

Steps necessary to cease nuclear power plant operations:

The initial steps to permanently cease operations are the same as those for a regularly scheduled refueling outage. The plant power level is reduced, the generator is disconnected from the electric grid, and control rods are inserted to stop the nuclear chain reaction. The plant is then cooled down and the reactor is disassembled. It is at this point that a permanent shutdown takes a different path. All of the reactor fuel is transferred to the spent fuel storage pool. The plant operator then notifies the Nuclear Regulatory Commission (NRC) that they have permanently removed the fuel. This is the point of no return, and the company relinquishes its operating license.

Industry experience shows that detailed planning is required to efficiently transition into decommissioning, minimize impacts to plant personnel, and minimize the financial burden on the plant owners. In 2018, PSEG Nuclear began comprehensive decommissioning planning. This included hiring an experienced Project Manager, contracting with a company with deep nuclear plant decommissioning experience, and developing contingency personnel plans to assure readiness should a situation arise that would necessitate a premature, permanent plant shutdown.

Current site plans are to utilize the SAFSTOR method of decommissioning. In SAFSTOR, the nuclear plant is placed and maintained in a condition that allows the nuclear facility to be safely stored and subsequently decontaminated. Decommissioning is to be completed within 60 years of permanent shutdown.

Spent fuel will be moved to the Independent Spent Fuel Storage Installation (ISFSI). This will be complete within approximately six years of shutdown. The ISFSI is located on the plant site. It is a concrete pad designed to safely store dry spent fuel in casks for the long term until a federal repository is established. This is also known as “Dry Cask Storage.”

- a. The following NRC notifications are required as part of a shutdown of a nuclear power plant:
 1. A written certification of permanent cessation of operations, pursuant to 10 CFR 50.82(a)(1)(i), to be submitted to the NRC within 30 days of the date on which a decision is made to permanently cease operations;
 2. A written certification of permanent removal of fuel from the reactor, pursuant to 10 CFR 50.82(a)(1)(ii), after fuel is permanently removed from the reactor vessel.
 3. Submittal of decommissioning funding status reports, specified by 10 CFR 50.75(f)(1) and (2), on an annual basis;
 4. Submittal of a preliminary decommissioning cost estimate (“DCE”), required by 10 CFR 50.75(f)(3), if not already submitted; and the submittal of a post-shutdown decommissioning activities report (PSDAR), and, if not already submitted, a site-specific DCE that includes the projected cost of managing irradiated fuel, as specified in 10 CFR

50.82(a)(4)(i), prior to or within two years following permanent cessation of operations. In support of the PSDAR, information would need to be provided describing how the company intends to manage and provide funding for the management of all irradiated fuel following permanent cessation of operations, consistent with the requirements of 10 CFR 50.54(bb).

- b. There are no NRC requirements that would require the Unit to continue to operate or prevent it from being permanently shutdown. PSEG will submit the required PSDAR and site-specific DCE in advance of the plant shutdown in sufficient time to allow full access to the Decommissioning Trust Fund (“DTF”) as soon as the fuel is removed from the reactor which would be within 30 days of the final shutdown (of each unit).
 - 1. During plant operations, up to 3% of the generic amount of the “DTF” may be used for decommissioning planning, as specified in 10 CFR 50.75 and 10 CFR 50.82(a)(8)(ii). As noted above, PSEG Nuclear has started comprehensive decommissioning planning to assure readiness for a premature, permanent plant shutdown and is utilizing the DTF for this purpose.
 - 2. After submitting the “certification of permanent cessation of operations” and the “certification of permanent removal of fuel from the reactor vessel” (noted in section a. above), and 90 days after the NRC has received the PSDAR, an additional 20% of the generic amount specified in 10 CFR 50.75 can be accessed.
 - 3. As described above, full access to the DTF is given once the fuel is removed from the reactor and the required PSDAR and site-specific DCE is submitted in advance of the plant shutdown.
- c. As there are no NRC requirements that would require the Unit to continue to operate or prevent it from being permanently shut down and no PJM capacity commitments past the current ZEC period ending in May of 2022; PSEG Nuclear could shut down all three units as early as June 1, 2022.
 - 1. Current plans, if ZECs were not awarded to Hope Creek, Salem 1, and Salem 2, are for PSEG not to refuel Salem 1 in the spring of 2022 and for PSEG to permanently shut down Salem 1 on June 1, 2022. Hope Creek would be permanently shut down at the end of its fuel cycle in October 2022, and Salem 2 would be permanently shut down at the end of its fuel cycle in April 2023.

2. There are no PJM capacity commitments past the current ZEC period ending in May of 2022. Once a decision to permanently shut down the unit is made, the unit must notify PJM at least 90 days prior to the planned retirement. PJM will then perform a reliability analysis to determine if there are reliability issues that cannot be resolved prior to the planned deactivation. PJM will supply this analysis within thirty days of the deactivation request. If no issues are identified, the units can retire. If issues are identified, the unit may be asked to remain in-service beyond the deactivation date until upgrades can be completed. If the unit is asked to continue operating, it will have the authority to file with FERC for a reliability-must-run cost of service rate. The unit always retains the option to shut down.
3. Hope Creek, Salem 1, and Salem 2 were selected to receive ZECs pursuant to the Board's April 18, 2019 Order for the first eligibility period. Absent any conditions that would excuse such obligations as provided for in the ZEC Act, PSEG is committed to continue to operate at full or near full capacity, except with respect to nuclear power plant shutdowns for necessary maintenance and refueling, through May 2022.