

PSEG Nuclear, LLC
ZEC 2 – Salem I
Docket No: ER20080557

Response to Discovery Request: SI-ZECJ-ENV-0007
Date: 10/1/2020

Question:

Describe the practices of the Unit regarding nuclear waste disposal and storage. Also describe the Unit's remaining on-site capacity for dry storage and include a relevant schedule of license or permit renewals.

Attachments Provided Herewith: NO

Response:

The long term strategy for nuclear waste disposal is to transfer the spent fuel to a national repository (Yucca Mountain). Upon enactment of the Nuclear Waste Policy Act of 1982 (NWPA), the Department of Energy ("DOE") began collecting a charge from nuclear generators for the costs of fulfilling its legal obligation to dispose of the nuclear fuel used to generate power. Most recently, this fee was assessed on a \$/MWh basis at a rate of \$0.955/MWh. However, when development of Yucca Mountain was discontinued, this fee was suspended by court order in May 2014, at which point PSEG ceased accruing for that expense in its financial statements. Until a disposal solution is identified and a new fee structure is placed in effect, PSEG will not accrue for that expense. However, PSEG Nuclear recognizes that the NWPA is still in effect and DOE remains legally obligated to collect and dispose of Hope Creek and Salem stations' spent nuclear fuel and will need to pay for the associated costs through a fee or other charge that will be imposed on nuclear generators. Accordingly, to approximate this cost, PSEG has included the fee on generation at its suspended rate of \$0.955/MWh in our projected costs presented in the financial section of this application. This cost was recognized and included in the NY ZEC process as a reasonable risk factor that nuclear generation owners need to ensure they cover in order to remain in operation economically. Until the DOE establishes a national repository for nuclear waste, PSEG Nuclear continues to operate and maintain an on-site Independent Spent Fuel Storage Installation (ISFSI) for safe, long-term storage. PSEG has reached a settlement agreement with the DOE that includes recovery of our costs of on-site storage as a result of DOE's inability to accept the stations' spent fuel.

On-site Storage

Hope Creek (BWR) and the two Salem Units (Westinghouse PWRs) have independent Spent Fuel Pools (SFPs) and transfer fuel to a single onsite Independent Spent Fuel Storage Installation (ISFSI). The ISFSI is comprised of three pads with a total capacity of 200 casks. There are currently 69 Holtec HI-STORM 100S systems on the ISFSI (34 with Hope Creek discharged

fuel, 20 Salem 1, 15 Salem 2). The overpack and canister dimensions are identical for the two fuel types with a difference being the Hope Creek canisters hold 68 fuel assemblies and the Salem canisters hold 32. The initial casks were loaded and placed on the ISFSI in 2006.

PSEG Nuclear operates the ISFSI as a General Licensee under 10 CFR 72 and currently loads and stores spent fuel under HI-STORM 100 Certificate of Compliance (CoC) Amendment 5/Final Safety Analysis Report (FSAR) Revision 7. Dry cask loading campaigns are typically conducted each summer alternating between the three units. During each dry cask loading campaign, sufficient fuel is removed from a given Unit's Spent Fuel Pool to cover discharge needs for two refueling outages and maintain full core discharge capability.

Current projections indicate that there is sufficient space on the ISFSI to cover the three Units to the end of their current license, while ensuring full core offload capability in each SFP. The ISFSI could be expanded should PSEG determine a second license extension was warranted. There are currently no actions in place for ISFSI expansion, which based on current plant operation, will not be needed until the time of decommissioning. Once the Units have reached their respective end of operating life, it is assumed the decommissioning process would offload the SFPs to dry cask storage as expeditiously as possible. This process would consider minimum required fuel cooling time and associated plant needs to support long term cask loading operations.

As noted above PSEG operates the casks on the ISFSI as a General Licensee under 10 CFR Part 72. Holtec International, as the CoC holder, owns the Technical Specifications and Final Safety Analysis Report. Per the regulations delineated under 10 CFR 72.212, PSEG demonstrates that it meets the necessary requirements under those licensing documents. The current 20 year HI-STORM 100 CoC expires in 2020 and Holtec has submitted their application for CoC 40 year renewal which is currently under review by the Nuclear Regulatory Commission (NRC). Once any casks loaded to this CoC reach their 20th year of operation, they will be in the Period of Extended Operation (PEO). The renewal CoC includes necessary actions for licensees to implement including applicable aging management programs (AMPs). Once a site has a cask that enters the PEO, within a grace period specified in the renewal application (and concurred by the NRC), it will need to have established AMPs and document this under their 72.212 Report. In Holtec's HI-STORM 100 CoC Renewal application this grace period was set at 365 days.

The first cask was placed on the ISFSI on November 08, 2006, so PSEG will be required to have renewal HI-STORM 100 CoC programs established sometime after November 8, 2026. Since the CoC renewal is currently under NRC review, the full extent of all AMPs, renewal CoC conditions and implementation grace period is not yet established but will be well before PSEG ISFSI enters the PEO. We will have the benefit of other sites' experience with this action as many other HI-STORM 100 casks will reach their PEO before PSEG. There are no other licenses or permits required.