

**Enclosure 2**

**Handouts discussed during the May 20, 2015 ROP WG Public Meeting**

# Reactor Oversight Process Task Force

## White Paper on NRC Response to GAO Report on Regional Differences

### 1.0 Introduction

At the March 18, 2015 Reactor Oversight Process (ROP) public meeting, the NRC staff communicated plans to revise Inspection Manual Chapter (IMC) 0612, “Power Reactor Inspection Reports”, to address the recommendations in GAO report, GAO-13-743, “Nuclear Power: Analysis of Regional Differences and Improved Access to Information Could Strengthen NRC Oversight”. At the public meeting, the staff discussed the analysis it had performed, including the results of tabletop exercises involving representatives from the regions and NRR. The staff attributed much of the regional differences to multiple interpretations of terms such as “loss of margin”, “if left uncorrected”, and “licensee-identified” vs. “self-revealing”. The staff communicated the need for additional inspector training and document revisions, including to IMC 0612.

While the staff did not solicit stakeholder input regarding the revision to IMC 0612, members of the Nuclear Energy Institute’s ROP Task Force prepared this whitepaper to offer the industry’s perspective and recommendations.

The Nuclear Energy Institute concurs overall with the staff’s assessment, the identified contributors to the observed regional differences and the proposed actions. As indicated in SECY-99-007a, the ROP was created, in part, to increase the predictability, objectivity and scrutability of the assessment process relative to the Systematic Approach to Licensee Performance (SALP) it replaced. The existence of inconsistencies where the same performance deficiency might produce different results depending on the region in which it originated represents an erosion of these principles.

The industry takes performance deficiencies and its responsibilities to the public seriously. Performance deficiencies may result in unsafe work conditions, failed equipment, rework, and lost production. As such, licensees are motivated to identify, evaluate and correct issues as demonstrated by the industry’s improved safety record over the past 15 years. Licensees perform numerous self-assessments and are periodically evaluated by the Institute of Nuclear Power Operations (INPO). Every nuclear power plant has a robust corrective action program (CAP) for identifying, prioritizing and addressing concerns. NRC findings typically receive additional resources in the form of causal evaluations and effectiveness reviews. However, the regional differences presented in the GAO report mean that for comparable performance deficiencies plants in some regions expend more resources than do plants in other regions, especially for findings at the margin of what is considered more than minor. This is contrary to the principles of good regulation and is an element in the industry’s concerns regarding cumulative impacts.

### 2.0 IMC 0612 Appendix E, Examples of Minor Issues

Concern: When IMC 0612 was issued in 2002, it directed inspectors to first apply the examples in Appendix E. If a comparable example did not exist, the inspectors were to use the screening questions. Through subsequent revisions, IMC 0612 has deemphasized the use of Appendix E to the point that its purpose has become unclear. Anecdotal evidence from licensees indicates resident inspectors having referred to IMC 0612 Appendix E as “just guidance”. This is inconsistent with IMC-0040, Preparing, Revising, and Issuing Documents for the NRC Inspection Manual, which states, in part, that inspection manual chapters, “... contain written administrative or inspection program statements of policy. IMCs state the purpose, objectives, definitions, responsibilities, authorities, and basic requirements for inspection programs.” The industry believes the screening questions in IMC 0612, Appendix B and the examples in Appendix E were intended to be complementary and internally consistent. The examples in Appendix E should inform the characterization of performance deficiencies as either minor or more than minor.

## Reactor Oversight Process Task Force White Paper on NRC Response to GAO Report on Regional Differences

A review of inspection reports from the beginning of 2014 to early May 2015 reveals IMC 0612 Appendix E was referenced in 11% (41) of the inspection reports originating from Region I, 1% (3) from Region II, 8% (23) from Region III and less than 1% (5) from Region IV. Generally speaking, when IMC 0612 Appendix E is used to inform a more than minor determination, inspectors applied the principles outlined in the Appendix to an appropriate variety of circumstances beyond the specific scenarios provided. However, there were instances in which the inspection report specifically indicated no similar examples in IMC 0612 Appendix E were found when the industry maintains that an applicable principle outlined in Appendix E arguably existed.

### Recommendations:

1. Revise IMC 0612 to re-emphasize the use of the Appendix E examples to inform the minor/more than minor determination for performance deficiencies.
2. IMC-0609, Significance Determination Process, includes the statement, “Before determining significance, each inspection finding must be screened to determine if it is a performance deficiency that is “more than minor” using the guidance provided in IMC 0612, Appendix B, “Issue Screening” and/or Appendix E “Examples of Minor Issues.” [Emphasis added] IMC-0609 should be revised to remove the word “or” in the “and/or”.
3. Appendix E should clarify the meaning of broad phrases such as “reasonable doubt” as used in examples 3j and 3k.
4. Appendix E should be expanded as necessary to identify additional general principles.
5. Inspector training should emphasize the principles outlined in Appendix E (e.g., radiological conditions existed such the dose to an uninformed worker was likely to exceed an unplanned dose > 10 mrem) rather than focus on the specific scenario that illustrates the principle (an inadequate radiation survey).

### **3.0 IMC 0612 More Than Minor Screening Questions**

IMC 0612, Appendix B contains four general screening questions with no additional discussion to convey intent and no explicit tie to the Appendix E examples to provide context. The industry has the following concerns with several of the screening questions and provides recommendations for resolution:

#### **3.1 Undefined Phrases**

- *Could the performance deficiency reasonably be viewed as a precursor to a significant event?*
- *If left uncorrected, would the performance deficiency have the potential to lead to a more significant safety concern?*

Concern: As the staff noted at the March 18, 2015, ROP public meeting, these two questions contain phrases such as “reasonably be viewed” and “if left uncorrected” that lend themselves to differing interpretations depending on individual inspectors’ and regional perspectives. For example, the question “*If left uncorrected, would the performance deficiency have the potential to lead to a more significant safety concern?*” closely parallels the definition of a significant condition adverse to quality (SCAQ) in the ASME NQA-1 standard. Is the threshold intended to be a performance deficiency that results in a SCAQ?

**Reactor Oversight Process Task Force**  
**White Paper on NRC Response to GAO Report on Regional Differences**

Recommendations: The NRC should consider replacing these questions or augment them with criteria that minimize the use of general or subjective terms like “reasonably be viewed” and “if left uncorrected”. To the extent possible, the NRC should correlate the screening criteria with Appendix E examples to illustrate and reinforce the distinctions between minor and more than minor performance deficiencies. For instance:

1. Did the performance deficiency result in a reactor transient? [Appendix E, Maintenance Rule, Example e]
2. Did the performance deficiency result in a failure of safety-related equipment during surveillance testing or while in operation? [Record Keeping, Example c.]
3. Did the performance deficiency result in an actual loss of the last major barrier to a more significant event (e.g. the lack of a health physics survey resulted in the failure to establish radiological controls and led to a reasonable likelihood of significant unplanned or unintended dose to an individual? [Health Physics Example e]
4. Did the issue involve significant programmatic deficiencies that could lead to additional significant safety concerns if uncorrected? [IMC 0612 Appendix E, Non-significant Dimensional, Time, Calculation, or Drawing Discrepancies, Example j]

(The above list is not intended to represent a comprehensive set)

The NRC should consider revising or eliminating existing IMC 0612 Appendix E examples that cannot be related to the screening questions. For instance, Example b under Record Keeping which addresses irretrievably lost required records describes a violation of 10 CFR 50.71 requirements, but the performance deficiency is unlikely to meaningfully impact an ROP cornerstone and should therefore be addressed through the Enforcement Policy.

### **3.2 Use of Cornerstones**

- *Is the performance deficiency associated with one of the cornerstone attributes listed at the end of this attachment and did the performance deficiency adversely affect the associated cornerstone objective?*

Concern: This screening question was used as the basis for over 80% of findings over the past two years. Therefore, it is reasonable to conclude the regional differences identified in the GAO report are largely due to inconsistent interpretations of this criterion. This question is problematic in that all ROP performance deficiencies must be associated with one of the cornerstone attributes. Otherwise it would imply the existence of an attribute important to safety not addressed in the ROP inspection program (IMC 0308, Reactor Oversight Basis Document, Exhibits 3 through 10). As such, this screening question does nothing to differentiate minor and more than minor performance deficiencies other than the word “adversely”, which can be subjectively interpreted to set a threshold that is inconsistent with the examples in IMC 0612 Appendix E.

Recommendation: The NRC should eliminate/replace this screening question or apply it as a prerequisite in Block 3 rather than as a stand-alone screening criterion.

**Reactor Oversight Process Task Force**  
**White Paper on NRC Response to GAO Report on Regional Differences**

## **4.0 Loss of Margin**

During the March 2015 ROP public meeting, the staff referred to “loss of margin” as a term to be addressed in the revision to IMC 0612. “Loss of margin” was also discussed during a 2015 Regulatory Information Conference panel discussion in the context of equipment deficiencies and when the resulting loss of margin was sufficient to be considered more than minor.

Concern: The threshold for considering the loss of margin to be more than minor is discussed in IMC 0612 Appendix E, Non-significant Dimensional, Time, Calculation, or Drawing Discrepancies, Example j. The standard described in Example j is that, in the absence of reasonable doubt as to the operability of a system or component, a performance deficiency involving a loss of margin should be treated as minor. “Loss of margin” introduces a new phrase associated with operability that is not used in other governing standards such as IMC 0326, Operability Determinations and Functionality Assessments for Conditions Adverse to Quality.

Recommendation: The NRC should ensure any clarification regarding the term “loss of margin” is consistent with IMC 0612 Appendix E and its context is consistent with that used in IMC 0326.

## **5.0 Licensee-Identified vs. Self-Revealing**

Concern: Although the staff indicated its intent to review the terms “licensee-identified” and “self-revealing” findings, the industry does not find ambiguity in the definitions given in IMC 0612. Neither the GAO report nor the staff’s analysis identified variability in the characterization of licensee-identified and self-revealing findings as a cause of the regional differences. As pointed out in the GAO report, licensee-identified findings demonstrate that the licensee is taking a proactive approach and can identify and correct problems before NRC identifies them; therefore the NRC gives licensees credit for identifying potential problems during their own inspection processes.

Recommendation: The industry recommends leaving the current definitions as-is and provide clarification through the addition of one or more examples in IMC 0612.

## **6.0 Additional Recommendations/Comments**

1. Recognizing that a revision to IMC 0612 screening questions and related documents may not encompass all possible circumstances, a process should be established such that if a performance deficiency cannot be readily characterized as a finding using the existing examples and guidance, the deputy Regional Administrator or above may approve an exception upon notifying the Director, Division of Inspection and Regional Support. The basis for the exception should be discussed in detail in the subsequent inspection report.
2. The NRC should consider establishing a metric goal (e.g.  $\pm 1$  sigma ( $\sigma$ ) standard deviation from the mean) for regional differences and annually evaluate regional differences to ensure the actions taken to address the GAO report have achieved the desired outcome.
3. The GAO report discusses the use of an agency database and the need for improved search tools to achieve consistency. While the industry agrees with the need for the database and improved search tools, the database currently reflects the existing regional differences and should not be viewed as an alternative to the guidance in IMC 0612 Appendix E.
4. The NRC should consider identifying best practices between the regions regarding the inspector debrief and capture the results in IMC 0612 Section 04.03, Responsibilities of Branch Chiefs and Division Directors.

# Regional Differences and Proposed Changes to IMC 0612

Reactor Oversight Process Task Force  
May 20, 2015



NUCLEAR ENERGY INSTITUTE

nuclear. clean air energy.



STORIED HISTORY  
BRIGHT FUTURE

# Regional Differences

- The ROPTF concurs with NRC's recognition of the need to revise IMC 0612
- Regional differences are contrary to the principles of ROP and good regulation
  - Licensees take performance deficiencies seriously.
  - Findings at the margin can distract from issues of greater significance and are an example of cumulative effects

# NEI White Paper

## IMC 0612 Appendix E

- The current role of Appendix E is unclear
- When utilized, inspectors generally apply Appendix E appropriately
- Appendix E and the IMC 0612 screening questions should be complementary and yield internally consistent results

# NEI White Paper

## Screening Questions

- Contain ambiguous language such “if left uncorrected” and “adversely” that do not lend themselves to consistent screening of performance deficiencies
- Recommend tying screening questions to established concepts (e.g. SCAQs)

# NEI White Paper

## Screening Questions

*“Is the performance deficiency associated with one of the cornerstone attributes listed at the end of this attachment and did the performance deficiency adversely affect the associated cornerstone objective? “*

- Used as basis in > 80% of findings*

# Recommendations

- Reemphasize use of Appendix E examples
- Clarify broad phrases such as “reasonable doubt” in Appendix E examples
- Expand Appendix E to identify additional general principles
- Replace existing screening questions or associate with established concepts (SCAQ)

# Recommendations

- Make the question - “Is the PD associated with a cornerstone attribute and did the PD adversely affect the cornerstone objective?” - a prerequisite, rather than a stand-alone screening criterion

# Recommendations

- Establish a process for NRC management to approve exceptions if a PD cannot readily be characterized as a finding
- Identify best practices for inspector debriefs and capture the results in IMC-0612