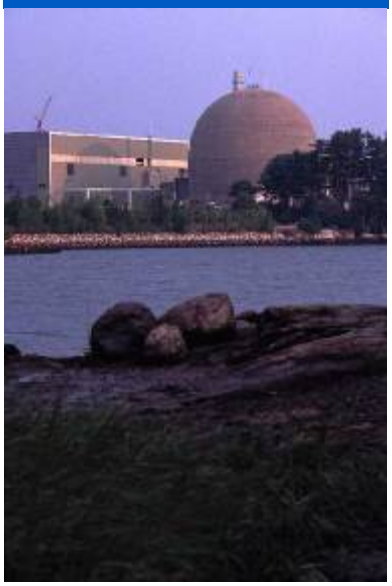

Decontamination & Decommissioning

Client
Maine Yankee Atomic Power Company

Location
Wiscasset, ME, USA

Maine Yankee Atomic Power Plant Decommissioning

Project Description

Maine Yankee Atomic Power Company contracted with CH2M HILL to provide environmental restoration and remediation support associated with the decommissioning of its nuclear facility in Wiscassett, Maine, along with termination of the plant's NRC operating license. The project represents one of the first large-scale nuclear plant decommissioning projects in the country and involves ground-breaking regulatory decision making. One of CH2M HILL's key roles for this project involves working with regulators to streamline regulatory processes and negotiate closure requirements on behalf of our client, saving the client millions of dollars.

Maine Yankee began commercial operation in December 1972 and has operated in the present location for approximately 26 years. The plant permanently ceased operation as an electricity generator in August 1997, but continues to operate a spent nuclear fuel storage facility. The plant is currently in the process of decommissioning, which will involve the demolition and removal of most existing structures on the site. A new facility for dry cask storage of used nuclear fuel and greater than Class C radioactive waste is currently under construction.

In decommissioning the nuclear facility, Maine Yankee is faced with completing one of the most challenging projects in the country. Not only is the project highly complex, but it is one of the first large-scale nuclear power plant decommissioning projects of its kind, and its successful completion will serve as a benchmark for similar projects to follow. Maine Yankee is self-performing decommissioning and environmental restoration activities, which has required it to manage a number of project challenges outside of its traditional area of expertise. Maine Yankee contracted with CH2M HILL to work collaboratively as part of the decommissioning team, including assigning staff to the Maine Yankee location. Specifically, CH2M HILL is providing regulatory, re-use, and program management support to Maine Yankee Environmental Remediation and Restoration Group.

CH2M HILL is managing the RCRA program in support of decommissioning activities, which includes screening and evaluating applicable regulatory requirements to develop and implement a RCRA Facility Investigation (RFI), human health and ecological risk assessments, Corrective Measure Study (CMS), and Corrective Measure Implementation (CMI). Prior to CH2M HILL's involvement, an Ecological Risk Assessment Work Plan was prepared by another consultant. We modified the original Work Plan to reflect a phased approach. This approach eliminated over 30 unnecessary toxicity tests and benthic community structure analyses, providing a substantial cost savings to MYAPC. CH2M HILL also prepared the full ecological risk assessment. In addition, we developed the cumulative risk assessment, which will evaluate both radiological and non-radiological impacts to human health and the environment. The cumulative risk assessment will be used to support site closure decisions.

"CH2M HILL is doing a job second to none in their support of Site Restoration at Maine Yankee. They have provided tireless professionals who have helped us achieve a level of success in the permitting and RCRA areas that we never dreamed of 2 years ago. They are knowledgeable, conscious of cost and schedule and highly respected by their peers and our regulatory stakeholders. They are great people from a great company helping a great Maine Yankee team."

Wayne Norton
President, Maine Yankee Atomic Power Company

CH2M HILL had a significant impact in helping MYAPC improve their regulatory approval process. We screened and evaluated applicable regulatory requirements, lead the engineering evaluation, and developed the permitting approach for decommissioning the facility water circulation and discharge system. We worked with MYAPC and the regulatory stakeholders to develop and implement cost-effective alternatives that will protect of public health and the environment. CH2M HILL secured approval from the U.S. Army Corps of Engineers and Maine Department of Environmental Protection (DEP) for removing a portion of the system in accordance with the Natural Resource Protection Act (NRPA). The approval was obtained with minimal regulatory comments on the permit and in significantly less time than anticipated by MYAPC.

We are assisting MYAPC in identifying cost-effective alternatives to existing disposal options. We are screening and evaluating applicable regulatory requirements and exploring options to use its global leverage with waste disposal facilities to provide MYAPC with less costly alternatives to their existing disposal options.

In addition, CH2M HILL managed the decommissioning of the Forebay structure associated with the plant discharge system. The radiological and non-radiological aspects of the Forebay D&D, in addition to the significant interest from stakeholders, made the Forebay D&D one of the highest profile aspects of the overall decommissioning project.

Forebay was part of the liquid waste discharge system that was located on the south end of Bailey Point adjacent to Foxbird Island at the Maine Yankee site. The structure consisted of two, 225-foot, north-south oriented dikes that connected Bailey Point to Foxbird Island to the south. The dikes formed a containment structure that received large volumes (up to 420,000 gallons per minute) of circulating and service water and liquid effluents from the power reactor. The water from the Forebay flowed to buried piping on Foxbird Island that carried the water to a submerged diffuser system in Montsweag Bay, south of Foxbird Island. In support of site decommissioning activities, CH2M HILL completed the Forebay remediation in December 2003. Remediation activities included removal of the upper ten feet of both dikes, removal of approximately 977 cubic yards of sediment contaminated with Cs-137, Co-60, Petroleum, PCBs, TCA, PAHs, lead, mercury, and sodium, and backfill and grading. Upon completion of the grading and filling activities, the west dike of the Forebay was breached to form an upland marsh/wetland.