



POLICY ISSUE **(Information)**

November 12, 2019

SECY-19-0113

FOR: The Commissioners

FROM: John W. Lubinski, Director
Office of Nuclear Material Safety and Safeguards

SUBJECT: STATUS OF THE DECOMMISSIONING PROGRAM - 2019 ANNUAL
REPORT

PURPOSE:

To provide the U.S. Nuclear Regulatory Commission (NRC) staff's 2019 Annual Report on the Status of the Decommissioning Program, key decommissioning accomplishments in Fiscal Year (FY) 2019 and expected activities for FY 2020. 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

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Enclosure 2 transmitted herewith contains Official Use Only – Sensitive Internal Information. When separated from Enclosure 2, this document is decontrolled.

SRM-COMSECY-08-0036, this paper provides the 2019 Annual Report to the Commission for information.

The enclosed 2019 Annual Report on the Status of the Decommissioning Program (Enclosure 1) provides a summary of the NRC's decommissioning program. The report summarizes the status of sites undergoing decommissioning through September 30, 2019, including the decommissioning of power reactors, research and test reactors, complex materials sites,¹ uranium recovery facilities, and fuel cycle facilities. The report also provides key decommissioning accomplishments in FY 2019 and informs the Commission of expected activities for FY 2020.

Since 2002, the NRC staff has provided an annual update to the Commission regarding the status of sites with inadequate financial assurance, as discussed in SECY-02-0079 "Financial Analysis and Recommendations to Facilitate Remediation of Decommissioning Sites in Non-Agreement States" (ADAMS Accession No. ML020950118) and approved by the Commission in the subsequent SRM (ADAMS Accession No. ML022940653). In FY 2017, the NRC staff began providing this information to the Commission as an enclosure 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). Enclosure 2 of this paper provides an update and contains sensitive internal information and is being withheld from public disclosure.

DISCUSSION:

Summary of Status Update for FY 2019

As of September 30, 2019, 23 nuclear power and early demonstration reactors, 3 research and test reactors, 12 complex materials facilities, 5 Title II² uranium recovery facilities,³ and parts of 1 fuel cycle facility are undergoing decommissioning or are in long-term safe storage (SAFSTOR) under NRC jurisdiction. Of the 23 power and early demonstration reactors in decommissioning, 12 are in SAFSTOR and 11 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 2 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.

¹ Complex materials sites are defined as sites where the complexity of the decommissioning process will require more than minimal technical and administrative support from the headquarters program office.

² Title I refers to facilities under the Uranium Mill Tailings Radiation Control Act of 1978, as amended, (UMTRCA) that were inactive, unregulated processing sites when UMTRCA was passed, while Title II facilities are those facilities licensed by the NRC or an Agreement State.

³ Previous annual reports listed 11 Title II uranium recovery facilities undergoing decommissioning under NRC jurisdiction, seven of which were located in Wyoming. On September 25, 2018, the NRC entered into an agreement with the State of Wyoming. Under this agreement, 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 5 Title II uranium recovery sites undergoing decommissioning and 1 Title II uranium recovery site that is no longer in operation but is accepting 11e.(2) byproduct material from other licensees for disposal. NRC retained regulatory authority for the American Nuclear Corporation site.

Considerable progress was made in FY 2019 at sites undergoing decommissioning. Of note, the NRC staff completed the following actions:

- In June 2019, the NRC staff terminated the Part 70 materials license for the General Atomics facility in San Diego, California.
- The NRC staff amended the U.S. Army's materials license for the Jefferson Proving Ground facility in Madison, Indiana, to possession-only, completing a project that began in 1999.
- The NRC staff, in conjunction with the Wyoming Department of Environmental Quality, completed stabilization of the American Nuclear Corporation site in Wyoming and developed options for the eventual decommissioning of the site.
- The NRC staff completed the acceptance review of a license amendment for the United Nuclear Corporation (UNC) Church Rock site to dispose mine waste on top of the existing mill tailings at the site, and held a public scoping meeting in Gallup, New Mexico, to obtain input for the Environmental Impact Statement.
- As of September 30, 2019, the NRC staff had dispositioned all sites⁴ that were identified with potential contamination from historic radium use in non-Agreement States. The staff worked with site owners and Federal, State, and local officials, as needed, to properly disposition the sites to ensure that each site either meets the applicable criteria for unrestricted use or has controls in place to limit access during remediation so that no site poses a risk to public health and safety and the environment. Likewise, the staff continues to coordinate with Agreement State partners as they work to resolve non-military radium issues within their jurisdictions.

Other sites reached key interim milestones as they proceed through decommissioning:

- In October 2018, the NRC staff approved the direct transfer of the Vermont Yankee license from Entergy to NorthStar as part of a sales agreement to purchase the plant and spent fuel.
- In May 2019, the NRC staff approved the license termination plan for the La Crosse site. Decommissioning work at the site is almost complete, and, in September 2019, the staff approved the transfer of the license from LaCrosseSolutions back to Dairyland Power Cooperative, the site's original licensee.
- In June 2019, the NRC staff approved the direct transfer of the Oyster Creek license from Exelon to Holtec as part of a sales agreement to purchase the plant and spent fuel.

⁴ As described in SECY-16-0020, the staff originally identified 29 historic sites in non-Agreement States for follow-up. A site can have multiple property owners, and as such, from these 29 historical sites, there are 47 unique site owners. Subsequently, as part of continuing coordination efforts with the states on naturally-occurring and accelerator-produced radioactive material, 11 additional sites with potential radium contamination were identified. State of Michigan officials informed the NRC staff of 9 additional sites, and, during preparations for the site visit to a former clock factory in Connecticut, the NRC staff identified 2 additional sites in Connecticut.

- In August 2019, the NRC staff approved the direct transfer of the Pilgrim license from Entergy to Holtec as part of a sales agreement to purchase the plant and spent fuel.

Pilgrim and Three Mile Island Unit 1 permanently ceased operations and transitioned into a decommissioning status in May 2019 and September 2019, respectively. 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 2020. The NRC staff continued implementing the "stay-informed" approach for the remediation by the U.S. Navy at the Hunters Point Shipyard site in San Francisco, California, and Alameda Naval Air Station in Alameda, California; the U.S. Air Force at the McClellan Air Force Base in Sacramento, California; and the U.S. Army at the Sharpe Depot in Lathrop, California. The staff also continued to implement the "monitoring" approach at sites without U.S. Environmental Protection Agency (EPA) involvement for the ongoing cleanups by the U.S. Army at Dugway Proving Grounds in Dugway, Utah, and by the U.S. Navy at Long Beach Naval Shipyard in Long Beach, California, Mare Island Naval Shipyard in Vallejo, California, and Treasure Island Naval Station in San Francisco, California.

Section 108 of the Nuclear Energy Innovation and Modernization Act, signed into law on January 14, 2019, requires the NRC to provide a report to the U.S. Congress identifying best practices for establishing and operating local community advisory boards (CABs), including lessons learned from existing boards. As part of developing the report, the staff hosted 11 public meetings to consult with host States, communities within the emergency planning zone of a nuclear power reactor, and existing local CABs. The staff will issue its report to Congress by July 2020.

In FY 2019, the NRC staff continued discussions with the DOE-Naval Reactors to provide support services for the decommissioning of naval nuclear vessels. In September 2019, the Naval Reactors Interagency Agreement was approved by both DOE-Naval Reactors and NMSS, which represents the first step for the NRC to provide support services to the decommissioning of nuclear navy surface ships.

The staff also continued its evaluation of a request for an alternate decommissioning schedule for the reactors at the General Electric Vallecitos facility in Sunol, California, 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).

Activities in Fiscal Year 2020 and Beyond

Active decommissioning will continue at Humboldt Bay, La Crosse, and Zion Units 1 and 2 with the completion of decommissioning activities and license termination at these sites expected during FY 2020. In addition, the licensees for eight additional reactors have expressed their intent to shut down by 2025, including Duane Arnold (2020), Indian Point Units 2 and 3 (2020 and 2021, respectively), Beaver Valley Units 1 and 2 (2021 and 2022, respectively), Palisades (2022), and Diablo Canyon Units 1 and 2 (2024 and 2025, respectively).

In FY 2020, the NRC staff will continue evaluating a license transfer request for the Crystal River Unit 3 plant and independent spent fuel storage installation to Accelerated Decommissioning Partners to facilitate the decommissioning of the reactor site and management of the dry fuel storage facility. The staff is also anticipating a request in FY 2020 for the license transfer of Three Mile Island Unit 2 to EnergySolutions to allow for the accelerated decommissioning of the damaged reactor. The 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.

The NRC staff also intends to continue to make progress in the decommissioning of complex sites in FY 2020. The staff will continue to work with the Oklahoma Department of Environmental Quality to evaluate funding options for the decommissioning of the FMRI (Fansteel) site in Muskogee, Oklahoma, and work with the EPA to determine if the site is eligible for cleanup under the Comprehensive Environmental Response, Compensation, and Liability Act. The staff will review the new work plans for the Shallow Land Disposal Area site in Vandergrift, Pennsylvania, in FY 2020 and conduct site visits and confirmatory measurement surveys during the cleanup activities at the UNC Naval site. Progress in research and test reactor decommissioning will also continue in FY 2020, with the staff working toward the termination of licenses for two General Atomics research reactors in San Diego, California.

The NRC staff will continue to implement the memorandum of understanding with the U.S. Department of Defense for military radium beyond the initial "pilot" effort by prioritizing its activities based on available resources. Factors for consideration in prioritizing annual monitoring activities include: (1) involvement of other regulatory agencies; (2) use of engineered controls and/or land use controls as remedies; (3) contamination in buildings for reuse; (4) amount or type of material and how transportable it is; and (5) previous monitoring activities. The NRC staff also plans to continue its efforts on non-military radium by working with site owners on risk-informed approaches for site cleanup and confirming that remediation activities are complete at the former New Haven and Session Clock Factories.

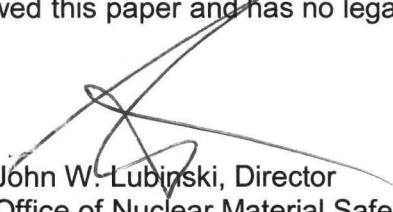
The NRC staff will continue implementing the recommendations from the internal review of the uranium recovery licensing process to improve efficiency and effectiveness. The only remaining action from the internal review is to reengage with the Commission on whether to proceed with the rulemaking for groundwater protection at *in-situ* recovery facilities. The NRC staff will also continue ongoing implementation of extended inspection schedules and the internal process for completing financial surety reviews for uranium recovery licensees.

CONCLUSION:

In FY 2019, the NRC staff made significant progress toward the completion of decommissioning of several sites. The NRC public Web site contains status summaries for the facilities managed in the Decommissioning Program (<https://www.nrc.gov/waste/decommissioning.html>). These summaries, which are updated annually or when significant changes in status occur, describe the status of each site and identify the major technical and regulatory issues affecting the completion of decommissioning.

COORDINATION:

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



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Enclosures:

1. Status of the Decommissioning
Program - 2019 Annual Report
2. 2019 Annual Update on Decommissioning
Sites with Financial Assurance Issues
(non-public)

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