

February 9, 2011

MEMORANDUM TO: Chairman Jaczko

FROM: R. W. Borchardt */RA/*  
Executive Director for Operations

SUBJECT: INITIATIVES FOR IMPROVED COMMUNICATION OF  
GROUNDWATER INCIDENTS

This memorandum provides the outcome of the U.S. Nuclear Regulatory Commission (NRC) Senior Management Review Group (SMRG) on two of the four themes described in the "Groundwater Task Force Report," issued June 2010 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML101680435). Specifically, the SMRG endorses, as described in this paper, the staff's initiatives to create a more reliable and consistent NRC response and to strengthen trust. A separate Commission information paper will be submitted that describes the staff regulatory approach for addressing groundwater protection and the themes of reassessing the regulatory framework and maintaining barriers as designed to confine licensed material.

Recent incidents at several nuclear stations, including Braidwood Generating Station, Oyster Creek Generating Station, Oconee Nuclear Station, and Vermont Yankee Nuclear Power Station, involving radioactive contamination of groundwater wells and soil have caused NRC licensees and the NRC to take actions to address the source of the radioactive material (e.g., buried piping leaks) and to communicate the impact of such incidents to the public and other external stakeholders. Although the NRC actions in each incident have been adequate to prevent off-site releases in excess of Federal limits, the incidents raise questions about (1) the completeness of NRC actions to date, and (2) whether those actions need to be augmented.

To answer these questions, the NRC's Executive Director for Operations established a Groundwater Task Force (GTF) on March 5, 2010. The purpose of the GTF was to reevaluate the recommendations made in the "Liquid Radioactive Release Lessons Learned Task Force Final Report," dated September 1, 2006 (ADAMS Accession No. ML062650312), review the actions described in SECY-09-0174, "Staff Progress in Evaluation of Buried Piping at Nuclear Reactor Facilities," dated December 2, 2009 (ADAMS Accession No. ML093160004), and review the actions taken in response to recent releases of tritium into groundwater by nuclear facilities. The purpose of the GTF's review was to determine whether the NRC should augment the actions taken in response to recent incidents and the recommendations made in the Liquid Radioactive Release Lessons Learned Task Force Final Report.

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The GTF determined that the NRC is meeting its mission of protecting public health, safety, and the environment and is correctly applying requirements and properly characterizing the relevant issues. However, in view of stakeholder concerns, the GTF indicated that the NRC should consider some changes to its oversight of licensed material outside of its designed confinement. In its report, the GTF identified four major crosscutting themes that provide focus for its conclusions: (1) reassess the regulatory framework for groundwater protection, (2) maintain barriers as designed to confine licensed material, (3) create a more reliable NRC response, and (4) strengthen trust.

The NRC established the SMRG to evaluate the GTF conclusions and recommendations, identify next steps, and make recommendations for the Commission's consideration about potential policy or regulatory changes. Based on the GTF recommendations, the SMRG identified actions that the staff should undertake in the near term. These include development of an agency-wide community of practice for groundwater contamination issues, development of a standard protocol for split samples, improvements to the existing factsheets associated with groundwater protection and tritium, and consideration of the need for a generic communication to the industry.

For longer term actions, the SMRG sought input from internal and external stakeholders. In order to focus public comment, the SMRG formulated questions based on the recommendations and conclusions of the GTF. These questions included the following:

- Should the NRC's oversight programs be modified to ensure greater consistency when addressing low risk, high public interest/confidence issues?
- How can the NRC improve communications and support to other regulatory agencies, such as the U.S. Environmental Protection Agency and the States, in understanding and exercising respective roles and responsibilities related to groundwater protection?
- How can the NRC increase confidence in its actions and communications related to groundwater protection?
- What role could third party verification or assessment have in responding to groundwater incidents?

These questions were published in the *Federal Register* on September 23, 2010 (75 FR 57987), for comment, and the NRC held a workshop on October 4, 2010 (ADAMS Accession No. ML102990500) to receive input from a diverse group of industry and public stakeholders. The actions developed and described below are intended to be responsive to the above-noted questions published in the September 23, 2010, *Federal Register* Notice.

Informed by these comments and the conclusions of the GTF, staff was assigned, with SMRG endorsement, to undertake a number of initiatives to strengthen trust and ensure greater reliability and consistency of the NRC's response to leakage of radioactive effluents or potential contamination of groundwater. Some of the initiatives are directed solely at incidents of radioactive releases to the groundwater, but others are more broadly applicable to other incidents involving unintended radioactive releases. Some of the more significant initiatives are described below.

### Improved Communication Strategies

The NRC Communications Council (Council) has been tasked with developing a strategy for strengthening stakeholder confidence in NRC actions around reported incidents in which the safety risk may be low and stakeholder interest is high. This strategy will be used not only for incidents of unintended radioactive releases into the groundwater but also more broadly for other incidents and events. The Council is developing a comprehensive strategy to address strengthening stakeholder confidence in the NRC and is considering ways that the NRC can develop relationships with trusted sources such as public health officials as a method for strengthening credibility. Specifically, for loss of confinement and tritium issues, the Council is identifying improvements to the information on the NRC Web page such as more focus on health impacts rather than risk, greater use of plain language, and improved follow-up when leaks are identified. Additionally, the staff is preparing a factsheet describing the regulatory framework for groundwater for the different categories of licensees (i.e., power reactor, fuel cycle, uranium recovery).

### Improved Annual Effluent Reports

In Title 10 of the *Code of Federal Regulations* (10 CFR) 50.36a(2), the NRC requires licensees to submit annual effluent reports. Most licensees submit their annual reports by May 1 of the following calendar year; however, some licensees have different dates identified in their licensing-basis documents. Annual effluent reports for each power reactor licensee site are published on the NRC Web site.

Starting in 2010, the staff is making changes to improve the user friendliness of this information. Data from the licensee-supplied reports are being compiled into a new, user-friendly format. This new report summarizes the information so that the user is not overwhelmed by the vast amount of data in the licensee-supplied reports but still has the necessary data to make informed decisions. The new summary report contains explanatory text about the data to make them more understandable. Graphical depiction of the data will allow the user to visually compare one plant to another without having to comb through pages of tables of numerical data. Finally, the data are normalized on a per-unit basis to allow comparison between different operating units. Steps are also being taken to improve the timeliness of publication of the staff's summary report so that the report will be available on the NRC Web site in a quicker manner.

### International Outreach

The staff initiated a dialogue with international regulators to understand their regulatory approaches for groundwater protection, focusing on resolution of issues involving underground piping and tanks. The staff is also gathering information on domestic and international activities for modeling the movement of radioactive materials through the environment. In addition to keeping informed of international efforts in this area, the NRC will use this information to strengthen agency communication with domestic stakeholders about groundwater incidents.

### Communication with States

The staff is developing a standard protocol for engaging States on unintended releases of radioactive material. This protocol will incorporate lessons learned from groundwater incidents thus far and feedback from State representatives. In addition, the staff will consider approaches

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for engaging States by establishing communication channels through more than one State organization, such as the Conference of Radiation Control Program Directors, State departments of public health or environmental quality, and Governor-appointed State Liaison Officers. Once established, this standard protocol and these communication channels will be beneficial for other incidents and events in which the NRC will need to engage States.

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