



POLICY ISSUE **(Information)**

November 30, 2018

SECY-18-0119

FOR: The Commissioners

FROM: Marc L. Dapas, Director
Office of Nuclear Material Safety and Safeguards

SUBJECT: STATUS OF THE DECOMMISSIONING PROGRAM - 2018 ANNUAL REPORT

PURPOSE:

To provide the U.S. Nuclear Regulatory Commission (NRC) staff's 2018 Annual Report on the Status of the Decommissioning Program, key decommissioning accomplishments in Fiscal Year (FY) 2018, and expected activities for FY 2019. This paper does not address any new commitments or resource implications.

BACKGROUND:

The Staff Requirements Memorandum (SRM) to COMSECY-08-0036, "Status of Decommissioning Program - 2008 Annual Report," dated January 8, 2009 (Agencywide Documents Access and Management System [ADAMS] Accession No. ML090080223), stated that the NRC staff should discontinue publication of the biennial report on the status of decommissioning in NUREG-1814, "Status of the Decommissioning Program," and instead publish an annual SECY paper on the status of the decommissioning program with information substantially equivalent to that contained in the 2008 Annual Report. In accordance with SRM-COMSECY-08-0036, this paper provides the 2018 Annual Report to the Commission for information.

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Enclosures 2 and 3 transmitted herewith contain Official Use Only – Sensitive Internal Information. When separated from the enclosures, this document is decontrolled.

The enclosed 2018 Annual Report on the Status of the Decommissioning Program provides a summary of the NRC's decommissioning program. The report summarizes the status of sites undergoing decommissioning through September 30, 2018, including the decommissioning of power reactors, research and test reactors, complex materials sites, uranium recovery facilities, and fuel cycle facilities. The report also provides key decommissioning accomplishments in FY 2018 and informs the Commission of expected activities for FY 2019.

Since 2002, the staff has provided an annual update to the Commission regarding the status of sites with inadequate financial assurance, as directed by the Commission in the SRM for SECY-02-0079, "Financial Analysis and Recommendations to Facilitate Remediation of Decommissioning Sites in Non-Agreement States" (ADAMS Accession No. ML022940653). In FY 2017, the NRC staff began providing this information to the Commission as Enclosures 2 and 3 to this report, as discussed in SECY-16-0126, "2016 Annual Update: Progress and Future Plans for Decommissioning Sites with Inadequate Financial Assurance" (ADAMS Accession No. ML16257A529). Enclosures 2 and 3 of this report contain sensitive internal information and are being withheld from public disclosure.

DISCUSSION:

Summary of Status Update for FY 2018

As of September 30, 2018, 21 nuclear power and early demonstration reactors, 3 research and test reactors, 12 complex materials facilities, 11 Title II¹ uranium recovery facilities, and parts of 1 fuel cycle facility are undergoing decommissioning or are in long-term safe storage (SAFSTOR) under NRC jurisdiction. Of the 21 power and early demonstration reactors in decommissioning, 15 are in SAFSTOR and 6 are in active decommissioning. Additionally, 20 Title I and 6 Title II uranium recovery facilities are in long-term care under a general license held by the U.S. Department of Energy (DOE), pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) 40.27 and 40.28. Further, there are two additional former mill sites that are not under a general license by DOE but have been designated as Title I sites by Congress. Thus, there are 22 Title I sites in total.

Considerable progress was made in FY 2018 at sites undergoing decommissioning. Of note, the NRC staff completed the following actions:

- In November 2017, the staff amended the license for the Beltsville Agricultural Research Center site in Beltsville, Maryland, to approve unrestricted release of a portion of the site that was used for on-site burial.
- In August 2018, the staff terminated the license for the State University of New York at Buffalo research reactor in Buffalo, New York.
- In September 2018, the staff terminated the license for the Westinghouse Electric-Hematite site in Festus, Missouri.

As of September 30, 2018, the staff continues to make progress on investigating properties with potential historical radium contamination. Specifically, the staff has dispositioned 45 out of 47

¹ Title I refers to facilities under the Uranium Mill Tailings Radiation Control Act of 1978, as amended, that were inactive, unregulated processing sites when the act was passed, while Title II facilities are those facilities licensed by the NRC or an Agreement State.

original unique site owner properties. For a majority of the initial site visits, the staff did not identify contamination above our proposed action level of 100 mrem/yr. Where contamination has been found above the action level, the site owners have voluntarily established controls. Through application of a risk-informed approach, the staff determined that only five sites required cleanup to meet the criteria for unrestricted use under 10 CFR 20.1402, "Radiological criteria for unrestricted use." One of these five sites has completed cleanup, and the U.S. Environmental Protection Agency (EPA) has completed characterization at a second site. The NRC staff and the State of Connecticut have obtained the EPA's agreement to take emergency removal actions for radium at this site. The NRC staff has also entered into a memorandum of understanding (MOU) with the EPA for another of these sites to avoid dual regulation.

Some other sites reached key interim milestones as they proceed through decommissioning:

- In March and June 2018, consistent with SRM-SECY-17-0026, "Policy Considerations and Recommendations for Remediation of Non-Military, Unlicensed Historic Radium Sites in Non-Agreement States," (ADAMS Accession No. ML17250A841), the staff issued two letters of forbearance to cooperative site owners of non-military sites with radium contamination due to historical manufacturing of consumer products where cleanup may be necessary.
- During July and August 2018, the EPA conducted a removal action of non-radiological hazardous chemicals at the FMRI site in Muskogee, Oklahoma.
- In August 2018, the staff approved the decommissioning plan for the Centrus Lead Cascade Facility in Piketon, Ohio. Centrus has completed decommissioning activities and submitted a license termination request in August following the approval of its decommissioning plan.
- In September 2018, the staff approved the license termination plan for the Zion Nuclear Power Station in Zion, Illinois.

In September 2018, the Oyster Creek Nuclear Generating Station permanently ceased power operations and transitioned to decommissioning status. The staff expects to transfer oversight of the plant's decommissioning activities from the Office of Nuclear Reactor Regulation to the Office of Nuclear Material Safety and Safeguards (NMSS) in FY 2019.

On September 25, 2018, the NRC entered into an agreement with the State of Wyoming. Under this agreement, the NRC discontinued its regulatory authority, and Wyoming assumed regulatory authority over certain radioactive materials (83 *Federal Register* 48905; September 28, 2018). Effective September 30, 2018, the State of Wyoming assumed regulatory authority for five Title II uranium recovery sites undergoing decommissioning.

As part of the pilot site approach discussed in SECY-14-0082, "Jurisdiction for Military Radium and the U.S. Nuclear Regulatory Commission Oversight of U.S. Department of Defense Remediation of Radioactive Material," (ADAMS Accession No. ML14097A005) the NRC staff identified the U.S. Navy's Treasure Island site in California as the first pilot site under the 2016 MOU between the NRC and U.S. Department of Defense (DoD) to address the NRC's role at military sites with unlicensed material that is subject to the Atomic Energy Act of 1954, as amended, and are being remediated under the Comprehensive Environmental Response, Compensation, and Liability Act. The NRC staff participated in monthly conference calls with

the EPA, the State of California, and the U.S. Navy regarding the status of the pilot site. Characterization activities began at Treasure Island in early FY 2018, leading up to the submittal of a site remediation plan in September 2018. The NRC staff intends to review the site remediation plan and observe associated activities. The NRC staff has also initiated monitoring activities for the ongoing cleanups at Dugway Proving Grounds in Utah, Fort Gillem in Georgia, and the Long Beach and Mare Island Naval Shipyards in California. Additionally, the staff is developing an approach to address non-licensed military sites contaminated with depleted uranium from past testing of munitions other than those previously licensed that possess Davy Crockett spotting rounds.

With respect to non-military sites with radium contamination, in January 2018, the NRC staff and the National Park Service (NPS) finalized an MOU for coordination of response actions at Great Kills Park in Staten Island, New York. After the MOU was finalized, NPS notified the NRC that radium contamination was found at Spring Creek Park in Queens, New York. The NRC staff and NPS worked together to revise the Great Kills Park MOU to include response actions at Spring Creek Park.

In FY 2018, the NRC staff continued discussions with the DOE-Naval Reactors to determine oversight and inspection responsibilities for the decommissioning of naval nuclear vessels. The NRC staff provided input to the General Accounting Office (GAO) for Report GAO-18-523, "Aircraft Carrier Dismantlement and Disposal," published in August 2018. The NRC and DOE-Naval Reactors developed a draft Notional Framework for the regulation of the Surface Ship Support Barge (SSSB) dismantlement and disposal.

The staff continued its evaluation of a request for an alternate decommissioning schedule for the reactors at the General Electric (GE) Vallecitos facility, which proposes to extend the schedule for decommissioning beyond the 60-year timeline required for power reactor licensees in 10 CFR 50.82(a)(3). In September 2018, the licensee committed to conducting studies on structural engineering and groundwater to address NRC requests for additional information on the structural integrity of the reactors and the potential for subsurface contamination at the facility.

Throughout FY 2018, the staff continued to support the reactor decommissioning rulemaking effort. In November 2017, the staff issued the final regulatory basis (ADAMS Accession No. ML17215A010), and the associated regulatory analysis (ADAMS Accession No. ML17332A075) was issued in January 2018. In May 2018, the staff submitted the proposed rule package in SECY-18-0055 (ADAMS Accession No. ML18012A019) to the Commission for consideration.

Lastly, the NRC staff completed several recommendations from the evaluation of the Materials and Waste Business Lines to improve effectiveness of licensing and oversight in FY 2018. Examples of these improvements include adjustments to the uranium recovery inspection program through the extension of inspection intervals, revisions to inspection procedures for decommissioning power reactors, and changes to the internal process of completing financial surety reviews for uranium recovery licenses.

Activities in Fiscal Year 2019 and Beyond

During FY 2019, active decommissioning will continue at Humboldt Bay, La Crosse, and Zion Units 1 and 2 with the completion of decommissioning activities and license termination expected by 2020. In addition, the licensees for Three Mile Island Unit 1 and Pilgrim have expressed their intent to permanently cease power operations in 2019. Licensees for 10

additional reactors have expressed their intent to shut down by 2025, including Indian Point Units 2 and 3, Duane Arnold, Davis Besse, Perry, Beaver Valley Units 1 and 2, Palisades, and Diablo Canyon Units 1 and 2.

On October 12, 2018, the staff issued a first-of-a-kind Order approving the permanent transfer of the Vermont Yankee operating license from Entergy to NorthStar for the purposes of decommissioning. The NRC staff will continue to evaluate impacts on NRC staffing related to the new asset transfer business model for reactor decommissioning. Under this model, the plant is sold to a decommissioning company that will accelerate the decommissioning schedule. The staff is evaluating the resource impacts (e.g., licensing, inspection) associated with the increased number of reactor sites entering decommissioning and the asset transfer business model to determine future needs.

Progress in research and test reactor decommissioning will continue in FY 2019, with the staff working toward the termination of licenses for the General Atomics research reactors. Progress will also continue at complex materials sites in FY 2019, with the termination of the license for the Sigma Aldrich site expected.

With respect to the September 25, 2018, agreement with the State of Wyoming, the staff has entered into an MOU with the State and has worked to ensure a smooth transition of regulatory oversight of the Title II uranium recovery sites undergoing decommissioning.

The NRC staff plans to focus its efforts with respect to non-military radium on transitioning from performing initial site visits to oversight of any necessary cleanup. For the few sites that do not meet the NRC's unrestricted use criteria, the staff will work with site owners on risk-informed approaches for site cleanup that are consistent with the Commission direction in SRM-SECY-17-0026, "Policy Considerations and Recommendations for Remediation of Non-Military, Unlicensed Historic Radium Sites in Non-Agreement States," (ADAMS Accession No. ML17250A841). The staff will also provide oversight appropriate to the scope and complexity of the cleanup at each site, and the level of staff effort will be commensurate with the significance of the contamination.

In addition, the NRC staff will continue to implement its pilot site approach for military radium, as discussed in SECY-14-0082, "Jurisdiction for Military Radium and the U.S. Nuclear Regulatory Commission Oversight of U.S. Department of Defense Remediation of Radioactive Material," (ADAMS Accession No. ML14097A005). As part of the approaches discussed in SECY-14-0082 and the MOU with DoD, the NRC staff will continue performing monitoring activities for the ongoing cleanups at Dugway Proving Grounds, Fort Gillem, Long Beach, Mare Island, and Treasure Island.

In November 2018, the NRC staff participated in a public meeting with DOE-Naval Reactors to obtain comments on the solicitation of interest for the SSSB dismantlement and disposal to inform a potential notional framework and MOU.

In FY 2019, the NRC staff will also continue implementing the recommendations from the internal review of the uranium recovery licensing process to improve efficiency and effectiveness. The NRC staff will also continue ongoing implementation of extended inspection schedules and internal process for completing financial surety reviews for uranium recovery licensees.

In FY 2019, the staff expects to complete its review of the GE Vallecitos request for an alternate decommissioning schedule. The NRC staff plans to visit the site in December 2018 to tour the facility and discuss what information is needed to complete the review. The final response, including the structural engineering and groundwater studies, is expected in March 2019.

In FY 2019, the NRC staff will also continue to support the reactor decommissioning rulemaking effort.

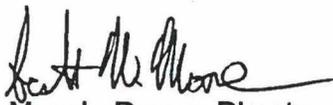
CONCLUSION:

In FY 2018, the NRC staff made significant progress in completing license terminations and dispositioning non-military radium sites. The NRC staff plans to continue in FY 2019 its licensing activities and oversight of the decommissioning of nuclear power and early demonstration reactors, research and test reactors, complex materials sites, uranium recovery facilities, and fuel cycle facilities. In addition, the staff plans to continue to implement the recommendations from the evaluation of Materials and Waste Business Lines, which are expected to enhance the effectiveness and efficiency of the Decommissioning Program.

Site summaries for all decommissioning sites are accessible to the public through the NRC's public Web site (<http://www.nrc.gov/waste/decommissioning.html>). To ensure that the Web site is current, project managers in NMSS and the regional offices routinely review and update the facility information.

COORDINATION:

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


/s/ Marc L. Dapas, Director
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Enclosures:

1. Status of the Decommissioning Program - 2018 Annual Report
2. 2018 Annual Update on Sites with Financial Assurance Issues (non-public)
3. 2018 Financial Assurance Update: Group I and Group II Site Summaries (non-public)

**SUBJECT: STATUS OF THE DECOMMISSIONING PROGRAM - 2018 ANNUAL REPORT
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ADAMS Accession No. ML18257A300 Pkg.

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