

State Nuclear Safety Inspector Office

February 2009 Monthly Report to the Legislature

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 eighth monthly report from the State Nuclear Safety Inspector under this new legislation.

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 on-going, 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.

Since the footnotes are expanded definitions of some scientific terms, for simplicity they were placed in a glossary at the end of the report. In addition, to better understand some of the content of the topics, some effort was placed in providing some historical information. However, for the time being this historical context will be provided as an addendum to the report.

Independent Spent Fuel Storage Installation (ISFSI)

During February the general status of the ISFSI was normal, except for the snowstorm on February 22nd. In anticipation of the snowstorm additional measures were put in place and were terminated once the storm passed. There were two instances of spurious alarms due to environmental conditions. Both alarms were investigated and no further actions were warranted. There were no fire or security related impairments.

Three security events were logged in February. Two were related to environmental conditions, such as the February 22nd snowstorm. As part of its operational constraints after a snow event the vent screens for the concrete casks need to be inspected daily for blockage. The venting is necessary to ensure that the cooling of the cask internals is maintained. The third addressed testing of security alarms.

There were ten condition reports¹ (CRs) for the month of February. The first one occurred on February 8th and had to do with a water issue. The truck bay sump backed up due to ground water inflow. A second CR was written on February 10th for an environmental thermoluminescent dosimeter (TLD²) which became dislodged from its holder and fell to the ground. A third CR was initiated on February 17th on a small diesel fuel oil spill resulting from an overfilling of the snow plow truck. The spill was reported to the Department of Environmental Protection (DEP) and was fully remediated and verified as clean by Maine Yankee's environmental consultant. A fourth CR was generated on February 17th for another TLD becoming dislodged from its holder and dropping to the ground. A fifth CR was written on the same day for the repetitive loss of contact alarms with one of the fence line radiation monitors. The unit returned to normal status later that day. A sixth CR was written on February 20th on the small enclosure to one of the ambient air temperature sensors. The grating around the sensor was damaged, but the sensor was not affected and functioned properly. A seventh CR was written on February 23rd over the ISFSI logs. The temperature readings for two casks on the same pad were transcribed in reverse on the log form. An eighth CR was

¹ Refer to the Glossary on page 6.

² Refer to the Glossary on page 7.

written on February 24th on the contact between equipment and the inner security fence. During snow removal, a bucket loader bumped a fence post resulting in some minor damage to the post. A ninth CR was written on February 28th on the Security Log Event 09-013 over the incomplete testing of the security alarms. When the issue was identified all the alarms were satisfactorily retested. A tenth CR was written the same day for the Security Event Log 09-014 over an error in keeping track of multiple tests being performed simultaneously.

On February 2nd Maine Yankee submitted to the U.S. Nuclear Regulatory Commission (NRC) thirteen changes to its ISFSI Emergency Plan as part of its annual review of the Plan. The majority of the changes were editorial in nature with some programmatic changes.

On February 3rd Maine Yankee submitted to the NRC modifications to its ISFSI Security Plan. Since the submittal is Safeguards Information, the information is classified and, therefore, not available for public disclosure.

On February 10th the State Inspector's Annual Accounting Report on the Interim Spent Fuel Storage Facility Oversight Fund was submitted to the Co-Chairs of the Joint Standing Committee on Utilities and Energy.

On February 18th the Manager of the State's Radiation Control Program submitted the Department of Health and Human Services' 2008 Report of Oversight Activities and Funding to the Joint Standing Committee on Utilities and Energy. The oversight activities were conducted under the Interim Spent Fuel Storage Facility Fund. The Oversight Group is comprised of representatives from the Department of Environmental Protection, the Department of Health and Human Services, the Office of the Public Advocate, the Department of Public Safety, Maine Yankee, and an Independent Expert in Radiological and Nuclear Engineering. The latter is expected to be retained by this summer.

On February 27th Maine Yankee submitted as part of its ISFSI Security Plan, its Memorandum of Understanding with three local law enforcement agencies (State Police, Lincoln County Sheriff Department, and Wiscasset Police Department). Since the MOU's contain Safeguards Information, their contents can not be disclosed to the public.

Also on the 27th, Maine Yankee submitted Revision 5 to their License Termination Plan (LTP). Of the nine chapters in the LTP two had revisions. Chapter 1 had changes related to previous correspondence and provided a listing of the revision history for all the chapters and Attachments within the LTP. Chapter 4 revisions were made according to 10 CFR 50.59 process. The NRC 50.59 process allows a licensee to make certain changes to their license without prior NRC approval provided the changes do not result in an un-reviewed safety question, a reduction in safety margin or an increase in the frequency of a previously evaluated accident. The revisions under Chapter 4 deleted Attachment 4C on "Remediation Survey – Gamma Scan" and their associated references.

Environmental

In addition to the on-going air sampling at the old Bailey Farm House, the State Inspector received results on the State's environmental surveillance program for final quarter of 2008 from the State's Health and Environmental Testing Laboratory (HETL). The results are presented in Table 1 on page 3.

The HETL employs various analytical methods to measure particular radioactive elements that are described in the Glossary. All the positive results reported highlight naturally occurring background levels and ranges. There are some seasonal variations, but these would be difficult to point out with only one data point. The State's 2008 environmental surveillance results will be graphed to illustrate potential trends in the Inspector's annual report due July 1st.

<u>Media Type</u>	<u>Positive Results</u>	<u>Quarterly Sampling Period</u> (Oct-Dec '08)
Freshwater	Gross Beta ³ Tritium (Hydrogen-3 or H-3) ⁵	1.40 pCi/L ⁴ 180 pCi/L
Seawater	Tritium (H-3) Potassium-40 (K-40)	BIDC* 163 pCi/kg ⁵
Seaweed	Beryllium-7 (Be-7) Potassium-40 (K-40)	89.4 pCi/kg 4,020 pCi/kg
Air Filters	Gross Beta (range) Quarterly Composite (Be-7)	13.8 – 32.0 fCi/m ³ (6) 58.9 fCi/m ³

* BIDC = Below Instrument's Detection Capability

Tritium (Hydrogen-3 or H-3) and Beryllium-7 (Be-7) are both naturally occurring "cosmogenic" radioactive elements, which mean they are continuously being produced by cosmic-ray interactions in the atmosphere. Be-7 is produced from the high-energy cosmic rays bombarding the oxygen, carbon and nitrogen molecules in the atmosphere. Besides being cosmogenically produced, Tritium is also a man-made element as it is a by product of the fission and neutron activation processes in nuclear power plants. Potassium-40 is a naturally occurring "primordial" radioactive element, which means that it was present like Uranium when the earth was formed.

Maine Yankee Decommissioning

With only the East Access Road survey near the ISFSI scheduled for further evaluation this spring, two of the final three confirmatory reports were reviewed and comments were forwarded to the State's consultant. Both reports were revised. At present, there are ten confirmatory reports that are essentially complete with one remaining that is currently being drafted. Additional documentation was compiled and forwarded to the State's consultant for incorporation of that information into the final draft. However, due to the numerous areas surveyed during the final site walk down survey, more information is still being compiled for this last confirmatory report.

In February an amendment to the consultant's initial \$10,000 contract was submitted to increase the amount to \$15,000. The reason for the extra \$5,000 was that the original allocation did not envision all the major revisions that had to be made to the confirmatory reports and the additional complexity of the final site walk down report containing 14 distinct survey areas on the 150 acre Maine Yankee site.

Groundwater Monitoring Program

The review of Maine Yankee' third annual report without the Appendices commenced on February 26th and was expected to last for a week. However, since the Appendices are housed in six three inch binders, it is expected that review will take at least a month.

Footnotes 3-6: Refer to Glossary on pages 6 and 7.

On February 27th, as part of the State's quality assurance oversight under the Post Decommissioning Agreement for Groundwater Radiation Monitoring between Maine Yankee and the Department of Environmental Protection, the State Inspector provided Maine Yankee with a list of seven groundwater wells that needed to be sampled in March and analyzed by the State.

Other Newsworthy Items

1. On February 6th the Congressional Research Service published a report, entitled “Nuclear Waste Disposal: An Alternative to Yucca Mountain”. The report outlined consequences of a Yucca Mountain policy shift that included federal liabilities for disposal delays, licensing complications for new power reactors, environmental cleanup penalties, and long term risks. The report also probed into nuclear waste policy options, such as institutional changes, extended on-site storage, federal central interim storage, private central storage, spent fuel reprocessing and recycling, non-repository options, and a new repository site. The purpose of the Congressional Research Service is to provide Congress with analysis and research services that are authoritative, objective, nonpartisan, and confidential.
2. On February 6th the Decommissioning Plant Coalition (DPC) commented on the Nuclear Regulatory Commission’s (NRC) waste confidence rule. The NRC’s rule states that the Commission is confident that spent fuel waste could be effectively managed and safely stored at power reactor sites for up to 60 years beyond the design life of a nuclear power plant when disposal is expected to be available. The DPC is a consortium of stakeholders from Maine, Wisconsin, Massachusetts, Connecticut, California, and Michigan, which seek the removal of spent fuel from shut-down reactors to a more centralized interim storage facility. The DPC was instrumental last month in having Senators Snowe and Collins, Senators Kohl and Feingold from Wisconsin and Senator Feinstein from California signing and forwarding a letter to then President-Elect Obama, urging him and his new Administration to give priority to the removal of spent nuclear fuel from their decommissioned reactor sites as part of the Administration’s consideration of alternatives for the storage of spent fuel.
3. On February 16th the Nuclear Energy Institute (NEI), the governmental affairs arm of the nuclear industry, called on President Obama to convene a blue ribbon nuclear waste commission to formulate alternatives to burying high-level nuclear waste at Yucca Mountain.
4. On February 17th the NRC approved a final rule that incorporates the Environmental Protection Agency’s (EPA) radiation protection standards for the proposed high-level waste repository at Yucca Mountain in Nevada. The final rule retains EPA’s dose limits of 15 millirems⁷ for the first 10,000 years and 100 millirems thereafter up to one million years.
5. On February 18th Energy Secretary Steven Chu told the National Association of Regulatory Utility Commissioners from 39 states, where nuclear waste is stored, that he favors the Yucca repository licensing process before the NRC to continue. However, Dr. Chu stressed President Obama’s opposition to the Yucca repository and that his comment expressed more of a desire to learn from the license review.
6. On February 24th Senator Majority Leader Harry Reid from Nevada announced that he was successful in cutting an additional \$100 million from the Yucca Mountain Project reducing the initial request made by the previous administration from \$494.7 million down to a final \$288.4 million. The omnibus bill, when signed by President Obama, would finalize spending through September 2009 for

Footnote 7: Refer to the Glossary on page 7

a number of federal agencies after lawmakers failed to finish that work last year. A stopgap bill expires on March 31st.

7. On February 25th the State Inspector participated in the periodic status briefings of the Nuclear Waste Strategy Coalition (NWSC). The major topic on the agenda was the \$106 million cut from the Department of Energy’s (DOE) budget on the Yucca Mountain Project in Nevada. The NWSC is an ad hoc group of state utility regulators, state attorneys general, electric utilities and associate

members representing 47 stakeholders in 31 states, committed to reforming and adequately funding the U.S. civilian high-level nuclear waste transportation, storage, and disposal program.

8. On February 26th President Obama revealed his proposed federal budget for FY 2010 that reflected his apparent opposition to the Yucca Mountain Project. The language in the proposed budget stated that the “the Yucca Mountain program will be scaled back to those costs necessary to answer inquiries from the Nuclear Regulatory Commission”, (on DOE’s Yucca Mountain license application pending before the NRC), “while the administration devises a new strategy toward nuclear waste disposal”.