

POLICY ISSUE
(Information)

October 30, 2017

SECY-17-0107

FOR: The Commissioners

FROM: Victor M. McCree
Executive Director for Operations

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's (NRC's) emergency preparedness (EP) and incident response (IR) program's significant accomplishments and activities for fiscal year (FY) 2017, and to provide an assessment of the NRC's EP and IR 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 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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DISCUSSION:Emergency Preparedness Program

The overall objective of the EP program is to ensure that nuclear power plant 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 NRC receives license amendment and exemption requests for changes to emergency plans based on the changing environment at nuclear power plants. Given the recent announcements by nuclear power plant licensees of their plans to cease operations, the NRC has received and is reviewing several amendment and exemption requests to change emergency plans as plants enter decommissioning status. To facilitate a more effective and efficient regulatory process for decommissioning facilities, the NRC is also working to make these changes generically applicable as part of the Regulatory Improvements for Power Reactors Transitioning to Decommissioning rulemaking activity.

The staff is also working on the rulemaking for Emergency Preparedness for Small Modular Reactors (SMRs) and Other New Technologies (ONTs) to facilitate the licensing and operation of future types of facilities.

The enclosure provides a summary of the significant FY 2017 accomplishments in the EP program and FY 2018 priorities.

Incident Response Program

The mission of the IR program is to continuously monitor NRC licensee operations and rapidly respond to safety- or security-related events involving NRC-licensed facilities and materials. The IR program also monitors activities that are integrated in the overall NRC capabilities for the response to radiological incidents and emergencies involving facilities and materials regulated by the NRC or an Agreement State. An inherent aspect of this mission is the NRC's ability to maintain coverage of its Primary Mission Essential Function, as outlined in the agency's Continuity of Operations Plan. Under Federal guidelines (e.g., Presidential Policy Directive 8, "National Preparedness;" the National Response Framework; and the Nuclear/Radiological Incident Annex to the Response and Recovery Federal Interagency Operational Plans) the NRC will coordinate with other Federal, State, and local emergency response organizations in response to various types of domestic events. The Headquarters Operations Center (HOC) and the regional incident response centers (IRC) can disseminate information and coordinate response activities depending on where a radiological event occurs and serve as the coordination and communication hubs for the NRC. The HOC and IRCs can be staffed with NRC specialists to evaluate event information, independently assess the potential impact on public health and safety, and evaluate possible recovery strategies.

The NRC routinely participates in a number of ongoing interagency working groups and policy coordinating committees to coordinate and provide perspectives on the NRC's interests, within the national framework, specifically with respect to roles and responsibilities during radiological incidents. The enclosure provides a summary of the significant FY 2017 accomplishments and FY 2018 priorities in the IR program.

Self-Assessment

The NRC's EP and IR programs and activities continue to align with the agency's strategic security and safety goals. The NRC's FY 2017 EP and IR programs' performance was assessed using the following three objectives:

- (1) Ensure the NRC emergency response capabilities 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.
- (3) Maintain a stable and predictable EP regulatory infrastructure for licensing, oversight and rulemaking.

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 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 99-percent of designated responders fully qualified for the various IR teams by participating in three evaluated reactor licensee EP/IR exercises and a material control and accounting tabletop exercise; interagency coordination on two significant Presidential Policy Directives; and participating in the Eagle Horizon 2017 continuity of operations exercise. In addition, the NRC's effective response to and coordination with Federal, State, and local authorities during two severe weather events (i.e., Hurricanes Harvey and Irma) during FY 2017 demonstrated our capability to assure adequate response capabilities at several licensed facilities under such conditions.

Objectives (2) and (3) are associated with the licensing, oversight, and rulemaking product lines. Successful demonstration of both objectives are reflected in the staff's ability to complete, with greater than 85-percent timeliness and quality, technical evaluations of EP submittals for fuel cycle facilities, operating reactors, new reactors, and test and research reactors; and technical reviews of licensees' EP exemption requests and license amendment requests associated with existing emergency plans and emergency action level scheme changes for permanently defueled decommissioning sites. Successful performance is also reflected in recent rulemaking activities such as responding to EP-specific public comments received on the draft regulatory bases for the Regulatory Improvements for Power Reactors Transitioning to Decommissioning and EP for SMRs and ONTs rulemakings and finalizing the regulatory bases associated with both rulemakings.

FY 2018 priorities for the EP and IR programs include: meeting or exceeding licensing action milestones for EP licensing reviews for operating reactors, decommissioning reactors, new reactors, fuel facilities, and test and research reactors; providing high quality technical reviews for nuclear power plant utilities that request to consolidate and relocate their emergency operations facility; and developing proposed rules and associated regulatory guidance documents that support the Regulatory Improvements for Power Reactors Transitioning to Decommissioning and the EP for SMRs and ONTs rulemaking activities.

In the interest of continuous improvement, the staff will focus on: continuing to develop IR plans and procedures that will better align with the Federal response; continuing to improve the efficiency of the IR program, continuing to improve integration of the Headquarters Operations

Officers (HOOs) and Region IV Regional Operations Officers (ROOs); and continuing to improve coordination of NRC's IR capabilities with the Federal Emergency Management Agency's Disaster Initiated Review process.

CONCLUSION:

The NRC's EP and IR programs have accomplished several activities in FY 2017 that were in direct support of the NRC's mission and strategic plan. The staff continues to demonstrate an ability to develop and implement a stable and predictable EP regulatory program for licensing, oversight, and regulatory infrastructure. Further, the staff continues to participate in IR activities that help to maintain cooperative intergovernmental relationships to ensure that NRC roles and responsibilities are considered and reflected in national resiliency programs, and ensure the NRC is able to fulfill its responsibilities in the national response structure. In the coming year, the staff will focus on supporting the EP-related licensing rulemaking activities, processing EP decommissioning exemption requests, and HOO/ROO staffing.

COORDINATION:

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

/RA Michael R. Johnson Acting for/

Victor M. McCree
Executive Director
for Operations

Enclosure:
As stated

SUBJECT: ANNUAL UPDATE ON THE STATUS OF EMERGENCY PREPAREDNESS AND INCIDENT RESPONSE PROGRAM ACTIVITES DATED: October 30, 2017

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*concurrence via email

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Summary of the Significant Fiscal Year 2017 Accomplishments and Fiscal Year 2018 Planned Activities for the Emergency Preparedness and Incident Response Programs

Emergency Preparedness Program

The following sections provide an update on the significant fiscal year (FY) 2017 accomplishments and FY 2018 planned activities in the emergency preparedness (EP) program. In each of the EP activities described below, the U.S. Nuclear Regulatory Commission (NRC) staff conducted significant government-to-government interactions with the Federal Emergency Management Agency (FEMA).

Emergency Preparedness Decommissioning Reviews

The staff is conducting technical evaluations of license amendment and exemption requests for sites that either are permanently shut down or have near-term plans to permanently shut down. The staff is reviewing license amendment requests for the Fort Calhoun Station, Unit 1 (FCS), Oyster Creek Nuclear Generating Station (OCNGS), and Palisades Nuclear Plant (PNP) to reduce emergency response organization staffing under the existing regulatory requirements based on the permanent transfer of all spent fuel from the reactor vessel to their respective spent fuel pools. Similar amendment requests are expected from the licensees for the Pilgrim Nuclear Power Station (PNPS) and Three Mile Island, Unit 1 (TMI) in FY 2018.

The staff provided its recommendations to the Commission regarding specific exemption requests from certain EP requirements for FCS in SECY-17-0080, "Request by the Omaha Public Power District for Exemptions From Certain Emergency Planning Requirements for the Fort Calhoun Station, Unit 1" (Agencywide Documents and Access Management System (ADAMS) Accession No. ML17116A430), dated August 10, 2017. The proposed exemption is based on the reduced spectrum of credible accidents that can occur at this permanently defueled site and, if approved, would eliminate requirements for the licensee to maintain formal offsite radiological EP plans. The staff's review of the requested exemption was performed using the guidance in NSIR/DPR-ISG-02, "Interim Staff Guidance (ISG) on Emergency Planning Exemption Requests for Decommissioning Nuclear Power Plants" (ADAMS Accession No. ML13304B442). In addition to the request from FCS, the staff received an EP exemption request for OCNGS on August 22, 2017 (ADAMS Accession No. ML17234A082), and expects to receive similar EP exemption requests for PNPS, PNP, and TMI in FY 2018.

The staff is also reviewing additional license amendment requests from FCS and OCNGS to further revise their emergency plans implement the changes based on Commission approval of their requested EP exemptions.

Duke Energy Consolidated Emergency Operations Facilities

By letter dated April 29, 2016 (ADAMS Accession No. ML16120A076), Duke Energy requested the NRC approval of a proposal to consolidate the Emergency Operations Facilities (EOFs) for the Brunswick Steam Electric Plant, Shearon Harris Nuclear Power Plant, and H. B. Robinson Steam Electric Plant with the existing Duke Energy Corporate EOF (hereafter referred to as the Duke Charlotte EOF). Because the Duke Charlotte EOF is located more than 25 miles from Brunswick, Harris, and Robinson, prior Commission approval is required under paragraph IV.E.8.b of Appendix E, "Emergency Planning and Preparedness for Production and

Utilization Facilities,” to Part 50, “Domestic Licensing of Production and Utilization Facilities,” of Title 10 of the *Code of Federal Regulations* (10 CFR). On April 14, 2017, SECY-17-0050, “Duke Energy Proposal to Further Consolidate Duke Corporate Emergency Operations Facility” (ADAMS Accession No. ML16363A431) was provided to the Commission recommending approval. The Commission subsequently approved the staff’s recommendation in Staff Requirements Memorandum (SRM)-SECY-17-0050, “Duke Energy Proposal to Further Consolidate Duke Corporate Emergency Operations Facility,” dated May 17, 2017 (ADAMS Accession No. ML17137A116).

The staff also received a proposal from Southern Nuclear Operating Company to relocate its EOF 1.3 miles from its existing location, which was previously approved for being greater than 25 miles from the site it supports. The staff is currently reviewing this proposal and will develop a recommendation for Commission consideration.

Tennessee Valley Authority Clinch River Nuclear Early Site Permit Application

The staff is reviewing EP aspects of the Tennessee Valley Authority (TVA) Clinch River Nuclear early site permit (ESP) application for potential acceptability of the applicant’s chosen site to support eventual construction of two or more small modular reactors (SMRs). The application includes proposed exemptions from certain regulatory requirements due to the proposed emergency planning zones (EPZs) that are smaller than the EPZs that correspond to the current regulations for large light water reactors. In lieu of submitting complete and integrated emergency plans, TVA has submitted two distinct onsite major features emergency plans: one for a plume exposure pathway EPZ limited to the site boundary, and the other for a plume exposure pathway EPZ that extends two miles beyond the site boundary. Since the 2-mile EPZ would require offsite radiological emergency response planning, the staff has initiated consultation with FEMA for the 2-mile major features emergency plan concerning (1) whether significant impediments exist for the development of emergency plans, based on the physical characteristics of the area surrounding the proposed site, and (2) the size and configuration of the EPZ.

Regulatory Improvements for Power Reactors Transitioning to Decommissioning Rulemaking

In SECY-15-0014, “Anticipated Schedule and Estimated Resources for a Power Reactor Decommissioning Rulemaking,” dated January 30, 2015 (ADAMS Accession No. ML15082A089), the staff committed to proceed with a rulemaking on decommissioning and provided an anticipated schedule and estimate of the resources required for the completion of this rulemaking. The staff developed a draft regulatory basis informed by the previously approved exemptions from EP regulations (e.g., Kewaunee, Crystal River, San Onofre, and Vermont Yankee), supporting research conducted by the Office of Nuclear Regulatory Research, and public comments from the Advance Notice of Proposed Rulemaking (ADAMS Accession No. ML15167A010). The draft regulatory basis was issued for a 90-day public comment period (82FR13778) on March 15, 2017. The staff conducted a public meeting to discuss the draft regulatory basis and obtain feedback from stakeholders on May 9, 2017. The staff received 983 public comments on the draft regulatory basis, including 203 comments specific to EP. These comments are being considered in the development of the final regulatory basis, which is scheduled to be published in late 2017. The proposed rulemaking package is scheduled to be provided to the Commission in calendar year (CY) 2018. The final rulemaking package is scheduled to be provided to the Commission in CY 2019.

Emergency Preparedness for Small Modular Reactors and Other New Technologies Rulemaking

In SECY-16-0069, “Rulemaking Plan on Emergency Preparedness for Small Modular Reactors and Other New Technologies,” dated May 31, 2016 (ADAMS Accession No. ML16020A388), the staff requested Commission approval of the schedule for a planned rulemaking on EP for SMRs and other new technologies and provided an estimate of the resources required for the completion of this rulemaking. In SRM-SECY-16-0069, “Staff Requirements – SECY-16-0069 – Rulemaking Plan on Emergency Preparedness for Small Modular Reactors and Other New Technologies” (ADAMS Accession No. ML16174A166), the Commission approved the staff’s proposed plan and schedule. The staff developed a draft regulatory basis, which was issued for a 75-day public comment period (82 FR 17768) on April 13, 2017. On May 10, 2017, the staff held a public meeting to discuss and provide clarifications to inform the submissions of comments on the draft regulatory basis. The staff received 57 written comment submittals on the draft regulatory basis, from which the staff extracted 223 comments specific to EP. These comments were considered in the development of the final regulatory basis, which was made publicly available on October 16, 2017 (ADAMS Accession No. ML17206A265). The proposed rulemaking package is scheduled to be provided to the Commission in CY 2018. The final rulemaking package is scheduled to be provided to the Commission in CY 2020.

Incident Response Program

The following sections provide an update on the significant FY 2017 accomplishments and FY 2018 planned activities in the incident response (IR) program.

Presidential Policy Directive-40, National Continuity Policy

Beginning in 2016 through 2017, the National Security Council Staff updated several national-level continuity policies, including Presidential Policy Directive 40 “National Continuity Policy”; Office of Science and Technology Policy/Office of Management and Budget Directive 16-1, “Minimum Requirements for Federal Executive Branch Continuity Communication Capabilities”; Federal Continuity Directive 1, “Federal Executive Branch National Continuity Program Requirements”; and Federal Continuity Directive 2, “Federal Executive Branch Mission Essential Function and Primary Mission Essential Function Identification and Submission Process.” Although no significant changes to the NRC’s Continuity of Operations (COOP) program were necessary, the staff incorporated and implemented a number of operational changes directed by these policy updates and lessons learned. These changes included new capabilities for minimum communications and testing; new operational reporting for security threats; biennial revalidation of Primary and Mission Essential Functions vice annual revalidation; enhanced personnel accountability requirements; and new program management requirements including metrics and reporting, and nomenclature, conforming, and technical changes.

Another significant activity conducted in support of Federal COOP policies included planning for and participation in the Eagle Horizon 2017 continuity exercise. Eagle Horizon 2017 was highly successful in meeting its objectives, which primarily focused on the relationship between the NRC COOP and IR programs. Notable achievements included clarifying roles and responsibilities during concurrent COOP and IR events, discussing key delegations of authority for each program’s activities, developing the conceptual approach for transferring the IR function during an emergency at NRC headquarters, and identifying areas for harmonizing procedures among programs.

Presidential Policy Directive-44, Enhancing Domestic Incident Response

On November 7, 2016, President Obama signed Presidential Policy Directive 44 (PPD-44), “Enhancing Domestic Incident Response”, which enhances the ability of the Federal Government to respond to domestic incidents by providing for the timely identification of a lead Federal agency (LFA) and by ensuring that an appropriate incident management capability is available to support Federal domestic incident response efforts. PPD-44 tasked prospective LFAs with evaluating their incident management capabilities against a list of LFA tasks and identifying gaps in those capabilities. The staff determined that some of the incident management capabilities required of a prospective LFA are beyond the scope of the NRC’s incident response program. PPD-44 recognizes that the Department of Homeland Security, through FEMA, maintains robust response capability and emergency management expertise to support LFAs during a response and directs FEMA to be prepared to support an LFA when requested by the LFA or when directed by the President. By design, the NRC’s incident response program does not have some of these capabilities, which has been long understood by our Federal partners. The fact that the NRC has identified gaps does not imply that the NRC should have additional incident management capabilities. The gaps identified pertain only to incidents that have offsite radiological consequences; for incidents that have onsite consequences only, the NRC staff is confident that it can meet the expectations of an LFA.

Headquarters Operations Officer/Regional Operations Officer Integration

During FY 2017, the Office of Nuclear Security and Incident Response and Region IV (due to their role in NRC COOP and IR programs) initiated a pilot program to better integrate resources among the Region IV Regional Operations Officers (ROOs) and the Headquarters Operations Officers (HOOs) in supporting the functions of the NRC’s Operations Center. Successful integration is designed to continue to effectively support the agency’s IR program, while enhancing interactions between regional and headquarters staff to maintain proficiency in the day-to-day operation of both the Region IV Incident Response Center (IRC) and the Headquarters Operations Center (HOC). After an initial trial period between the HOC and Region IV IRC, best practices and lessons learned will inform an integrated watch standing schedule that draws from both ROO and HOO resources.

Exercises

The staff planned and participated in the Quad Cities, Shearon Harris, and Calvert Cliffs evaluated reactor-licensee emergency exercises during FY 2017 from the HOC. The regional offices also participated in 11 reactor-licensee exercises. Of those 11 exercises, 7 included the States’ Ingestion Pathway Exercises, and the regional offices participated in those, as well. In all instances, the primary objectives of demonstrating the agency’s ability to effectively carry out its response mission through assessment of the licensee’s emergency response efforts and providing Federal assistance, as necessary, were successfully demonstrated. For all of the exercises conducted, minor findings or opportunities for improvements were identified. An example of an opportunity for improvement was noted for the Calvert Cliffs exercise. Specifically, the staff identified that communications could be enhanced between regional staff supporting the licensee’s emergency offsite facility and headquarters staff supporting the reactor safety and protective measures teams. The staff continues to evaluate the findings and opportunities for improvement and will update the incident response procedures, as appropriate.

The staff also planned and participated in a successful table top style exercise to test and validate the COOP program. Specifically, the Eagle Horizon 2017 exercise met all interagency and NRC internal objectives, and significant progress was made to incorporate and align COOP and incident response program decision-making. Senior management and staff from

headquarters and all four regional offices participated in the June 2017 exercise, which identified several logistical challenges from the scenario to be further analyzed (e.g., travel authorization, information technology, and communications). During the annual update of the COOP procedures, the staff plans to further analyze these logistical challenges.

Hurricane Response

In FY 2017, the IR program responded to two major hurricane events, Hurricanes Harvey and Irma, by implementing Incident Response Procedure 240, "Natural Phenomena" (ADAMS Accession No. ML16125A314). In response to both hurricanes, the NRC's emergency response organization maintained situational awareness of the storms and their effects on NRC regulated facilities, kept NRC management informed, and worked with other Federal, State, local, and international agencies to share information. The NRC staff is conducting an after-action review to determine areas that need improvement and what areas functioned well. Appropriate lessons learned will be incorporated into the Natural Phenomena and the Communication and Coordination Protocol for Determining the Status of Offsite Emergency Preparedness procedures.