

# NRC INSPECTION MANUAL

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INSPECTION MANUAL CHAPTER 2523

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NRC APPLICATION OF **THE REACTOR** OPERATING EXPERIENCE **PROGRAM**  
IN **NRC** OVERSIGHT PROCESSES

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## 2523-01 PURPOSE

This Inspection Manual Chapter (IMC) describes the interfaces between the agency's reactor operating experience (OpE) program, Reactor Oversight Process (ROP), and construction oversight processes.

## 2523-02 OBJECTIVES

02.01 To implement the applicable policies of Management Directive (MD) 8.7, "Reactor Operating Experience Program," dated September 27, 2012.

02.02 To emphasize the availability and applicability of OpE for use within the NRC's inspection and assessment activities.

02.03 To provide guidance on the integration of OpE into the ROP and the construction oversight processes.

02.04 To provide guidance for communicating potentially generic items identified by regional and headquarter inspectors.

## 2523-03 APPLICABILITY

This IMC applies to those organizations within the NRC responsible for the development, maintenance, and application of the ROP and construction oversight processes such as the Construction Reactor Oversight Process (cROP); and to those organizations responsible for the collection, evaluation, and communication of OpE information. Since construction experience (ConE) is a subset of OpE, the term OpE as used in this IMC covers both OpE and ConE unless otherwise specified. In addition, ROP and construction oversight processes will be referred to as NRC oversight processes throughout this IMC.

## 2523-04 DEFINITIONS

04.01 Application of (or Applying) OpE. Taking actions based on insights or recommendations resulting from OpE evaluations. These actions could involve communicating with stakeholders, taking regulatory actions, and influencing agency programs.

04.02 Evaluation of (or Evaluating) OpE. A review of OpE information (generally coordinated by an issue manager in IOEB/CAEB and performed by IOEB/CAEB staff of NRR/NRO technical staff, or a combination of each) to determine the significance of the information and to gain insights and lessons learned that the NRC could use for agency communication or application.

04.03 Issue Manager. An individual within the clearinghouse who is responsible for tracking and project managing an issue for resolution (IFR) through the evaluation and application phases of the OpE process.

04.04 Issue for Resolution (IFR). A matter involving OpE information that becomes captured by the screening and trending phase of the clearinghouse OpE process and will be further processed for subsequent evaluation or application, or both.

04.05 OpE Center of Expertise. A centralized organization that combines the OpE and ConE programs. The OpE Center of Expertise (COE) will be led by the Office of NRR. COE staff will reside in both NRO and NRR offices. These offices will continue to focus on knowledge sharing and coordination to systematically collect, screen, evaluate and communicate domestic and international reactor operating and construction experience, and to apply OpE insights.

04.06 OpE Clearinghouse. The centralized team that performs the key functions and activities of the reactor OpE program. Its 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 the communication of OpE lessons learned, and (4) coordinating NRC OpE activities among other organizations that perform OpE functions.

04.07 OpE Information. Various sources of OpE information include the following:

- Daily Event Notifications (Title 10 of the *Code of Federal Regulations* (10 CFR) 50.72, “Immediate Notification Requirements for Operating Nuclear Power Reactors”)
- Licensee Event Reports (10 CFR 50.73, “Licensee Event Report System”)
- Regional daily event briefings
- NRC inspection findings
- Information and deficiencies associated with new nuclear facilities design, construction, and pre-operational testing.
- Reports from the International Atomic Energy Agency (IAEA) and Nuclear Energy Agency (NEA)
- Documents from the Institute of Nuclear Plant Operators (INPO)
- Reports under 10 CFR Part 21, “Reporting of Defects and Nonconformance” and 10 CFR 50.55(e), “Conditions of Construction Permits”
- Other internal and external studies
- Consideration is also given to relevant events of a non-nuclear nature.

## 2523-05 RESPONSIBILITIES AND AUTHORITIES

05.01 Director, Division of Inspection and Regional Support, Office of Nuclear Reactor Regulation (NRR/DIRS).

- a. Coordinates the overall reactor OpE program activities and assesses its effectiveness in accordance with MD 8.7.

- b. Coordinates the overall application of OpE in the ROP through inspection policies, programs, and guidance.

05.02 Chief, Operating Experience Branch (IOEB), NRR/DIRS

- a. Manages the OpE clearinghouse and analysis functions within a single organization to (1) collect, screen, prioritize, and distribute OpE to the NRC staff, (2) facilitate and track OpE evaluations, decisions, and applications, (3) help communicate OpE lessons learned, (4) assess and trend OpE, and (5) coordinate overall NRC OpE functions.
- b. Refers OpE to the Chief, Reactor Inspection Branch (IRIB), when it appears to influence one or more ROP components.
- c. Approves OpE Smart Samples (OpESSs), in coordination with the Chief, IRIB.

05.03 Chief, Reactor Inspection Branch (IRIB), NRR/DIRS

- a. Decides when, in response to referred OpE, changes to one or more inspection program elements are appropriate, including the development of, or revision of inspection guidance, and the approval of OpESSs.
- b. Supports the distribution, tracking, and communication of OpE to the inspection program staff and the inspection staff.

05.04 Chief, Performance Assessment Branch (IPAB), NRR/DIRS. Decides when, in response to referred OpE, it is appropriate to consider changes to one or more ROP components under IPAB cognizance.

05.05 Director, Division of Construction Inspection and Operational Programs (DCIP), Office of New Reactors (NRO)

- a. Coordinates the construction experience (ConE) program and assesses its effectiveness in accordance with MD 8.7.
- b. Coordinates the application of lessons learned from OpE information in the cROP through inspection policies, programs, and guidance.

05.06 Chief, Construction Assessment and Enforcement, (CAEB), NRO/DCIP.

- a. Manages the implementation of the ConE program and coordinates NRO support for the OpE clearinghouse function.
- b. Coordinates ConE evaluations of OpE information with NRO staff. Develops recommendations as a result of lessons learned identified through ConE evaluations.

Recommends application of lessons learned for cROP inspection policies, programs, and guidance.

05.07 Chief, Construction Inspection Program Branch (CIPB), NRO/DCIP

- a. Decides when, in response to referred ConE, changes to one or more inspection program elements are appropriate, including the development of, or revision to inspection guidance, or the approval of OpESSs.
- b. Supports the distribution, tracking, and communication of construction inspection program revision requests provided by the ConE staff and the inspection staff.

05.08 Chiefs, Technical and Inspection Branches (e.g., Vendor Inspection, License Renewal, and other Technical Branches)

- a. Advise technical and inspection staff on how OpE information may impact current and planned inspection activities.
- b. Ensure that technical staff and inspectors communicate potentially generic items to IOEB and/or CAEB staff.

05.09 Directors, Division of Reactor Projects (DRP), Division of Reactor Safety (DRS), Division of Construction Inspection (DCI), Division of Construction Projects (DCP), Regional Offices. Advise regional inspection staff on how OpE information may impact current and planned inspection activities.

05.10 Regional Operating and Construction Experience Coordinators. Provide support to regional inspection staff and management by communicating OpE and providing information on OpE tools and processes, allowing for staff consideration in the planned inspection activities. Coordinators also help staff identify potentially generic issues for OpE consideration.

05.11 Regional and Headquarters Inspection Staff. Consider OpE information during the planning and performance of inspection activities. Forwards information concerning potentially generic items to IOEB and/or the Regional OpE and ConE Coordinators. This includes construction deficiency reports, generic items, and significant experience gained from international inspector exchanges. Alternately, initiate generic communications to cover such issues.

## 2523-06 OPERATING EXPERIENCE PROGRAM OVERVIEW

06.01 Background. The NRC's systematic collection and evaluation of OpE plays an important role in its mission to ensure adequate protection of public health and safety, to promote the common defense and security, and to protect the environment.

In 2002, the Davis-Besse Lessons Learned Task Force identified substantial shortcomings in agency OpE activities. As a result, the NRC chartered an interoffice Reactor Operating Experience Task Force (ROETF) to formally assess the agency's OpE activities, establish objectives and attributes for the agency's OpE efforts, and recommended improvements.

The NRC developed **guidance documents** based on the recommendations of the ROETF to provide agency-level guidance for implementation of the OpE program. **In 2012 the OpE Center of Expertise was created to combine the efforts of the OpE program with the Construction Experience (ConE) program, and the associated guidance documents were revised to reflect this. For additional information, see Management Directive 8.7, "Reactor Operating Experience Program" and Joint Office Instruction (OI) LIC-401/REG-112, "NRR-NRO Reactor Operating Experience Program."**

This IMC summarizes the OpE program and provides guidance for the application of OpE in the **NRC's oversight processes (e.g. ROP).**

06.02 Elements of the Operating Experience Process. The reactor OpE program consists of a process for handling OpE information from the time that it first becomes available to the final action of applying significant OpE information to the agency's regulatory activities. The facilitation of this process involves **four** phases:

- (1) collecting, storing, and making available new OpE information
- (2) screening OpE information and communicating
- (3) evaluating OpE information and communication
- (4) applying OpE lessons learned from the evaluations

06.03 Screening Process. Members of the clearinghouse team meet **at least once a week (typically 3 times per week)** to review OpE information that has been collected by attending morning calls, reviewing daily event notifications, and researching other OpE sources. The purpose of screening is to determine whether OpE information has actual or potential safety significance and the issue's generic applicability.

06.04 Communication of Operating Experience. The focus of internal stakeholder communications is to promptly inform appropriate staff members or management or both about significant operational events and to share details, insights, and lessons learned from events in

a timely manner. The internal communication tools (such as the [Reactor OpE Information Gateway](#)) contain preliminary, predecisional information. Once the agency has formally evaluated an OpE issue and has determined that it meets the safety significance criteria for agency action, the NRC communicates the issue to the public and the industry through one or more methods (e.g. generic communication, rulemaking public comment periods, etc.).

- a. Reactor OpE Information Gateway. The [Reactor OpE Information Gateway](#) is the NRC's internal Web site dedicated to the centralized collection and communication of OpE information. It includes various search tools to facilitate the gathering of pertinent OpE information.
- b. OpE COMMs. **OpE COMMs** quickly disseminate OpE information. **Recipients** are alerted to emergent and processed information relevant to that topic category. **OpE COMMs should always provide NRC insight to collected information.**
- c. Generic Communications. The staff develops generic communications in accordance with NRR OI LIC-503, "Generic Communications Affecting Nuclear Reactor Licensees."
- d. OpE Wrap-Up. During the **periodic ROP/cROP** Branch Chief counterpart calls, the **IOEB/CAEB** staff will typically provide a written and verbal summary of OpE information identified since the previous counterpart call.
- e. Notable OpE Reports. Before the mid-cycle and end-of-cycle assessments, the **IOEB and the CAEB** staff prepare a Notable OpE report that **address the operational and construction** events of concern and any trends over the previous 6 to 12 months.
- f. Periodic Operating Experience (POE) Newsletter. The OpE COE publishes the POE Newsletter on a monthly basis. It contains articles that provide more information on recent reactor events and issues. The goal is to communicate these issues to a wider audience while making connections to similar events or related NRC actions.
- g. Inspector Newsletter. IRIB publishes the Inspector Newsletter on a quarterly basis. It contains articles written by inspectors and regional staff on value-added findings and best practices. The authors are technical experts in the issues. They responded to deficiencies, researched guidance and regulations, and applied strategies. Each article presents the lessons learned.

## 2523-07 APPLICATION OF OPERATING EXPERIENCE

07.01 Inspection Activities. NRC inspection observations and findings provide vital input to the OpE program. OpE information can also inform NRC inspection activities at other sites. NRC inspectors should consider relevant OpE information in preparing for, conducting, and documenting inspection activities. Regional OpE **and ConE** coordinators and **IOEB and CAEB** staff can assist with filtering OpE information to those items relevant to the planned inspection activities. The [Reactor OpE Information Gateway](#) and **Construction Experience SharePoint site list** contacts.



- a. Reactor OpE Information Gateway. Provides an effective method of gathering pertinent OpE information for an inspection from various sources.
- b. OpE COMMs. Provide a repository of emergent and/or processed OpE information. COMMs usually include useful information related to an issue as attachments that are also posted to the Reactor OpE Information Gateway. COMMs are useful for explaining events of potential interest in more detail than is possible in the screening summary, allow attachment of diagrams, photos, or drawings which help to clarify complex issues, and provide a searchable database for events of past significance that can be easily updated as more information (LER, inspection report, IFR, generic communication, etc.) becomes available. NRC inspectors should consider subscribing to (or performing a historical review of) the COMM group(s) associated with their current inspection activities. Inspectors may also propose to IOEB and/or CAEB staff that a COMM be developed for new or updated OpE.
- c. Generic Communications. The reference section of each NRC Inspection Procedure (IP) lists significant relevant generic communications. Generic Communications disseminate OpE information to licensees and interested stakeholders. More information about each type of Generic Communication is available on the public website.
- d. Feedback. Information on potentially generic safety questions may derive from NRC inspection activities. Inspection reports are reviewed as part of the OpE process. However, resident inspectors and regional staff are encouraged to forward information on potentially generic safety questions (such as questions or concerns related to the design or licensing bases) and potentially generic construction deficiency reports to the Regional OpE/ConE Coordinators, IOEB, CAEB, or all for further consideration. If counterfeit, fraudulent, or suspect items (CFSI) are identified and there is potential for wrongdoing, these should be treated as allegations. The Allegation Review Board will decide whether to engage the Office of Investigation to investigate potential willful aspects. In addition, inspection staff should inform IOEB or CAEB of other safety significant OpE information gained through activities such as the participation in international exchanges. This includes copying IOEB or CAEB staff on trip reports and including them in related briefings such as pre-trip briefs.

07.02 Operating Experience Smart Sample. The OpESS program is designed to provide an additional tool that may be used by agency staff to support inspections (e.g. ROP baseline inspections). OpESSs contain examples of inspection samples for existing inspection procedures based on current trends in relevant operating experience. They contain a detailed synopsis of selected OpE that the agency considers as having generic safety significance and that can be applied to baseline inspection activities. The information and trends identified from OpESS inspections may provide further indication that a specific issue warrants additional agency action such as a Temporary Instruction (TI) or a generic communication.

a. Development.

- 1. An OpESS is proposed to the OpE clearinghouse as a result of analysis trending or after an IFR evaluation. Items that are good candidates are issues that

appear to have potential safety significance and that may result in the documentation of inspection findings or violations.

2. An OpESS is similar in format to a TI and should be a self contained information source for the inspection staff. IMC 0040, "Preparing, Revising, and Issuing Documents for the Inspection Manual" provides guidance on formating OpESSs.
3. IOEB will develop the OpESS in coordination with IRIB.
4. The OpESS should clearly state the purpose, applicability, and any expectations for the inspection staff (including use, documentation requirements, and time charges).
5. Proposed OpESSs will follow the review and comment process described in IMC 0040.
6. The IOEB staff handbook provides additional guidance on OpESS development. It is accessible through the [Reactor OpE Information Gateway](#).

b. Approval.

1. An OpESS is forwarded to the IRIB Branch Chief after initial approval by the IOEB Branch Chief.
2. The IRIB Branch Chief will process the OpESS for review and comment in accordance with IMC 0040.
3. After resolution of any comments, the IOEB and IRIB Branch Chiefs will approve the OpESS.
4. Approved OpESSs are posted on the [NRC public Web site](#).

NOTE: OpESSs that contain security related or proprietary information are posted on the [NRC internal Web site](#) and a redacted version is posted on the [NRC public Web site](#).

c. Application.

1. Once approved, the IRIB Branch Chief will coordinate communication of the OpESSs to the NRC inspection staff.
2. Resident inspection staff, in consultation with the Regional OpE coordinator and Regional mangement, will review newly issued OpESSs to determine their impact on site specific inspection activities.
3. OpESSs conducted by the inspection staff should be credited toward ROP baseline inspection samples and documented in the appropriate inspection report.

4. When an OpESS is performed as part of the baseline inspection program, the applicable section of the pertinent NRC inspection report will reference the OpESS by number. IMC 0612, "Power Reactor Inspection Reports," includes additional guidance on documentation.
- d. Periodic Review. IOEB will perform a periodic review of active OpESSs every 4 years to determine their effectiveness and current applicability. If IOEB determines that the OpESS is no longer necessary (i.e., the OpESS has been performed a sufficient number of times or agency actions have addressed the underlying issue), then the OpESS will be removed from active status. IOEB will coordinate with IRIB to notify the Regions when an OpESS is removed from active status.

07.03 Inspection Program Guidance Revisions. OpE can provide valuable insight for potential changes to inspection program guidance.

- a. Items that may warrant changes to existing inspection program guidance documents include the following:
  1. Additional guidance on sample selection or existing inspection activities. The additional guidance would allow inspectors to better inform the current inspection scope or sample selection process (e.g., directing the consideration of specific structures, systems, or components based on OpE).
  2. New inspection samples or activities not currently covered by the inspection program.
    - (a) In keeping with the bases of the **NRC oversight processes**, newly proposed inspection samples or activities should be risk informed and should generally review the licensee's current performance.
    - (b) New inspection samples or activities generally require additional resources. Proposals for new samples or activities should also include recommended areas to reduce inspection to offset the associated resource change.
- b. Consideration should be given to whether an OpESS or TI would be appropriate before revisions are made to existing inspection program guidance to determine whether, or what type of, changes should be made.
- c. The formal review process discussed in IMC 0307, Appendix B, "ROP Realignment Process" directly addresses the need to consider OpE in the periodic evaluation of baseline IPs.
- d. An IFR evaluation could result in a recommendation to revise one or more inspection program guidance documents. Issue Managers should present IFRs to IRIB, **IPAB**, and **CIPB** to help determine whether revisions may be appropriate.

- e. The annual cROP Self-Assessment discussed in IMC 2522 “Construction Reactor Oversight Process Self-Assessment Program” directly addresses the need to consider ConE in reviewing IMCs or IPs for adequate scope, focus, and guidance.

07.04 Operating Experience in the Assessment Process. Regional offices are directed to consider OpE as part of the mid-cycle and end-of-cycle assessments discussed in IMC 0305, “Operating Reactor Assessment Program” And IMC 2505, “Periodic Assessment of Construction Inspection Program Results.”

- a. During these reviews, regionwide OpE and emerging trends should be evaluated to determine whether any general areas of concern might be identified. Before the mid-cycle and end-of-cycle assessments, Regional offices are provided a Notable OpE report (prepared by IOEB and CAEB) that addresses the OpE events of concern and any trend over the previous 6 to 12 months. If more specific information is necessary, Regional offices should consider requesting assistance from IOEB.
- b. The Region should use relevant OpE, current OpESSs, and emerging trends to inform inspection planning and the selection of focused inspection samples.
- c. Any areas of concern identified during the mid-cycle and end-of-cycle assessments should be communicated to NRR/DIRS and/or NRO/DCIP as follows:
  - 1. Issues or concerns associated with OpE should be communicated to IOEB and/or CAEB through the Regional OpE/ConE coordinators.
  - 2. Issues or concerns associated with the ROP or cROP and their associated program documents should be communicated through the appropriate ROP or cROP feedback processes.

## 2523-08 REFERENCES

IMC 0040, “Preparing, Revising, and Issuing Documents for the NRC Inspection Manual”

IMC 0305, “Operating Reactor Assessment Program”

IMC 0307, Appendix B, “ROP Realignment Process”

IMC 0350, “Oversight of Reactor Facilities in Shutdown Condition due to Significant Performance and/or Operational Concerns”

IMC 0612, “Power Reactor Inspection Reports”

IMC 0801, “Reactor Oversight Process Feedback Program”

IMC 0970, “Potentially Generic Items Identified by Regional Offices”

IMC 2505, “Periodic Assessment of Construction Inspection Program Results”

IMC 2507, “Construction Inspection Program: Vendor Inspections”

IMC 2515, “Light-Water Reactor Inspection Program – Operations Phase”

IMC 2522, “Construction Reactor Oversight Process Self-Assessment Program”

MD 8.7, “Reactor Operating Experience Program”

LIC-401 and REG-112, “NRR-NRO Reactor Operating Experience Program”

NRR OI LIC-503, “Generic Communications Affecting Nuclear Reactor Licensees”

[Reactor OpE Information Gateway](#) (This NRC internal website contains preliminary, predecisional information)

END

ATTACHMENT 1

Revision History for IMC 2523

Commitment Tracking Number	Issue Date	Description of Change	Description of Training Required and Completion Date	Comment and Feedback Resolution Accession Number
N/A	ML11242A061 11/16/11 CN 11-035	Initial issuance. Researched commitments for 4 years and found none.	N/A	ML11298A202
N/A	ML12332A099 06/19/2013 CN 13-014	Incorporates construction experience and construction oversight processes	N/A	ML13036A367