

## POLICY ISSUE NOTATION VOTE

August 4, 2011

SECY-11-0105

FOR: The Commissioners

FROM: R. W. Borchardt  
Executive Director for Operations

SUBJECT: PROPOSED MINOR REVISION TO MANAGEMENT DIRECTIVE 5.12,  
"INTERNATIONAL NUCLEAR EVENT SCALE PARTICIPATION"

PURPOSE:

To request Commission approval of the staff's proposed revision to one of the criteria in Management Directive (MD) 5.12, "International Nuclear Event Scale Participation," dated March 13, 2002, regarding the transmittal of certain events to the International Atomic Energy Agency (IAEA).

SUMMARY:

Since 1992, the U.S. Nuclear Regulatory Commission (NRC) has participated in the International Nuclear Event Scale (INES)<sup>1</sup> reporting system that the IAEA and the Nuclear Energy Agency (NEA) have established as a means for promptly communicating to the public and media, the safety significance of events that may occur at nuclear or radiological facilities. In 2002, the NRC expanded its participation in INES to submit reports for those events rated at Level 2 or higher on INES, unless specifically asked by the IAEA or another INES member nation [see SECY-01-0071, "Expanded NRC Participation in the Use of the International Nuclear Event Scale," dated April 25, 2001 (ML003735913)].

Based on the staff's experience with INES, and as part of the routine five-year review process for MDs, the staff proposes to change one of the reporting criteria in MD 5.12 to be consistent with the criteria in the INES User's Manual. The staff continues to support the previous Commission

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<sup>1</sup> Currently called the International Nuclear and Radiological Event Scale.



direction to screen all events reported to the NRC using INES and to transmit events rated at Level 2 or higher, but recommends that the NRC revise MD 5.12 to also include the transmission of events "attracting international public interest," as recommended by the INES User's Manual. Given the NRC's practice of openness and transparency, and its ability to more effectively communicate the safety significance of events to the public using INES, the staff believes that revising MD 5.12 as described above will bring greater conformity with NRC current practices for public outreach and will be consistent with the IAEA guidance in this area.

#### BACKGROUND:

International experts convened by the IAEA and NEA developed INES in 1990 as a tool for promptly communicating the safety significance of reported nuclear and radiological incidents and accidents. INES can be applied to any event associated with nuclear facilities, as well as with the transport, storage, and use of radioactive materials and radiation sources. Use of INES over the past 20 years has served to promote a common understanding of the significance of reported events among governments, the nuclear community, the media, and the public.

INES consists of a 7-level event classification system. Events of greater safety significance (*Levels 4-7*) are termed "accidents" and events of lesser safety significance (*Levels 1-3*) are called "incidents." Events without safety significance are below scale and are classified at *Level 0*. To date, 70 countries, including all countries with power reactor facilities, use INES. The NRC's INES Web page, at <http://www.nrc.gov/about-nrc/emerg-preparedness/emerg-classification/event-scale.html>, contains a description of INES, including an explanation of the various classification levels and a copy of the INES User's Manual (2008 edition).

In 2001, the Commission approved the staff's proposal in SECY-01-0071 to expand the use of INES and develop an associated MD to provide guidance for the use of INES [see SRM-SECY-01-0071, ML011510164]. In 2002, the staff developed MD 5.12, which states (in part) the following:

*Reports will be submitted only for those events rated at Level 2 or higher on the INES, unless specifically requested by the IAEA or another INES member nation.*

Because of the limited use of INES at the time, the staff did not record or transmit to the IAEA events that did not meet this criterion. However, over the years, operating experience branches within the various program offices continued to review and evaluate licensee event reports submitted to the NRC, even for those events below the INES Level 2 threshold. Consistent with MD 5.12, the staff did not transmit to the IAEA events classified below Level 2.

In 2004, the IAEA issued *Additional Guidance* for rating radiation and transport events within INES. This *Additional Guidance* was issued for pilot use in 2004 and was approved in 2006 for incorporation into a revised INES User's Manual, which IAEA published in December 2008. The subject guidance expands the INES approach to include materials, transportation, and fuel cycle events. NRC experience has shown that when applying the *Additional Guidance*, the majority of events that the U.S. now transmits to the IAEA are non-reactor events. The NRC staff generally drafts the INES report and submits the report to the IAEA within 2 business days of the NRC's receipt of event notification.



DISCUSSION:

INES provides a valuable tool for communicating the safety significance of events to the public and media. As mentioned in SECY 11-0067, “Annual Paper on NRC Staff Participation in IAEA and Nuclear Energy Agency Activities” (ML11123A235), the recent events at Fukushima illustrate the value of this tool for communicating the safety significance of events. The European, South American, African, Asian, and Australian regulators and media all use the INES rating scale to communicate the significance of events.

Since 2001, the NRC has transmitted only a limited number of reactor, fuel cycle, and materials events (rated at Level 2 or higher) to the IAEA per year (see Table 1).

Table 1. U.S. INES Experience 2001–2010

Year	Power reactor Events	Research Reactor Events	Fuel Cycle Events	Materials Events	TOTAL
2001	1	—	—	—	1
2002	2	—	—	4	6
2003	0	—	—	4	4
2004	0	0	0	6	6
2005	2	0	0	9	11
2006	1	1	1	9	12
2007	0	0	0	3	3
2008	0	0	0	4	4
2009	0	0	0	4	4
2010	1	0	0	3	4

During the past seven years, only two events reported to the NRC have attracted international public interest and, in accordance with the INES User’s Manual, could have been transmitted to the IAEA. The first event occurred on June 9, 2008, in which the National Institute of Standards and Technology (NIST) notified the NRC that a vial containing various isotopes of plutonium had broken and contaminated one of NIST’s research laboratories in Boulder, Colorado. While there was some contamination of the laboratory and two researchers, the safety significance of the event was low, and would have been rated at a Level 1 (anomaly) on INES. The second event was the Three Mile Island (TMI) low-level contamination event on November 22, 2009, in which the licensee reported that inadvertent contamination in the containment building occurred while employees were performing cleaning operations in a steam generator with a vacuum cleaner that lacked a high-efficiency particulate air filter. The INES National Officer and the NRC’s Office of Nuclear Reactor Regulation received 11 requests from other countries’ regulatory authorities within a few days requesting additional information (including an INES rating) for the TMI event. The NRC staff responded directly to the requesting countries, providing them with the INES rating (*Level 0*), but it did not transmit the rating to the IAEA, consistent with the guidance in MD 5.12. Because of the significant U.S. media attention and public interest of the TMI event, the NRC later included it in the 2010 Abnormal Occurrence Report to Congress (AO Report) under “Other Events of Interest” (SECY-11-0027, ML103130154). However, the actual exposure to individuals involved in these events was well below the NRC regulatory limits and was not safety significant.



In addition, as documented in the NRC foreign travel reports from the U.S. INES National Officer in 2009 and 2010 (ML100210278 and ML101880544, respectively), the use of INES as an international communication tool continues to gain momentum. In the recent IAEA ministerial conference on Fukushima, Director General Amano recently asked the INES Advisory Committee to consider ways of making INES more effective as a communication tool. More recently, IAEA's INES Advisory Committee has "strongly encouraged" all member countries, (including the U.S.) to communicate information about events internationally according to the following criteria in the INES User's Manual:

- *Events rated at Level 2 and above; or*
- *Event attracting international public interest.*

Given the NRC's emphasis on openness and transparency, and considering INES's demonstrated ability to effectively communicate the safety significance of events to the public, the staff proposes to revise MD 5.12 to include the agreed-upon international criteria described above, and to submit those events "attracting international public interest" with an INES rating to the IAEA. The staff believes that events attracting international public interest will continue to be few (less than one event per year). The staff recommends that any event reported to the IAEA as an event attracting international public interest be considered in the NRC review process when evaluating events for the "Other Events of Interest" appendix to the NRC's AO Report. The staff will continue to share INES notifications with the Office of Congressional Affairs for dissemination to Congress, as appropriate.

In summary, the staff believes that it is appropriate to revisit the current policy for submission of events to INES. The staff has analyzed the various aspects of participation in the INES program and identified the following two options: (1) maintain the status quo in accordance with MD 5.12 or (2) revise MD 5.12 to include reporting (those few events) that attract international public interest.

#### Option 1: Status Quo

Under this option, the staff would transmit only events rated at Level 2 or higher to the IAEA, unless specifically asked by the IAEA or another INES member nation. Events that do not meet this criterion would not be recorded or transmitted to IAEA on the INES event rating form. This approach is consistent with the Commission's earlier international information exchange policy direction contained in SECY-01-0071.

#### Option 2: Revise MD 5.12 to Rate Events that Could Attract International Public Interest

This option provides for NRC reporting of events that receive international public interest, even if less than Level 2 on INES. Based on past operational experience, this approach would likely result in less than one additional event submission per year. The staff notes that some reactor, fuel cycle, and high-profile materials events continue to receive increased media attention even though they are not necessarily safety significant events and typically would be rated at *Level 0* on INES. Communication of the safety significance of these types of events fosters a common understanding of events among the nuclear community, the public, and the media.





The staff notes that full participation in INES, reflected in the criteria in the INES User's Manual, supports the NRC's approach to Open Government<sup>2</sup> and results in information dissemination in a manner that enables the public to participate effectively and make informed decisions about agency activities. It is also compatible with the NRC's transparency and communication goals because it provides a consistent means for describing the relative significance of events to both the agency's national and international counterparts. This option would be responsive to the IAEA's recent Integrated Regulatory Review Service recommendations for greater consistency with international safety standards and good practices, and would bring the NRC into alignment with the INES practices used by the other 69 IAEA member states. Only a small incremental increase in staff resources would be required for submittal of what is expected to be only a few reports meeting the INES criteria, and NRC participation in INES would continue to have minimal impact on NRC licensees, certificate holders, and Agreement States.

#### RECOMMENDATION:

The staff recommends that the Commission approve Option 2. The staff will continue to review event reports sent to the IAEA as part of its AO Report review process.

#### RESOURCES:

The screening of events for INES classification and preparation of INES reports proposed in Option 2 can be accommodated within existing resources already allotted for event review and follow-up by the respective program offices.

#### COORDINATION:

The Office of the General Counsel has reviewed this paper and has no legal objection. The Office of International Programs and the Office of Public Affairs have reviewed this paper and have concurred with the staff's recommendations.

***/RA by Martin J. Virgilio for/***

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<sup>2</sup> See <http://www.nrc.gov/public-involve/open/transparency.html>



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<sup>2</sup> See <http://www.nrc.gov/public-involve/open/transparency.html>