
INSPECTION PROCEDURE 71153

EVENT FOLLOWUP

PROGRAM APPLICABILITY: 2515

CORNERSTONES: ALL

71153-01 INSPECTION OBJECTIVE

01.01 Evaluate licensee events and degraded conditions for plant status and mitigating actions in order to provide input in determining the need for an Incident Investigation Team (IIT), Augmented Inspection Team (AIT), or Special Inspection (SI).

01.02 Review written licensee event reports (LERs).

71153-02 INSPECTION REQUIREMENTS

02.01 Event Follow Up

- a. Observe plant parameters and status, including mitigating systems/trains and fission product barriers. Determine alarms/conditions preceding or indicating the event.
- b. Evaluate performance of mitigating systems and licensee actions.
- c. Confirm that the licensee properly classified the event in accordance with emergency action level procedures and made timely notifications to NRC and state/county governments, as required (10 CFR Parts 20, 50.9, 50.72).
- d. Communicate details regarding the event to management, risk analysts and others in the Region and Headquarters as input to their determining the need for an IIT, AIT, or SI.

02.02 Event Report Review

Review Licensee Event Reports (LERs) and related documents regarding the accuracy of the LER (e.g., based on independent NRC observations in an SI), appropriateness of corrective actions, violations of requirements, and generic issues.

71153-03 INSPECTION GUIDANCE

General

Management Directive (MD) 8.3, “NRC Incident Investigation Program”, defines a significant operational event as a radiological, safeguards, or other safety-related operational event at an NRC-licensed facility that poses an actual or potential hazard to public health and safety, property, or the environment. At power reactors, these events include significant unplanned degraded conditions identified by the licensee or NRC.

Upon receipt of licensee notifications in accordance with 10 CFR 50.72, on-site inspectors provide details regarding plant status and performance of equipment/ operators to regional and headquarters risk analysts, event review staff, and management. The details are used to determine the level of investigatory response if any, i.e., IIT, AIT, or SI.

Appendix A illustrates the relationship between event response and the reactor oversight process.

Appendix B provides guidance for limiting NRC’s impact on licensees during an event.

Specific Guidance

03.01 Event Follow Up

- a. No specific guidance.
- b. Evaluate whether the licensee has appropriately resolved event issues prior to restart, where applicable, such as by attending meetings of the Plant Oversight Review Committee.
- c. No specific guidance.
- d. MD 8.3 provides deterministic criteria which are applicable to power reactors. Inspectors provide details which help determine whether the event meets the deterministic criteria. An IIT or AIT is considered for certain events or degraded conditions meeting deterministic criteria without any probabilistic risk input, e.g., exceed a safety limit of the licensee’s technical specifications, site area emergency, significant radiological release, significant occupational or public exposure, and safeguards concerns.

Other deterministic criteria related to events or degraded conditions are risk informed, e.g., loss of a safety function or multiple failures in systems used to mitigate an event. For events meeting these criteria, risk analysts estimate Conditional Core Damage Probability (CCDP). For degraded conditions meeting

these criteria, risk analysts estimate incremental Conditional Core Damage Probability (ICCDP). These estimates are often based only on best available information at an early stage in the development of the facts. If a quantitative CCDP cannot be obtained, the risk analyst provides qualitative risk insights. In all cases, the risk guidelines of MD 8.3 are not prescriptive, and are to be used with an understanding of the greatest uncertainties. Containment performance issues are also considered.

The above process is described in MD 8.3, Part I, Pages 4 through 8. Page 6 contains a table which lists appropriate event response options (IIT, AIT, or SI) as a function of CCDP (or ICCDP).

To assist risk analysts, inspectors provide input (in addition to a and b above), such as equipment malfunctions/unavailabilities and operator errors. Inspectors verify the availability of mitigation equipment not required to operate during the event, but which could contribute to increased risk if unavailable. If the event corresponds to a SDP Phase 2 worksheet (e.g., transient, LOOP), the worksheets can identify the most likely core damage sequences that include known failure of equipment and/or operator error and the remaining mitigation capability for reactor safety. The inspector should verify the availability of this mitigation capability.

03.02 Event Report Review

Review written LERs, but not telephone notifications to the NRC Operations Center for invalid actuations, as allowed in 10 CFR 50.73. LERs that involve operator errors are reviewed under IP 71111.14, "Personnel Performance Related to Nonroutine Plant Evolutions and Events". Licensee resolution of issues may be addressed under the Identification and Resolution of Problems sections of individual baseline inspection procedures. IMC 0612, "Power Reactor Inspection Reports", covers documentation of LER reviews.

71153-04 RESOURCE ESTIMATE

Inspector effort may be minimal for events which do not meet the MD 8.3 deterministic criteria, up to 24 hours for significant operational events, and 1-8 hours for an LER.

71153-05 REFERENCES

Management Directive 8.3, "NRC Incident Investigation Program"

Inspection Procedure 93800, "Augmented Inspection Team"

Inspection Procedure 93812, "Special Inspection"

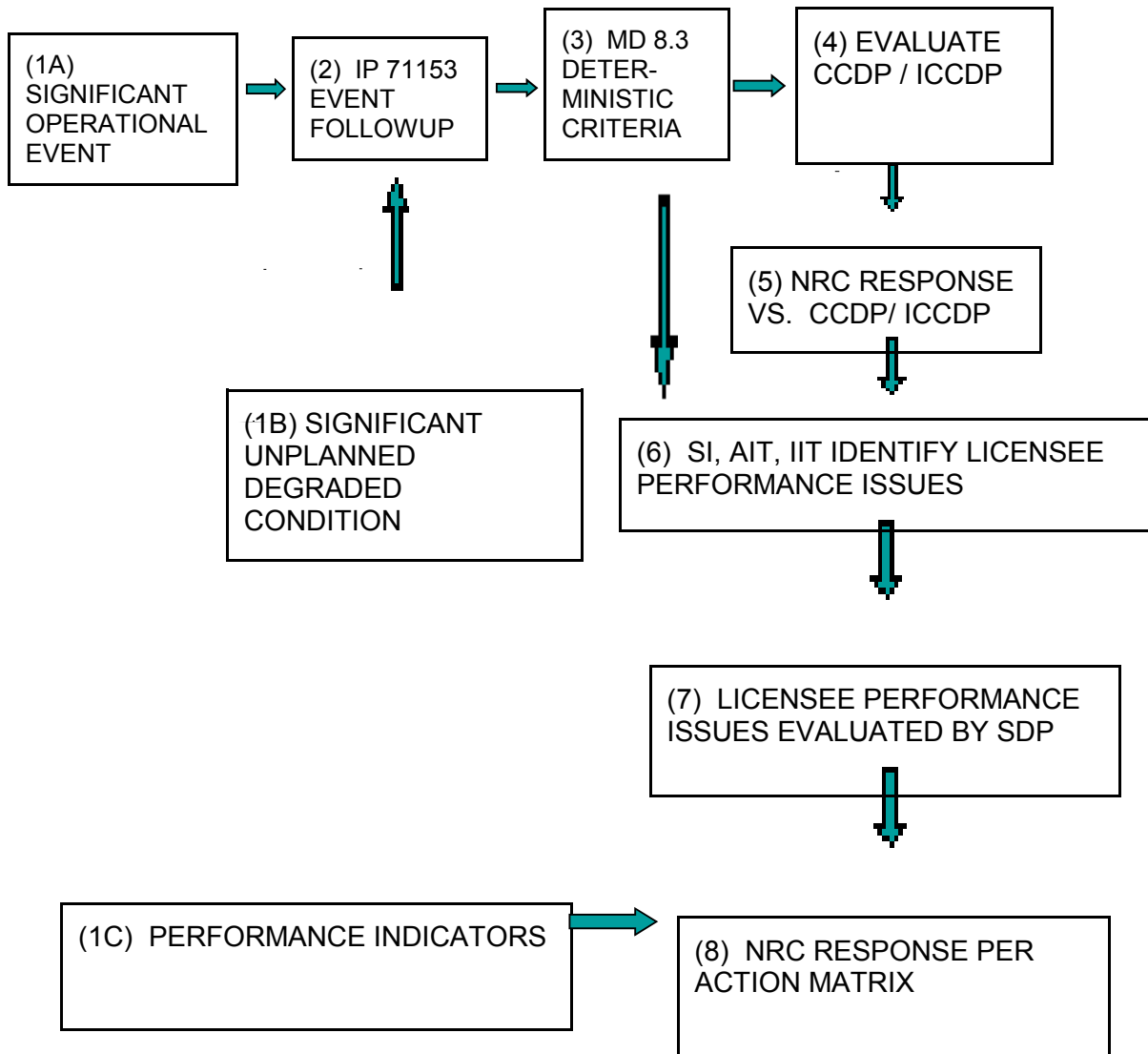
Inspection Manual Chapter 0609, "Significance Determination Process"

Inspection Manual Chapter 0612, "Power Reactor Inspection Reports"

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Appendix A

RELATIONSHIP OF EVENT FOLLOWUP TO REACTOR OVERSIGHT PROCESS



BLOCK 1A — A significant operational event is a radiological, safeguards, or other safety-related operational event that poses an actual or potential hazard to public health and safety, property, or the environment.

BLOCK 1B - Significant unplanned degraded conditions may be identified by the licensee or NRC. Plant configurations due solely to planned maintenance need not be considered.

BLOCK 1C — Performance indicator (PI) thresholds are in units of change in annualized Core Damage Frequency (delta annualized CDF). Some events, such as reactor trips may also be counted in PI data.

BLOCK 2 — Licensee notifications in accordance with 10 CFR 50.72 are one means of activating IP 71153 initial event followup by on-site NRC inspectors. If an on-site inspector is not immediately available, this responsibility transfers to the Headquarters Operations Officer until regional personnel can respond.

BLOCK 3 — Management Directive 8.3, Part I includes deterministic criteria. Events meeting criteria which are not risk informed may result in IITs or AITs. Power reactor events/degraded conditions meeting risk informed criteria are evaluated for CCDP/ICCDP.

BLOCK 4 — For events, risk analysts use NRC's Standardized Plant Analysis of Risk models and other available tools to estimate CCDP, which accounts for all equipment unavailability, regardless of cause. For degraded conditions, ICCDP is used for risk significance. Initial estimates of CCDP/ICCDP may be made within 4-8 hours of receiving relevant information. Inspectors support risk analysts by providing event details such as equipment malfunction/unavailability, operator errors, and equipment out of service for maintenance. For assessing degraded condition exposure time, assume T/2 if time of unavailability is unknown. T is the time interval from the last known operability until discovery of the degraded condition. Inspectors verify availability of mitigation equipment or containment function that were not required during the event, but which could contribute to increased risk if unavailable. Inspectors use plant-specific SDP phase 2 worksheets to gain qualitative risk insights of events.

BLOCK 5 — The table on Page 6 of Management Directive 8.3, Part I, lists appropriate power reactor operational event response options (IIT, AIT, SI) as a function of CCDP (or ICCDP). This determination considers the uncertainty of influential assumptions and their effect on risk significance.

BLOCK 6 — Special Inspections, Augmented Inspection Teams, and Incident Investigation Teams evaluate events/degraded conditions and their root causes, and identify licensee performance issues.

BLOCK 7 — Licensee performance issues are evaluated with the SDP (considering only performance-related equipment unavailabilities), placing the issues in delta annualized CDF bands.

BLOCK 8 — Because PI thresholds are in units of delta annualized CDF, PIs and SDP results are combined in the NRC Action Matrix to determine agency responses to the performance issues identified by the event response.

Appendix B

LIMITING NRC IMPACT DURING EVENTS

I. Inspector Conduct While in the Control Room

For plant events, inspectors must perform sufficient inspection to develop an independent assessment of plant conditions, which will be used in making decisions on NRC's responses to an event. Activities that form the basis for this assessment may include independent measurements, verifying the accuracy of information, control board walkdowns (to observe annunciators, process parameters, switch positions, and other instrumentation), or assessment of licensed operator performance during ongoing activities.

The NRC's goal is to monitor and assess with as little impact on the licensee as possible and at the same time ensure NRC evaluations are timely and accurate. During plant events, timely and independent inspector assessments are crucial; however, the degree of interaction with operators may be limited in light of ongoing control room activities. The inspector must use judgement in establishing a balance between obtaining necessary information and not being intrusive in licensee response activities. The appropriate balance involves numerous variables, including safety significance of the event, complexity of the event, time constraints, and available staff.

The following guidance is provided to establish consistency for inspector conduct in the control room. When the NRC activates its emergency response plan, inspectors should follow the guidance in the applicable emergency response procedure. This guidance is intended for use in situations where the NRC has not activated its emergency response plan; however an abnormal event has happened at the plant. Inspectors should note that some of the guidance, such as inspector location in the control room and not interrupting operators, apply to all emergency situations. While this guidance deals mainly with event responses, specific attributes are applicable to inspector interaction with operators during normal conditions both in and outside the control room.

- a. During the initial response to events, the assigned senior resident inspector (SRI) or the inspector acting in this capacity is in charge of all other NRC inspectors. These inspectors will take their direction from the SRI.
- b. The number of inspectors in the control room at any given time should be the minimum number needed to accomplish the agency's work. Typically there should be only one inspector in the control room during an event, unless special circumstances warrant additional inspectors. If several inspectors or other NRC personnel are in the control room during an event, the SRI or resident inspector will be in charge of them and will determine and communicate to the other inspectors and personnel what, if any, assistance is needed.
- c. Inspectors will adhere to the licensee's established administrative policies regarding entry into the restricted or "at the controls" area of the control room. For example, the inspector may need to ask the control room SRO or RO for permission to enter the restricted area. Under no circumstances should the inspector demand entry into the restricted area. If such entry is denied, the

inspector should escalate the request to the licensee's management and inform NRC management of the problem. For general access to the control room, the licensee's policy should recognize that inspector access will be unannounced. Inspectors who do not routinely enter the control room should identify themselves to the operators when they enter the control room.

- d. While observing ongoing activities in the control room, the inspector should be in a location which is out of the way of operators and does not obstruct their view of the reactor controls and instrumentation, yet the location provides the inspector with a broad view of the control room. An acceptable location outside the restricted "at the controls" area is preferable. It is recognized that short amounts of time in the restricted area may be necessary at appropriate stable time periods to verify significant parameters.
- e. Operators should not be interrupted, questioned or otherwise distracted from performing their duties while responding to an event or while performing other duties where their attention must be focused on the task at hand. Also, inspectors should not interfere, interrupt, or otherwise disturb communications between operators and communications between operators and their supervision.
- f. If an inspector identifies a significant problem or question about plant or operator safety that needs to be addressed in an urgent manner, then the inspector should discuss it quickly and quietly at a time when it will not interrupt ongoing operator actions. This discussion should be held with the shift supervisor or emergency response manager. However, it may be appropriate to interrupt the operator if the inspector feels that an operator action may endanger plant personnel or the plant. Inspectors should hold their non-urgent questions for a more appropriate time.
- g. NRC personnel communicating with off-site organizations should generally do so from outside of the control room. Communication is possible from the NRC phone in the TSC or other phones outside the control room that have been agreed to with the licensee. It is acceptable for the inspector to make a phone call from the control room provided the licensee agrees to the use of the phone and the phone conversation will not disrupt control room activities.
- h. Because of the authoritative role of the NRC, licensees listen carefully to inspectors and may interpret statements, side remarks, or observations as directives or requirements. Consequently, open, clear, and direct communications between inspectors and licensees are particularly important during events.

II. Conference Calls With Licensees During an Ongoing Event

When initially responding to an event, the NRC is dependent upon information provided by licensees and inspectors at the plant (typically resident inspectors). This information is used for initially assessing events and making decisions about how to respond to the event. The NRC typically gets this initial information from licensees through their notification to the NRC Operations Center pursuant to 10 CFR 50.72 or from conference calls between the NRC staff and the licensee. The NRC values conference calls as an

efficient method of obtaining accurate and timely information. Such calls promote a mutual understanding of the facts and any concerns.

Caution is needed in scheduling and conducting conference calls when the calls are held during an ongoing event or situations where heightened licensee attention is being directed to a plant evolution. While information obtained in a conference call is extremely valuable to the NRC's overall understanding of a plant event, the overriding goal is that the call will not interfere or detract from the licensee's ability to safely operate the plant. The following guidance should be used for conducting conference calls with licenses during abnormal plant conditions. Examples of abnormal plant conditions would be the declaration of a Notification of Unusual Event (NOUE) or the use of an emergency operating procedure (EOP).

- a. NRC management should decide whether a conference call with the licensee is needed and if conducting a conference call is appropriate at that particular time. NRC management may want to discuss with senior licensee management the possibility of conducting a conference call. The stability of the plant is the primary factor in deciding on a conference call. Other factors to be considered in this decision include: the current level of NRC staff understanding and information available for the event; the safety significance of the event; the complexity of the event; and the current level of licensee activity in mitigating the event.
- b. Generally the licensee should be informed of the NRC's desire to have a conference call by the senior resident inspector or resident inspector if they are available. The licensee must be included in deciding the most appropriate time for the call so that the call does not interfere with plant response activities. Also the licensee should decide which individuals from their staff will participate in the call.

When requesting the conference call, the licensee must be clearly informed of the NRC's desire that the conference call not interfere with their response to plant conditions and that delaying the call is a valid option for them.

- c. NRC technical staff and management with the right background should participate in the conference call to ensure proper questioning and understanding of the event and associated issues. The senior NRC manager on the call should identify his/her self and is responsible for ensuring that the conference call discussions are properly focused on important issues and that side issues are discussed at another time.
- d. If time allows, an agenda for the conference call should be developed to ensure the call remains properly focused. The licensee should be informed of the proposed discussion topics and planned NRC participants to allow the licensee to prepare for the call.
- e. Any follow-up actions resulting from the conference call should be summarized at the end of the call by an NRC manager to ensure the licensee clearly understands and agrees with the actions.

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