

MAINE STATE LEGISLATURE

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May 29, 2015

MEMORANDUM

TO: Senator Michael Thibodeau, President of the Senate, and Representative Mark Eves, Speaker of the House

FROM: Mary C. Mayhew, Commissioner
Department of Health and Human Services

SUBJECT: State Nuclear Safety Inspector's October-December 2013 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 reports focus on activities at the site and include highlights of the national debate on storing and disposing of the used nuclear fuel. For your convenience, highlights of local and national events are captured in the executive summary of the reports.

The enclosed reports provide 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.

MCM/klv

Enclosure

cc: Mark Lombard, 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
Holly Lusk, Senior Health Policy Advisor
Kenneth Albert, Director, Maine Center for Disease Control and Prevention
Patricia W. Aho, Commissioner, Department of Environmental Protection
Timothy Schneider, Maine Public Advocate
Lieutenant Scot 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

November 2013 Monthly Report to the Legislature

Executive Summary

As part of the State's long standing oversight of Maine Yankee's nuclear activities, legislation was enacted in the second regular session of the 123rd Legislature and signed by Governor John Baldacci requiring that the State Nuclear Safety Inspector prepare a monthly report on the oversight activities performed at the Maine Yankee Independent Spent Fuel Storage Installation (ISFSI) facility located in Wiscasset, Maine.

The report covers activities at the storage facility, including the State's ongoing environmental radiation surveillance and the national debate over the licensing and construction of a geologic repository for the disposal of spent nuclear fuel. The report's highlights assist readers to focus on the significant activities that took place nationally during the month.

The national highlights primarily focused on Nuclear Regulatory Commission (NRC) and federal court activities.

National:

- The U.S. Court of Federal Claims issued its ruling on the Maine Yankee, Connecticut Yankee and Yankee Atomic (in Massachusetts) companies' lawsuit against the federal government on their partial breach of the standard contract to take and dispose of the spent nuclear fuel stranded at their respective sites. The Court awarded Maine Yankee \$35.7 million for the period from January 2003 through December 2008. Connecticut Yankee and Yankee Atomic received \$126.3 million and \$73.3 million, respectively, from January 2002 through December 2008. An earlier Federal Appeals Court ruled that damage awards can only cover costs that have been incurred. Consequently, the three companies will be litigating the federal government every several years for costs assumed by their ratepayers.
- The NRC issued a Memorandum and Order directing its staff to complete and issue the Safety Evaluation Report (SER) associated with the Yucca Mountain construction authorization application, to load documents in the Licensing Support Network (LSN) into the NRC's non-public ADAMS online database while declining to reconstitute the LSN, and continued to hold in abeyance the legal proceedings over the construction application. The Order requested the Department of Energy (DOE) to prepare the supplemental environmental impact statement for the NRC to complete its review of the Yucca Mountain application under the National Environmental Policy Act. The Order acknowledged that documents used as references in the SER and supplemental EIS would be publicly released. The Order also noted the Commission declined to decide the Timbisha Shoshone Tribal Council's renewed motion for recognition.
- The U.S. Court of Appeals for the D.C. Circuit ordered the Secretary of Energy to submit to Congress a proposal to reduce the fee that nuclear utilities pay for a nuclear waste disposal program under the Nuclear Waste Policy Act "to zero until such time as either the Secretary chooses to comply with the Act as it is currently written, or until Congress enacts an alternative waste management plan." The Secretary's latest fee adequacy assessment provided a range between a \$2 trillion deficit and a \$4.9 trillion surplus, which led the Secretary to conclude the range was so great he could not determine whether the fee was inadequate or excessive. The Court decided the range presented was so large "as to be absolutely useless as an analytical technique". The Court further noted that the Secretary's

assessment was again a “derogation of his responsibility under the statute” and further remarked that “the Secretary may not comply with his statutory obligation by concluding that a conclusion is impossible”.

Introduction

As part of the Department of Health and Human Services’ responsibility under Title 22, Maine Revised Statutes Annotated (MRSA) §666 (2), as enacted under Public Law, Chapter 539 in the second regular session of the 123rd Legislature, the foregoing is the monthly report from the State Nuclear Safety Inspector.

The State Inspector’s individual activities for the past month are highlighted under certain broad categories, as illustrated below. Since some activities are periodic and ongoing, there may be some months when very little will be reported under that category. It is recommended for reviewers to examine previous reports to ensure connectivity with the information presented as it would be cumbersome to continuously repeat prior information in every report. Past reports are available from the Radiation Control Program’s web site at the following link: www.maineradiationcontrol.org and by clicking on the nuclear safety link in the left hand margin.

Commencing with the January 2010 report, the glossary and the historical perspective addendum are no longer included in the report. Instead, this information is available at the Radiation Control Program’s website noted above. In some situations the footnotes may include some basic information and may redirect the reviewer to the website. In October 2011, the format of the report was changed to include an executive summary which replaced the official memorandum to the legislative leadership transmitting the report. To further streamline efforts, beginning in August 2012, the report featured hyperlinks to documents that would normally be attached as copies to the report. The hyperlinks should facilitate the reports review with some readers focusing on the report while others who wish to explore the cited documentation can do so.

Independent Spent Fuel Storage Installation (ISFSI)

During November, the general status of the ISFSI was normal, with no instances of spurious alarms due to environmental conditions.

There were two fire-related impairments. The first was associated with the document control room fire suppression panel. A repair was attempted and it failed again the next day. Compensatory measures were put in place immediately. The entire panel was replaced in December. The second impairment was related to a fire door that was not closing properly. Compensatory measures were instituted immediately and the door closer was replaced three days later.

There were three security-related impairment for the month. The first involved the loss of internet connection due to an offsite system outage. Compensatory measures were put into place until the service provider repaired the system within one hour. The second was a similar internet connection issue that was restored three days later. Compensatory measures were instituted in the interim. The third was due to the fire impairment associated with the improperly closing door. Compensatory measures were put into place until the door closer was replaced. In addition, there were three security events logged for the month, two were related to the loss of the internet connection issues mentioned above and the third was related to the door closer problem.

There were fifteen condition reports¹ (CR) for the month and they are described below.

- 1st CR: Documented an oil leak from a utility vehicle onto the pavement. The area was cleaned up with spill pads and the vehicle was sent offsite for repairs.
- 2nd CR: Documented an individual stopping on Old Ferry Road who exited the vehicle with a hunting rifle. The Local Law Enforcement Agencies were contacted and responded. The individual left the area prior to the Wiscasset Police arriving.
- 3rd CR: Was written to document the routine surveillances of the new vehicle barrier system were not being implemented according to procedure. The surveillances were based on vendor recommendations. Routine task tracking items were developed to capture these requirements and the surveillances were subsequently performed the following month.
- 4th CR: Was written to document that the new vehicle barrier system was operating slowly during cold weather due to oil viscosity issues. The vendor was contacted and they advised adjusting the flow valves. The flow valve adjustment was performed during the next scheduled surveillance the following month.
- 5th CR: Was written as a tracking CR to cover various quality assurance surveillance activities related to correspondence processing.
- 6th CR: Was written as a tracking CR to cover various quality assurance surveillance activities, some of which were associated with the vehicle barrier system.
- 7th CR: Documented the need for a formalized and detailed ISFSI Manager transition plan based on the pending retirement of the current ISFSI Manager. A plan was created based on Connecticut Yankee's example.
- 8th CR: Documented that a fire door was not tripping closed when tested. Troubleshooting indicated a low battery. The battery was replaced the same day.
- 9th CR: Was written to document that the desk log form was not printing out properly. The problem was found to be within the software settings. The settings were changed and the problem was corrected four days later.
- 10th CR: Documented that the vehicle barrier system gate was not left in the correct position and the pin was installed incorrectly. The pin was modified to ensure it is readily evident to personnel how to install it correctly.
- 11th CR: Documented a Radiation Technician signing in on the wrong Radiation Work Permit. The Technician was counseled and briefed on the scope of each Radiation Work Permit to ensure the proper permit will be used in the future.
- 12th CR: Was written to document a vendor not calling in after a system related issue had cleared. The vendor counseled their staff on the requirement to call Maine Yankee once the offsite system was restored.
- 13th CR: Documented a utility vehicle found with low coolant and oil that was milky. Since the engine was still under warranty, the vendor replaced the engine.
- 14th CR: Documented a non-security alarm zone that had failed. The zone was permanently taken out of service the following week.
- 15th CR: Documented the fire-related impairment with the door closer problem described above.

¹ A condition report is a report that promptly alerts management to potential conditions that may be adverse to quality or safety. For more information, refer to the glossary on the Radiation Program's website.

Environmental

The environmental information is published on a quarterly basis. There was no new information to report this month.

Other Newsworthy Items

1. On November 4, the NRC held a public meeting in Charlotte, North Carolina to receive public comments on their Waste Confidence Proposed Rule and Draft Generic Environmental Impact Statement (DGEIS) supporting the Proposed Rule. 204 people attended the meeting that included members of the public, industry, public advocacy groups, and representatives from the Environmental Protection Agency's Region IV. 70 provided comments. Besides support for renewable energy, stop making more nuclear waste, and safe storage of spent fuel in dry casks and spent fuel pools, some commenters expressed general opposition to nuclear power, the Waste Confidence rulemaking and generic approach. Some criticized the DGEIS assumptions, including institutional controls and replacement of dry casks every 100 years, and NRC's evaluation of risk from accidents, especially those caused by terrorism and earthquakes. Others raised concerns on the health effects of radiation, specific issues relative to local nuclear power plants, and climate changes, while some advocated for hardened onsite storage of dry casks. The web link for the [meeting summary](#) can be accessed by positioning the cursor over the underlined text and following the directions. Due to the government shutdown, several public meetings initially scheduled for October were rescheduled for November. They included Orlando, Florida on November 6, Oak Brook, Illinois on November 12, Rockville, Maryland on November 14, Carlsbad, California on November 18, and San Luis Obispo, California on November 20. Participation ranged from 45 people in Orlando, Florida to 230 in San Luis Obispo, California. Individual commenters at the public meetings ranged from 16 to 65. The concerns expressed at each of the public meetings raised very similar themes to those expressed in Charlotte, North Carolina. The web link for the meeting summaries for [Orlando](#), [Oak Brook](#), [Rockville](#), [Carlsbad](#), and [San Luis Obispo](#) can be accessed by positioning the cursor over the underlined texts and following the directions.
2. On November 8, the NRC issued a news release requesting public comment on control and accounting of special nuclear material (SNM). SNM includes plutonium, enriched uranium and uranium-233, radioactive elements normally found in research reactors, nuclear power reactors, spent fuel pools, and ISFSI's. The proposal would change the collecting and reporting requirements for these materials as well as strengthen the requirements for tamper-safe containers and vaults. The web link for the news [release](#) can be accessed by positioning the cursor over the underlined text and following the directions.
3. On November 12, the Nuclear Waste Strategy Coalition (NWSC) held their fall meeting in Washington D.C. The first day of the session focused on the vital role of the Courts in 2013 and future implications, stakeholders and congressional perspectives from the House and Senate on nuclear waste reform, update on DOE strategy and activities, a status report on the U.S. nuclear program and current waste issues, spurring action on funding reform and a federal corporation, and charting a path forward without a map. Other topics included public opinion on nuclear waste related issues. The second day centered on congressional meetings on Capitol Hill. The State is a member of the NWSC, which is an ad hoc organization of state utility regulators, state attorneys general, consumer advocates, electric utilities, local governments, tribes, and other public and private sector experts on nuclear waste policy matters. Its primary focus is to protect ratepayer payments into the Nuclear Waste Fund and to support the removal and ultimate disposal of spent nuclear fuel and high-level radioactive waste currently stranded at numerous sites across the nation. The web link for the [agenda](#) and some of the presentations from the

[Courts, NRC, reform, charting a path, consent based siting, managing the nuclear fuel cycle, and public opinion](#) can be accessed by positioning the cursor over the underlined texts and following the directions.

4. On November 13, the Prairie Island Indian Community issued a statement expressing their concerns that a dry cask storage facility on the Prairie Island twin reactor site could remain stranded indefinitely and requested that the federal government honor its promise to transfer the waste out of the community. The dry storage casks are located 600 yards from tribal homes. “The Tribe has been pushing for the removal of the nuclear waste since 1994 when Xcel Energy was first allowed to store the waste near its reservation.” The web link for the [article](#) can be accessed by positioning the cursor over the underlined text and following the directions.
5. On November 13, researchers from England’s University of Sheffield announced that they had developed a method to significantly reduce the volume of plutonium contaminated wastes by 85 to 95% by mixing the waste with blast furnace slag (a by-product of steel production) and heating them to form a corrosion resistant material - glass. The vitrification process would reduce the cost of interim storage and geologic disposal. The web link for the [article](#) can be accessed by positioning the cursor over the underlined text and following the directions.
6. On November 14, the U.S. Court of Federal Claims issued its ruling on the Maine Yankee, Connecticut Yankee and Yankee Atomic (in Massachusetts) companies’ lawsuit against the federal government on their partial breach of the standard contract to take and dispose of the spent nuclear fuel stranded at their respective sites. The Court awarded Maine Yankee nearly \$35.87 million for the period from January 2003 through December 2008. Connecticut Yankee and Yankee Atomic received \$126.3 million and \$73.3 million, respectively, from January 2002 through December 2008. An earlier Federal Appeals Court ruled that damage awards can only cover costs that have been incurred. Consequently, the three companies will be litigating the federal government every several years for costs assumed by their ratepayers. The web link for the three Yankees [press release](#) and the Court [ruling](#) can be accessed by positioning the cursor over the underlined text and following the directions.
7. On November 18, the NRC issued a Memorandum and Order directing its staff to complete and issue the SER associated with the Yucca Mountain construction authorization application, to load documents in the LSN into the NRC’s non-public ADAMS online database while declining to reconstitute the LSN, and continued to hold in abeyance the legal proceedings over the construction application. The Order requested the DOE to prepare the supplemental environmental impact statement for the NRC to complete its review of the Yucca Mountain application under the National Environmental Policy Act. The Order acknowledged that documents used as references in the SER and supplemental EIS would be publicly released. The Order also noted the Commission declined to decide the Timbisha Shoshone Tribal Council’s renewed motion for recognition. The web link for the [Memorandum and Order](#) can be accessed by positioning the cursor over the underlined text and following the directions.
8. On November 18-19, the U.S. Nuclear Waste Technical Review Board (NWTRB) held a technical workshop on the impacts of dry storage canister designs on future handling, storage, transportation and geologic disposal of spent nuclear fuel. Topics discussed on the first day included current dry storage system designs, implications of repackaging spent nuclear fuel from large dry storage systems into smaller packages for transport or disposal, implications of direct disposal of large dry storage system designs for repository design, and international perspectives. The second day consisted of two panel discussions in the morning, one on the implications of repackaging used nuclear fuel and the other on implications of direct disposal of large dry storage canisters. The afternoon focused on what issues were raised from the panel sessions, which addressed what factors would affect the need to repackage, such as the heat emitted by and the radiation levels of the dry storage canisters, criticality control, material degradation of dry storage canisters and/or spent nuclear fuel assemblies, and the size of the disposal containers. In preparation for the workshop the NWTRB staff prepared a briefing document to assist

participants and facilitate discussions. The web link for the [agenda](#) and the [briefing document](#) can be accessed by positioning the cursor over the underlined texts and following the directions.

9. On November 19, the U.S. Court of Appeals for the D.C. Circuit ordered the Secretary of Energy to submit to Congress a proposal to reduce the fee that nuclear utilities pay for a nuclear waste disposal program under the Nuclear Waste Policy Act “to zero until such time as either the Secretary chooses to comply with the Act as it is currently written, or until Congress enacts an alternative waste management plan.” The Secretary’s latest fee adequacy assessment provided a range between a \$2 trillion deficit and a \$4.9 trillion surplus, which led the Secretary to conclude the range was so great he could not determine whether the fee was inadequate or excessive. The Court decided the range presented was so large “as to be absolutely useless as an analytical technique”. The Court further noted that the Secretary’s assessment was again a “derogation of his responsibility under the statute” and further remarked that “the Secretary may not comply with his statutory obligation by concluding that a conclusion is impossible”. The web link for the [Order](#) can be accessed by positioning the cursor over the underlined text and following the directions.
10. On November 19, the NRC Chairman transmitted the October monthly status report on the Commission’s activities and expenditures related to the resumption of the Yucca Mountain licensing process. The status report described Nye County’s petition for the NRC Chair to recuse herself from the Yucca Mountain proceeding, the Commission’s review of all the participants’ responses to their August 30 Order, and the staff’s preparation for the Commission a legal decision on the path forward for the licensing process. These activities amounted to \$92,227 in expenditures. The web link for the [letter](#) can be accessed by positioning the cursor over the underlined text and following the directions.
11. On November 20, the NWTRB held its fall Board meeting in Washington, D.C. The morning session summarized the findings from the technical workshop held earlier that week, provided an overview of DOE’s research and development (R&D) programs on spent fuel storage, transportation, material recovery, and waste form, discussed ductile to brittle transition temperatures for high-burnup cladding alloys from pressurized water reactors, and presented a test plan to investigate the performance of fuel cladding and storage container systems during extended storage of high-burnup fuel. In the afternoon DOE presented an overview of spent fuel and high-level waste disposal R&D program. Sandia National Laboratory discussed the inventory and results of their evaluation of waste form and disposal options, while Oak Ridge National Laboratory described how to integrate standardization into the nuclear waste management system. The web link for the [agenda](#) and [presentations](#) can be accessed by positioning the cursor over the underlined text and following the directions.
12. On November 21, the law firm of Van Ness Feldman, which served as an outside counsel to the President’s Blue Ribbon Commission, provided an assessment of the D.C. Circuit’s recent decision to indefinitely suspend the nuclear waste fee. The evaluation provided a background on the issue, discussed the November 19 Court decision, described related congressional and recent NRC actions, and explained the implications of the decision. The web link for the [assessment](#) can be accessed by positioning the cursor over the underlined text and following the directions.
13. On November 25, the Nuclear Waste Management Organization of Canada announced that, of the 21 communities expressing an interest in hosting a geologic repository for used nuclear fuel, four were not selected for more detailed study. They were the Saskatchewan communities of English River First Nation and Pinehouse, and the Ontario communities of Ear Falls and Wawa. Four others, (Creighton in Saskatchewan, and Ignace, Hornepayne and Schreiber in Ontario), were ruled as having a strong potential to meet site selection criteria. The remaining thirteen communities will be assessed in 2014 with twelve of them located in Ontario. In the second phase that could last up to four years the communities will be involved in preliminary safety assessments, geoscientific and environmental investigations along with more detailed social, economic and cultural studies. Canada’s nuclear waste

program is a nine step process that would culminate in the construction and operation of a repository, currently projected to open in 2035. The web link for the [article](#) can be accessed by positioning the cursor over the underlined text and following the directions.

14. On November 27, the State of Nevada petitioned the NRC for clarification of its November 18 restart order on the resumption of the Yucca Mountain licensing proceeding. Nevada maintained that, by NRC ordering the Yucca Mountain SER to be completed first, it did not allow for discovery to occur concurrently with the SER. Nevada further contended that if discovery should ever resume, it would be impossible to receive depositions from nearly one hundred expert witnesses in less than sixty days. Therefore, Nevada requested that the Commission clarify their order to safeguard the rights of the parties in the Yucca Mountain licensing process. Nevada also requested a similar clarification on the Commission's direction to the staff on work previously completed in conjunction with the SER. The web link for the [filing](#) can be accessed by positioning the cursor over the underlined text and following the directions.
15. On November 27, the five parties (Nye County, Nevada, the states of South Carolina and Washington, Aiken County, South Carolina, and the National Association of Regulatory Utility Commissioners) requested a leave to file a motion with the NRC for reconsideration of the NRC's Memorandum and Order issued on November 18. The five parties listed four critical issues for reconsideration. The Commission should
 - Create a schedule for release of each individual SER Volume,
 - Provide detailed statements of the remaining work on each SER along with a cost estimate for each SER's completion.
 - Provide requested details and analysis so that its overall estimate of time and cost for all SERs can be evaluated, and lastly,
 - The Commission failed to adequately assess other NRC costs and sources of revenue for going forward with the licensing proceeding.

The five parties requested a revised order since they asserted the NRC's order does not fully comply with the Court of Appeals' mandamus order for the resumption of the Yucca Mountain licensing process. The web link for the [motion](#) can be accessed by positioning the cursor over the underlined text and following the directions.