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**Bamford, Peter**

**From:** Bamford, Peter (NRR)  
**Sent:** Monday, November 23, 2009 12:17 PM  
**To:** Sigmon, Rebecca (NRR)  
**Subject:** RE: TMI INES Rating  
**Attachments:** TMI High Activity Preliminary ERF.doc

Rebecca, I made some edits to the event description in the version I sent to the licensee that I didn't see reflected in your latest version. They probably won't make any difference to our decision on whether or not to post. I recommend you cut and paste the event description from the attached file into your master copy.

Peter Bamford  
NRR/DORL/LPL 1-2  
Limerick & TMI-1 Project Manager  
301-415-2833

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**From:** Sigmon, Rebecca  
**Sent:** Monday, November 23, 2009 12:01 PM  
**To:** Couret, Ivonne; Burnell, Scott; Screnci, Diane  
**Cc:** Brown, Frederick; Cheok, Michael; Thorp, John; Thomas, Eric; Bamford, Peter; Jones, Cynthia  
**Subject:** TMI INES Rating

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 if the rating is specifically requested by the IAEA or another INES member state. The high activity over the weekend reported by TMI-1 in EN 45514 generated sufficient media interest that the IAEA and at least three other countries have requested more information. This event as currently reported is a **Level 0**, that is, "Below Scale."

The IAEA would like to see the INES scale used not just for significant events, but also to demonstrate the low safety significance of other highly publicized events, a category which would include what happened 11/21 at TMI. Given the usual nature of the postings to the website though, it would not necessarily be seen in that light, and posting it to the IAEA website could instead serve to amplify coverage of an event that has already been covered in detail in the media. We would only want to post this event if, in the opinion of OPA, Region I, and NRR management, the posting would serve to emphasize the low safety significance of an event which has received substantial coverage. I have attached a draft copy of the Event Rating Form (ERF) that would be submitted, which primarily contains information from the licensee's Event Notification, for your review, and would appreciate your opinions on the matter.

Thanks,

Rebecca Sigmon  
Reactor Systems Engineer  
NRR/DIRS/IOEB  
Operating Experience Branch  
(301) 415-4018  
Rebecca.Sigmon@nrc.gov

B/112  
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**EVENT RATING FORM (ERF)**

Event No.:  
Sent Date:

<b>THE INTERNATIONAL NUCLEAR EVENT SCALE (INES)</b>																	
<b>EVENT TITLE</b>		RADIATION RELEASE IN CONTAINMENT ASSOCIATED WITH STEAM GENERATOR REMOVAL										<b>EVENT DATE</b>					
												11/21/2009					
<b>RATING</b>		<b>RATING DATE</b>	<b>OUT OF SCALE</b>	<b>DEVIATION</b>	<b>INCIDENT</b>			<b>ACCIDENT</b>				<b>FACILITY TYPE</b>					
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"/>		
<b>COUNTRY</b>				<b>FACILITY NAME / PLACE</b>								<b>Irradiation</b>		<b>Transportation</b>			
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"/>
												<b>YES</b>	<b>NO</b>				
<b>Off-site impact</b>																	
Release Beyond Authorised Limits												<input type="checkbox"/>	X				
Overexposure of Members of Public												<input type="checkbox"/>	X				
<b>On-Site Impact</b>																	
Contamination Spread												X	<input type="checkbox"/>				
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				
<b>Event Description</b>																	
<p>During refueling 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. Monitoring devices at the reactor building steam generator replacement construction opening indicated a slight increase in activity. Levels have since returned to normal. No contamination was identified outside of the reactor building. Of approximately 150 workers monitored for exposure to the radiation activity, about 19 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 the removal of the plant's steam generators, though the exact cause of the increase in activity levels is still unknown. The reactor was defueled at the time of the event.</p>																	
<b>Rating Justification and Difficulties Encountered</b>																	
(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 (<a href="http://www-pub.iaea.org/MTCD/publications/PubDetails.asp?pubId=8120">http://www-pub.iaea.org/MTCD/publications/PubDetails.asp?pubId=8120</a>). 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>																	
<b>Contact Person for Further Information</b>																	

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](mailto:r.spiegelberg-planer@iaea.org).

**NOTE:** This form *should not* be used for sending information to the IAEA about an actual event!  
For this purpose the Nuclear Events Web-based System (<http://www-news.iaea.org>) should be used instead.

**EVENT RATING FORM (ERF)**

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

This form is provided by the IAEA INES Coordinator: Rejane Spiegelberg Planer,  
Incident and Emergency Centre,  
Department of Nuclear Safety and Security,  
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email: [r.spiegelberg-planer@iaea.org](mailto:r.spiegelberg-planer@iaea.org).

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