## Resolution of Problems (K)

Any disagreements in the implementation of these activities associated with operational safety data reviews that cannot be resolved at the office director level should be brought to the attention of the EDO for resolution.

## Part III

### Functional Responsibilities of Offices Processing Operational Safety Data

#### Office for Analysis and Evaluation of Operational Data (AEOD) (A)

AEOD has lead responsibility for oversight review of the NRC programs for analyzing and evaluating operational and occupational safety data associated with all NRC-licensed activities and communicating the lessons of operating experience. To carry out AEOD functional responsibilities, the Safety Programs Division (SPD) and the Incident Response Division (IRD) oversee, independent of the individual program offices, the process of data collection, analysis, and review of licensee experience to identify and communicate safety lessons learned. SPD reviews operational safety experience from nuclear power plants and nonpower reactors facilities. The Reactor Analysis Branch (RAB), SPD, ensures the reviews of operational events are performed and communicated in a complete and timely manner. The Reliability and Risk Assessment Branch (RRAB), SPD, maintains operational databases and performs quantitative risk assessments for the operational safety data reviews. IRD reviews nuclear fuels, waste storage, industrial, medical and other facilities using byproduct material, as well as source and special nuclear material. (1)

AEOD coordinates efforts with other offices that share responsibility for operational safety data reviews to maximize efficiency and effectiveness. It reports significant review findings on operational events promptly to the Commission, the Office of the Executive Director for Operations (EDO), the Advisory Committee on Reactor Safeguards (ACRS), other NRC offices, industry, and the public, as appropriate. (2)

Office for Analysis and Evaluation  
of Operational Data (AEOD) (A) (continued)

AEOD assesses the NRC Operational Safety Data Review Program, as appropriate, to determine the need for program improvements. It provides recommendations to office directors and the EDO. (3)

NRC's longer term operational data review functions are performed primarily by SPD. SPD evaluates trends and patterns, performs probabilistic risk assessments, conducts statistical analysis and engineering evaluations of repetitive problems, assesses safety significance and communicates the generic lessons learned to industry and to others within the NRC for incorporating into the NRC's regulatory process. AEOD issues technical reports on systems, components, specific significant events, and safety issues; reliability of selected safety systems and components on the basis of operating experience; risk significance of safety-significant events; and objective performance indicators of nuclear power plants. AEOD technical study reports contain suggestions or recommendations, as appropriate, for followup action by the nuclear industry and/or the NRC. AEOD also issues annual reports to Congress on abnormal occurrences at licensed facilities as required by Section 208 of the Energy Reorganization Act of 1974. (4)

SPD has primary responsibility within the NRC for systematic review of industry licensee event reports for applicability and safety significance. It is the principal contact for operational safety data reviews in the coordination of staff activities and interaction with ACRS, nonlicensee organizations, and industry groups. SPD provides coordination and assessment of INPO's nuclear plant reliability data system (NPRDS) and its replacement, equipment performance and information exchange (EPIX), which are other sources of information in the review of operational safety data. (5)

Office for Analysis and Evaluation  
of Operational Data (AEOD) (A) (continued)

SPD provides the bases for and recommends actions to appropriate lead NRC offices on the basis of its own independent analyses and evaluations of operational safety data. AEOD reviews implementing actions taken by the lead office and highlights substantive disagreements to the lead office director and the EDO, as appropriate. (6)

SPD develops and maintains the requirements that define the operational events and data that must be reported to the NRC. It reviews operational events to help ensure that reportable events are provided in a complete and timely manner. (7)

SPD has the primary responsibility for systematically assessing foreign reactor operating experience and informing the Office of Nuclear Reactor Regulation (NRR) of issues affecting NRC-licensed activities. (8)

SPD provides the principal NRC support to the Office of International Programs (OIP) for activities related to the International Atomic Energy Agency's (IAEA) incident reporting system (IRS). SPD submits publicly available NRC reports on domestic events to IAEA for its IRS. IRS reports from the other countries are systematically assessed for applicability to U.S. facilities. Information in the IRS reports is entered into the advanced IRS (AIRS) database, which is maintained by IAEA. (9)

SPD provides the principal NRC support for event reporting activities in the Agreement States and statistical data support to NRC offices and regions. SPD is responsible for maintenance of the databases that contain reactor information. IRD is responsible for nuclear materials operational and occupational event information from NRC licensees and the Agreement States. (10)

## Office of Nuclear Reactor Regulation (NRR) (B)

The following NRR divisions and branches assess reactor operational events on a daily basis to carry out NRR functional responsibilities for the prompt review of significant operational safety events: (1)

- The Division of Reactor Program Management (DRPM) screens events and assesses their safety significance, recommends immediate plant-specific and generic actions, and coordinates the followup activities. DRPM develops, coordinates, and issues NRC generic communications to licensees to address the generic concerns of operating experience. (a)
- With the support of the Division for Inspection and Support Programs, specifically the Inspection Program Branch, DRPM also reviews, analyzes, and evaluates operational safety data from U.S. and foreign nuclear activities to identify potential generic safety issues associated with failure to meet NRC requirements and any need for program modifications. (b)
- The Events Assessment, Generic Communications, and Special Inspections Branch (PECB), DRPM, leads the screening of operational reactor safety issues. (c)
- The Division of Reactor Controls and Human Factors reviews operational safety data to assess the licensees' quality assurance. (d)
- The Divisions of Reactor Projects (DRPE and DRPW) review operational safety data to identify safety issues related to the current licensing basis. (e)
- The Division of Systems Safety and Analysis performs and evaluates probabilistic safety and deterministic assessments

Office of Nuclear Reactor  
Regulation (NRR) (B) (continued)

of potentially significant operating safety data and evaluates short- and long-term corrective actions. (f)

NRR coordinates efforts with other offices that share responsibility for operational safety data reviews to maximize efficiency and effectiveness. It reports significant findings promptly to the Commission, EDO, ACRS, other NRC offices, industry, and the public, as appropriate. (2)

DRPM systematically conducts prompt reviews and performs analyses of potentially significant reactor operational safety and safeguards data, including information on foreign events related to licensing of utilization and production facilities other than fuel reprocessing plants and isotopic enrichment plants. DRPM with the support of the other NRR divisions identifies: (3)

- The need for plant-specific or generic licensing-related action (a)
- The need for licensing board notifications (b)
- Potential abnormal occurrences (c)

DRPM provides technical support to regional offices, as requested, for operational events or facility-specific safety issues that have been identified through operational safety data reviews. (4)

PECB refers potentially significant generic safety issues or facility-specific issues, identified by reviews of operational safety data to the appropriate lead office for assessment and closeout. (5)



## Office of Nuclear Reactor Regulation (NRR) (B) (continued)

NRR works with AEOD and the Operations Center when significant operational safety or safeguards events are reported to ensure a prompt determination is made regarding— (6)

- NRC individuals to be notified (a)
- Need for headquarters or Commission attention or action (b)
- Need for coordination with other Federal and State organizations (c)
- Need for evaluation of suspected acts of tampering, vandalism, and sabotage. (d)
- Near-term plant-specific and generic safety implications (e)

NRR provides a timely written response to the recommendations for action from other offices indicating acceptance and the schedule for implementation, rejections (with justification), proposed modification, or a status of the recommendation review and a plan for future action. (7)

## Office of Nuclear Material Safety and Safeguards (NMSS) (C)

Each NMSS technical division is involved in the review of operational data pertaining to its functional responsibilities. The Division of Fuel Cycle Safety and Safeguards (FCSS) has functional responsibility for safety and safeguards involving most fuel cycle activities. The Division of Industrial and Medical Nuclear Safety (IMNS) has functional responsibility for safety issues involving medical, academic, and commercial activities. The Division of Waste Management (DWM) has functional

Office of Nuclear Material Safety  
and Safeguards (NMSS) (C) (continued)

responsibility for safety issues involving decommissioning and waste disposal activities. The Spent Fuel Project Office (SFPO) has functional responsibility for independent spent fuel storage activities and transportation activities. (1)

NMSS conducts reviews and analyses of operational and occupational events necessary to perform duties related to— (2)

- Licensing and inspecting of nonreactor activities (a)
- Developing, implementing, and evaluating programs for safety and safeguards (b)
- Evaluating the domestic threat environment and revalidating design-basis threats for theft and radiological sabotage (c)

NMSS coordinates efforts with other offices that share responsibility for operational safety data reviews to maximize efficiency and effectiveness. It reports significant findings promptly to the Commission, EDO, ACRS, other NRC offices, Agreement States, industry, and the public, as appropriate. All identified generic safety issues are sent to RES for tracking until resolved. (3)

Each division identifies, prioritizes, and takes action to resolve safety issues concerning events within its functional area. In addition, FCSS identifies and takes action to resolve safeguards issues concerning threats, theft, and sabotage. Each division identifies potential abnormal occurrences within its functional area. (4)

The Operations Branch, FCSS, assesses threats to the domestic environment affecting NRC-licensed activities and continually reviews the adequacy of design-basis threats on the basis of

Office of Nuclear Material Safety  
and Safeguards (NMSS) (C) (continued)

domestic and foreign operational data and events and intelligence information. The Operations Branch, coordinates with other agencies concerning NRC's tracking and response to illicit trafficking in purported nuclear materials. Operational safety data reviews can be a source of illicit trafficking information. (5)

Each division implements necessary changes to standard license conditions and regulatory requirements within its functional area arising from operational safety data reviews. Each division documents the basis for licensing-related actions taken as a result of operational events or generic safety issues that fall outside of the safety considerations previously used as the basis for issuing licenses. (6)

NMSS provides a written response in a timely manner to the recommendations resulting from operational safety data reviews for action from other offices indicating acceptance and the schedule for implementation, rejection (with justification), proposed modification, or a status of the recommendation review and a plan for future action. (7)

Office of Nuclear Regulatory  
Research (RES) (D)

RES conducts the assessment of operational safety data to the extent necessary to identify potential safety enhancements and to support, confirm, or revise ongoing and planned safety research programs and associated RES policies. (1)

The Division of Systems Technology (DST) develops methodologies for other offices to use in performing operational safety data analyses related to quantitative risk assessment; human factors analyses; system, component, and

Office of Nuclear Regulatory  
Research (RES) (D) (continued)

human quantitative reliability studies; and accident sequence probability. DST extracts data necessary for quantitative risk and reliability analyses from existing data bases and provides relevant statistics to other NRC offices to use in operational safety data analyses. DST provides assistance in the evaluation of plant systems, components, or accident sequences using operational experience data to make reliability determinations, assess quantitative risk implications, evaluate human factors and probabilities associated with accident sequences, and to identify potential abnormal occurrences. (2)

The Division of Engineering Technology (DET) is responsible for developing and implementing a coordinated agencywide program to manage and track the identification, prioritization, and resolution of generic safety issues. These generic operational reactor safety issues are identified by various NRC offices, including RES, through the review of operational safety data. DET is responsible for documenting the prioritization and resolution of all generic safety issues in NUREG-0933. (3)

DET also coordinates guidance to outside organizations, such as the American National Standards Institute and the American Society of Mechanical Engineers, with regard to the incorporation of the results of operational safety data reviews into ongoing code and standards development activities. (4)

RES provides a written response in a timely manner to the recommendations resulting from operational safety data reviews for action from other offices indicating acceptance and the schedule for implementation, rejection (with justification), proposed modification, or a status of the recommendation review and a plan for future action. (5)

## Regional Offices (E)

The Division of Reactor Safety (DRS), Division of Reactor Projects (DRP), Division of Nuclear Materials Safety, and Enforcement Officer or Enforcement and Investigation Coordination Staff review operational safety data to carry out regional functional responsibilities related to licensee-specific technical evaluation, assessment of licensee performance, inspection, and enforcement. The regional offices review operational events to identify— (1)

- Licensee-specific violations of NRC requirements (a)
- The need for additional technical evaluations (b)
- The need for licensee-specific action (c)
- Potential abnormal occurrences (d)

DRP and DRS provide a documented basis for shutdown or continued operation from the review of operational safety data of identified licensee-specific failure to adequately comply with NRC requirements. (2)

Regional offices coordinate efforts with other offices that share responsibilities for operational safety data reviews to maximize efficiency and effectiveness. They report significant findings promptly to the Commission, EDO, ACRS, other NRC offices, industry, and the public, as appropriate. (3)

DRS reviews selected operational licensee events reports and other operational safety data to confirm their completeness and accuracy and to identify and refer potentially significant generic safety issues to the NRC lead office for action. (4)

Regional administrators provide a written response in a timely manner to the recommendations resulting from operational safety

## Regional Offices (E) (continued)

data reviews for action from other offices indicating acceptance and the schedule for implementation, rejection (with justification), proposed modification, or a status of the recommendation review and a plan for future action. (5)

## Office of International Programs (OIP) (F)

OIP provides a support function in the operational safety data review. It helps ensure an effective communication of operational safety information to and from the international community. (1)

OIP advises cooperating foreign regulatory authorities of significant safety results having applicability to their nuclear activities. (2)

OIP helps obtain operational safety information from foreign governments in response to questions raised by other NRC offices. (3)

OIP helps arrange appropriate NRC participation in international meetings and discussions on operational safety subjects. (4)

## Office of State Programs (OSP) (G)

OSP coordinates and provides technical advice in the review and analyses of operational safety data and abnormal occurrences in the Agreement States. (1)

OSP provides guidance and direction to Agreement State regulatory agencies on the reporting of operational safety information to NRC. This includes guidelines for prompt notification to the NRC Operations Center, of significant events,

### Office of State Programs (OSP) (G) (continued)

and distribution of event information and data to appropriate NRC offices. (2)

OSP directs the identification and arrangements of appropriate NRC participation in State meetings and discussions to ensure effective communication on operational safety subjects. (3)

Through the Integrated Materials Performance Evaluation Program, OSP, NMSS, and the regional state agreements officers review and evaluate the Agreement State incident response program and analyses of operational events, as necessary, to evaluate the effectiveness of the program to protect the public health and safety. (4)

### Office of the Chief Information Officer (OCIO) (H)

OCIO provides the following support functions in the operational safety data review:

- It manages the automated management document system for the collection, storage, retrieval, indexing, and distribution control of documents involving operational events and evaluations. (1)
- It provides technical advice and assistance for the development, implementation, and support of computerized information systems that relate to operational safety data. (2)

### Office of Administration (ADM) (I)

ADM provides the following support functions in the operational safety data review:

Office of Administration (ADM) (I) (continued)

- The Division Administrative Services provides translation services for foreign documents that report on operational events. (1)
- The Division of Facilities and Security provides security support when requested or as appropriate, in the review, handling, and protection of classified or sensitive unclassified documents or information related to operational safety data reviews. (2)

Office of Enforcement (OE) (J)

OE oversees, manages, and directs the development of policies and programs for enforcement of NRC requirements.