

April 10, 2000

MEMORANDUM TO: Frank J. Congel, Director
Incident Response Operations

FROM: Samuel J. Collins, Director
Office of Nuclear Reactor Regulation

SUBJECT: REVISION OF MANAGEMENT DIRECTIVE (MD) 8.3, "NRC
INCIDENT INVESTIGATION TEAM

Attached are comments on the subject MD 8.3 revision, as requested by your memorandum dated March 17, 2000. In your memorandum, you asked whether MD 8.3 should contain activation criteria regarding a Special Inspection (SI) response for reactor events. You also asked whether it should define NRC management's role regarding the activation of an SI and the purpose and objectives of the SI team.

Specific activation criteria for an SI are not warranted for inclusion in MD 8.3. Reactor events meeting the deterministic criteria in Part I, pages 4 and 5 are also evaluated for Conditional Core Damage Probability, which provides the basis for a graded response ranging from no additional inspection through performing either an SI, AIT, or IIT. Comments 3 and 5 in the attachment address NRC management's role regarding an SI. Also, Inspection Procedure 93812 "Special Inspection," provides details regarding the purpose and objectives of the SI team.

Additionally, the NRR staff is currently developing guidance that will delineate the interactions between working level NRR, Incident Response Organization, and regional staff when a recommendation to their respective management is warranted regarding enhanced inspection effort in response to an event. The enhanced inspection effort will include IITs, AITs, and SIs.

Attachment: As stated

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NRR COMMENTS ON PROPOSED REVISION TO MANAGEMENT DIRECTIVE 8.3

1. Directive 8.3, page 3, References: The titles for IPs 93800 and 93812 should be “Augmented Inspection Team” and “Special Inspection,” respectively.
2. Handbook 8.3, Part I, page 4, last bullet, first sentence: Change “criterion” to “criteria.”
3. Handbook 8.3, Part I, page 6, Director, NRR: Change to “procedures governing SIs and AITs for reactor events.”
4. Handbook 8.3, Part I, page 7, Director, NRR, fourth paragraph, second sentence: Change to “reactor safety or reactor safeguards issues.”
5. Handbook 8.3, Part I, page 9, Regional Administrators: Change second paragraph to “Select the SI and AIT leader and team members and direct, coordinate, and approve the performance of SIs and AITs.” Change fourth paragraph to “Identify and provide staff to be members and leaders of IITs, AITs, and SIs.”
6. Handbook 8.3, Part I, page 13, table: Bandwidth for SIs and AITs should line up with CCDP levels as indicated in the attached table. Also, change first inspection band to read “No additional inspection”.
7. Handbook 8.3, Part III, page 24, Director NRR, second and third bullets: Both the draft AIT charter and the AIT report should be reviewed by the responsible project directorate, the appropriate technical branches, and the NRR branch responsible for event assessments.

Risk Insights For NRC Reactor Event Response

Conditional Core Damage Probability (CCDP) best reflects loss of defense-in-depth due to the event, regardless of whether the cause is deficient licensee performance or otherwise. CCDP accounts for an actual plant configuration, including equipment unavailable due to maintenance and testing. IMC 0609, "Significance Determination Process," discusses CCDP determination.

The lack of complete event information at the time of the NRC response decision focuses attention on the uncertainty of influential assumptions and their effect on the risk significance. Inspection Procedure 71153, "Event Follow-up," discusses inspector inputs to risk analysts that are needed to understand the risk significance. For example, if the effectiveness of EDG recovery is uncertain and near-term loss of the EDG dominates risk estimation for the event, then a judgement must be made as to the likelihood that deficiencies will be found in the licensee's procedures, training, and equipment for EDG recovery. NRC should assess the potential influence on risk of the following:

- 1) dominating core damage sequence(s)
- 2) level of confidence in failure/unavailability values assumed for the sequence(s) and factors contributing most to lack of confidence
- 3) influence on the CCDP estimate of contributing factors where the confidence level is low
- 4) whether degraded conditions or human performance concerns could (a) increase the likelihood of external event initiators (i.e., fire, flooding) or Large Early Release due to containment failure, or (b) affect the ability to mitigate an external initiating event.

The below table lists event response inspections as a function of CCDP. The overlap of inspection type relative to CCDP levels provides the opportunity to select one of two inspection options based on factors such as uncertainty of the risk estimate. Risk insights should also influence the number and composition (expertise) of inspectors in the response inspection.

Estimated Conditional Core Damage Probability (CCDP)				
CCDP <1E-6	1E-6 → 1E-5	1E-5 → 1E-4	1E-4 → 1E-3	CCDP >1E-3
No additional reactive inspection				
	Special Inspection			
		AIT		
			IIT	