



POLICY ISSUE **(Information)**

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FOR: The Commissioners

FROM: Brian E. Holian, Director
Office of Nuclear Security and Incident Response

SUBJECT: ANNUAL UPDATE ON THE STATUS OF EMERGENCY
PREPAREDNESS AND INCIDENT RESPONSE
PROGRAMS' ACTIVITIES

PURPOSE:

The purpose of this paper is to update the Commission on the U.S. Nuclear Regulatory Commission (NRC) emergency preparedness (EP) and incident response/continuity of operations (IR/COOP) programs' significant accomplishments and activities for fiscal year (FY) 2019, and to provide an assessment of the NRC's EP and IR/COOP programs with a focus on current and projected activities. This paper does not address any new commitments or resource implications.

BACKGROUND:

In the staff requirements memorandum to SECY-07-0182, "Semi-Annual Update on the Status of Emergency Preparedness Activities," dated December 21, 2007 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML073550647), the Commission provided the following direction:

The annual paper should become more of a self-assessment and communication tool, perhaps summarizing accomplishments and providing a status on improvement initiatives within our EP programs. Such an assessment should be coordinated with and not overlap the Reactor Oversight Process self-assessment of the EP cornerstone, and should be designed to aid the staff in effecting continuous and coordinated improvements to the overall EP program, as well as to inform the Commission and the public of progress.

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Consistent with the Commission's direction, this paper provides a summary of FY19 accomplishments, FY20 priorities, and a self-assessment aligned with the NRC's strategic security and safety goals. The paper also describes ongoing improvements consistent with the NRC's transformation and improvement initiatives.

DISCUSSION:

Emergency Preparedness Program

The objective of the EP program is to ensure that NRC licensees are capable of implementing adequate measures to protect public health and safety in the event of a radiological emergency. As a condition of their licenses, licensees of nuclear power plants must develop and maintain emergency plans that meet comprehensive NRC EP requirements. The staff's work in EP focuses on rulemaking, oversight of licensee EP programs, and EP licensing actions.

Incident Response Program

The mission of the IR program is to rapidly respond to safety- or security-related events involving NRC-licensed facilities and materials. The Headquarters Operations Center (HOC) and the regional incident response centers (IRC) disseminate information and coordinate response activities depending on where a radiological event occurs and serve as the coordination and communication hubs for the NRC. Depending on the significance and nature of an event, the HOC and IRCs are staffed with NRC specialists to evaluate event information, independently assess the potential impact on public health and safety, and evaluate possible recovery strategies.

The IR program also monitors interagency and international activities that may require integration into the NRC's response capabilities or procedures. Under Federal guidelines, the NRC will coordinate with other Federal, State, and local emergency response organizations in response to various types of domestic events. The NRC routinely participates in interagency working groups and policy coordinating committees to provide perspectives on the NRC's interests, within the national framework, specifically with respect to roles and responsibilities during radiological incidents.

Continuity of Operations Program

Although organized in parallel with the NRC's IR program, the COOP program is a separate initiative designed to ensure the NRC can continue performance of its essential functions and supporting activities under a wide variety of potential disruptions to NRC headquarters and regional offices. The NRC's COOP plan outlines and designates plans and procedures, continuity personnel, delegations of authority, order of succession, exercise and training requirements, communications requirements, and other capabilities to ensure the NRC can accomplish its Essential Functions consistent with Federal policy directives. Over the course of the last calendar year, the NRC has re-evaluated the implementation strategy for the threat assessment portion of its Essential Functions in a COOP situation, modifying resource requirements and approaches while maintaining an effective level of COOP coverage.

Self-Assessment

The NRC's EP and IR/COOP programs and activities continue to align with the agency's strategic security and safety goals. The NRC's FY19 EP and IR/COOP programs' performance was assessed against its FY19 priorities using the following four objectives:

- 1) Ensure the adequacy of NRC's capabilities to respond to accidents and ensure radiation safety for safety or security events at licensed facilities by maintaining the readiness of the HOC and response organizations in the IR program.
- 2) Ensure safety and security considerations are appropriately integrated and reflected in EP licensing activities and communicate expectations to applicants.
- 3) Maintain and further risk-inform a stable and predictable EP regulatory infrastructure for licensing, oversight, and rulemaking.
- 4) Identify enhancements to the effectiveness and efficiency of the EP and IR/COOP programs.

Objective 1 is associated with the event response and training product lines. Successful demonstration of Objective 1 is reflected in the staff maintaining response team qualifications and HOC/IRC response availability; annual participation in EP/IR response exercises that involve a wide array of Federal, State, and local authorities; and overall maintenance of cooperative intergovernmental relationships to ensure NRC roles and responsibilities are considered in national resilience programs. Activities that demonstrate successful implementation of Objective 1 include maintaining 98 percent of designated responders fully qualified for the various IR teams by conducting three evaluated reactor licensee EP/IR exercises each year and participating in the Eagle Horizon 2019 exercise. In addition, based on lessons learned from the 2018 hurricane season, the NRC revised Headquarters Operations Officer (HOO) procedure C3, "Interactions with States and Federal Agencies," and coordinated with the Federal Emergency Management Agency (FEMA) to improve communications between the National Response Coordination Center and the NRC during and after storms impacting nuclear power plants.

Objectives 2 and 3 are associated with the licensing, oversight, and rulemaking product lines. Successful demonstration of both objectives is reflected in the staff's ability to complete technical evaluations of EP submittals for fuel cycle facilities, operating reactors, new reactors, and non-power reactors; and technical reviews of licensees' EP exemption requests and license amendment requests (LARs) associated with existing emergency plans and emergency action level scheme changes for permanently defueled decommissioning sites. The staff ensured effective and proactive communications with internal and external stakeholders on these high-interest activities. All of the licensing actions exceeded the 85-percent timeliness and quality performance indicator. The staff has also taken a risk-informed, dose-based, consequence-oriented approach in reviewing the Tennessee Valley Authority Clinch River Nuclear Site Early Site Permit Application.

In addition, the staff has evaluated approaches to streamline and consolidate inspection, testing, analysis and acceptance criteria associated with the Vogtle Units 3 and 4 Combined License; and using a risk-informed approach, completed the timely review of licensee initiatives on the subject. Successful performance is also reflected in recent rulemaking activities such as timely submittal to the Commission of high-quality products for the decommissioning and the small modular reactors and other new technologies proposed rule packages (ADAMS Package

Accession Nos. ML18012A019 and ML18134A086, respectively). In seeking continual improvement in risk-informing EP programs, staff partnered with Purdue University to conduct an independent review of the sensitivity of radiological dose projections to weather conditions. The report associated with this review is being finalized. Additionally, as part of the industry's continuing efforts to seek greater program efficiencies, the staff continued to see an increase in proposed changes to licensee emergency response organizations (ERO) on-shift staffing levels and augmentation response times. In FY19, the staff has completed, or is in the process of completing, reviews of ERO staffing change LARs for over 15 sites.

Objective 4 includes accomplishment of, or progress on, numerous improvement initiatives. During FY19, the staff submitted a proposed rule intended to improve both effectiveness and efficiency of EP-related licensing activities for small modular reactors and other new technologies. Additionally, the first revision in over 30 years to NUREG-0654/FEMA-REP-1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants" (ADAMS Accession No. ML14246A519), the overarching guidance document for EP, is in final review at the Office of Management and Budget and will likely be issued later this calendar year. This revision will better align the NRC's radiological EP programs with FEMA's Comprehensive Emergency Management programs or "all-hazards" programs.

Working closely with regional inspectors, and in coordination with the Office of Nuclear Reactor Regulation, the staff completed a focused assessment (ADAMS Accession No. ML18331A374) of the significance determination process (SDP) for EP-related licensee performance deficiencies. The staff performed this focused assessment of the EP SDP under Element 3 of the Reactor Oversight Process (ROP) self-assessment program as described in Inspection Manual Chapter 0307 (ADAMS Accession No. ML15216A347). The staff determined that improvements should be made to the EP portion of the ROP, to include the EP SDP. The staff submitted a proposed improvement to the EP SDP to the Commission for approval in June 2019 (ADAMS package number ML19070A036) as part of a set of recommendations to enhance the ROP.

In the IR area, the NRC is developing enhancements to how it responds to events. The Incident Response Reorganization Project focuses on continued development of enhancements to the program that will better align the response program with other agencies, implement lessons learned from the Incident Response Exercise Program, and provide transformative improvements that will reduce inefficiencies while concentrating on the IR program's core mission of event assessment and information sharing. The planned changes, expected to be implemented early next calendar year, would provide for a more flexible and scalable response organization and incorporate many components from the Incident Command System, a standard in many Federal, State, and local response organizations. In the COOP area, the staff's significant COOP activities included updating the COOP plan and procedures consistent with Commission direction in SRM-COMSECY-18-0006, "Conversion of March 1, 2018, 'Note to Commissioners' Assistants' Titled 'Completion of the Annual Review of the U.S. Nuclear Regulatory Commission Continuity of Operations and Pandemic Plans for 2018'" (ADAMS Accession No. ML19035A613, nonpublic) planning and conducting the Eagle Horizon 2019 exercise, and participating in an interagency review of NRC's essential functions. The updated COOP plan was validated by the successful conduct of Eagle Horizon 2019 with the FEMA evaluators giving the NRC the highest rating in all but two of the 42 evaluated tasks, with those two receiving the second highest rating.

In addition, improvements have been, or are being made, in various aspects of the 24/7 HOO function, including improved communication with and among the HOOs; enhanced integration

with the regional COOP site; and innovative staffing approaches to help ensure the HOO function is efficiently staffed. The IR staff has also worked closely with FEMA, States, and Indian tribal organizations to effectively enhance communications and response coordination efforts during radiological emergency preparedness exercises. Such efforts included enhanced outreach and support activities, in coordination with FEMA and State EROs.

NRC/FEMA Interactions

The staff has effectively partnered with FEMA for many years in areas where both agencies' roles intersect. Over the last several years, the two agencies have had differing perspectives on several matters, primarily related to emergency planning zone (EPZ) sizing for safer advanced reactor designs and in reduction of offsite EP needs during decommissioning. There have also been several discussions regarding the timing of reactor startups following hurricanes (pending completion of FEMA assessments of offsite response capabilities). NRC staff and management continue to maintain a highly professional relationship with FEMA peers. Extensive interactions on issues like risk-informing EPZ sizing have led to some progress. The NRC will continue to focus on presenting the NRC's views to all stakeholders and will continue to work to reach common ground with FEMA, consistent with the NRC's Principles of Good Regulation, where opportunities are present.

Summary and FY20 Priorities

Overall, the EP and IR/COOP programs either have implemented, or are implementing, numerous improvements to already-strong processes and programs. The staff considers both programs to be effective; however, future improvements are possible and will be pursued.

FY20 priorities for EP and IR/COOP include the following, which align with the Office of the Executive Director for Operations priorities:

- Continued improvement in effectiveness of NRC's partnership with FEMA on EP and IR.
- Implementation of improvements to the EP SDP and other EP-related portions of the ROP Enhancement Project consistent with Commission direction, in close consultation with cognizant regional staff and considering stakeholder feedback.
- Continued use of insights gained from the Strategic Workforce Planning effort which identifies a potential future significant decrease in EP staff expertise due to retirements, to focus our staffing and skills development initiatives to ensure that long-term human capital needs are met.
- Timely, high-quality support for decision-making on licensing documents, including exemption requests for decommissioning reactors, requests to consolidate or relocate emergency operations facilities, and applications for Consolidated Interim Storage Facilities (Holtec International and Interim Storage Partners, LLC).
- Timely, high-quality support for the NRC staff licensing review of the NuScale design certification and NuScale EPZ Sizing Topical Report.
- Innovative, timely, and high-quality support for the EP activities necessary for Vogtle operational readiness.
- Full implementation of improvements to the NRC's IR process.
- Implementation of potential changes to NRC's essential functions and NRC's COOP plan as a result of an ongoing review process.
- Effective participation in the Eagle Horizon national-level 2020 exercise.
- Continued improvements in integration of Headquarters and Regional Operations Officer (ROO) functions, and improvements in how 24/7 HOO/ROO capability is provided.

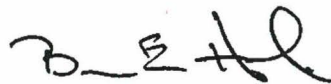
- Improving the approach to meeting the threat assessment function during COOP.
- Beginning planning of future IR strategies in light of the 2027 expiration of the lease for Three White Flint North.

CONCLUSION:

The NRC's EP and IR/COOP programs satisfied priorities in FY19 that directly supported the NRC's mission and strategic plan. The staff continues to demonstrate an ability to maintain a stable and predictable EP program, while also developing and implementing innovative and transformative improvements consistent with the NRC's priorities and objectives. Furthermore, the staff continues to participate in IR activities that maintain and enhance the NRC's readiness to respond to events at licensee facilities, support cooperative intergovernmental relationships, ensure that NRC roles and responsibilities are considered and reflected in national resiliency programs, and ensure the NRC is capable of fulfilling its responsibilities in the national response structure.

COORDINATION:

The Office of the General Counsel reviewed this paper and has no legal objection.



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