

State Nuclear Safety Inspector Office

July 2008 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 first monthly report from the State Nuclear Safety Inspector under this new legislation.

To better understand some of the topics, some effort was placed in providing some historical information. However, it is presumed that future reports will not contain this historical perspective. Likewise, instead of listing the State Inspector's individual activities for the past month, those activities will be highlighted under certain respective broad categories, as illustrated below. Since some activities are performed on a quarterly basis, especially some environmental work, there may be some months when no activities will be listed under that category.

Independent Spent Fuel Storage Installation (ISFSI)

Since the licensing and construction of the high level waste repository at Yucca Mountain in Nevada has been delayed until at least the year 2020, the Department of Energy has not taken title and possession of any of the nation's spent fuel as mandated by the Nuclear Waste Policy Act of 1982. This inaction prompted Maine Yankee to construct an ISFSI during decommissioning to store the more than 1400 spent fuel assemblies that were previously housed in the spent fuel pool in the plant into 60 storage casks on-site. Another four casks contain some of the more radioactive components of the reactor internals that were cut up during decommissioning, since their radioactive concentrations were too high to dispose at a low level radioactive waste facility. These are expected to be shipped along with the spent fuel to the Yucca site should the repository open.

During July the general status of the ISFSI was normal. No fire or security related impairments occurred. There was one condition report on July 8th for the power cord used by State monitors located at the old Bailey Farm House. (A condition report is a report that promptly alerts management to potential conditions that may be adverse to quality or safety. The report is generally initiated by a worker at the ISFSI facility. The report prompts management to activate a process to identify causal factors and document corrective and preventative measures stemming from the initial report.). The problem was a power cord lying on the ground and some of the site personnel were not aware of its presence. There were also some visible signs of some minor damage to the cord's insulation. The situation was corrected by elevating and supporting the cable to prevent any future safety hazard. There were no adverse effects on the State's local radiation monitor and air sampler that rely on the power cord.

Security at the ISFSI did experience some spurious alarms on July 18th and 19th. These were primarily due to environmental conditions.

Environmental

Since 1970 the State has maintained an independent, radiological environmental monitoring program of the environs around Maine Yankee. Over the years there was an extensive quarterly sampling and analysis program that included such media as salt and fresh water, milk, crabs, lobsters, fish, fruits, vegetables, and air. Since the decommissioning the State's program has been reduced twice to accommodate decreased revenues for sample analyses at the State's Health and Environmental Testing Laboratory (HETL). Presently, the State monitors one freshwater location, one saltwater and seaweed location, and one air sample location. The State maintains a quarterly sampling regimen, except for the air sample, which is performed bi-weekly near the old Bailey Farm House. The results of the most recent sampling will be published when the results become available from HETL.

Besides the media sampling, over the years the State has maintained a robust thermoluminescent dosimeter (TLD) program to measure the radiation environment. (TLDs use very small plastic like phosphors that are placed in a small plastic cage and mounted on trees, posts, etc. to absorb any radiation that impinges on the material. Special readers are then used to heat the plastic to release the energy that was stored when the radiation was absorbed by the plastic. The energy released is in the form of invisible light and that light is counted by the TLD reader.) The TLDs were placed within a 10 to 20 mile radius of the plant to measure the background radiation levels and later, when the plant was operating, any potential increases in background levels due to plant operations. Over time the number of TLDs nearly doubled to address public concerns over the clam flats in Bailey Cove and the construction of the ISFSI. After the plant's decommissioning the State reduced the number of TLDs around Bailey Cove, but maintained the same number for the environmental surveillance of the ISFSI.

On July 2nd the State Inspector performed the quarterly field replacement of the State's environmental TLDs around the ISFSI and Bailey Cove. The results of the last quarter will be available in next month's report.

Maine Yankee Decommissioning

Maine Yankee's decommissioning was completed in the fall of 2005. At that time the State Nuclear Safety Inspector's (SNSI) also commenced his final walk down survey of the site. Certain areas such as the transportation routes exiting the plant site were surveyed later after the plant industrial area was decommissioned. Due to the length of the egress routes, it took a considerable amount of time to complete both half-mile east and west access routes and the two thirds of a mile of the railroad track. In addition, seven specific areas, including the gravel road, were also examined as part of the site survey. The State's final survey of the gravel road leading to the old softball field was extended last fall when the State discovered three localized elevated areas on the road that were contaminated. At that time, extensive bounding samples were taken to determine the extent of the contamination.

The final sampling for the road took place on July 10th. The State split the 18 samples with Maine Yankee. Maine Yankee's results should be available for next month's report, whereas the State results will be available sometime this fall. Due to the localized nature of the contaminant and the restricted security access to the site, the contamination found does not present a public health hazard.

The State will publish its decommissioning findings in a decommissioning summary that is expected in March of 2009. As part of that process the State will condense approximately a dozen confirmatory reports that are being worked on by an outside consultant. In 2000 the State contracted with a nationally recognized decommissioning expert with nearly 35 years of experience to ensure proper

reviews of Maine Yankee's License Termination Plan and technical submittals to the U.S. Nuclear Regulatory Commission. The independent consultant has been collecting all the State's findings and summarizing them in confirmatory reports that the SNSI will use to complete the State's decommissioning summary. Currently, there are eight confirmatory reports that are essentially complete, two are in draft form awaiting review and two are outstanding and have yet to be drafted. Since the consultant's contract expired, a renewal contract was written to cover the remaining reports.

Finally, the SNSI received the results of 71 backlogged samples from the final site walk down survey work from 2007. The results will be published in a future report.

Groundwater Monitoring Program

In June of 2004, the State, through the Department of Environmental Protection's (DEP) authority under 38 MRSA §1455, signed an agreement with Maine Yankee for a five year, post decommissioning radiological groundwater monitoring program at the site. Presently, the program is in its third year. The details of how the agreement would be carried out relative to the quality assurance facets of the monitoring, sampling and analyses would be captured in Maine Yankee's Rad Work Plan. Since the Plan's inception in 2005 vast resources on both sides have been and continue to be expended to finalize it. However, some quality assurance issues with the validation of the data still remain outstanding. In July the SNSI conferred with the DEP staff and then the Maine Yankee contractors to resolve this impasse, but was unsuccessful. Further deliberations have been planned for August and their outcome will be reported in next month's report.

Other Newsworthy Items

1. As enacted under Public Law, Chapter 539 in the second regular session of the 123rd Legislature, the State Inspector contacted and collected curriculum vitae information from four individuals that would qualify for the independent expert in radiological and nuclear engineering topics as defined in 22 MRSA §670 (1). The independent expert will meet quarterly with Maine Yankee and State officials on the oversight of the Independent Spent Fuel Storage Installation. The resume information is currently under review and a selection on the independent expert is expected in August.
2. In July Maine Yankee reached a final settlement with the lead agency, DEP, and other state agencies for compensation for chemical groundwater contamination at the plant site. According to DEP it was impractical to cleanup the low levels of contamination. Therefore, restrictions were put in place to prevent exposure to the contaminants. The Natural Resource Damage Assessment and Restoration Plan settlement allocates \$930,000 for several environmental mid-coast region projects ranging from land conservation easements to the restoration of a salt marsh.

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