

MAINE STATE LEGISLATURE

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Maine Center for
Disease Control and Prevention

An Office of the
Department of Health and Human Services

Paul R. LePage, Governor


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July 16, 2018

MEMORANDUM

TO: Senator Michael Thibodeau, President of the Senate
Representative Sara Gideon, Speaker of the House

FROM: Ricker Hamilton, Commissioner 
Department of Health and Human Services

SUBJECT: State Nuclear Safety Inspector's April 2018 Monthly Report to the Legislature on the Interim Spent Fuel Storage Facility in Wiscasset, Maine

Legislation enacted in the spring of 2008 requires the State Nuclear Safety Inspector to provide monthly reports to the President of the Senate, Speaker of the House, the U.S. Nuclear Regulatory Commission, and Maine Yankee. The report emphasizes local and national highlights on the storing and disposing of used nuclear fuel.

The enclosed report provides the information required under Title 22 of the Maine Revised Statutes Annotated §666, as enacted under Public Law, Chapter 539, in the second regular session of the 123rd Legislature.

Should you have questions about its content, please feel free to contact Mr. Patrick J. Dostie, State Nuclear Safety Inspector, at 287-6721.

RH/klv

Enclosure

cc: Michael Layton, U.S. Nuclear Regulatory Commission
Monica Ford, U.S. Nuclear Regulatory Commission, Region I
J Stanley Brown, Independent Spent Fuel Storage Installation Manager, Maine Yankee
Nick Adolphsen, Acting Senior Health Policy Advisor
Dr. Bruce Bates, Director, Maine Center for Disease Control and Prevention
Paul Mercer, Commissioner, Department of Environmental Protection
Barry Hobbins, Maine Public Advocate
Lieutenant Scott Ireland, Special Services Unit, Maine State Police
Nancy Beardsley, Director, Division of Environmental Health
Jay Hyland, PE, Manager, Radiation Control Program

State Nuclear Safety Inspector Office
Maine CDC – DHHS

April 2018 Monthly Report to the Legislature

The report covers activities at the Maine Yankee Independent Spent Fuel Storage Installation (ISFSI) facility, license and construct a consolidated interim storage facility and/or a permanent geologic repository for the disposal of spent nuclear fuel. Maine's goal is to move the ISFSI waste stored at Maine Yankee to one of these facilities. The report highlights the significant activities that took place either locally, nationally or, at times, internationally during the month.

Local:

- Maine Yankee submitted three annual reports to the Nuclear Regulatory Commission (NRC), its 2017 individual monitoring report, its radioactive effluent release report, and its radiological environmental operating report. The individual monitoring report noted that no individual received a dose equal to or greater than 100 mrem¹. Since the storage casks are virtually leak tight, there were no gaseous or liquid releases to report for the year. The environmental report summarized the results of the direct radiation measurements for nine locations on-site and two control stations off-site. One location has been consistently high since March 2005. The higher values over time have been assumed to be due to the station's line of sight and proximity to the ISFSI. Maine Yankee calculated an annual dose of 1.48 mrem at its highest location, which was much lower than the Environmental Protection Agency's annual public limit of 25 mrem.
- Maine Yankee also submitted its biennial 10CFR 50.59 and 72.48 reports to the NRC. The 50.59 report noted that there were no changes to the facility, spent fuel storage cask design, or tests or experiments that would have impacted the safety analyses of the storage facility. The 72.48 report noted that one evaluation was performed for the installation in the summer of 2017 of stainless steel corrosion specimens in the inlet and outlet vents of four casks to determine the susceptibility of the spent fuel canister material to chloride induced stress corrosion cracking. The sizes of the test coupons were evaluated on both seismic and tornado design basis accidents, on the specimens' partial blockage of the vents to ensure that they were well below their 50% technical specifications limit for heat removal, and within the cask design manufacturer's safety evaluation of a larger vent obstruction.
- Two NRC Inspectors, one from Region I and the other from Headquarters, performed a biennial inspection of the Maine Yankee Security Program at its storage site in Wiscasset. One concern was raised on the effectiveness of corrective actions as there was a repeat occurrence of a security issue after corrective actions were implemented to prevent such an occurrence. The inspectors related that further discussions with their management were warranted before a decision could be made. At the exit brief the inspectors noted that there were three possible ways their management could classify the repeat issue as: "nothing," an "observation," or a "Level IV non-cited violation." The inspectors stated that Maine Yankee would be notified of their management's decision.

National:

- Work crews at Edison's San Onofre nuclear station in California were transferring spent nuclear fuel from cooling pools to dry storage casks and found a loose, broken bolt inside one of the canisters. The 4-inch by half inch bolt "was discovered in one of 43 canisters that featured a new design" that sought to improve the storage and transport of the used fuel assemblies. Although analyses have shown that the loose bolt will not impact safety or performance of the dry storage system, Holtec was investigating what happened, and

¹ A mrem or millirem is a conventional unit that is based on how much of the radiation energy is absorbed by the human body multiplied by a quality factor that is a measure of the relative hazard for the different types of particles or rays.

checking to see if other canisters were susceptible “to the same weakness that caused the bolt to break.” In the meantime, Edison resumed the loading of the used fuel “using 30 other canisters that do not include the new design.” The location of the storage facility is controversial as it is adjacent to the beach and Holtec’s design uses underground silos to store the dry canisters containing used fuel.

- The Nuclear Waste Strategy Coalition (NWSC) sent a letter to Energy Secretary Perry commending him for his support and commitment to a national nuclear waste management program. The Coalition stated that it has consistently urged Congress to fund the Department of Energy’s (DOE) support of spent nuclear fuel and high-level radioactive waste transportation needs, such as certified rail cars and casks, and financial and technical assistance to states and tribal governments on emergency preparedness activities due to spent fuel shipments through their communities. The Coalition expressed dismay and concern that DOE would discontinue the Transportation Core Group Meetings between DOE, the states, and tribes, and scale back DOE’s participation in state and tribal regional groups. The NWSC urged Secretary Perry to reconsider and fund cooperative planning and training with state and tribal governments as being essential to ensuring public health and safety when it comes to the transportation of radioactive materials. This is especially crucial, since consolidated interim storage facilities in Texas and New Mexico may be accepting spent fuel within the next four to five years and the transportation planning, policies, procedures, and training with states and tribes must be in place prior to any shipments taking place.
- The NRC issued a press release on its intent to hold three public meetings in New Mexico on Holtec International’s proposed consolidated interim storage facility (CISF). The purpose of the meetings will be to seek public input on the scope of its environmental review of Holtec’s application to construct and operate an interim storage facility.
- The National Association of Regulatory Utility Commissioners, the Nuclear Energy Institute, and the NWSC forwarded a combined letter to DOE Secretary Perry requesting that DOE provide an annual plain-English report on what was collected, what was spent, and what remains in the Nuclear Waste Fund. The letter noted that DOE’s General Counsel provided a status report of the Fund through Fiscal Year 2015 and committed to publishing an updated version annually. However, since then, DOE has failed to provide any further updates. Consequently, the organizations requested that an updated report be furnished covering through the end of Fiscal Year 2017.
- Nevada Congresswoman Jackie Rosen introduced the “Jobs, Not Waste Act.” The proposed legislation would study alternative uses for Yucca Mountain and repurpose the site to create new jobs. It would prohibit the Energy Secretary from taking any action to license, plan, develop, or construct a nuclear waste repository until the Director of the Office of Management and Budget issues a study on the economic viability and job creating benefits of alternative uses of the Yucca Mountain site to Congress.
- In response to NRC’s acceptance of Holtec International’s license application to construct a consolidated interim storage facility in Lea County, New Mexico, State Senator Steinborn pressed the Governor, and State Agencies on their preparedness to host the interim storage facility. The Senator sent letters to the Governor and five state agencies, the Attorney General, and the Superintendent of Insurance requesting answers to his questions and concerns. In his letter to the Governor and State Agencies, the Senator questioned the State’s infrastructure capacity to safely accommodate the heavy shipments of spent fuel, the State’s emergency preparedness, impacts to nearby oil and gas wells, and military training operations. In his letter to the Attorney General the Senator asked about the legality of the federal government sending high-level nuclear waste to New Mexico and what legal recourse the State would have should the federal government fail to create a permanent geologic repository. As for the State Insurance Superintendent, the Senator wondered about the impact on homeowner’s insurance policies should the residents become exposed to the high-level waste. The Senator asked the NRC to be given adequate time to comment on Holtec’s application and requested the NRC staff to appear before the Legislature’s Radioactive and Hazardous Committee to explain the application process.
- Sandia National Laboratories completed an eight-month, 14,500-mile triathlon-like test on substitute fuel rods shipped by road, rail, and barge. The purpose of the test was to gather real world shock and vibration data. Sandia collaborated with ENSA, the Spanish cask designer and manufacturer, ENRESA, the company responsible for nuclear waste management in Spain, the Korea Atomic Energy Research Institute,

Pacific Northwest Laboratory, and Argonne National Laboratory. Fresh off the assembly line, a new Spanish nuclear waste transportation and storage cask, like those used in the U.S., was loaded with three surrogate fuel rod assemblies outfitted with tiny accelerometers and strain gauges. “The triathlon started in northern Spain, where the cask traveled by heavy-haul truck for about 250 miles through main roads and highways. Then the cask was transferred to a barge, which skirted the coast of France to Belgium, sailing more than 1,000 miles over four days. The cask was then transferred to a cargo ship and shipped across the Atlantic to Baltimore, almost 4,000 miles through some rough seas and took two weeks. In Baltimore the cask was transferred to a dedicated flatbed train car and traveled about 2,000 miles through 12 states to Pueblo, Colorado, which took seven days.” In Pueblo the cask and fuel assemblies were further tested at the Federal Railroad Administration’s Transportation Technology Center. After these trials, the cask reversed course and returned to Spain via the same route. In all the cask traveled 500 miles by truck, 10,000 miles by sea and 4,000 miles by rail. The rail cask test alone generated 8,000 gigabytes of shock and vibration data. The researchers expected that it will take a year to fully analyze all the data. Preliminary results indicated very low shock and vibration levels and the data will be used to validate computer models.

- The NWSC submitted testimony to the House Appropriations Subcommittee on Energy and Water Development on funding the nation’s nuclear waste program. The Coalition urged Congress to appropriate funding for three critical elements for an effective nuclear waste management program:
 - Complete the Yucca Mountain licensing review
 - Implement a pilot consolidated interim storage facility with priority for stranded spent fuel
 - Prepare for shipping spent nuclear fuel and defense high-level radioactive waste

The Coalition urged Congress “to restructure the funding and spending mechanisms for the Nuclear Waste Fund to provide the necessary certainty to implement the nuclear waste program.”

International:

- Canada’s Nuclear Waste Management Organization (NWMO) announced that the communities of Blind River and Elliot Lake in Ontario will no longer be considered hosts for Canada’s nuclear waste disposal project. NWMO cited complexities with the communities’ geologies, limited access and rugged terrain, and low potential to develop local partnerships necessary to implement the project as factors impeding further participation. In recognition for their involvement, both communities will receive \$600,000 to support investments in community sustainability and well-being. Of the 22 communities that initially expressed an interest to host a repository in 2010, five remain. All five are in various stages of the site selection process. NWMO is expected to select a final site by 2023.