MAINE STATE LEGISLATURE

Department of Health and Human Services
Maine People Living Safe, Healthy and Productive Lives
Paul R. LePage, Governor
Ricker Hamilton, Commissioner

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April 30, 2018

MEMORANDUM

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

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

SUBJECT: State Nuclear Safety Inspector's January, February and March 2018 Monthly Reports 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

February 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 requested that the SNSI review a corrective action plan relative to a potential disclosure of safeguards information at another facility.

National:

- The Nuclear Regulatory Commission (NRC) notified Holtec International that it had accepted Holtec's license application to construct and operate a consolidated interim storage facility in Lea County, New Mexico. Holtec is seeking NRC approval for a 40-year license to store up to 8,680 metric tons of commercial spent nuclear fuel (the equivalent of approximately 16 Maine Yankee sites) in its HI-STORM UMAX Canister Storage System. The NRC acceptance allows the NRC "staff to begin a detailed safety, security, and environmental review," which it expects to complete by July 2020.
- The President's Fiscal Year 2019 budget blueprint renewed its commitment and support for a robust interim storage program for spent nuclear fuel and licensing of the Yucca Mountain repository by budgeting $120 million for the Department of Energy (DOE) to defend its license application before the NRC. Likewise, the NRC also proposed in its FY 2019 budget to Congress $48 million for work associated with the geological repository at Yucca Mountain, Nevada. In response to the budget proposals the Board of Examiners for Nevada, chaired by the Governor of Nevada, authorized a $5.1 million legal contract to renew its commitment to fight the President's proposal to restart the Yucca Mountain licensing proceedings.
- The National Association of Regulatory Utility Commissioners (NARUC) adopted a resolution regarding guiding principles for the nation's management and disposal of high-level nuclear waste. The resolution listed five guiding principles:
    a) America needs a permanent solution to nuclear waste disposal.
    b) The Nuclear Waste Fund must be managed responsibly and used only for its intended purpose.
    c) Some consolidated interim storage is needed; the amount, basis of need and duration should be determined.
    d) The management of federal responsibilities for used fuel management would be more successful if assigned to a new organization with a new approach to siting and better access to financing.
    e) NARUC must be an active stakeholder on nuclear waste management and disposal.
- The NRC held a two-day webinar with a federal advisory review panel as an initial step in preparing for the potential resumption of the Yucca Mountain licensing proceedings. The purpose of the webinar was to acquire input from the panel, other stakeholders including the State of Nevada and its Counties, and the public on viable options for reconstructing an electronic library, known as the Licensing Support Network (LSN). The LSN was originally created in 1998 to make discovery material electronically available for the initial Yucca Mountain licensing proceedings. The LSN was operational from 2001-2011 when the Yucca Mountain proceedings were suspended. The NRC was then charged with preserving the nearly 3.7 million licensing documents into its official recordkeeping system, ADAMS (Agency wide Documents Access and

Management System). The NRC staff presented four practical options for reconstituting or replacing the LSN as the original hardware and software are no longer available or supported. The first option involved traditional discovery, which would use the current ADAMS LSN library for the old licensing documents and new material exchanged amongst the parties using traditional discovery methods. The second option was the same as the first option except that a semi-manual process would be used for new material or new processes would be developed using the NRC's Electronic Information Exchange system. The third option was to move the NRC LSN library and new material to a Cloud based system that would be maintained by either the NRC or the participants. The last option was to rebuild the original LSN. All four options were evaluated based on cost and time estimates, implementation risk factors, pros and cons for each option, and then ranked accordingly. Based on comments received during the webinar, the panel and participants appeared to agree that options 1 and 4 would be improbable, leaving options two and three as viable alternatives.

- The Department of Energy (DOE) responded to the U.S. Nuclear Waste Technical Review Board's letter on improving the clarity and usefulness of DOE's test plan for high-burnup spent nuclear fuel. The DOE agreed that the tested sister rods would be resealed with an inert gas to remove moisture and oxygen in order to maintain their integrity for future testing. DOE also maintained that the rods would be heated to nearly 750 degrees to approach the internal pressure that the rods would realistically experience in a reactor core. Finally, DOE affirmed that the test plans described in the report would take precedence over those listed by the National Laboratories.

International:

- Canada's Nuclear Waste Management Organization (NWMO) requested the United Kingdom's National Nuclear Laboratory (NNL) to perform a year-long expert peer review of Canada's research program work on microbiologically induced corrosion of its copper coated steel canisters for the disposal of its spent nuclear fuel. Canada is using electrodeposition and cold spray to apply 3 millimeters of copper on its steel canisters as one of four engineered barriers to contain and isolate the spent fuel indefinitely in a deep geological repository. Although copper is highly resistant to corrosion under totally depraved oxygen conditions, sulphate-reducing bacteria could produce sulphides which could lead to corrosion of the copper. Consequently, understanding the levels of sulphide that could occur deep underground is of paramount importance. That is why NNL was chosen because of its "expertise in biogeochemical processes that could affect repository performance and in developing computer modeling techniques that simulate the effects of sulphate-reducing bacteria. The work is linked closely with NNL's participation in the European Commission Horizon 2020 Microbiology in Nuclear Waste Disposal project."