

## PRELIMINARY NOTIFICATION – REGION III

June 17, 2013

### PRELIMINARY NOTIFICATION OF EVENT OR UNUSUAL OCCURRENCE – PNO-III-13-004B

This preliminary notification constitutes EARLY notice of events of POSSIBLE safety or public interest or significance. Some of the information may not yet be fully verified or evaluated by the Region III staff.

#### **Facility**

Palisades Nuclear Plant  
Entergy Nuclear Operations, Inc.  
Covert, Michigan  
Docket: 05000255  
License: DPR-20

#### **Licensee Emergency Classification**

Notification of Unusual Event  
 Alert  
 Site Area Emergency  
 General Emergency  
 Not Applicable

SUBJECT: UPDATE - PALISADES SHUTDOWN DUE TO SAFETY INJECTION  
REFUELING WATER TANK (SIRWT) LEAKAGE

This Preliminary Notification updates information provided in PNO-III-13-004A, which discussed the Palisades plant shutdown on May 5, 2013. Operators shut down the plant after they discovered SIRWT leakage of about 90 gallons per day (gpd) while monitoring the tank. This exceeded the 38 gpd limit to shut down that was established in the NRC's confirmatory action letter (CAL EA 12-155; ADAMS No. ML12199A409).

The SIRWT is not used for daily plant operations. The tank, which contains a minimum of 250,000 gallons, is a source of borated water for activities during refueling outages and supplies the Emergency Core Cooling and the Containment Spray Systems during emergencies.

About 80 gallons of low radioactivity water spread onto the roof, down roof drains, into drains that go to Lake Michigan. The released radioactivity to Lake Michigan is well below regulatory limits and did not impact the safety of plant workers or the public. The amount of radiation to a member of the public from the 80-gallon spill is estimated to be less than 0.000002 rem, with the federal limit to a member of the public being 0.1 rem. Thus, the estimated release constitutes less than one-fifty thousandth (1/50,000) of the federal limit. NRC radiation exposure limits are based on the best available international scientific research and continue to be reviewed when new information comes to light. There is no negative health impact anticipated at or below the limit.

Update: The NRC independently verified that Entergy has repaired the leak and the plant is safe to operate. The repairs included replacing the bottom of the tank and replacing all welds associated with the floor inside the tank.

The resident inspectors responded to the site after being notified the plant was shutting down due to the leak. The NRC sent specialists with backgrounds in materials engineering to inspect the plant's detailed actions to identify and repair the leak. The NRC had additional inspectors review and assess the plant's testing and repair plan, look into the area beneath the tank, understand the stresses on the tank, review the root cause of the leak, and

observe the actual welding and testing of the tank components. In total, 10 NRC inspectors performed a wide range of inspection activities to ensure the leak had been repaired and that the public and plant workers continue to be safe. Radiation Protection specialists from the Region and headquarters evaluated the radiological aspects of the leak. Sand samples taken by the licensee near the plant discharge indicated no radionuclides associated with the operation of Palisades. The NRC independently obtained sand samples and an analysis was conducted at an independent laboratory. The NRC analysis of the independent laboratory results so far has not identified any radionuclides associated with the operation of Palisades.

NRC Region III also continued its commitment of being open and transparent by publicly documenting phone call discussions between Entergy and NRC management on this issue. Additionally, the region held a webinar on releases, originally planned for later in the year, in which Region III staff addressed the public's questions and concerns about the tank leak.

During replacement of the tank's bottom, it was discovered that the sand bed designed to cushion the tank bottom was absent. The licensee corrected the condition by installing fiber board underneath the tank. The original construction code allows the use of this fiber board. The NRC will review this issue related to the past design in a follow up inspection.

The SIRWT has been refilled and there is currently no leakage.

Going forward, the NRC will continue to make sure the tank remains safe. We will independently inspect the areas around the tank where leaks have been previously identified and will follow Entergy's actions to monitor the tank. If a leak is discovered, we expect Entergy to evaluate it in accordance with the NRC's rules and take appropriate action.

On June 17, 2013, the Palisades plant resumed operation after the repairs were completed. The reactor was made critical at 10:34 p.m. (EDT) on June 16, and the main generator was synchronized to the grid at 2:08 p.m. (EDT) on June 17, 2013. These startup activities were monitored by the NRC resident inspectors.

The State of Michigan has been notified.

The information in this preliminary notification is current as of 3:00 p.m. (EDT) on June 17, 2013. This information has been reviewed with plant management.

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