



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS  
WASHINGTON, DC 20555 - 0001**

March 23, 2011

The Honorable Gregory B. Jaczko  
Chairman  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

**SUBJECT: STATUS OF GROUNDWATER PROTECTION TASK FORCE EFFORTS**

Dear Chairman Jaczko:

During the 581<sup>st</sup> meeting of the Advisory Committee on Reactor Safeguards, March 10 – 12, 2011, we reviewed SECY-11-0019, “Senior Management Review of Overall Regulatory Approach to Groundwater Protection,” and its companion memorandum, “Initiatives for Improved Communication of Groundwater Incidents.” We also reviewed the efforts to date regarding the staff’s progress and industry initiatives regarding the evaluation of buried piping and underground tanks at nuclear reactor facilities. Our Radiation Protection and Nuclear Materials Subcommittee also reviewed these matters during a meeting on January 12, 2011. During these meetings we had the benefit of discussions with representatives of the NRC staff. We also had the benefit of the documents referenced.

**CONCLUSIONS AND RECOMMENDATIONS**

1. We agree with the Senior Management Review Group (SMRG) and the Groundwater Task Force (GTF) report that the NRC is accomplishing its stated mission to protect public health and safety, and the environment.
2. There are differences in the environmental standards for protection of groundwater among the NRC, the Environmental Protection Agency (EPA), and the states in which nuclear power plants reside. There is a lack of understanding among stakeholders regarding the different standards, the numerical limits, what the differences mean, how they came to exist, and how they are applied.
3. Implementation of the initiatives identified in SECY-11-0019 and its companion memorandum should continue.
4. Routine plant inspections should continue assessing the licensees’ implementation of NEI-07-07. The staff should consider using the results of these inspections to develop a new radiological effluent performance indicator for the Reactor Oversight Process (ROP).

5. Efforts by the NRC, in cooperation with the states and EPA, to develop tools to communicate with the public regarding the differences in groundwater protection standards should continue.

## **BACKGROUND**

The Liquid Radioactive Release Lessons Learned Task Force (LLTF) was established by the NRC Executive Director for Operations (EDO) on March 10, 2006, in response to incidents at Braidwood, Indian Point, Byron, and Dresden related to unplanned and unmonitored releases of radioactive liquids into the environment. The focus of the task force was on releases of radioactive liquids that were neither planned nor monitored.

The final report of the LLTF, also known as the Tritium Task Force Report, was published on September 1, 2006. After issuance, the report's recommendations were assigned to appropriate organizations within the NRC for implementation. Progress has been made on most of the actions recommended in the Tritium Task Force Report, including the completion of some of the tasks. Some tasks are not yet complete.

On March 5, 2010, the EDO established the Groundwater Task Force (GTF) to evaluate the completeness of the NRC's actions to address the unmonitored release of radioactive contamination to groundwater and soils after additional incidents of groundwater contamination at Oyster Creek, Oconee, and Vermont Yankee. As described in the GTF Charter, the purpose of the GTF was to determine whether the actions NRC had taken, or planned to take, described in the LLTF Report should be augmented. The GTF issued its final report on June 11, 2010.

The Senior Management Review Group (SMRG) was convened by the EDO to review the GTF's final report, and decide whether it agreed with the findings and how best to act upon the conclusions and recommendations in the final report.

## **DISCUSSION**

The GTF report concludes that the NRC is accomplishing its regulatory mission to protect public health and safety, and the environment. We agree with this overall conclusion.

Although no public health and safety impact has resulted from the incidents so far, the GTF report reaches 16 conclusions on issues associated with the oversight of groundwater incidents. These 16 items fall under four major themes: (1) to reassess the regulatory framework, (2) to maintain barriers as designed to confine licensed material, (3) to create a more reliable and consistent NRC response, and (4) to strengthen trust.

The SMRG completed its review and prepared SECY-11-0019 and the associated staff memorandum to the Commission. Together, these two documents describe actions which have been initiated or recommended based on the findings of the GTF and the SMRG review of the GTF report.

SECY-11-0019

SECY-11-0019 addresses the first two themes discussed in the GTF report: (1) to reassess the regulatory framework and (2) to maintain barriers as designed to confine licensed material. The staff memorandum addresses the remaining themes: (3) to create a more reliable and consistent NRC response and (4) to strengthen trust.

The SECY identifies ongoing activities by the staff and the industry to protect groundwater. The SMRG concludes that there are no policy issues that require the attention of the Commission at this time. The overall strategy recommended by the SMRG is to evaluate the results of current ongoing activities. We agree with the overall strategy and the recommendations. The specific ongoing activities that are to be tracked and reported on are discussed below:

1. Incorporating the Voluntary Industry Initiative on Groundwater Protection into the Regulatory Framework

The SMRG concludes that progress on the three industry initiatives to address groundwater protection (the Groundwater Protection Initiative, the Buried Piping Integrity Initiative, and the Underground Piping and Tanks Integrity Initiative) has been good and should continue as planned. The NRC's activities to review and inspect the implementation of these initiatives should also continue. The SMRG disagrees with the GTF report recommendation to consider incorporating the industry initiatives into the NRC's regulatory framework. Instead, they recommend issuance of a generic communication to convey the staff's observation that the industry programs are providing the required response to the groundwater contamination incidents.

2. Revising the Current Radiological Effluent Performance Indicator in the Reactor Oversight Program

The SMRG agrees with the GTF report that the current radiological effluent performance indicator in the ROP does not provide any useful data on groundwater contamination from leaks and spills and recommends that the annual ROP self-assessment consider a change or addition to the indicator to provide such data. The SECY paper associated with the annual ROP self-assessment will address this recommendation.

We note that the NRC is already inspecting the implementation of the industry's groundwater protection initiative (NEI-07-07) in routine power plant inspections. This practice should continue, and data and information from these inspections could be useful in revising the radiological effluent performance indicator in the ROP.

3. Considering Immediate Remediation of Spills at NRC-Licensed Facilities

The GTF report states that the staff is beginning to develop the technical basis for considering immediate remediation of spills in response to the Staff Requirements Memorandum on SECY-07-0177, "Proposed Rule: Decommissioning Planning." The SMRG does not recommend any changes to this course of action.

#### 4. Participating in Consensus Standards Development

The GTF report describes the American Society of Mechanical Engineers (ASME) and National Association of Corrosion Engineers (NACE) International work that the staff is supporting to address non-safety-related piping and leaks that are not structurally significant. The SMRG encourages the continuation of these activities.

#### Staff Memorandum to Improve Communication Initiatives

Activities described in the memorandum to improve communications are discussed below:

##### 1. Improved Communication Strategies

The SMRG states that the NRC Communications Council has been tasked with developing a strategy for strengthening stakeholder confidence in NRC response actions to reported groundwater incidents. The Council is in the process of identifying improvements to (1) the information on the NRC webpage and (2) the description of the regulatory framework for groundwater protection for the different categories of licensees.

We note that there are significant differences in applicable groundwater standards among the NRC, EPA, and the states in which nuclear power plants reside. The rationale for these differences has not been communicated clearly. This contributes to the confusion and lack of public confidence in decisions by the NRC concerning groundwater protection issues.

##### 2. Improved Annual Effluent Reports

Starting in 2010, the staff began making changes to improve the organization and clarity of the information submitted by the nuclear power plants in their annual effluent reports, which are published on the NRC webpage. Steps are also being taken to improve the timeliness of these reports by making them available on the webpage sooner.

##### 3. International Outreach

The staff is consulting with international regulators and is gathering information on domestic and international activities for modeling the transport of radionuclides throughout the environment.

##### 4. Communication with States

The staff is developing a standard protocol for engaging states regarding unintended releases of radioactive material. The protocol will incorporate the lessons learned from the groundwater incidents and feedback from state representatives. The staff will also look into establishing better communication channels with state health departments and Governor-appointed liaisons.

We look forward to continuing exchange with the staff as it implements the initiatives recommended in SECY-11-0019 and the associated memorandum.

Sincerely,

*/RA/*

Said Abdel-Khalik  
Chairman

## REFERENCES

1. SECY-11-0019, "Senior Management Review of Overall Regulatory Approach to Groundwater Protection," dated February 9, 2011 (ML110050525)
2. EDO Memorandum, Subject: "Initiatives for Improved Communication of Groundwater Incidents," dated February 9, 2011 (ML110050252)
3. U.S. NRC, "Groundwater Task Force Final Report," June 2010 (ML101740509)
4. EDO Memorandum, Subject: "Groundwater Contamination Task Force," dated March 5, 2010 (ML100640188)
5. EDO Memorandum, Subject: "Senior Management Review of Groundwater Task Force Report," dated June 17, 2010 (ML101680435)
6. U.S. NRC, "Liquid Radioactive Release Lessons Learned Task Force Report," September 2006 (ML062650312)
7. NEI-07-07, "Industry Ground Water Protection Initiative – Final Guidance Document," August 2007 (ML072600295)
8. NEI, "Proposed Buried Piping Integrity Initiative," dated November 18, 2009 (ML093350035)
9. NEI Letter, "Underground Piping and Tank Integrity Initiative," dated September 27, 2010 (ML103410507)
10. TI 2515/173, "Review of the Implementation of the Industry Ground Water Protection Voluntary Initiative," Revision 1, dated October 31, 2008 (ML082770349)
11. SECY-09-0174, "Staff Progress in Evaluation of Buried Piping at Nuclear Reactor Facilities," dated December 2, 2009 (ML093160004)
12. SRM-M110224, "Staff Requirements – Briefing on Groundwater Task Force, 9:00 A.M., Thursday, February 24, 2011," dated March 2, 2011 (ML110610603)

We look forward to continuing exchange with the staff as it implements the initiatives recommended in SECY-11-0019 and the associated memorandum.

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Said Abdel-Khalik  
Chairman

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Chairman dated March 23, 2011

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