

Proposal to Consolidate Post-Fukushima Rulemaking Activities

On January 28, 2014, the U.S. Nuclear Regulatory Commission's (NRC's) Fukushima Steering Committee endorsed an NRC staff proposal for integrating related post-Fukushima rulemakings into a single rulemaking activity. Specifically, the Steering Committee endorsed consolidating, into a single rulemaking activity, the Station Blackout Mitigation Strategies rulemaking (Near-Term Task Force (NTTF) Recommendations 4 and 7) with the Onsite Emergency Response Capabilities rulemaking (NTTF Recommendation 8), as well as the portions of NTTF Recommendations 9, 10, and 11 that are already being addressed as part of the Mitigating Strategies Order (NRC Order EA-12-049) implementation (NTTF Recommendation 4.2), the Onsite Emergency Response Capabilities rulemaking, and items already being implemented by industry.

During development of the rulemakings, the NRC staff identified that the Onsite Emergency Response Capabilities rulemaking cannot be issued before the Station Blackout Mitigation Strategies rulemaking because it will need to reference the station blackout mitigation strategies requirements. The staff had also previously identified several areas of overlap between the two rules. The direct links between these post-Fukushima rulemakings imply that, from a practical view, they should be combined into a single rulemaking package. The staff believes that it is more efficient to combine the rulemakings during the development of the proposed rules rather than during the final stage of the rulemaking process. Consolidating the rulemaking will produce a more coherent framework and reduce the potential for inconsistencies between the related actions. Additionally, consolidation into a single rulemaking adds clarity for internal stakeholders as they review and concur on a single rulemaking package, and reduces impact on external stakeholders as they will be able to comment on a single rulemaking package. While the Station Blackout Mitigation Strategies requirements and the Onsite Emergency Response Capabilities would be addressed in the same rulemaking, the requirements related to Onsite Emergency Response Capabilities, while retaining the current scope, would expand the capabilities of both the Emergency Operating Procedures and the Severe Accident Management Guidelines, that is, they would continue to address a range of accident sequences, such as, loss-of-coolant accidents in addition to station blackout, but with greater capabilities to maintain or restore key functions.

The schedule for a consolidated rulemaking approach will be made consistent with the current overall schedule for the ongoing industry implementation of NRC Order EA-12-049 (i.e., two refueling outages following August 2012 but no later than December 2016). Currently, the Station Blackout Mitigation Strategies proposed rule is due to the Commission by June 30, 2014, and the Onsite Emergency Response Capabilities proposed rulemaking is due July 25, 2014. The current final rule schedule for Station Blackout Mitigation Strategies is to deliver the final rule to the Commission by December 27, 2016, and the Onsite Emergency Response Capabilities final rule is currently due March 11, 2016. Pending Commission approval of the NRC staff's plans, the staff would deliver the proposed consolidated rule to the Commission by December 31, 2014. A schedule for the final consolidated rulemaking would continue to meet the established milestone for the final Station Blackout Mitigation Strategies rule, and be delivered to the Commission on December 27, 2016.

Background

The NRC staff has recognized that there are areas of overlap between the Station Blackout Mitigation Strategies rulemaking (stemming from NTTF Recommendations 4 and 7) and the Onsite Emergency Response Capabilities rulemakings (stemming from NTTF Recommendation

8) since the inception of these actions. As an example, the staff recognized that there were areas of overlap including drills, exercises, and training requirements for which the staff understood the need for extensive coordination between the two rulemakings. In addition, the staff recognized that the Onsite Emergency Response Capabilities rulemaking effort would, as part of its requirements, integrate into its procedures, guidance and strategies, the mitigation strategies that derive from the requirements of Order EA-12-049 (i.e., it would need to integrate the emergency operating procedures, severe accident management guidelines, extensive damage management guidelines, and the newly imposed station blackout mitigation strategies), and as such there is a direct link between the two rulemaking efforts.

In fact, this direct link also means that from a practical regulatory and legal standpoint, the Onsite Emergency Response Capabilities rulemaking cannot be issued in final form prior to the Station Blackout Mitigation Strategies rulemaking because the Onsite Emergency Response Capabilities rulemaking needs to reference the station blackout mitigation strategies requirements, which do not yet exist in the Code of Federal Regulations. As such, the related post-Fukushima rulemakings will need to be combined at the final rule stage. The NRC staff recognizes that it is most efficient to combine the rulemakings upfront during the proposed rule stage. Pursuing a single, consolidated rulemaking not only makes more efficient use of staff resources but also enables better external stakeholder understanding of the proposed requirements during the public comment period.

Based on recent public interactions, that are discussed subsequently, it is clear to the NRC staff that industry is implementing the mitigation strategies imposed by Order EA-12-049 into the plant emergency operating procedures and severe accident management guidelines in an integrated manner that effectively merges these regulatory actions. The EA-12-049 requirements are intended to provide additional capability to mitigate beyond-design-basis external events, and are founded on an approach that is functionally-based and intended to maintain or restore core cooling, containment, and spent fuel pool cooling functional capabilities following beyond-design-basis external events. The strategies and guidance are being developed and implemented assuming an onsite surrogate condition of an extended loss of alternating current power and loss of normal access to the ultimate heat sink. The net result is a set of strategies that provide licensees with additional capability, and are flexible and can be adapted to damage states that might occur following a beyond-design-basis external event. The mitigation strategies are deployed out of the emergency operating procedures (i.e., consistent with the objective of maintaining or restoring the key safety functions prior to core damage) when the functional capabilities are lost (i.e., loss of core cooling, loss of spent fuel pool cooling, loss of containment function). However, the industry is also identifying where these same strategies (or similar strategies that might use this equipment) should be reflected in the severe accident management guidelines (i.e., post core damage).

For the reasons described above, the NRC staff considered whether it would be more efficient and effective to manage the associated rulemakings in a more integrated manner (e.g., as a single rulemaking package) with the intent of aligning the regulatory framework with actual order implementation. The staff concluded that a consolidated rulemaking effort:

1. Aligns with industry implementation efforts, and should result in a more coherent and understandable regulatory framework. Given the complexity of these requirements and their associated implementation, the NRC staff concludes this is an important objective for the regulatory framework. The staff notes that consolidating the rules simplifies industry implementation of the final rule; and since the consolidated rulemaking is on the same final rule schedule as station blackout mitigation strategies, the resulting

implementation dates of the requirements is essentially unchanged. (Should the rulemaking activities be kept separate, staff will need to address the disparate final rule due dates for the NTTF Recommendation 8 and Station Blackout Mitigation Strategies rulemakings, with the highly likely outcome of the NTTF Recommendation 8 final rule effective date occurring after the issuance of the Station Blackout Mitigation Strategies final rule).

2. Reduces the potential for inconsistencies and complexities between the related rulemaking actions that can occur when the efforts are pursued in separate rulemakings (e.g., no cross-referencing between rulemaking packages would be necessary if the related efforts are combined).
3. Facilitates better understanding of the proposed requirements for both internal and external stakeholders. Consolidating the rulemaking efforts will reduce NRC staff efforts needed to process the rulemaking packages, and will make the internal review and concurrence efforts more efficient. Similarly, consolidating the rulemaking efforts will lessen the impact on external stakeholders who would otherwise need to review and comment on multiple rulemakings while cross-referencing both proposed rules and sets of guidance documents.
4. Allows for the streamlining of internal review committees that manage and direct the rulemaking efforts, which could also include Advisory Committee on Reactor Safeguards reducing the number of subcommittees needed to review multiple post-Fukushima rulemakings.

In short, a consolidated rule should enable NRC staff and management to better use limited resources in a more efficient manner to produce a more coherent and understandable regulatory framework. The staff understands that different portions of the consolidated rulemaking will have different backfitting justifications under 10 CFR 50.109, and accordingly portions of the consolidated rulemaking may not be supportable in accordance with the provisions of 10 CFR 50.109. The staff will also need to determine whether the consolidated rulemaking will be inconsistent with any applicable issue finality provisions in 10 CFR Part 52. As such, the staff intends to construct the consolidated rulemaking with this in mind, and enable any requirements that do not meet the backfitting or issue finality requirements to be bifurcated from the consolidated rulemaking at the final rule stage. The staff will seek input from external stakeholders during the proposed rule comment period regarding backfitting considerations as part of implementing the cumulative effects of regulations process enhancements.

Accordingly we recommend that the Commission agree to consolidate the two rulemaking activities.

Scope of the Consolidated Rulemaking

The NRC staff recommends that the scope for this consolidated rulemaking address Commission direction and align with order implementation activities underway by industry. The staff notes that as industry implements the mitigating strategies order (EA-12-049), some of the NTTF recommendations pertaining to emergency preparedness are already being addressed. Accordingly, staff recommends that the scope of the consolidated rulemaking effort include:

1. All the requirements currently envisioned to be part of the station blackout mitigation strategies rulemaking, directed by COMSECY-13-0002, "Consolidation of Japan

Lessons Learned Near-Term Task Force Recommendations 4 and 7 Regulatory Activities.” This rulemaking stems from NTTF Recommendations 4 and 7, and is intended, in part, to make the requirements of EA-12-049 (and equivalent license conditions) generically-applicable (WITS 201100263, WITS 201100264).

2. All the requirements currently envisioned to be part of the Onsite Emergency Response Capabilities rulemaking. This rulemaking, which stems from NTTF Recommendation 8 of the NTTF report, was directed by SRM-SECY-11-0137 “Prioritization of Recommended Actions to be Taken in Response to Fukushima Lessons Learned” and its scope is being determined by the rulemaking process, which to date includes the issuance of a final regulatory basis. Note that this portion of the consolidated rulemaking, which has as part of its scope the consideration of command and control issues, would also address the NTTF Recommendation 10.2 concerning command and control and the qualifications of decision-makers (WITS 201100267, WITS 201100268). Command and control is being addressed in industry guidance through the Nuclear Energy Institute (NEI) 14-01, “Emergency Response Procedures and Guidelines for Extreme Events and Severe Accidents,” Rev. 0, which is currently under development.
3. Numerous emergency preparedness actions are being addressed as part of this rulemaking. They are being implemented in conjunction with the implementation of EA-12-049, and through the development of guidance supporting the Recommendation 8 portion of the consolidated rulemaking. Specifically those regulatory actions, the associated NTTF Recommendations from which they stem, and the current vehicle being used to address those issues are:
 - a. Staffing and communications issues stemming from NTTF Recommendation 9.3, and also discussed in NTTF Recommendations 9.1 and 9.2: Currently being addressed through EA-12-049 implementation guidance; specifically NEI 12-01 which is referenced in NEI 12-06 which is endorsed by the NRC in JLD-ISG-12-01.
 - b. Facilities and equipment issues stemming from NTTF Recommendation 9.3, and also discussed in NTTF Recommendations 9.1 and 9.2: Currently being addressed through EA-12-049 implementation guidance and also NEI 13-06, “Enhancements to Emergency Response Capabilities for Beyond Design Basis Accidents and Events,” Rev.0, guidance currently under development.
 - c. Multi-Unit Dose Assessment issues stemming from NTTF Recommendation 9.3, and also discussed in NTTF Recommendation 9.1: Being addressed through NEI 13-06 guidance currently under development. Industry has committed to implementation of this capability by December 31, 2014.
 - d. Training and exercise issues stemming from NTTF Recommendation 9.3, and also discussed in NTTF Recommendations 9.1 and 9.2: Currently being addressed through EA-12-049 implementation guidance and also NEI 13-06 guidance currently under development.
 - e. Onsite emergency resources to support multiunit with station blackout including the need to deliver equipment to the site with offsite infrastructure

degraded stemming from NTTF Recommendation 11.1; addressed by EA-12-049 and supporting guidance.

This consolidated rulemaking would address, either in requirements or through supporting implementation guidance, all of the recommendations in NTTF Recommendations 4, 7, 8, 9.1, 9.2, 9.3 with one exception (maintenance of Emergency Response Data System (ERDS) capability throughout the accident), 10.2, and 11.1. The NTTF Recommendations in 9.1, 9.2, 10.2, and 11.1 were prioritized as Tier 3 regulatory actions in SECY-11-0137 because they involved rulemaking or other regulatory considerations that could be delayed while higher priority Tier 1 and Tier 2 actions were pursued.

In addition, the NRC staff is proposing to include the recommendation in NTTF Recommendation 9.4 to modernize ERDS as part of this consolidated rulemaking. This action differs from the above list of regulatory actions because ERDS is not an essential component of a licensee's capability to mitigate a beyond-design-basis external event. However, ERDS is important for communication purposes between the licensee and the NRC, and in some situations, other external stakeholders. Additionally, the modernization has been voluntarily completed by industry, and it can readily be incorporated into this rulemaking. The current intent would be to remove technology-specific references in 10 CFR Part 50, Appendix E, Section VI, "Emergency Response Data System."

Schedule for the Consolidated Rulemaking

The NRC staff recommends that the schedule for consolidated rulemaking remain consistent with the current schedule for providing the final station blackout mitigation strategies rulemaking to the Commission. Specifically, the staff proposes to provide the final consolidated rulemaking package to the Commission on December 27, 2016.

In order to align the proposed rule with current progress in industry with implementation of EA-12-049, including the integration of the mitigation strategies into the plant procedures, guidance, and strategies, the staff proposes that the proposed consolidated rulemaking be provided to the Commission by December 19, 2014. This will enable insights from the ongoing EA-12-049 implementation (now occurring later in 2014 than previously envisioned) to be better considered within the consolidated proposed rule. This schedule also accounts for past and potential future delays in the development of key industry guidance that supports the Onsite Emergency Response Capabilities portion of the single rulemaking. Most importantly, the December 31, 2014, date for providing the proposed rule to the Commission provides sufficient time for Commission deliberation on the proposed rule package and subsequent public comment period, such that the final rule date of December 2016 can continue to be met.

Note, the above proposed schedule would revise the current schedules for the station Blackout Mitigation Strategies rulemaking and the Onsite Emergency Response Capabilities rulemaking as follows:

1. Current proposed Station Blackout Mitigation Strategies rulemaking: Due to Commission on June 30, 2014;
2. Current proposed Onsite Emergency Response Capabilities rulemaking: Due to Commission on July 25, 2014.

Proposed consolidated rule schedule: Due to Commission on December 19, 2014:

1. Current final Station Blackout Mitigation Strategies rulemaking: Due to Commission on December 16, 2016;
2. Current final Onsite Emergency Response Capabilities rulemaking: Due to Commission on March 11, 2016.

Proposed final consolidated rule schedule: Due to Commission on December 16, 2016.

Public Interactions

Consolidation of the Station Blackout Mitigation Strategies rulemaking and the Onsite Emergency Response Capabilities rulemaking was recently discussed in multiple public interactions. Notably, at a public meeting held on November 19, 2013, it became clear that the implementation of the EA-12-049 mitigation strategies was occurring in both the onsite emergency procedures and in the severe accident management guidelines. It was also clear that the industry's objective was for a full, integrated implementation. In effect, this integrated implementation by industry merges the station blackout mitigation strategies and the onsite emergency response capabilities requirements, and it reflects the industry's desire to do the implementation "one time." During the meeting, industry representatives suggested that a rulemaking framework aligning with the actual ongoing implementation by industry might result in a more coherent and understandable set of requirements. There was general agreement by meeting attendees with the concept of consolidation, and as a result the NRC staff indicated it would explore the idea further.

On February 10, 2014, the NRC staff held a public Joint Steering Committee meeting between NRC senior managers and NEI and industry representatives to discuss the status of Fukushima lessons-learned, including rulemakings. The NRC representatives explained that the staff plans to propose to the Commission to consolidate, into a single rulemaking activity, the Station Blackout Mitigation Strategies rulemaking with the Onsite Emergency Response Capabilities rulemaking, as well as the portions of NTTF Recommendations 9, 10, and 11 that are already being addressed as part of the mitigating strategies order (NRC Order EA-12-049) implementation (NTTF Recommendation 4.2), the Onsite Emergency Response Capabilities rulemaking, and items already being implemented by industry. In response to questions from the industry, NRC representatives clarified that this would not result in one rule; rather, that processing these rulemakings together in the same package would ensure an integrated rulemaking. Industry representatives noted that there was no formal industry position at that time on the prospect of combining these rulemakings, but that they would be discussing the topic internally further. Industry representatives further expressed their view that it is important for the NRC staff to recognize that different portions of the consolidated rulemaking would have different bases with respect to the backfitting justification that would support any new requirements. The NRC committed to holding further discussions with the industry and other external stakeholders prior to making a formal proposal to the Commission.

Consistent with this commitment, the NRC staff discussed the issue of rulemaking consolidation on March 4, 2014, at a public meeting, and additionally used a conceptual version of the draft rule language as a vehicle to support better understanding for how these rulemaking efforts might be merged. The advantages of consolidation were discussed and it was clearly denoted to stakeholders that different portions of the rulemaking would have different backfitting bases (e.g., portions that are making mitigation strategies generically-applicable would be considered

necessary for adequate protection consistent with EA-12-049, whereas aspects that relate to onsite emergency response capabilities may require a different backfitting justification).

Finally, the NRC staff held a public teleconference on the consolidated rulemaking approach on March 6, 2014. The staff held this teleconference at industry's request to allow industry to provide their perspective following their March 5, 2014, Executive Steering Committee Meeting.

During the teleconference, the NRC staff suggested that industry consider providing a letter expressing their views on rulemaking consolidation. NEI representatives agreed, and by letter dated March 7, 2014 (ADAMS Accession No. ML14069A472), provided their views regarding rulemaking consolidation. To summarize the March 7, 2014 letter, NEI and industry support the NRC staff's proposal to consolidate rulemaking activities. Industry agreed with the NRC staff that, given the nature of the proposed rulemaking approach, it will be very important to maintain discipline in the scope and applicability of new requirements, and encouraged the staff to identify specific methods for accomplishing these goals while the proposal is still in the "concept" stage. Industry believes that a consolidated approach to rulemaking would facilitate a more efficient use of staff and industry resources and promote better alignment between final rule elements and related guidance. Industry offered the following additional detailed comments:

1. The rulemaking should codify all Fukushima-related NRC Orders, including EA-13-109 (the Order related to reliable hardened containment vents capable of operation under severe accident conditions), which are already in the implementation phase to avoid unnecessary rework. The rulemaking should be performance-based, and implementation in accordance with NRC-endorsed industry guidance should result in full compliance;
2. All rule requirements should be assessed in accordance with 10 CFR 50.109, the Backfit Rule;
3. Beyond-design-basis-related requirements should be separate and distinct from regulations that address design basis and safety-related matters to the degree practicable (e.g., design-basis structure, system, and component requirements, operator training, emergency preparedness, etc.);
4. The rulemaking should enable subsequent development of a clear, understandable inspection regime;
5. Change control for beyond-design-basis activities should be under the licensee's purview and subject to NRC inspection;
6. Training needs should be determined through the Systematic Approach to Training process;
7. Implementation dates for requirements should consider the cumulative effects of regulation.

In summary, through multiple public interactions, the NRC staff has received strong external stakeholder support for the concept of combining these related lessons-learned activities.