

# MAINE STATE LEGISLATURE

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Department of Health  
and Human Services

Maine People Living  
Safe, Healthy and Productive Lives

Paul R. LePage, Governor

Mary C. Mayhew, Commissioner

Department of Health and Human Services  
Commissioner's Office  
221 State Street  
11 State House Station  
Augusta, Maine 04333-0011  
Tel. (207) 287-3707  
Fax (207) 287-3005; TTY (800) 606-0215

July 6, 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 January through May 2014 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 123<sup>rd</sup> 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 1
- 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

February 2014 Monthly Report to the Legislature

Executive Summary

The report covers activities at the Maine Yankee Independent Spent Fuel Storage Installation (ISFSI) facility, including the State's on-going environmental radiation surveillance and provides updates on the national effort to 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's highlights assist readers to focus on the significant activities that took place both locally and nationally during the month.

Local

- Maine Yankee informed the Nuclear Regulatory Commission (NRC) of a change in management at their storage facility in Wiscasset. The Site Vice President retired from his position and a new ISFSI Manager was appointed.

National:

- The National Association of Regulatory Utility Commissioners, the Nuclear Energy Institute, and 16 Nuclear Utilities filed with and at the request of the D.C. Circuit Court of Appeals their opposition to the Department of Energy's (DOE) petition for rehearing en banc (full court) to continue collecting its Yucca Mountain fees.
- The DOE's Waste Isolation Pilot Plant (WIPP) in New Mexico experienced an unplanned release of airborne radioactive material from the nation's first geologic repository for the permanent disposal of defense-generated transuranic waste (radioactive elements that are heavier than uranium) left over from research and production of nuclear weapons.
- After receiving notification on February 19 from the Carlsbad Environmental Monitoring and Research Center that an airborne release of radioactive material was detected above ground, the New Mexico Environment Department issued an Order directing the DOE and its contracted WIPP operator, Nuclear Waste Partnership, to cease accepting any further shipments of transuranic waste from off-site generators.
- The DOE refused the NRC's November 2013 Order requesting a supplemental environmental impact statement (EIS) on groundwater impacts at the Yucca Mountain site and instead asserted that it will provide an updated version of its July 2009 report to the NRC on the post closure groundwater impacts for the geologic repository.
- The NRC staff issued a paper summarizing the public feedback on its Waste Confidence – proposed rule for continued indefinite storage of spent nuclear fuel that included 1,400 individuals attending the Waste Confidence public meetings with nearly 500 providing oral comments, over 33,000 written items of correspondence, which resulted in 9,000 unique comments on the draft generic environmental impact statement.
- The Council of State Governments Midwestern Office transmitted the Interregional Team's first progress report to the DOE on the development of policies and procedures for implementing Section 180c of the Nuclear Waste Policy Act, which governs how federal funds will be disbursed to state and local governments for training and equipping local responders for transportation of spent nuclear fuel within their jurisdictions.

## Introduction

As part of the Department of Health and Human Services' long standing oversight of Maine Yankee's nuclear activities under Title 22, Maine Revised Statutes (MRS) §666 (2), legislation was enacted in the second regular session of the 123<sup>rd</sup> and signed by Governor John Baldacci requiring that the State Nuclear Safety Inspector prepare a monthly report on the oversight activities performed at the ISFSI facility located in Wiscasset, Maine.

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](http://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 of 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. In January 2014, the report's executive summary was shortened to improve its readability.

## Independent Spent Fuel Storage Installation (ISFSI)

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

There was one fire-related impairment and it occurred on February 18. It involved a fire door not properly latching on an intermittent basis. Compensatory measures were put into place until the door was repaired on February 27.

There was one security-related impairment for the month and it involved the same door mentioned above. There were four security events logged for the month. The first involved a security system issue which was repaired by cycling the system. The next two involved the door mentioned above. The last one was due to a transient environmental condition.

There were fifteen condition reports<sup>1</sup> (CR) for the month and they are described below.

1<sup>st</sup> CR: Documented a fuse issue in the backup power supply system. The fuse was replaced.

2<sup>nd</sup> CR: Documented a terminology issue in the Emergency Plan between the distinction of Owner Controlled Area versus Controlled Area. The Emergency Plan was revised.

3<sup>rd</sup> CR: Was written to document a belt failure on a piece of snow removal equipment. The belt was replaced.

4<sup>th</sup> CR: Was written to document an error in the training records for Radiation Protection personnel. The records were later corrected.

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<sup>1</sup> 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 Control Program's website.

- 5<sup>th</sup> CR: Was written to track an audit issue concerning the control of personal identifiable information. A procedure change was made and further action was added to the Integrated Improvement Plan.
- 6<sup>th</sup> CR: Documented the security system issue that was repaired by cycling the system.
- 7<sup>th</sup> CR: Documented the fire door latching problem noted above.
- 8<sup>th</sup> CR: Documented a leak from a piece of snow removal equipment. The leak was minor and all the oil was collected. Since the leak amount was below the Department of Environmental Protection's (DEP) threshold, it was necessary to notify (DEP). The hose was repaired and the equipment returned to service.
- 9<sup>th</sup> CR: Was written to document a pulley failure on a tractor. The pulley was replaced the next day.
- 10<sup>th</sup> CR: Was written to document an access badge not working properly. The badge was working but an incorrect code was used.
- 11<sup>th</sup> CR: Was written as to document that personal identifiable information was used in an e-mail. The e-mail was removed from the computer system and an action item was added to the Integrated Improvement Plan to address the issue.
- 12<sup>th</sup> CR: Documented the security event that was logged for the transient environmental condition.
- 13<sup>th</sup> CR: Documented a fluid leak from a plow truck. The leak was minor and all the oil was collected. The truck was repaired and there was no need to notify the DEP.
- 14<sup>th</sup> CR: Documented a minor leak from a loose fitting on a tractor. Again, all the oil was collected and the hose replaced.
- 15<sup>th</sup> CR: Was written to document an incorrect exposure rate on the attachment to a radiation procedure. 27 mR<sup>2</sup> was recorded instead of the correct value of 22. The radiation protection personnel involved were counseled on attention to detail.

#### *Other ISFSI Related Activities*

1. On February 18, Maine Yankee sent a letter to the Nuclear Regulatory Commission (NRC) formally announcing a change in their ISFSI Manager effective February 15 from the former Site Vice President and ISFSI Manager, Mr. James Connell, who retired from his position. However, the former Site Vice President will continue to support the Maine Yankee, Connecticut Yankee, and Yankee Atomic facilities as a Radiation Protection Manager consultant. The new ISFSI Manager, Mr. J. Stanley Brown, officially assumed his new duties on February 15. The Site Vice President position will not be currently filled.
2. On February 20, Maine Yankee forwarded a letter to the NRC notifying them of the resignation of a Maine Yankee Officer, the Site Vice President. Prior to his resignation, the Site Vice President also served as the Facility Security Officer. Consequently, in lieu of the Site Vice President's resignation, Maine Yankee notified the NRC of the appointment of the Operations Specialist, Mr. Larry Jewett, as the new Facility Security Officer.
3. On February 25, Maine Yankee performed their annual notification to the NRC of the status of their foreign ownership, control, or influence (FOCI). The letter listed the six FOCI changes that impacted their foreign interests' status. The first involved a change in the Board of Directors due to a resignation. The second encompassed the proposed merger of two minority shareholders, Maine Public Service (MPS) and Bangor Hydro (BH). The third notified the NRC of the establishment of an intermediate holding company in the ownership chain of Central Maine Power. The fourth involved another change in the Board of Directors due to another resignation. The fifth informed the NRC of the completion of the merger between the two minority shareholders, MPS and BH. The last dealt with the resignation of the Site Vice President and Facility Security Officer.

<sup>2</sup> A milliRoentgen (mR) is a measurement of radiation exposure. For a further explanation, refer to the glossary on the Radiation Program's website.

## Environmental

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

## Other Newsworthy Items

1. On February 3, the U.S. Nuclear Waste Technical Review Board issued an announcement of its upcoming March meeting on DOE's research and development efforts on salt as a geologic disposal medium for spent nuclear fuel and high-level waste. The presentations will focus on the brine migration, performance assessment modeling, and coupled models for thermal-hydrological-chemical and mechanical processes. The web link for the press release can be accessed by positioning the cursor over the underlined text and following the directions.
2. On February 5, the D.C. Court of Appeals issued an Order granting Nye County, Nevada's motion to dismiss its petition against the NRC. The web link for the Court Order can be accessed by positioning the cursor over the underlined text and following the directions.
3. On February 9, the New York Times published an article, entitled, "Nuclear Waste Solution Seen in Desert Salt Beds". The article explored the Department of Energy's Waste Isolation Pilot Plant (WIPP) near Carlsbad, New Mexico. The salt bed repository is home for plutonium waste from a variety of defense projects from the weapons production during the cold war era. The plutonium waste is emplaced in holes bored into the salt. The salt, which acts as a natural sealant, closes in on the waste packages at a rate of six inches per year and encapsulates the waste for millions of years. The web link for the article can be accessed by positioning the cursor over the underlined text and following the directions.
4. On February 10, the National Association of Regulatory Utility Commissioners, the Nuclear Energy Institute, and 16 Nuclear Utilities filed with and at the request of the D.C. Circuit Court of Appeals their opposition to the Department of Energy's (DOE) petition for rehearing and rehearing en banc (full court) that DOE should continue collecting its Yucca Mountain fees even though DOE unilaterally cancelled and dismantled the Yucca Mountain project. The petitioners contended that DOE cannot refuse to carry out the Yucca Mountain program and collect the annual assessment fee as if it was business as usual. The web link for the petition can be accessed by positioning the cursor over the underlined text and following the directions.
5. On February 14, the DOE's Waste Isolation Pilot Plant (WIPP) in New Mexico experienced an unplanned release of airborne radioactive material 2,150 feet underground. Presently, no surface contamination was found on any equipment, personnel, or facilities. The source of the airborne radiation was still being investigated. The protective air filtration system automatically switched on when the airborne radiation was detected. This is the first such incident since the WIPP facility opened in 1999. WIPP is the nation's first geologic repository for the permanent disposal of defense-generated transuranic waste (radioactive elements that are heavier than uranium) left over from research and production of nuclear weapons.
6. On February 20, the NRC Chair forwarded a letter to the House Chair on Energy and Commerce updating him on their January monthly status report of their activities and use of carryover funds from the Nuclear Waste Fund. The activities included the commencement of the Safety Evaluation Report (SER), the loading of the Yucca Mountain Licensing Support Network into the NRC's document system, and the involvement of agency attorneys on litigation and support to NRC staff. The

information also provided a listing of the types of expenditures for January along with their associated amounts, which totaled \$286,399 of the \$516,767 expended since the August Court decision. The report estimated the total cost for remaining activities at \$9.6 million out of the \$13 million remaining funds. The web link for the letter can be accessed by positioning the cursor over the underlined text and following the directions.

7. On February 21, the U.S. Court of Appeals for the D.C. Circuit ordered that the Nuclear Regulatory Commission's motion to dismiss Nye County's (Nevada) petition of NRC Chairman's recusal order claiming that the NRC order is neither final nor ripe for review. The web link for the Court Order can be accessed by positioning the cursor over the underlined text and following the directions.
8. On February 26, the NRC responded to the Chair of the House Subcommittee on Energy and Commerce's questions on NRC management and need for legislative reform. Seven Subcommittee members raised over 70 questions on such topics as Yucca Mountain, Fukushima, decommissioned nuclear power plants, management and personnel issues, costs, radiation risk studies, cyber security rules, industry safety performance, waste confidence ruling, spent fuel pool safety and risks, emergency authority at home and abroad, and internal commission procedures. Over a third of the questions were related to Yucca Mountain. The web link for the response can be accessed by positioning the cursor over the underlined text and following the directions.
9. On February 27, the NRC issued its general guidance to its staff on its Yucca Mountain review activities. The directive provided guidance on completing the SER with the establishment of individual chapter teams, reviewing and possibly determining the adoption of DOE's Environmental Impact Statement supplement, and preserving documentary material. The web link for the memorandum can be accessed by positioning the cursor over the underlined text and following the directions.
10. On February 27, the Electric Power Research Institute released its final test plan for "High Burnup Dry Storage Cask Research and Development Project". Storage of lower burnup fuel has been in existence since 1986 whereas high burnup fuel is more recent and almost all fuel loaded in reactors today is high burnup fuel. The project is necessary since high burnup fuel has different mechanical properties than lower burnup fuel under the same typical conditions. The four year project will examine cask design and operations, data to be collected and instrumentation, frequency of measurements, and sister fuel rod characterizations and evaluations. The types of measurements will include baseline half-face visual exams, temperature readings, gas pressure measurements, and measurements of moisture content, oxygen, hydrogen, and fission product gases. The sister rod evaluations will also include destructive testing of the spent fuel rods to determine rod internal gas pressure and content, hydride content and orientation, cladding mechanical testing, and oxide thickness on the cladding. The data collection phase is slated for the last half of 2017. The web link for the EPRI report can be accessed by positioning the cursor over the underlined text and following the directions.
11. On February 27, after receiving notification on February 19 from the Carlsbad Environmental Monitoring and Research Center that an airborne release of radioactive material was detected above ground at the WIPP facility, the New Mexico Environment Department issued an Order directing the DOE and its contracted WIPP operator, Nuclear Waste Partnership (NWP), to cease accepting any further shipments of transuranic waste from off-site generators. The Order also contained directions how waste packages already delivered to WIPP awaiting disposal would be temporarily stored on-site. In addition, the Order directed the DOE and NWP to submit weekly status reports of their activities to the Department. The Order further indicated that DOE and NWP could not restart normal operations until such time the Department inspected and approved the return to normal status. The web link for the State Order can be accessed by positioning the cursor over the underlined text and following the directions.

12. On February 28, the DOE responded to the NRC's November 2013 Order requesting a supplemental environmental impact statement (EIS) on groundwater impacts at the Yucca Mountain site. The DOE maintained that it had provided a final EIS in 2002 and a supplemental EIS in 2008. The Department further asserted that it will provide an updated version of its July 2009 report to the NRC on the post closure groundwater impacts for the geologic repository. DOE declared that the NRC could then draft their own EIS for their Yucca Mountain licensing proceedings. The web link for the letter can be accessed by positioning the cursor over the underlined text and following the directions.
13. On February 28, the NRC staff issued a paper summarizing the public feedback on its Waste Confidence – proposed rule for continued storage of spent nuclear fuel. The paper noted that 1,400 individuals attended the Waste Confidence public meetings with nearly 500 providing oral comments. In addition, the staff received over 33,000 written items of correspondence, which resulted in 9,000 unique comments on the draft generic environmental impact statement (GEIS). The paper listed 14 general themes on concerns raised about the perceived inadequacies of the draft GEIS and the proposed rule. The paper also summarized the four issues that the Commission specifically requested the public to address. On the first three issues the commenters appeared to be split on the questions posed by the Commission whereas on the fourth issue there was near unanimous support for changing the title of the rule to best exemplify its purpose and intent. The web link for the paper can be accessed by positioning the cursor over the underlined text and following the directions.
14. On February 28, the Council of State Governments Midwestern Office transmitted the Interregional team's first progress report to the DOE. The Interregional Team was formed to advance the development of the policy and procedures for implementing Section 180c of the Nuclear Waste Policy Act. Section 180c governs how federal funds will be disbursed to state and local governments for training and equipping local responders for transportation of spent nuclear fuel within their jurisdictions. The report outlined how the Team, made up of two state representatives and one staff member from each of the four regions in the country, will function, what topics they will address, and how their determinations and recommendations will be periodically reported to DOE. Maine and Pennsylvania are Team members representing the Eastern Regional Conference of the Council of State Governments. The web link for the report can be accessed by positioning the cursor over the underlined text and following the directions.

### *Other Related Activities*

1. In January, the NRC published its "Spent Fuel Transportation Risk Assessment" report. The NRC reaffirmed the safety of used fuel transportation for the fourth time. The report noted the decreased calculated risk of radioactive materials being released in an accident by about 100,000 times since the agency's initial 1977 estimate. The decline was attributed to refined analysis techniques, updated data and a reduction in uncertainty. The conclusions were based on two NRC certified rail casks and one certified truck cask during routine transport and accident conditions. The report concluded that the risk of a used fuel shipment accident releasing radioactive material was less than one in a billion. For 90% of the used fuel in storage that are in transport casks with a separate internal canister, there would be no radioactive release even under the most exceptionally severe accident scenarios. The web link for the report can be accessed by positioning the cursor over the underlined text and following the directions.