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Garmon, David

From:	Garmon, David
Sent:	Wednesday, August 24, 2011 2:51 PM
To:	Thorp, John
Cc:	Sigmon, Rebecca
Subject:	North Anna Alert ERF Rev 3
Attachments:	2011 Mineral, VA Earthquake INES Rating 0 ERF Rev 3.docx

John,

This version includes your changes as well as Rebecca's changes. Let me know if I can forward this on to the PM and other concerned parties (Region II and inspectors).

Regards,
David Garmon

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Draft

EVENT RATING FORM (ERF)

THE INTERNATIONAL NUCLEAR EVENT SCALE (INES)

EVENT TITLE	EVENT DATE
Alert Emergency Action Level Declaration due to Loss of Offsite Power Resulting from a Seismic Event	2011.08.23

RATING	RATING	OUT OF	DEVIATION	INCIDENT	ACCIDENT	FACILITY TYPE

PROVISIONAL ☐ / FINAL ■	DATE	SCALE	0	1	2	3	4	5	6	7	Power Reactor ■	Research Reactor ☐
FINAL ■	2011.08.23	☐	■	☐	☐	☐	☐	☐	☐	☐	Radwaste Facility ☐	Radiation Source ☐

COUNTRY	FACILITY NAME		
United States of America	North Anna Power Station	Irradiation ☐	Transportation ☐
LOCATION		Fuel Fabrication ☐	Fuel Reprocessing ☐
Louisa, Virginia		Research Facility ☐	Mining/Milling ☐
		Enrichment Facility ☐	Other ☐

	YES	NO
OFF-SITE IMPACT		
RELEASE BEYOND AUTHORIZED LIMITS	☐	■
OVEREXPOSURE OF MEMBERS OF PUBLIC	☐	■
ON-SITE IMPACT		
CONTAMINATION SPREAD	☐	■
WORKER OVEREXPOSURE	☐	■
DAMAGE TO RADIOLOGICAL BARRIERS	☐	■
DEGRADATION OF DEFENSE IN-DEPTH	☐	■
PERSON INJURED PHYSICALLY OR CASUALTY	☐	■
IS THERE A CONTINUING PROBLEM	☐	■
PRESS RELEASE ISSUED (IF YES, PLEASE ATTACH)	■	☐

EVENT DESCRIPTION

At 1403 (EDT), on August 23, 2011, Units 1 and 2 of the North Anna Power Station declared an Alert, Emergency Action Level due to a loss of offsite power.

The North Anna Power Station is located in Louisa, Virginia which is about 84 miles (135 km) southwest of Washington, D.C. The Alert was declared following a seismic event rated as a 5.8 using the Richter Scale by the U.S. Geological Survey; the epicenter of the seismic event occurred at a distance of about 12 miles (18 km) from the North Anna Power Station.

Both North Anna units experienced a complete loss of offsite alternating current (AC) power (LOOP) sources

to emergency electrical buses due to the effects of the ground motion actuating trip relays. The four onsite emergency diesel generators (EDGs) started and powered the station emergency electrical buses after the LOOP. About 40 minutes after the EDGs started, one of the EDGs supplying power to the Unit 2 emergency buses, designated the 2H EDG, was shut down by operators in response to a radiator leak. A backup, station blackout diesel generator was started to assume the loads that were being supplied by the 2H EDG.

As of August 24, 2011, Unit 1 and Unit 2 are proceeding to cold shutdown conditions to facilitate comprehensive inspections. Normal offsite power has been restored to the North Anna Power Station. All EDGs have been shut down and returned to a standby condition. The 2H EDG has been repaired and is awaiting retest; however, it is considered functional if needed. There are no indications of fuel compromise as noted through normal reactor coolant chemistry sample results. All reactor coolant pressure and containment boundaries are intact as designed.

Additionally, a number of plants in the eastern United States declared a Notice of Unusual Event (NOUE) due to seismic activity at their respective sites. Plants declaring NOUEs, which indicate a potential decrease in plant safety, include Peach Bottom, Three Mile Island, Susquehanna and Limerick in Pennsylvania; Salem, Hope Creek and Oyster Creek in New Jersey; Calvert Cliffs and a research reactor in Maryland; Surry in Virginia; Shearon Harris and a research reactor in North Carolina; and D.C. Cook and Palisades in Michigan. All these plants have exited their NOUE declarations after having completed inspections and receiving confirmation of normal conditions.

The USNRC's participation in the International Nuclear and Radiological Event Scale is described in Information Notice 2009-27, dated November 13, 2009, Agencywide Documents Access and Management System Accession No. ML092510055. USNRC generic communications can be found on the USNRC public website http://www.nrc.gov, under NRC Library/Document Collections.

RATING JUSTIFICATION AND DIFFICULTIES ENCOUNTERED

The final rating for this event has been determined to be a Level 0 in accordance with the International Nuclear and Radiological Event Scale User's Manual 2008 Edition.

Level 0 was determined by the following approach:

There were no actual radiological consequences from this event as defined in chapters 2 and 3 of the manual. The *Initiator Frequency* (Section 5.1.1) for a reactor trip with loss of offsite power is *Expected*. The *Safety Function Operability* (Section 5.1.2) was determined to be less than *Full* but more than the *minimum required by operational limits and conditions* based on the availability of a backup, station blackout diesel generator that was capable of providing adequate redundancy and diversity. The Basic Rating of 0 was determined using box A(1) in Table 9, "Events with a Real Initiator" (Section 5.1.3). Section 5.2 was considered and it was determined that there were no additional factors associated with this event that required elevating the event rating.

CONTACT PERSON FOR FURTHER INFORMATION					
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