Waste Management Briefs

USED FUEL WITH A HIGHER THAN USUAL HEAT LOAD was transferred from wet to dry storage at a U.S. nuclear power plant in Orano TN's final dry storage loading campaign of 2019, the company announced on January 15. Orano TN said that it completed the transfer of 296 used nuclear fuel assemblies from the plant's used fuel pool to the on-site independent spent fuel storage installation using eight Orano NUHOMS EOS 37PTH canisters to store the fuel in eight NUHOMS EOS horizontal storage modules. Averaging a total heat load of 44.75 kW per canister, Orano's EOS system is the first dry storage system to load and store used fuel with heat loads well above industry experience to date, which has ranged from 14 to 34 kW per canister. Designed by Orano TN and manufactured at the company's TNF site in Kernersville, N.C., the EOS canisters are licensed by the Nuclear Regulatory Commission for heat loads of up to 50 kW per canister. The canisters are engineered to store 37 pressurized water reactor high-burnup fuel assemblies.

THE NRC HAS ISSUED LICENSE EXEMPTIONS FOR PILGRIM, allowing the licensee of the closed nuclear power plant to reduce the amount of insurance it is required to carry. One exemption, issued by the Nuclear Regulatory Commission on January 6 and published in the January 13 *Federal Register*, will allow Holtec International subsidiaries Holtec Pilgrim and Holtec Decommissioning International (HDI) to reduce the required level of primary off-site liability insurance from $450 million to $100 million and to eliminate the requirement to carry secondary financial protection for the plant. The other exemption, also issued on January 6 and published in the January 14 *FR*, would permit Holtec Pilgrim and HDI to reduce the minimum coverage limit for on-site property damage insurance from $1.06 billion to $50 million. Entergy sold Pilgrim, a single-unit boiling water reactor plant located in Plymouth, Mass., to Holtec for decommissioning in August 2019 (*NN*, Sept. 2019, p. 9). According to Holtec, the reduced insurance coverage is commensurate with the reduced risk of an incident at the permanently shutdown and defueled Pilgrim plant, which Entergy closed in May 2019 (*NN*, July 2019, p.13).

gency response information, and real-time positioning for each shipment.

INDIAN POINT

Holtec pegs three-unit plant D&D at $2.3 billion

In a December 19 post-shutdown decommissioning activities report (PSDAR) to the Nuclear Regulatory Commission, Holtec International projects that it will cost $2.3 billion to fully decontaminate and decommission the three-unit Indian Point nuclear power plant, located in Buchanan, N.Y. Plant owner Entergy notified the NRC in February 2017 that it would permanently cease power operations at Indian Point-2, a 1,028-MWe pressurized water reactor, and Indian Point-3, a 1,041-MWe PWR, by April 30, 2020, and April 30, 2021, respectively. Indian Point-1 was permanently shut down in 1974.

In April 2019, Entergy agreed to sell Indian Point to a subsidiary of Holtec International for decommissioning. The NRC is currently reviewing an application, jointly submitted by Entergy and Holtec in November 2019, for the approval of the transfer of Indian Point's licenses to Holtec. The companies said that they hope to close on the sale in the third quarter of 2021, after Indian Point-3 has been shut down and permanently defueled (*NN*, May 2019, p. 17).

The decommissioning of all three reactor units will be done on an accelerated schedule by Comprehensive Decommissioning International, a joint venture of Holtec and Canada-based SNC-Lavalin, while Holtec's wholly owned subsidiary, Holtec Decommissioning International (HDI), will oversee the project. According to the Holtec PSDAR, HDI intends to decommission Indian Point using the NRC's DECON method, in which equipment, structures, and portions of the facility and site that contain radioactive contaminants are promptly removed or decontaminated to a level that permits termination of the license shortly after cessation of operations. Decommissioning activities are to start immediately following the sale and license transfers, and HDI has a project goal of completing the decommissioning (excluding the site's independent spent fuel storage installation) within 15 years.

Holtec estimates that the cost to decommission Indian Point, safeguard the spent fuel until it can be transferred to the Department of Energy, and restore the plant site will be $598 million for Unit 1, $702 million for Unit 2, and $1 billion for Unit 3. The estimates are in 2019 dollars. Holtec estimates that it will have about $2.1 billion available in decommissioning trust funds for the combined three units beginning in 2021. NN