

**Industry Groundwater Protection Initiative
Voluntary Data Collection Questionnaire**

Plant: Turkey Point Units 3 and 4

- 3. If applicable, briefly summarize any occurrences of inadvertent releases of radioactive liquids that had the potential to reach groundwater and have been documented in accordance with 10 CFR 50.75(g).**
- October 21, 1975, 880 gallons of waste water stored in 55 gallon drums was inadvertently pumped into a storm drain from the Unit 4 Cask Wash Area. The water was from sludge, which was removed from the Waste Holdup Tank. This water was transferred to an underground drywell south of the plant. Analytical results of the sampling indicated that approximately 2.1 Curies of Co-58 / Co-60 was released through the storm drain system.
 - November 6, 1975, the Unit 4 Spent Fuel Pit was identified leaking through a concrete wall, the leak rate was determined to be approximately 2 gallons per hour. Calculations identified that approximately 2960 gallons of water was absorbed by the ground. The total activity estimated for this spill was 240 mCi Co-58.
 - September 11, 1978, the Unit 4 Spent Fuel Pit Cooling Pump seal failed which caused approximately 150 gallons to spill out to a paved area immediately outside of the room. The total activity released was estimated to be 0.0063 Curies of Co-60.
 - August 16, 1988, the Unit 4 Spent Fuel Pit Cooling Pump leaked resulting in a spill of approximately 1460 gallons of which 6 to 7 gallons of water leaked into the storm drains. Concentration of the radioactivity in the liquid released was measured at 2.5 E-3 uCi/cc of Cs-137, 2.5 E-4 uCi/cc of Tritium and 2.2E-2 uCi/cc of Co-60.
 - March 28, 1979, the Unit 3 Refueling Water Storage Tank leaked approximately 25 gallons into the soil from a level instrument line located on the tank. Total activity from the spill was 6.2 E-4 Curies.
 - August 28, 1979, the Unit 4 Refueling Water Storage Tank valve misalignment caused the Unit 4 Spent Fuel Pit to fill and overflow. This resulted in approximately a 3000 gallon spill from the pit to the ground in the radiation controlled area (RCA). The activity released by the spill was 1.091 Curies and the water was contained to the area immediately adjacent to the SFP and drain system in the RCA.
 - November 6, 1982, a spill from B Monitor tank occurred during the transfer of laundry water to the tank. Approximately 600 gallons of water spilled from the tank to the High Head Safety Injection (HHSI) Pump Room, Component Cooling Room and potentially to the storm drain system. Total activity estimated for the spill was 9.96E-5 Curies. Tank samples identified Co-58, Co-60, Cs-137, and Cs-134.
 - August 21, 2003, a temporary pump for the Molybdate Tank leaked water to the ground on the north side of the radioactive waste building. Water samples taken in the area identified Co-60.

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- May 10, 2005, a ¾-inch water hose used to fill the Unit 4 Reactor Cavity siphoned water from the cavity due to a valve that was left partially opened and spilled out near the Unit 4 Tendon Gallery. The total amount of water spilled was estimated at 5 gallons. Contamination identified in the area was between 200 and 1000 ncpm.

- 4. If applicable, briefly summarize the circumstances associated with any onsite or offsite groundwater monitoring result indicating a concentration in groundwater of radioactivity released from plant operations that exceeds the allowable maximum contaminant level (MCL) established by the USEPA for drinking water.**

There have been no identified instances of radioactivity released from the Turkey Point Nuclear Plant that resulted in groundwater concentrations exceeding the allowable USEPA maximum contaminant levels for drinking water.

- 5. Briefly describe any remediation efforts undertaken or planned to reduce or eliminate levels of radioactivity resulting from plant operations in soil or groundwater onsite or offsite.**

Currently there are no remediation efforts in progress or planned to further reduce or eliminate levels of radioactivity in the soil or ground water at the Turkey Point Nuclear Plant onsite or offsite. Corrective actions have been taken to address previous spills and routine monitoring is being performed as part of the radiological monitoring programs.

In 1982, a request was approved by the NRC to allow certain contaminated earth to remain in place in the Radiation Controlled area (RCA). There is approximately 41,800 cubic feet of soil containing Co-60, Cs-134, and Cs-137 remaining in a 100' x 100' area in the southeast side of the RCA. At the time of approval, the soil was covered with a 5.5 ft overburden and the dose rates at one meter above the overburden were equal to background. Some migration of radionuclides may occur as a function of time but the rate of ground/surface water movement and final transference of nuclides to the environment was judged to be insignificant.