U.S. NUCLEAR REGULATORY COMMISSION MANAGEMENT DIRECTIVE (MD)

MD 8.7	REACTOR OPERATING EXPERIENCE PROGRAM	DT-12-08
Volume 8	Licensee Oversight Programs	
Approved By:	R. W. Borchardt Executive Director for Operations	
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Issuing Office:	Office of Nuclear Reactor Regulation	
Contact Name:	Jesse E. Robles 301-415-2940	

EXECUTIVE SUMMARY

Directive 8.7 is being revised to provide updated agency-level guidance for the Reactor Operating Experience (OpE) Program. This program is a result of recommendations from the Davis-Besse Lessons Learned Task Force (DBLLTF). This revision reflects changes resulting from the establishment of the Office of New Reactors and the Construction Experience (ConE) Program, and formatting and editorial revisions to enhance clarity and accuracy.

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I. POLICY

It is the policy of the U.S. Nuclear Regulatory Commission to have an effectively coordinated program to review domestic and applicable international operating experience (OpE) information (referred to throughout this management directive (MD) as OpE Information as defined in Section V) gained from the nuclear power industry, research and test reactors, and new reactor construction in a timely and systematic manner. The program provides means for assessing the significance of OpE Information, providing timely and effective communication to stakeholders, and applying the lessons learned to regulatory decisions and programs affecting nuclear reactors. This program is referred to as the Reactor OpE Program throughout this MD, as defined in Section V.

II. OBJECTIVES

The objectives of the agency's Reactor OpE Program are as follows:

- Collect, evaluate, communicate, and apply OpE Information in a systematic, timely, and coordinated manner to support the agency's goal of ensuring safety. Application includes sharing significant OpE Information with the nuclear industry in a timely manner so that the industry can ensure safety.
- Coordinate use of OpE Information to improve the effectiveness, efficiency, and appropriateness of NRC decisions. Evaluations of OpE provide fundamental information necessary to improve safety assessments and help optimize NRC decisions. Lessons learned from OpE evaluations influence regulatory decisions to improve NRC regulatory programs, including licensing and inspection.
- Facilitate providing the public, Congress, and other external stakeholders with accurate, timely, and balanced OpE Information, including actual or potential hazards to health and safety, thereby enhancing understanding of the performance of both the nuclear industry and licensed plants.

III. ORGANIZATIONAL RESPONSIBILITIES AND DELEGATIONS OF AUTHORITY

A. Commission

Acts on the most serious reactor events or conditions that are brought to its attention after an OpE review determines that the significance of the event or the condition impacting or potentially impacting public health and safety, common defense and security, and protection of the environment requires the immediate action of the Commission.

B. Executive Director for Operations (EDO)

1. Oversees the agency's interoffice Reactor OpE Program and directs appropriate office roles and responsibilities.
2. Directs actions, as necessary, to the appropriate office(s) in response to significant reactor events or conditions.
3. Manages and updates, as necessary, portions of the Memorandum of Agreement between NRC and the Institute of Nuclear Power Operations (INPO) that are germane to the agency's Reactor OpE Program.

C. Director, Office of Nuclear Reactor Regulation (NRR)

1. Leads the agency's Reactor OpE Program.
2. Provides resources to ensure the implementation and periodic updates of this MD and NRR Office Instruction LIC-401, "NRR Reactor Operating Experience Program."
3. Assigns a senior manager as a single point of contact to coordinate overall Reactor OpE Program activities and to measure effectiveness.
4. Directs prompt review and analysis of significant OpE Information.
5. Oversees the OpE Clearinghouse (see Section V of this directive) to facilitate the Reactor OpE Program.
6. Provides resources to ensure that OpE Information is appropriately evaluated and applied in support of core office programs, such as licensing, oversight, rulemaking, and incident response. This includes processes to support other offices, as needed.
7. Serves as sponsor for the communication of OpE through the Web and other information technology in coordination with OIS, as necessary, and ensures review and approval of information technology applied in OpE in accordance with the agency management policy for Capital Planning and Investment Control.

8. Provides processes to coordinate incorporation of significant lessons learned from the Reactor OpE Program into regulatory programs, for example, oversight, licensing, rulemaking, and incident response.
9. Institutes program metrics aligned with the agency's strategic plan and the Reactor OpE Program attributes to measure the internal effectiveness of the Reactor OpE Program.
10. Conducts periodic assessment of the Reactor OpE Program.
11. Provides a program for assessing external effectiveness of the Reactor OpE Program.
12. Coordinates with other offices (e.g., NSIR, NRO, RES, OIP, regions) to identify reactor OpE Information that could impact regulatory programs under these offices' purview, including information that could impact nuclear security, new reactors, or a specific facility.

D. Advisory Committee on Reactor Safeguards (ACRS)

Reviews, as necessary, significant OpE Information and the staff's studies related to OpE, and advises the Commission with regard to their impact on public health, safety, environment, and common defense and security at proposed or existing reactor facilities.

E. Director, Office of International Programs (OIP)

1. 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 OpE Information.
2. Serves as the formal contact for obtaining international OpE Information.

F. Director, Office of New Reactors (NRO)

1. Leads the agency's new reactor Construction Experience (ConE) Program as part of the agency's Reactor OpE Program.
2. Assigns a senior manager as a single point-of-contact to coordinate overall ConE Program activities, including its interface with the OpE Clearinghouse, and to measure its effectiveness.
3. Provides resources to ensure that OpE Information is appropriately evaluated and applied in support of core office programs such as licensing, inspections, rulemaking, and enforcement. This includes processes to support other offices, as needed.
4. Ensures that lessons learned from international reactor construction activities are incorporated into the Reactor OpE Program.

5. Directs changes to the licensing and inspection programs that are appropriate as a result of the Reactor OpE Program recommendations.

G. Director, Office of Nuclear Regulatory Research (RES)

1. Directs the reviews and evaluations of OpE Information to identify precursors to potential core damage sequences and to support the Industry Trends Program (see IMC 0313, "Industry Trends Program") in the areas of initiating event frequencies, system and component reliability, and common-cause failures.
2. Supports near-term reviews, conducts analyses, and develops products on the basis of significant OpE Information.
3. Provides summary evaluations of RES studies that could provide OpE insights. These evaluations contain distilled OpE findings and lessons learned, along with recommendations for application. The evaluations are input into the OpE Information process.
4. Directs the Generic Issues Program (see MD 6.4, "Generic Issues Program," and NUREG-0933, "Resolution of Generic Safety Issues").
5. Coordinates with NRR to provide OpE Information through the Web and other information technology. Provides a licensee event report (LER) search system. Provides resources for an Inspection Report search system.
6. Provides resources for coordinating and using the INPO Equipment Performance Information Exchange (EPIX) data.
7. Oversees development of risk analysis tools and models, and institutes a program to provide periodic feedback to agency and licensee risk models based on OpE lessons learned from the application of these tools and models.

H. Director, Office of Nuclear Security and Incident Response (NSIR)

1. Manages the agency's incident response program, which provides resources to receive and disseminate OpE Information reported to the agency's Headquarters Operations Center.
2. Coordinates with other NRC program offices, as necessary, to identify security-related issues that could impact reactor safety, reactor safety events that could impact security, and issues related to emergency preparedness.
3. Provides designated representatives to participate, as needed, in OpE Clearinghouse activities specific to physical security events, cyber security events, or emergency preparedness issues that could potentially impact licensing for or protection of operating reactors, test reactors, or new reactors. Provides support for the appropriate evaluation of these issues.

4. Issues generic communications to licensees based on Reactor OpE Program events or findings with generic implications.

5. As appropriate, directs changes to licensing, inspection, rulemaking, and enforcement processes based on deficiencies identified from OpE Information that has generic implications.

I. Director, Office of Information Services (OIS)

Supports, as necessary, the Offices of Nuclear Reactor Regulation (NRR), Nuclear Regulatory Research (RES), New Reactors (NRO), and Nuclear Security and Incident Response (NSIR), and the regions in providing efficient information technology solutions to the agency's Reactor OpE Program.

J. Regional Administrators (RAs)

1. Provide for prompt reviews of plant-specific events and conditions, including onsite followup, and provide the information to the OpE Clearinghouse.

2. Coordinate regional efforts with other NRC offices that share OpE responsibilities to (1) evaluate significant OpE, (2) apply lessons learned from OpE evaluations to improve regulatory programs and activities, and (3) provide feedback on the effectiveness of the application of OpE Information to improve reactor operations and regulatory programs and activities.

3. Identify reactor safety issues that could require evaluation by the Reactor OpE Program.

4. Provide resources to support the Reactor OpE Program in obtaining additional information necessary to facilitate OpE screening or evaluation.

5. Provide feedback on the effectiveness of OpE communication tools and program integration.

6. Specify regional Reactor OpE Program needs.

7. Provide designated representatives to support the Reactor OpE Program and to interact with the other Reactor OpE Program coordinators in order to integrate agencywide OpE processes.

K. Director, Office of Administration (ADM)

Provides translation services for foreign documents associated with operational safety data (see MD 3.12) and technical editing and publishing services to NRC offices as requested to support the Reactor OpE Program.

L. Chief Human Capital Officer (CHCO)

1. Supports the Reactor OpE Program and program offices in providing knowledge transfer of OpE, as appropriate, through Human Resources Training and Development.
2. Assists in developing knowledge transfer tools to support the Reactor OpE Program.

IV. APPLICABILITY

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

V. DEFINITIONS

Construction Experience (ConE) Program

The ConE Program is an integral component of the Reactor OpE Program that focuses on collecting, screening, and evaluating information, lessons learned, and insights applicable to new nuclear reactor design, construction, and pre-operational testing.

Lessons Learned

The recommended response to knowledge or understanding acquired from the evaluation of OpE Information which can be used to provide insights in the licensing and oversight activities associated with the operation of reactors or the design and construction of new reactors.

Long-term Review

Comprehensive studies in which many years of OpE Information are typically aggregated and evaluated from a technical perspective. These reviews are generally provided by RES. The study results are then integrated into the regulatory process, as appropriate. There are many types of long-term reviews, such as system and component studies, risk and reliability studies, studies of engineering issues, and long-term trending and analyses.

Near-term Review

A review performed in generally 1 year or less, with timeliness commensurate with safety significance. These near-term reviews are generally provided by NRR or NRO. Some trends and evaluation activities in NRR, NRO, and RES balance near-term and longer term reviews. Near-term studies tend to deal with issues that are covered by regulatory requirements and their main focus is on determining safety significance and assessing generic implications for OpE applications.

OpE Clearinghouse

The centralized team that performs the key functions and activities of the Reactor OpE Program. Core duties include (1) collecting, storing, screening, prioritizing, and distributing OpE Information to interested users; (2) conducting and facilitating OpE evaluation and application activities; (3) facilitating communication of OpE lessons learned; and (4) coordinating NRC OpE activities among organizations performing OpE functions.

OpE Information

Operating Experience Information, or OpE Information for short, includes information and deficiencies associated with existing reactors and new reactor design, construction experience (ConE), and pre-operational testing. Various sources of OpE Information include Daily Event Notifications (10 CFR 50.72), LERs (10 CFR 50.73), regional daily events briefings, NRC Inspection Findings, INPO documents, 10 CFR Part 21 and Part 50.55(e) reports, other internal and external studies, and information related to security and emergency preparedness issues. International OpE, including publications from the International Atomic Energy Agency (IAEA) and the Nuclear Energy Agency (NEA) (e.g., International Reporting System for Operating Experience (IRS) reports), is also considered OpE Information. Additionally, information from events or deficiencies in industries that potentially has instructive value for the nuclear industry may be considered as OpE Information.

Power Reactors

Reactors licensed for the production of electrical power.

Reactor Operating Experience (OpE) Program

As described in this MD, the Reactor OpE Program is a program established by agency policy to collect, communicate, and evaluate OpE Information and apply the lessons learned from that information in a timely and systematic manner. It is an interoffice program that encompasses lessons learned from operating nuclear reactor events, events or issues identified at nuclear reactors under construction, security-related reactor events, and emergency preparedness issues.

Reactors

All licensed reactors, that is, power and research and test reactors.

Research and Test Reactors

Reactors licensed for the purposes of research and development or medical therapy.

VI. HANDBOOK

In place of a handbook, office-level guidance such as LIC-401, "NRR Reactor Operating Experience Program" (NRR), TEC-001, "Coordination of RES Operating Experience Issues and Products with the NRC Operating Experience (OpE) Program" (RES), and NRO-REG-112, "New Reactor Construction Experience Program" (NRO), is available for specific procedures. These guidance documents are listed in the reference section below.

VII. REFERENCES

Code of Federal Regulations

Title 10, "Energy," Parts 2, 19, 20, 21, 26, 50, 52, 54, 55, 73, 95, and 100.

Nuclear Regulatory Commission Documents

Management Directives—

3.12, "Handling and Disposition of Foreign Documents and Translations."

3.14, "U.S. Nuclear Regulatory Commission Public Web Site."

5.2, "Cooperation with States at Commercial Nuclear Power Plants and Other Nuclear Production or Utilization Facilities."

5.12, "International Nuclear and Radiological Event Scale (INES) Participation."

6.3, "The Rulemaking Process."

6.4, "Resolution of Generic Safety Issues."

8.1, "Abnormal Occurrence Reporting Procedure."

8.2, "NRC Incident Response Program."

8.3, "NRC Incident Investigation Program."

8.13, "Reactor Oversight Process."

12.6, "NRC Sensitive Unclassified Information Security Program."

NUREG-Series Publications

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

NUREG-1022, "Event Reporting Guidelines–10 CFR 50.72 and 50.73," Revision 2.

Other Documents

IMC 0313, “Industry Trends Program.”

LIC-401, “NRR Reactor Operating Experience Program” (NRR) (ML081910741).

LIC-403, “Procedures for Handling Deficiency Reports” (10 CFR Part 21, 10 CFR Part 50.55(e)) (NRR) (ML101400026).

Memorandum of Agreement between the Institute of Nuclear Power Operations and the U.S. Nuclear Regulatory Commission (ML12135A670).

OVRST-300, “NRR Audit/Self-Assessment Program” (NRR) (ML040680841).

Reactor Operating Experience Task Force Report, November 26, 2003 (ML033350063).

NRO-REG-112, “New Reactor Construction Experience Program” (NRO) (ML102560067).

TEC-001, “Coordination of RES Operating Experience Issues and Products with the NRC Operating Experience (OpE) Program” (RES) (ML052430255).

United States Code

Energy Reorganization Act of 1974, as amended, Section 208, Abnormal Occurrence Reporting (42 U.S.C. 5848 et seq.).