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Uribe, Juan

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BACKGROUND

On August 23, 2011, the North Anna Power Station experienced a seismic event which resulted in a loss of offsite power and automatic reactor trip of both units. An Alert was declared, due to significant seismic activity on the site. Subsequent to the earthquake, both units were stabilized and offsite power was restored. Following the event, seismic data was retrieved from the installed monitoring system and shipped to the vendor to determine the response spectrum for the event. On August 26, 2011, initial reviews of the data determined that the seismic activity potentially exceeded the Design Basis Earthquake magnitude value above 5 Hz. Therefore, this event was reportable per 10 CFR 50.72(b)(3)(ii) (B) for the nuclear power plant being in an unanalyzed condition that significantly degrades plant safety.

Both units are in Cold Shutdown with the Residual Heat Removal System providing core cooling. No significant equipment damage to Safety Related system (including Class 1 Structures) has been identified through site walk-downs nor has equipment degradation been detected through plant performance and surveillance testing following the earthquake. The licensee indicated that the Spent Fuel Pit cooling system also remains fully functional and the temperature of the Spent Fuel Pit remained unchanged during the event. The licensee also indicated that the vendor will complete the analysis of the seismic data and this information will be utilized to address the long term actions following the earthquake.

It was reported that North Anna potentially exceeded the Design Basis Earthquake (DBE) magnitude value above 5 Hz. The vibratory motion from the 5.8 magnitude earthquake were recorded in all three orientations at several locations in the plant using two types of instruments: the Engdahl scratch plates that record 12 discrete spectral accelerations between 2 and 25.4 Hz, and the Kinometrics analog recorders that recorded time histories of the accelerations. Based on evaluation of recorded plant data, it is concluded that the Central Virginia earthquake of August 23, 2011, exceeded the spectral accelerations for the Operational Basis Earthquake (OBE) and DBE of North Anna Plant.

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