

Revised Fuel Cycle Oversight Process Issue Characterization

PURPOSE:

The purpose of this paper is to provide options and a recommendation on how to address Task I.F, “Determine Issue Characterization Term and Develop Definition,” of the Revised Fuel Cycle Oversight Process (RFCOP) Project Plan. Task I.F of the RFCOP Project Plan addresses the Commission’s direction in the staff requirement memorandum (SRM) for SECY-11-0140 regarding the definition of performance deficiency.

BACKGROUND:

In the 2009 effort to develop a revised fuel cycle oversight process (RFCOP), the U.S. Nuclear Regulatory Commission (NRC) staff introduced the concept of a licensee performance deficiency to characterize inspection results. At the time, Inspection Manual Chapter (IMC) 0612, “Power Reactor Inspection Reports,” defined performance deficiency as:

An issue that is the result of the licensee not meeting a requirement or standard where the cause was reasonably within the licensee’s ability to foresee and correct, and that should have been prevented. A performance deficiency can exist if a licensee fails to meet a self-imposed standard or a standard required by regulation.

Both the Nuclear Energy Institute (NEI) and industry representatives expressed concern regarding the concept; specifically, issues not tied to regulatory requirements [1] (i.e., a self-imposed standard). Additionally, industry representatives expressed that using “self-imposed standard” in the definition would be a disincentive to use defense-in-depth to reduce the overall risk of the facility [2]. Subsequently, an industry representative provided a revised definition of performance deficiency and comments on the NRC’s proposed definition of performance deficiency [3] (see Agencywide Documents Access and Management System (ADAMS) Accession No. ML092180684). Industry representatives proposed the following definition:

An occurrence at or the state of a licensed facility that is the result of a licensee not meeting a regulatory requirement or license commitment. If the occurrence or state is or low to no safety significance and the licensee identified (including events) the occurrence or state and is managing them in accordance with their Corrective Action Program this would not constitute a Performance Deficiency.

The NRC staff provided feedback to NEI and industry representatives on their proposed definition of performance deficiency and proposed a revised definition (see slides 12 – 16 of ML093080287). However, industry representatives continued to struggle with the proposed definition of performance deficiency [4].

In response to the SRM for SECY-10-0031, the NRC staff developed three options for the RFCOP and described them in SECY-11-0140, “Enhancements to the Fuel Cycle Oversight Process.” Two of the options had the performance deficiency concept. However, in the initial development of those options the performance deficiency concept was not included because of the strong objections by industry representatives and the desire to focus on other elements of the RFCOP, such as, the credit for effective corrective action programs, cornerstones, and the significance determination process. The NRC staff described this change from the 2009 effort to develop an RFCOP and proposed that it would use “a non-compliance with NRC regulations, license, or certificate conditions that is greater than minor” [5] to characterize inspection results.

The performance deficiency concept was implied during a public meeting when the NRC staff asked industry representatives if there is a nuclear safety issue that is not a compliance issue (i.e., not tied to a regulation or license condition) [6]. At a subsequent public meeting, the NRC staff stated that one of the details that should be mutually understood by industry and the NRC in the development of the RFCOP is the entry point to the significance determination process; whether it is a performance deficiency or some other concept [7].

At an internal meeting in July 2011, the NRC staff agreed to pursue the performance deficiency concept and attempt to obtain industry's acceptance of the concept by explaining the relationship between the definition of performance deficiency and the greater-than-minor determination and showing examples of minor performance deficiencies. Also, due to interactions with internal stakeholders (i.e., the Advisory Committee on Reactor Safeguards (ACRS)), the NRC staff had the impression that the RFCOP should closely align with the Reactor Oversight Process (ROP).

During a public meeting in August 2011, industry representatives, again, expressed concern with the use of "self-imposed standards" in the definition of performance deficiency. The NRC stated that since the definition of performance deficiency and the greater-than-minor determination are related, it would be hard to move away from that definition. However, after listening to industry's concern, the Director of the Division of Fuel Cycle Safety and Safeguards in the Office of Nuclear Material Safety and Safeguards (NMSS) proposed to consider industry's definition and the Director of the Division of Fuel Facility Inspection in Region II provided feedback to the industry representatives on their definition. Industry representatives stated that they would provide a revised definition that incorporates the feedback [8]. However, a few weeks later industry representatives stated that they still preferred their proposed definition and would not provide a revised definition. Given industry's decision, the NRC staff decided to go forward with the definition of performance deficiency as stated in IMC 0612 when it developed SECY-11-0140. SECY-11-0140 acknowledged that more work needed to be done with the definition of performance deficiency in the RFCOP.

In the SRM for SECY-11-0140, the Commission directed the NRC staff to continue to engage with stakeholders on a definition of "performance deficiency," including issues associated with licensees failing to meet "self-imposed standards" and report the results to the Commission.

DISCUSSION:

Currently, fuel facility inspectors use the term "noncompliance" to characterize inspection results. A "noncompliance" is defined in IMC 0616, "Fuel Cycle Safety and Safeguards Inspection Reports," as "a violation (regardless whether it is cited or not), nonconformance, or deviation." The NRC's Enforcement Policy defines a violation as "a failure to comply with a requirement." A requirement, as used in the NRC's Enforcement Policy, means a legally binding requirement such as a statute, regulation, license condition, technical specification, or Order. In addition, IMC 0616 also defines the terms "nonconformance" and "deviation" which are contained in the definition of noncompliance. These definitions are:

Nonconformance – A vendor's or certificate of compliance (CoC) holder's failure to meet a contract requirement related to NRC activities, where the NRC has not placed the requirement directly on the vendor or CoC holder.

Deviation – A licensee's failure to satisfy a written commitment, such as commitment to conform to the provisions of applicable codes, standards, guides, or accepted industry

practices when the code, standard, guide, or practice has not been made a requirement by the Commission.

On August 15, 2012, IMC 0612 was revised (ADAMS Accession No. ML12058A229). One of the revisions was the removal of the phrase “self-imposed standard” from the definition of performance deficiency. The revised definition of performance deficiency is:

An issue that is the result of a licensee not meeting a requirement or standard where the cause was reasonably within the licensee’s ability to foresee and correct, and therefore should have been prevented.

In addition, the revised IMC 0612 simplified the definition of the word “standard” that is contained in the definition of performance deficiency. The definition of standard is:

A licensee-established expectation that does not constitute a requirement.

However, on August 28, 2012, the NMSS staff was informed that the staff from the Office of Nuclear Reactor Regulation (NRR) inadvertently removed the phrase “self-imposed standard” from the definition of performance deficiency and it would reintroduce the phrase in the next revision to IMC 0612. Given this information from the NRR staff, the definition of performance deficiency in the next revision of IMC 0612 should be the following:

An issue that is the result of a licensee not meeting a requirement or standard where the cause was reasonably within the licensee’s ability to foresee and correct, and therefore should have been prevented. A performance deficiency can exist if a licensee fails to meet a self-imposed standard or a standard required by regulation, thus a performance deficiency may exist independently of whether a regulatory requirement was violated.

Options for Determining the Issue Characterization Term and its Definition

Option 1 – Use the Term “Performance Deficiency” and its Definition in the Next Revision of IMC 0612

The NRC staff would update IMC 0616 to eliminate the term “noncompliance” and replace it with “performance deficiency” as it would be defined in the next revision of IMC 0612. The pros and cons for Option 1 are discussed below.

Pros: The NRC staff will maintain the support from internal stakeholders during the development of the RFCOP.

Cons: This definition does not address the Commission’s direction in the SRM for SECY-11-0140 because it includes the term “self-imposed standard.”

A change in the definition of performance deficiency would need to be coordinated with the program offices for the ROP and the construction ROP (cROP) potentially causing significant delays in revising the definition and unnecessary burden to the program offices for the ROP, cROP, and RFCOP.

Option 2 – Use the Term “Performance Weakness” and its Proposed Definition

The NRC staff would update IMC 0616 to eliminate the term “noncompliance” and replace it with “performance weakness.” The proposed definition of performance weakness is as follows:

An issue that is the result of a licensee not meeting a requirement or written commitment where the cause was reasonably within the licensee’s ability to foresee and correct, and therefore should have been prevented.

The pros and cons for Option 2 are discussed below.

Pros: The definition of performance weakness is clear. Therefore, it is easier to understand than the definitions of noncompliance and performance deficiency.

Cons: The definition of performance weakness is narrower than the definition of noncompliance because it does not include a nonconformance. This also introduces another term, which may unnecessarily complicate the process.

Option 3 – Maintain the Current Terminology for the Characterization of Inspection Results

The NRC staff would maintain the current terminology in IMC 0616 for the characterization of inspection results. The pros and cons for Option 3 are discussed below.

Pros: There is experience among fuel facility inspectors applying the current terminology; therefore, no further training would be necessary.

The current terminology is clear regarding which standards would be enforced (i.e., written commitments).

Cons: The staff may lose support from internal stakeholders (i.e., the ACRS) because the RFCOP would not align with the ROP.

RECOMMENDATION:

The NRC staff recommends maintaining the current terminology (Option 3) because it is the broadest of the definitions that only considers regulatory requirements when characterizing inspection results and future updates to the definition would not require coordination with other program offices. In the case where a safety issue under the NRC’s regulatory jurisdiction that is not a regulatory requirement exists, the NRC staff has the backfit option to address the safety issue.

The Commission, in the SRM for SECY-11-0140, directed the NRC staff to consider how cornerstones would be understood in the context of fuel facility operation and less to whether they resemble those of the ROP. Even though the NRC staff may lose support from internal stakeholders, it should be noted that the Commission’s direction regarding the cornerstones can also be applied to the entire development of the RFCOP. Therefore, close alignment between the ROP and the RFCOP is not necessary.

REFERENCES:

1. Summary of the June 4-5, 2009, public meeting on the RFCOP. ADAMS Accession No. **ML091810657.**
2. Summary of the June 22, 2009, public meeting on the RFCOP. ADAMS Accession No. **ML092010365.**
3. Summary of the July 28-30, 2009, public meeting on the RFCOP. ADAMS Accession No. **ML092240398.**
4. Summary of the October 6-7, 2009, public meeting on the RFCOP. ADAMS Accession No. **ML093080274.**
5. Summary of the March 17, 2011, public meeting on the RFCOP. ADAMS Accession No. **ML110940202.**
6. Summary of the April 14, 2011, public meeting on the RFCOP. ADAMS Accession No. **ML111101475.**
7. Summary of the June 6, 2011, public meeting on the RFCOP. ADAMS Accession No. **ML111710119.**
8. Summary of the August 18-19, 2011, public meeting on the RFCOP. ADAMS Accession No. **ML11244A069.**