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Garmon, David

From: Garmon, David | NRR
Sent: Thursday, August 25, 2011 2:36 PM
To: Martin, Robert
Cc: Kulesa, Gloria; Thorp, John
Subject: FW: Level 0 INES Rating of North Anna Alert Declaration after Mineral, VA Earthquake
Attachments: 2011 Mineral VA Earthquake INES Rating 0 ERF Rev 3.docx

Robert,

We will be releasing the attached INES Level 0 rating of the North Anna Alert declaration for publishing today. The second paragraph of the Event Description was updated to include revised distances from the epicenter.

I have not received confirmation from you that the licensee has no comments on the attached; however, since the information in the attached is an aggregation of information that is already publicly available, I don't expect objection to the content.

Thank you and I apologize for the short fused nature of this exercise.

Regards,
Dave

From: Garmon, David
Sent: Thursday, August 25, 2011 7:16 AM
To: Martin, Robert
Cc: Kolcum, Gregory; Clagg, Rodney; Kulesa, Gloria; Boyle, Patrick
Subject: RE: Level 0 INES Rating of North Anna Alert Declaration after Mineral, VA Earthquake

Robert,

I apologize for the confusion; perhaps, I jumped too far ahead.

Please forward the ERF to the licensee now as we are pushing a deadline and I don't think we are saying anything that hasn't already been made public in other reports. You may consider only forwarding the event description (pasted below for your convenience) and mentioning that it will be a "Level 0," as the rating justification only makes sense if you are familiar with the INES manual. Before we release the ERF to the INES we will most likely add a sentence mentioning that the licensee re-entered the NOUE as a result of an aftershock and that they are conducting inspections and have not identified any damage as a result of the aftershock.

R/
Dave

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 90 miles (145 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 7 miles (11 km) from Louisa, Virginia.

Both North Anna units experienced a complete loss of offsite alternating current (AC) power (LOOP) sources to emergency electrical buses due to the actuation of transformer pressure relays from the effects of seismic action. 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,

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designated as 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 allow for inspections inside containment. The North Anna Power Station has exited all Emergency Action Levels. 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 available if needed. Reactor coolant chemistry sample results are normal with no indications of any fuel damage. All reactor coolant pressure boundaries and containment boundaries are intact as designed.

From: Martin, Robert
Sent: Wednesday, August 24, 2011 5:15 PM
To: Garmon, David
Cc: Kolcum, Gregory; Clagg, Rodney; Kulesa, Gloria; Boyle, Patrick
Subject: RE: Level 0 INES Rating of North Anna Alert Declaration after Mineral, VA Earthquake

This is confusing regarding when you want to send it to the licensee. Do you first want to get staff agreement on it, *then* send it to the licensee? Or are you far enough along with it that you want me to send it to the licensee *now*?

I see that you sent it to the Senior NRC Resident, from whom I expect you will get any comment on its technical accuracy. I have no comment on it.

From: Garmon, David
Sent: Wednesday, August 24, 2011 3:37 PM
To: Martin, Robert
Cc: Kulesa, Gloria; Bernardo, Robert; McCoy, Gerald; Kolcum, Gregory; Clagg, Rodney; Ninh, Son; Thorp, John
Subject: Level 0 INES Rating of North Anna Alert Declaration after Mineral, VA Earthquake

Robert,

In accordance with MD 5.12 and as noted in IN 2009-27 and RIS 2002-01, the NRC will submit events to the IAEA International Nuclear and Radiological Event Scale (INES) publicly available NEWS website if they are determined to have a rating of Level 2 or higher, or as requested by another INES member nation. Yesterday's earthquake and subsequent Alert declaration at North Anna due to a LOOP satisfies the criteria of INES reporting.

Attached is the Event Reporting Form (ERF) that is used to report events to the INES website (Press Release 11-153 is linked here). This event has been provisionally rated as a Level 0; pending any significant findings from reactive inspections (if applicable). Please review the ERF and comment as you see fit. This version is making its way through the NRR concurrence process so please let me know if there are any significant changes you would like to see.

Once we agree on the writeup, we will have to provide it to the licensee for their review before we submit it to the INES. If you don't have significant changes to the content please forward this to the licensee at your earliest opportunity.

The timeliness goal for INES ratings is 48 hours from the event time, so we are shooting for release by tomorrow.

Thank you for your time and please feel free to give me a call if you have questions.

Regards,
David Garmon

NRR/DIRS/IOEB
(301) 415-3512
Office: O-7C20
Mail Stop OWFN-7C02A

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

	DATE	SCALE	0	1	2	3	4	5	6	7		
PROVISIONAL ■											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 ☐
		Fuel Fabrication ☐	Fuel Reprocessing ☐
LOCATION		Research Facility ☐	Mining/Milling ☐
Louisa, Virginia		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 90 miles (145 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 14 miles (23 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 actuation of transformer pressure relays from the effects of seismic action. 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 as 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 allow for inspections inside containment. 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 available if needed. Reactor coolant chemistry sample results are normal with no indications of any fuel damage. All reactor coolant pressure boundaries 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 due to the potential for a 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 of these plants exited their NOUE declarations after completing 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 provisional 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					
NAME		**AFFILIATION**	United States Nuclear Regulatory Commission		
ADDRESS	U.S. Nuclear Regulatory Commission Washington, DC 20555-0001				
PHONE		**FAX**		**E-MAIL**	