

**PRELIMINARY NOTIFICATION – REGION III**

**August 14, 2012**

PRELIMINARY NOTIFICATION OF EVENT OR UNUSUAL OCCURRENCE – PNO-III-12-007

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

**Facility**

**Licensee Emergency Classification**

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

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

SUBJECT: PALISADES SHUTDOWN DUE TO INCREASE IN UNIDENTIFIED REACTOR COOLANT SYSTEM LEAKAGE

On August 9, 2012, Entergy Nuclear Operations, Inc., notified the NRC that operators at the Palisades plant intended to shut down the plant to investigate the source of elevated Primary Coolant System (PCS) unidentified leakage. At the point of the shutdown, unidentified leakage was approximately 0.3 gallons per minute (gpm) and had been gradually increasing. The plant is required to be shut down per Technical Specifications when the unidentified leak rate exceeds 1 gpm. The NRC had been monitoring the increased trend in unidentified leakage since July, when the plant was restarted, to ensure that the plant was taking action as the leakage increased. The NRC Resident Inspectors were present during the shutdown to monitor the investigation on the source of the leak.

The operators completed a controlled reactor shutdown and reached the hot shutdown condition at 3:00 a.m. EDT on August 12, 2012. Following a containment entry, the cause of the rise in leakage was determined to be from a steam leak originating on control rod-drive mechanism (CRDM) 24. The Senior Resident Inspector accompanied the licensee during the containment entry to assess the source of the leak. The licensee reported that the leakage was pressure boundary leakage. Following the discovery of the pressure boundary leakage the plant was taken to cold shutdown on August 12 at 8:15 p.m. EDT to further evaluate CRDM-24. The Technical Specification for pressure boundary leakage is 0 gpm. The licensee is currently investigating the cause of the leak and evaluating what repairs need to be completed prior to restarting the unit. The duration of the shutdown is expected to exceed 72 hours.

No safety-related systems were affected by the increase in leakage, and plant response during the shutdown was as expected. The plant is in a stable shutdown condition. The leakage is inside containment, and there is no release to the environment. There is no threat to public health and safety.

The NRC will continue to evaluate the event, including following repair activities and corrective actions. An additional inspector was dispatched to supplement the resident inspectors in their evaluation of the repair activities.

The State of Michigan has been notified.

The information in this preliminary notification is current as of 8:00 a.m. EDT on August 14, 2012.

This information has been reviewed with plant management.

This preliminary notification is issued for information only and no further action by the staff is anticipated.

ADAMS Accession Number: ML12227A804

Contacts:      John B. Giessner  
                    630-829-9619  
                    [John.Giessner@nrc.gov](mailto:John.Giessner@nrc.gov)

                    Thomas Taylor  
                    269-764-8971  
                    [Thomas.Taylor@nrc.gov](mailto:Thomas.Taylor@nrc.gov)