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Bamford, Peter

From: Bamford, Peter (NRR)
Sent: Monday, November 23, 2009 11:53 AM
To: 'Pamela.cowan@exeloncorp.com' (EXELON)
Cc: Chernoff, Harold; Sigmon, Rebecca (NRR)
Subject: TMI Contamination Control Event
Attachments: IN 2009-27.pdf; RIS2002_01.pdf; TMI High Activity Preliminary ERF.doc

Pam, 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 (attached), 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. If we did post the description, it would be to demonstrate the low-level nature of this event. Could you please review the attached INES Form for 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 today (11/23) if we do actually post it, and we would like to have licensee verification of the facts of the event before then. I will let you know if our management decides to post.

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

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION
OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS
WASHINGTON, DC 20555-0001

January 14, 2002

NRC REGULATORY ISSUE SUMMARY 2002-01: CHANGES TO NRC PARTICIPATION IN THE INTERNATIONAL NUCLEAR EVENT SCALE

ADDRESSEES

All NRC licensees and certificate holders.

INTENT

The U.S. Nuclear Regulatory Commission (NRC) is issuing this regulatory issue summary (RIS) to inform addressees of impending changes in the NRC's level of participation in the International Nuclear Event Scale (INES). This RIS does not transmit any new requirements or staff positions and does not require any specific action or written response.

BACKGROUND

The INES promotes prompt and consistent communication regarding the safety significance of reported events at nuclear installations by defining a consistent framework and common terminology for describing events to the nuclear community, the media, and the public. The INES was designed and developed by an international group of experts convened jointly by the International Atomic Energy Agency (IAEA) and the Nuclear Energy Agency (NEA) of the Organization for Economic Cooperation and Development (OECD). The group was guided in its work by the findings of a series of international meetings held to discuss general principles underlying such a scale. The INES also reflects the experience gained from the use of similar scales in France and Japan, as well as consideration of possible scales in several other countries.

The INES classifies events at several levels. Events of greater safety significance (levels 4-7) are termed "accidents," while events of lesser safety significance (levels 1-3) are termed "incidents," and those of no safety significance (level 0 or below) are termed " deviations." A description of the INES, including an explanation of the various classification levels, can be found at <*http://www.iaea.org/worldatom/inforesource/factsheets/ines.html*>.

The NRC has participated in the INES in a limited fashion since 1993. The NRC issued Generic Letter 92-09, "Limited Participation by NRC in the IAEA International Events Scale", dated December 12, 1992, to inform licensees that the agency had agreed to use the INES to rate all reactor events that result in the declaration of an "Alert" or higher emergency classification. Pursuant to that decision, from February 1993 through September 2001, the NRC transmitted a total of 32 reactor-related INES reports to the IAEA.

SUMMARY OF ISSUE

In order to be even more responsive to international stakeholders, the NRC has elected to increase its participation by evaluating all reported nuclear events (reactor, fuel cycle, materials, and transportation events) for possible rating on the INES. Medical misadministrations are outside the scope of the INES and will not be reviewed by the NRC for possible rating. Only events rated at Level 2 or higher will be reported to the IAEA, unless another member country specially requests the rating of a particular event. The NRC estimates that this reporting threshold will result in approximately one reactor report and fewer than five materials reports being filed per year. The NRC staff is unaware of any negative impact upon licensees as a result of the NRC's participation in the INES to date, and the agency expects that its increased level of participation in the INES will have a negligible effect on licensees or State and local governments.

Licensees should continue to report events in accordance with the regulations. The change in policy regarding the NRC's level of participation in the INES is merely a response to increasing interest by foreign government agencies and media in events occurring at facilities in the United States. The INES is not intended to supersede the existing four-tiered emergency classification system described in NUREG-0654, Revision 1,"Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants", February 2001. Nonetheless, many countries throughout the world have adopted the INES as a consistent framework for communicating the significance of events involving nuclear facilities.

BACKFIT DISCUSSION

This RIS does not require any action or written response, or any modification to plant structures, systems, components, or facility design; therefore, the staff did not perform a backfit analysis.

FEDERAL REGISTER NOTIFICATION

This RIS is informational and pertains to a staff position that does not represent a departure from current regulatory requirements and practice. Consequently, the staff did not publish a notice of opportunity for public comment in the *Federal Register*.

PAPERWORK REDUCTION ACT STATEMENT

This RIS does not request addressees to collect any information and therefore is not subject to the requirements of the Paperwork Reduction Act.

If you have any questions about this matter, please telephone or e-mail the technical contact listed below.

/RA/
Donald A. Cool, Director
Division of Industrial and
Medical Nuclear Safety
Office of Nuclear Materials
Safety and Safeguards

/RA/
David B. Matthews, Director
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Technical contact: Robert J. Stransky, Jr., IRO
301-415-6411
E-mail: rjs3@nrc.gov

Attachment: List of Recently Issued NRC Regulatory Issue Summaries

If you have any questions about this matter, telephone or e-mail the technical contact listed below.

/RA/
Donald A. Cool, Director
Division of Industrial and
Medical Nuclear Safety
Office of Nuclear Materials
Safety and Safeguards

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Attachment: List of Recently Issued NRC Regulatory Issue Summaries

Distribution:
RIS File
PUBLIC

ADAMS ACCESSION NUMBER: ML013200502

OFFICE	IRO	IRO	IRO	TECH EDITOR	D:IRO
NAME	RJStransky*	NLMamish*	JJHolonich*	0	RHWessman*w/comments
DATE	09/25/2001	10/04/2001	10/18/2001	09/10/01	11/23/2001

OFFICE	SP	NMSS	D:NMSS	SC:REXB	RORP
NAME	PLohaus*	MASitek*	DACool*	JRTappert*	WBeckner*
DATE	12/07/2001	01/02/2002	01/03/2002	12/12/2001	01/10/2002

OFFICE	D:DRIP
NAME	DBMatthews*
DATE	01/14/2002

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LIST OF RECENTLY ISSUED
NRC REGULATORY ISSUE SUMMARIES

Regulatory Issue Summary No.	Subject	Date of Issuance	Issued to
2001-25	NEI-099-02, Revision 2, Voluntary Submission of Performance Indicator Data	12/12/2001	All holders of operating licenses for nuclear power reactors, except those who have permanently ceased operations and have certified that fuel has been permanently removed from the reactor vessel.
2001-24	Status of Receipt of NRC Mail Following the Closing of the Brentwood Postal Facility	12/06/2001	All NRC licensees
2001-23	Resetting Fault Exposure Hours for Safety System Unavailability Performance Indicators	12/03/2001	All holders of operating licenses for nuclear power reactors, except those who have permanently ceased operations and have certified that fuel has been permanently removed from the reactor vessel
2001-22	Attributes of A Proposed No Significant Hazards Consideration Determination	11/20/2001	All holders of operating licenses for nuclear power reactors, including those who have permanently ceased operations and have certified that fuel has been permanently removed from the reactor vessel
2001-21	Licensing Action Estimates for Operating Reactors	11/16/2001	All power reactor licensees, including those that have elected to permanently cease operations and have submitted certifications pursuant to Title 10, Section 50.82(a)(1), of the Code of Federal Regulations (10 CFR 50.82(a)(1))
2001-20	Revisions to Staff Guidance for Implementing NRC Policy on Notices of Enforcement Discretion	11/14/2001	All holders of operating licenses for nuclear power reactors, except those who have permanently ceased operations and have

OL = Operating License
CP = Construction Permit

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

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?pubId=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

/RA/

Robert Lewis, Director
Division of Materials Safety
and State Agreements
Office of Federal and State Materials and
Environmental Management Programs

/RA/

Glenn Tracy, Director
Division of Construction Inspection
and Operational Programs
Office of New Reactors

Technical Contacts: Rebecca Sigmon, NRR
(301) 415-4018
E-mail: rebecca.sigmon@nrc.gov

Cynthia G. Jones, Ph.D., NSIR
(301) 415-0298
E-mail: cynthia.jones@nrc.gov

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

CONTACT

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

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ADAMS Accession Number: ML092510055 TAC ME1764

OFFICE	DIRS/IOEB	Tech Editor	BC/DIRS/IOEB	D/NRR/DIRS
NAME	RSigmon	CHsu	EThomas for JThorp	McC for FBrown
DATE	9/9/09	9/11/09 email	10/2/09	10/5/09
OFFICE	NSIR	PGCB:DPR	PGCB:DPR	BC:PGCB:DPR
NAME	CJones	DBeaulieu	CHawes	MMurphy
DATE	10/6/09	10/6/09	10/28/09	11/13/09
OFFICE	NRO	FSME	NMSS	D:DPR
NAME	GTracy	RLewis	DDorman	TMcGinty (TQuay for)
DATE	11/03/09	11/06/09	11/10/09	11/13/09

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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	X			0	1	2	3	4	5	6	7	Power Reactor	X	Research Reactor	
FINAL		11/23/2009		X								RadWaste Facility		Radiation Source	

COUNTRY	FACILITY NAME / PLACE				
United States	Three Mile Island Unit 1/Middletown, PA	Irradiation		Transportation	
		Fuel Fabrication		Fuel Reprocessing	
		Research Facility		Mining/Milling	
		Enrichment Facility		Other	

	YES	NO
Off-site impact		
Release Beyond Authorised Limits		X
Overexposure of Members of Public		X
On-Site Impact		
Contamination Spread	X	
Worker Overexposure		X
Damage to Radiological Barriers		X
Degradation of Defence In-depth		X
Person Injured Physically or Casualty		X
Is There a Continuing Problem		X
Press Release Issued (if yes, please attach)		X

Event Description

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.

Rating Justification and Difficulties Encountered

(quote relevant user manual paragraphs)

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.

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.

EVENT RATING FORM (ERF)

Name		Affiliation
Dr. Cynthia Jones, Office of Nuclear Security and Incident Response		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

This form is provided by the **IAEA INES Coordinator**: Rejane Spiegelberg Planer,
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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!
For this purpose the Nuclear Events Web-based System (http://www-news.iaea.org) should be used instead.