

Bozin, Sunny

From: HOO Hoc
Sent: Thursday, August 25, 2011 11:37 PM
To: Jones, Cynthia; Sigmon, Rebecca; Garmon, David; Thorp, John
Cc: McGinty, Tim; Pruett, Troy; Andersen, James
Subject: INES Level 0 Rating of North Anna Alert Declaration due to Earthquake - SUBMITTED
Attachments: North Anna Earthquake Alert INES Rpt.pdf

Attached is the as posted INES report that was placed on the IAEA USIE website on the afternoon of 8/25/11 by Dr. Jones.

FYI

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B/11



INES Event Rating Form

INES-ERF | Version 1

Sender

Sender's Name: Dr. Cynthia Jones
Sender's Organization: Nuclear Regulatory Commission (NRC)

Event Details

Event Title: Alert Emergency Action Level Declaration due to Loss of Offsite Power Resulting from a Seismic Event
Date of Event: 23 August 2011
Event Location/Facility Name: NORTH ANNA POWER STATION UNITS 1 and 2
Event Country: United States of America
Type of Event: Power Reactor

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.

INES Rating

INES Rating: 0 - Below scale
Status of Rating: Provisional
Date of Rating: 25 August 2011

Basis for Rating

Impact on People and the Environment

Release beyond authorized limits?	No
Overexposure of a member of the public?	No
Overexposure of a worker?	No

Impact on the Radiological Barriers and Controls at Facilities

Contamination spread within the facility?	No
Damage to radiological barriers (incl. fuel damage) within the facility?	No

Degradation of Defence In-Depth	Yes
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Other Information

Person injured physically or casualty?	No
Is there a continuing problem?	No

Justification of Rating: 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 INES User's 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.

Attachments and Links

Attachments:

NRC Monitoring Alert at North Anna Following Virginia Earthquake

Public Information / Press Release

NRC Clarifies Earthquake Measurements and Design Criteria

Public Information / Press Release

NRC Continues to Assess North Anna Nuclear Power Plant Following Virginia Earthquake

Public Information / Press Release

Further Information on Web www.nrc.gov
(URL):

Contact Person for Further Information

Contact Person: Dr. Cynthia Jones, U.S. INES National Officer
Affiliation (Organization): Nuclear Regulatory Commission (NRC)
Email: Cynthia.Jones@nrc.gov
Telephone: 00 1 301 415 0298
Organization Website URL: www.nrc.gov

Published on: 25 August 2011, 19:59 UTC

Event Description:

On 23 August 2011, Units 1 and 2 of the North Anna Power Station declared an Alert, Emergency Action Level due to a loss of offsite power following a 5.8 seismic event on the Richter Scale. 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.

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) sourced 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