

## Regulatory Evaluation Summary

### Reporting of “Unplanned” Contamination Events

#### 1.0 Overview of the Issue

The purpose of the proposed regulatory initiative is to address situations involving the interpretation of the following NRC regulations:

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#### 10CFR70.50 “Reporting requirements”

*(b) Twenty-four hour report.* Each licensee shall notify the NRC within 24 hours after the discovery of any of the following events involving licensed material:

(1) An unplanned contamination event that:

(i) Requires access to the contaminated area, by workers or the public, to be restricted for more than 24 hours by imposing additional radiological controls or by prohibiting entry into the area;

(ii) Involves a quantity of material greater than five times the lowest annual limit on intake specified in Appendix B of §§ 20.1001-20.2401 of 10 CFR part 20 for the material; and

(iii) Has access to the area restricted for a reason other than to allow isotopes with a half-life of less than 24 hours to decay prior to decontamination.

#### 10CFR40.60 “Reporting requirements”

*(b) Twenty-four hour report.* Each licensee shall notify the NRC within 24 hours after the discovery of any of the following events involving licensed material:

(1) An unplanned contamination event that:

(i) Requires access to the contaminated area, by workers or the public, to be restricted for more than 24 hours by imposing additional radiological controls or by prohibiting entry into the area;

(ii) Involves a quantity of material greater than five times the lowest annual limit on intake specified in appendix B of §§ 20.1001-20.2401 of 10 CFR part 20 for the material; and

(iii) Has access to the area restricted for a reason other than to allow isotopes with a half-life of less than 24 hours to decay prior to decontamination.

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Specifically, the industry is seeking a clarification of the definition of “unplanned” and a regulatory framework that will ensure consistent interpretation.

#### 2.0 Purpose Statement

Licensed facilities include established radiological or contamination controlled areas that are designed to safely contain and control radioactive material that may occur as the result of system operations or maintenance activities. Inherent in the design of these areas is the continued protection of the health and safety of occupational workers, members of the public, and the environment. Since minor contamination in these areas is common, typical radiological control methods are used to minimize personnel exposures including access controls (via established change rooms), protective clothing, respiratory protection, routine contamination surveys, airborne monitoring, exit monitoring, and if necessary, area access

restriction. These controls are adjusted as necessary depending on airborne or contamination levels encountered during normal operations (i.e. production and planned maintenance) and abnormal conditions (i.e., loss of containment or a spill). Releasing radioactive material in these areas is to be minimized; however, contamination in these areas is not “unplanned.”

Releases of radioactive material in these specifically designed areas should not necessitate 24 hour reporting per 10CFR70.50(b) and 10CFR40.60(b), as these areas are “planned” to contain and control contamination. Recent NRC staff interpretation has differed from this long time understanding.

The requirement to provide 24 hour notification to the NRC of these interpreted “unplanned” events in specifically designed and controlled areas is an unnecessary burden with no benefit to the health and safety of workers, the public, or the environment.

Routine adjustments to minimize exposures by adding protective clothing, respiratory protective equipment, or restricting access to a portion of an established contamination controlled area are anticipated, allowed, and at times prudent. These protocols exist using ALARA principles including good contamination control with standard operating procedures. These procedures are an integral part of the overall Radiation Protection Programs that are routinely inspected by the NRC. The tracking of these routine adjustments to determine if they remain in place for greater than 24 hours causes a significant unnecessary administrative burden and can cause the distraction of resources from other perhaps higher safety priority work.

Conversely, requiring expeditious decontamination of an area merely to remove additional clothing, respiratory protection or area access restrictions within 24 hours to avoid an event report also creates a significant unnecessary burden with little or no benefit and may actually increase individual and collective radiation exposures. Another unintended consequence could also be created if licensees choose to “over-post” an established contamination control area to conservatively require additional protective clothing or respiratory protection at all times, thus reducing worker productivity.

The industry has had these practices in place and interpretation of the reporting obligation consistently applied for decades until the recent re-interpretation following some minor industry events.

### 3.0 Implementation Challenges

#### 3.1 Anticipated Improvements

The development of Notification Reports to the NRC is, rightly, a very serious issue and involves a significant amount of licensee time and resources. Licensees typically commit at least 60 person-hours directly in generating the notification and nominal costs of up to \$100,000 per notification are not uncommon. Included in these estimates are the time and resources required to:

- develop the initial written notification and associated 30 day follow-up report
- perform subsequent investigations
- enter the incident into a corrective action system
- implement the corrective action, as needed
- perform management reviews of each action
- revise procedures, as needed
- develop material and train/re-train staff, as needed

Additional costs can include associated NRC inspection charges for closing the issue and licensee developed media support for addressing perceived negative public perception associated with the notification.

The clarification of the word “unplanned” as presented will not negatively impact the health and safety of workers, the public, or the environment and is certainly consistent with the focus of addressing the cumulative impact of regulatory requirements.

#### 3.2 Anticipated Challenges

There are no readily apparent challenges from the industry perspective. Each site can easily identify the areas that are designed and controlled to releases of radioactive material.

From a regulatory perspective the development or revision for clarification of the appropriate guidance document should be considered.

### 4.0 Interactions

**Note:** Information contained within this section is preliminary and may change as the project progresses.

The Nuclear Energy Institute (NEI) will serve as the industry point of contact for this issue. NEI will solicit and coordinate industry input into the development and review of materials.