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Bamford, Peter

From: Sigmon, Rebecca (NRR)
Sent: Monday, November 23, 2009 10:57 AM
To: Bamford, Peter (NRR)
Cc: Thorp, John; Thomas, Eric; Chernoff, Harold (NRR)
Subject: TMI Event INES Rating
Attachments: TMI High Activity Preliminary ERF.doc; IN 2009-27.pdf

Pete,

Due to the high level of media interest in the TMI event over the weekend, we've had requests for information from the international community about the INES (International Nuclear and Radiological Event Scale) rating of the event. As described in IN 2009-27 and RIS 2002-01, NRC will submit events to the INES if they are rated Level 2 or higher on the scale, or if the rating is requested by another IAEA member state. This event has a preliminary rating of **Level 0** (below scale), however due to the expressed interest it is possible we will be posting the event. Could you please pass the attached Event Review Form to the licensee for verification of the factual information? The only portions of the form which will be available to the public are the title, location, rating, and event description (the justification portion is visible only to INES committee members).

As the event occurred Saturday, our goal would be to post this by the close of business if we do actually post it, and we would like to have licensee verification of the facts of the event before then. I will keep you up to date with management decisions on whether or not to post.

(IN 2009-27 is also attached as the public ADAMS search appears to be down at the moment).

Thanks,

Rebecca Sigmon
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NRR/DIRS/IOEB
Operating Experience Branch
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B/109
#3

EVENT RATING FORM (ERF)

Event No.:
Sent Date:

THE INTERNATIONAL NUCLEAR EVENT SCALE (INES)																	
EVENT TITLE		RADIATION RELEASE IN CONTAINMENT ASSOCIATED WITH STEAM GENERATOR REMOVAL								EVENT DATE							
										11/21/2009							
RATING		RATING DATE	OUT OF SCALE	DEVIATION	INCIDENT			ACCIDENT				FACILITY TYPE					
PROVISIONAL	<input checked="" type="checkbox"/>			0	1	2	3	4	5	6	7	Power Reactor	<input checked="" type="checkbox"/>	Research Reactor	<input type="checkbox"/>		
FINAL	<input type="checkbox"/>	11/23/2009	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	RadWaste Facility	<input type="checkbox"/>	Radiation Source	<input type="checkbox"/>		
COUNTRY				FACILITY NAME / PLACE								Irradiation		Transportation			
United States				Three Mile Island Unit 1/Middletown, PA								Irradiation		<input type="checkbox"/>	Transportation		<input type="checkbox"/>
												Fuel Fabrication		<input type="checkbox"/>	Fuel Reprocessing		<input type="checkbox"/>
												Research Facility		<input type="checkbox"/>	Mining/Milling		<input type="checkbox"/>
												Enrichment Facility		<input type="checkbox"/>	Other		<input type="checkbox"/>
												YES	NO				
Off-site impact																	
Release Beyond Authorised Limits												<input type="checkbox"/>	X				
Overexposure of Members of Public												<input type="checkbox"/>	X				
On-Site Impact																	
Contamination Spread												<input type="checkbox"/>	X				
Worker Overexposure												<input type="checkbox"/>	X				
Damage to Radiological Barriers												<input type="checkbox"/>	X				
Degradation of Defence In-depth												<input type="checkbox"/>	X				
Person Injured Physically or Casualty												<input type="checkbox"/>	X				
Is There a Continuing Problem												<input type="checkbox"/>	X				
Press Release Issued (if yes, please attach)												<input type="checkbox"/>	X				
Event Description																	
<p>During refuelling outage activities, which included operations to replace both of the unit's steam generators, low levels of radiation activity were measured on radiation monitors installed in the reactor building. Personnel were directed to immediately leave the reactor building until the source of the activity could be identified. Surveys directly outside of the reactor building construction opening indicated a slight increase in activity. Levels have returned to normal. No contamination was identified outside of the reactor building. Of approximately 150 workers monitored for exposure to the radiation activity, about 20 were found to have exposures greater than 0.1 mSv (10 mrem), with the highest exposure estimated to be 0.38 mSv (38 mrem). No worker approached or exceeded any exposure limits. The sources of the activity are believed to be from maintenance tasks related to cutting lines in preparation for removal of the 'B' Steam Generator, though the exact cause of the increase in activity levels is still unknown. The reactor was defueled at the time of the event.</p>																	
Rating Justification and Difficulties Encountered																	
(quote relevant user manual paragraphs)																	
<p>This event has been given a preliminary rating of 0, "Below Scale" based on section 2.3.1 of the International Nuclear and Radiological Event Scale 2008 User's Manual (http://www-pub.iaea.org/MTCD/publications/PubDetails.asp?pubId=8120). The justification for the rating is that no member of the public was exposed to any excess activity, and all exposures to workers were well within established statutory limits and licensee-established dose constraints. Though increasing the rating based on the number of personnel exposed is indicated for higher levels of exposure, at these levels no such increase is warranted. This event is being submitted due to interest expressed by member states of the IAEA for the INES rating of the event.</p>																	
Contact Person for Further Information																	

This form is provided by the IAEA INES Coordinator: Rejane Spiegelberg Planer,
Incident and Emergency Centre,
Department of Nuclear Safety and Security,
Tel: +43 (1) 2600-26074, Fax: +43 (1) 26007-26074,
email: r.spiegelberg-planer@iaea.org.

NOTE: This form *should not* be used for sending information to the IAEA about an actual event!

EVENT RATING FORM (ERF)

Name Dr. Cynthia Jones, Office of Nuclear Security and Incident Response	Affiliation U.S. Nuclear Regulatory Commission	
Address: Mail Stop T4-D22A, Washington, DC 20555		
Phone: 301-415-0298	Fax: 301-415-6382	eMail: cynthia.jones@nrc.gov

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION
OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS
OFFICE OF FEDERAL AND STATE MATERIALS AND
ENVIRONMENTAL MANAGEMENT PROGRAMS
OFFICE OF NEW REACTORS
WASHINGTON, DC 20555-0001

November 13, 2009

NRC INFORMATION NOTICE 2009-27: REVISED INTERNATIONAL NUCLEAR AND
RADIOLOGICAL EVENT SCALE USER'S MANUAL

ADDRESSEES

All holders of a license, certificate, permit, approval, or registration issued under Title 10 of the *Code of Federal Regulations* (10 CFR). Specifically, this includes:

All holders of an operating license or construction permit for a power reactor, test reactor or research reactor issued under 10 CFR Part 50.

All holders of or applicants for an early site permit, standard design certification, standard design approval, manufacturing license, or combined license issued under 10 CFR Part 52.

All holders of a materials license, certificate, approval, or registration issued under 10 CFR Parts 30, 31 through 36, 39, 40, 61, 70, 71, 72, and 76.

All Agreement State Radiation Control Program Directors and State Liaison Officers.

PURPOSE

The U.S. Nuclear Regulatory Commission (NRC) is issuing this information notice (IN) to inform addressees that the 63 Member States of the International Atomic Energy Agency (IAEA) have approved an updated version of the International Nuclear and Radiological Event Scale (INES) User's Manual. The NRC will use this updated guidance to submit information to the IAEA on certain reactor, fuel cycle facility, and materials events. This IN does not contain NRC requirements. It is for information purposes only, and no specific action or written response is required.

BACKGROUND

In 1990, international experts convened by the IAEA and the Organization for Economic Cooperation and Development, Nuclear Energy Agency developed the INES with the aim of communicating the safety significance of events at nuclear facilities. As described in NRC Generic Letter 1992-09, "Limited Participation by NRC in the IAEA International Nuclear Event Scale," dated December 31, 1992 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML031070459), the NRC initiated limited use of the system in 1992 to

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rate reactor events that resulted in the declaration of an "Alert" or higher emergency classification. After further review, and as described in NRC Regulatory Issue Summary 2002-01, "Changes to NRC Participation in the International Nuclear Event Scale," dated January 14, 2002 (ADAMS Accession No. ML013200502), the NRC expanded its participation to include events associated with various other sources of radiation. NRC participation now covers a wide spectrum of practices, including industrial uses such as radiography, radiation sources in hospitals, activities at nuclear facilities, and the transport of radioactive material. By putting events from all these practices into a proper perspective, use of INES can facilitate a common understanding between the technical community, the media, and the public.

DISCUSSION

Events are classified on the INES scale at seven levels: Levels 4-7 are termed "accidents" and Levels 1-3 "incidents." Events without safety significance are classified as "Below Scale/Level 0." An explanation of the classification levels can be found at <http://www.iaea.org/Publications/Factsheets/English/ines.pdf>. The NRC transmits information to the INES website only for those events rated at a Level 2 or higher unless an event rating is specifically requested by another IAEA Member State. Since beginning full participation in 2002, this threshold has resulted in less than one reactor event per year submitted to IAEA, and on average about 5 materials events per year.

In June 2008, 63 Member States of the IAEA approved a revised edition of the INES User's Manual (2008 Edition), to aid in the rating of events, which has just been published by the IAEA (see <http://www-pub.iaea.org/MTCD/publications/PubDetails.asp?publd=8120>). The updated manual includes the information from the 2001 INES User's Manual, which focused primarily on reactors and fuel cycle facilities, and incorporates further guidance for the rating of materials events, including those involving the transport, storage, and use of radioactive material and radiation sources. The INES User's Manual (2008 Edition) is now being used by the NRC and the Agreement States to assist in determining the rating of events and to transmit those that are INES Level 2 or higher. The NRC will continue its current practice of notifying the IAEA within 2 business days when an event at a U.S. facility has a provisional INES rating of Level 2 or higher. Notifications are immediately posted for public viewing at the IAEA Web site <http://www-news.iaea.org/news/>. The changes incorporated into the INES User's Manual (2008 Edition) should be transparent to licensees.

CONTACT

This information notice requires no specific action or written response. Please direct any questions about this matter to the technical contacts listed below.

/RA by TQuay for/

Timothy J. McGinty, Director
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

/RA/

Daniel H. Dorman, Director
Division of Fuel Cycle Safety and Safeguards
Office of Nuclear Material Safety and Safeguards

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Note: NRC generic communications may be found on the NRC public Web site,
<http://www.nrc.gov>, under Electronic Reading Room/Document Collections.

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TAC ME1764

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