



SECRETARY

UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

August 15, 2011

COMMISSION VOTING RECORD

DECISION ITEM: SECY-11-0019

TITLE: SENIOR MANAGEMENT REVIEW OF OVERALL  
REGULATORY APPROACH TO GROUNDWATER  
PROTECTION

The Commission provided direction as recorded in the Staff Requirements Memorandum (SRM) of August 15, 2011.

This Record contains a summary of voting on this matter together with the individual vote sheets, views and comments of the Commission.

A handwritten signature in black ink, which appears to read "Annette Vietti-Cook", is written over a horizontal line.

Annette L. Vietti-Cook  
Secretary of the Commission

Attachments:

1. Voting Summary
2. Commissioner Vote Sheets

cc: Chairman Jaczko  
Commissioner Svinicki  
Commissioner Apostolakis  
Commissioner Magwood  
Commissioner Ostendorff  
OGC  
EDO  
PDR

VOTING SUMMARY - SECY-11-0019

RECORDED VOTES

	APRVD	DISAPRVD	ABSTAIN	NOT PARTICIP	COMMENTS	DATE
CHRM. JACZKO	X				X	7/12/11
COMR. SVINICKI	X	X			X	5/23/11
COMR. APOSTOLAKIS	X	X			X	6/30/11
COMR. MAGWOOD	X				X	7/6/11
COMR. OSTENDORFF	X				X	6/27/11

**NOTATION VOTE**

**RESPONSE SHEET**

TO: Annette Vietti-Cook, Secretary

FROM: Chairman Gregory B. Jaczko

SUBJECT: SECY-11-0019 – SENIOR MANAGEMENT REVIEW OF  
OVERALL REGULATORY APPROACH TO  
GROUNDWATER PROTECTION

Approved  X  Disapproved   Abstain

Not Participating

COMMENTS: Below   Attached  X  None

  
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7/12/11   
\_\_\_\_\_  
DATE

Entered on "STARS" Yes  x  No

## **Chairman Jaczko's comments on SECY-11-0019, "Senior Management Review Of Overall Regulatory Approach to Groundwater Protection"**

I approve of the Senior Management Review Group's overall regulatory approach to groundwater protection. I think the Groundwater Task Force and the SMRG have done an excellent job in reaching out to stakeholders and considering a broad range of regulatory options. I commend Commissioner Svinicki for her interest in converting the staff's paper to a Commission vote. I value the open and transparent discussion that the Commission must have on this issue of high interest to the public. However, I disagree with Commissioner Svinicki's position to turn over addressing groundwater contamination to the industry. The wisdom of relying upon voluntary initiatives is being questioned as the accident in Japan continues to unfold. Now is not the time to forego our responsibility as additional information suggests mitigation strategies similar to our voluntary initiatives may not have been as successful as anticipated.

Over the past several years, instances of buried piping leaks have led to inadvertent ground water contamination at 65 operating nuclear power plants. The Environmental Protection Agency set a maximum contaminant level of drinking water at 20,000 picocuries per liter (pCi/L) for tritium. Thirty-eight of these plants have had leaks or spills that involved tritium in excess of 20,000 pCi/L at some time during their operating history. Fourteen plants are currently reporting tritium, from a leak or spill, in excess of 20,000 pCi/L. Although many plants have had leaks or spills involving tritium, no plant is currently detecting tritium in the offsite environment, or in drinking water, in excess of 20,000 pCi/L. The fact that these events have not had offsite impacts does not mean it is acceptable for licensees to have accidental releases of radiation – even onsite. In some cases, the releases have not had offsite consequences because the plumes have migrated to much larger bodies of water in which there is sufficient dilution to reduce the concentration levels. While this fact has positive impacts on the overall health effect, it is simply inappropriate for the regulator to base its inaction on the dilution strategy. The NRC's response should, however, be objective and commensurate with the risk significance of the leak – not the level of public outcry. That is precisely what a performance indicator will do. As with all our performance indicators, there will be a need to properly establish the white, yellow, and possibly red threshold using a strong focus on risk significance. It may in fact turn out that most of the events we are currently tracking will simply be green findings. Having the performance indicator will allow for an effective method of communicating the significance of these events to the public and reduce the use of ROP deviations and other subjective reactions to these events.

In light of these events, the NRC established a task force to evaluate our regulatory framework for buried piping and the adequacy of past agency actions to address buried piping leaks. With nine nuclear power plants now operating beyond their initial 40 year operating license term and over 40 more approved for extended operation, the agency must be vigilant in our oversight of material degradation and radioactive releases to the environment. As licensees continue to express interest in extended operation, the NRC must remain focused on the effects of aging on plant materials.

The Groundwater Task Force report identified potential policy issues that could impact the regulatory framework. These issues include: 1) incorporating the voluntary industry initiative on groundwater protection into the regulatory framework, 2) revising the current radiological effluent performance indicator in the Reactor Oversight Process (ROP), 3) considering immediate remediation of leaks/spills at NRC-licensed facilities, and 4) participating in consensus standards development. Even though the Senior Management Review Group did

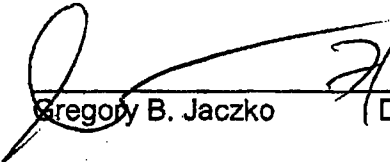
not support the first item, I support all of these recommendations. I think there is significant value in, at a minimum, codifying the industry's initiatives to ensure consistent identification and timely reporting of leakage leading to groundwater contamination. Additionally, in my vote on SECY-11-0076, "Improving the Public Radiation Safety Cornerstone of the Reactor Oversight Process," I supported the staff's efforts to enhance the Reactor Oversight Process to emphasize defense in depth through prevention, detection, and mitigation of groundwater contamination. I also support the staff's commitment to work with internal and external stakeholders on this enhancement to the performance indicator program.

While I appreciate the industry's voluntary efforts to address underground leakage and groundwater contamination, voluntary initiatives do not relieve the regulator from consistently and appropriately enforcing its regulatory requirements to monitor, control, and limit releases of radioactive materials from nuclear power plants. As we've recently seen from our inspections following the events in Japan, voluntary initiatives do not get rigorous oversight by either the NRC or licensees. The results of our Temporary Instruction 184 reviews on the voluntary use of severe accident management guidelines (SAMGs) – frequently touted by industry as a means of improving reactor safety – revealed inconsistent implementation by licensees. For example, many licensees have not consistently updated, trained, and exercised on the use of SAMGs, and in some cases, even referred to equipment that was no longer required to be functional. With regards to the industry's groundwater protection initiatives, there is no consistency in the quality, quantity, and frequency for sampling, and consequence, or possibility of using the critical tool of enforcement for allowing an adopted standard to lapse. I believe this illustrates the inherent weakness of allowing voluntary initiatives. Rather than the NRC providing clear and consistent regulatory requirements as a strong and decisive regulator, it abdicates our responsibility as the regulator to licensees.

In her vote, Commissioner Svinicki argues against routine inspections of voluntary initiatives as being improper in the absence of regulatory requirements. I suggest that we consider the significant insights and impact the NRC has through its use of performance indicators, such as unplanned scrams, as an objective measure of safety performance. There is no regulatory requirement that a nuclear power plant once placed into operation may not have an unplanned automatic or manual shutdown to correct a potentially unsafe reactor condition. Quite the contrary. Through our performance indicators, the agency gains insights into how well (or poorly) a licensee's performance is depending upon the frequency of unplanned scrams. It provides information into our reactor oversight process that a deeper look into a licensee's performance may be warranted, to evaluate the potential for the extent of similar conditions and to determine whether corrective actions are appropriate and effective. Furthermore, the Commission has, as a matter of policy, directed the staff to perform inspections relating to industry's voluntary practices. A risk significant aspect of safety during shutdown operations is currently controlled through voluntary industry practices. In its Staff Requirements Memorandum for SECY-97-168, "Issuance for Public Comment of Proposed Rulemaking Package for Shutdown and Fuel Storage Pool Operation," the Commission directed the staff to monitor licensee performance through inspections and other means in the area of shutdown operations to ensure that the current level of safety was maintained.

I commend the staff for working with consensus standards organizations, such as the ASME Code committees and NACE, to gain a better understanding of inspections of nonsafety-related piping incorporated into ASME code cases and to evaluate the need for corrosion protection standards specific to the configuration of piping at nuclear power plants. I believe this type of collaboration provides many opportunities that could also enhance our understanding of safety-related piping as well.

I continue to believe that the agency should conduct as much of its responsibilities as possible in an open and transparent manner. This philosophy, in concert with the agency's regulatory processes, provides extensive opportunities for public and stakeholder participation, and is far more open and transparent than voluntary initiatives to guide the agency's actions.

  
Gregory B. Jaczko  
Date 7/22/11

**NOTATION VOTE**

**RESPONSE SHEET**

TO: Annette Vietti-Cook, Secretary  
FROM: COMMISSIONER SVINICKI  
SUBJECT: SECY-11-0019 – SENIOR MANAGEMENT REVIEW OF  
OVERALL REGULATORY APPROACH TO  
GROUNDWATER PROTECTION

Approved XX In Part Disapproved XX In Part Abstain \_\_\_\_\_

Not Participating \_\_\_\_\_

COMMENTS: Below \_\_\_\_ Attached XX None \_\_\_\_

  
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05/23/11  
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Entered on "STARS" Yes ☒ No \_\_\_\_

**Commissioner Svinicki's Comments on SECY-11-0019**  
**Senior Management Review of Overall Regulatory Approach to Groundwater Protection**

SECY-11-0019 discusses several planned actions to address the recommendations made in the Groundwater Contamination Task Force (GTF) Report from the perspective of the Senior Management Review Group (SMRG) that was formed to review these recommendations. This paper was originally presented to the Commission for information; however, I converted it to a voting matter because it contains a number of broad policy issues that the Commission should address now, in order to shape the agency's path forward. The NRC has taken a comprehensive approach to the issue of groundwater contamination over the last several years. In view of the lack of public health effects and low safety significance associated with this issue, and the fact that the industry is proactively addressing it, the Commission is in a position to reconsider the trajectory of the NRC's efforts in this area. As amplified below, I approve in part and disapprove in part the staff's planned regulatory approach for addressing groundwater protection as presented in SECY-11-0019.

Based on information gained from NRC inspections, independent peer assessments, and industry assessments, the SMRG concluded that licensee actions taken in response to leaks and spills "have been consistent with NRC's regulatory requirements and no new regulatory requirements need to be considered with respect to groundwater protection at this time." As the staff concluded, the public health effects of this issue are demonstrably insignificant, with concentrations of radionuclides in groundwater, where they occur, falling well below regulatory limits. The overarching concerns are rooted in public trust and public confidence. These public confidence issues are compounded when there is a lack of data or a failure to communicate emerging information in a timely manner, and are further exacerbated when the levels of tritium detected are communicated with no context. Overwhelmingly, establishing this context is the industry's responsibility. These efforts can and should, however, be complemented by efforts by NRC to enhance communications along the lines of Themes 3 and 4, as laid out in the GTF report.

The industry has implemented three initiatives to address stakeholder concerns related to groundwater: the Industry Ground Water Protection Initiative, the Buried Piping Integrity Initiative, and the Underground Piping and Tanks Integrity Initiative. Both the GTF and the SMRG have studied these initiatives in conducting their assessments. By all indications, these voluntary initiatives are, on a performance basis, achieving outcomes desired by stakeholders, State and local governments, the NRC, and the industry itself. The SMRG concluded that "the three industry initiatives can, if properly implemented, enhance the prevention, response and remediation of potential threats to groundwater" and "in view of the progress being made by industry in protecting groundwater, rulemaking or some other form of regulatory requirement to codify the voluntary initiatives would not result, at this time, in a substantial increase in the overall protection of the public health and safety." Consequently, it is not clear why the scope of the NRC's activities should be expanded.

The SMRG concluded that incorporating the industry program into the regulations would not improve safety, and it therefore would not meet the cost-benefit backfit provisions of 10 CFR § 50.109. Nevertheless, the staff plans to issue a generic communication regarding leaks and spills onsite in order to convey its observation that the industry programs are providing more active management of situations that can lead to unplanned releases, and to inform licensees that the staff plans to continue to assess the effectiveness of the programs through the ROP. However, I am concerned that this approach will amount to implementing a *de facto* rule.



While it may have been appropriate to gather information on licensee implementation of the voluntary initiatives through Temporary Instruction 2515/173, Revision 1 (which expired on August 30, 2010), formalizing routine inspections of the voluntary initiatives in the ROP would be an improper course of action, particularly in the absence of a regulatory requirement. I disapprove the staff's issuance of a generic communication and modification of the ROP as described by the staff. NRC inspections of groundwater and environmental monitoring and radioactive effluents should focus on assessing licensee compliance with NRC regulatory requirements. Expansion of NRC oversight could lead to the NRC regulating to public confidence. In my view, NRC should continue to regulate to safety, with public confidence as an outgrowth of effective regulation.

SECY-11-0019 also discusses the fact that, in light of NRC involvement in this issue and stakeholder attention, and recognizing the benefits to the utilities of proactive maintenance, the pertinent ASME Code committees have decided to develop a Code Case for inspection and maintenance of safety-related piping as well. This effort should remain within the sphere of industry and, consistent with the voluntary nature of the industry initiatives, the NRC should neither encourage nor discourage the development of this Code Case beyond routine NRC participation on the pertinent ASME Code committees. I disapprove any effort by the staff to include the product of this ASME effort, or similar efforts of NACE International, into the regulatory framework, particularly through the 10 CFR § 50.55a, "Codes and Standards" rulemaking.

As an extension of this concept, I disapprove the effort to develop a revised radiological effluent performance indicator. As noted by the NRC staff, the current indicator is set to a small fraction of the regulatory limit and licensees' performance regarding effluent releases has not approached this fraction of the regulatory limit. Consequently, the staff has concluded that licensees' radiological effluent control programs have been satisfactory. The staff goes on to note an increase in the frequency of radioactive leaks and spills. It seems likely that the main cause of the increase, however, is that licensees are taking a harder look at on-site unintentional releases through the three voluntary initiatives they have had underway. Licensees have also lowered the threshold of their criteria for reporting such releases.

In summary, the staff should refocus its groundwater initiatives on two items. First, the staff should continue to work with industry in developing protocols for the NRC to remain aware of industry progress in implementing and overseeing its self-imposed initiative. Second, the staff should enhance public education and awareness of issues related to groundwater contamination. To this end, the staff should provide, for Commission review and approval, options to revise its approach to groundwater protection. The options paper should comprehensively present all activities contemplated, associated milestones, anticipated resources, and a high-level communications plan. The options should consider the appropriate, risk-informed regulatory footprint for the NRC in this area and balance the resources applied to it against the range of safety significant issues before us as a regulator.

  
Kristine L. Svinicki 05/23/11

**NOTATION VOTE**

**RESPONSE SHEET**

**TO:** Annette Vietti-Cook, Secretary

**FROM:** Commissioner Apostolakis

**SUBJECT:** SECY-11-0019 – SENIOR MANAGEMENT REVIEW OF  
OVERALL REGULATORY APPROACH TO GROUNDWATER  
PROTECTION

Approved   X   Disapproved   X   Abstain       

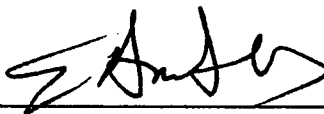
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**COMMENTS:** Below   X   Attached    None   

I support the Senior Management Review Group's decision not to incorporate the voluntary industry groundwater protection initiative into the regulatory framework. Because of the low-safety consequence of the issue, I only support the staff's plan to assess the effectiveness of the industry's initiative. I support the staff's involvement in developing consensus standards relating to non-safety related piping. I do not support the use of the Reactor Oversight Process nor the staff's plan to revise the radiological effluent performance indicator.

Furthermore, the Commission (SRM-SECY-07-0177) directed the staff to make recommendations to expand the decommissioning planning process to include remediation of residual radioactivity (which includes subsurface contamination) during the operational phase. The objective is to avoid complex decommissioning challenges. The staff plans to provide a recommendation to the Commission later this year.

I agree with Commissioners Ostendorff and Svinicki that proactive stakeholder engagement including federal, tribal, state and local governments is necessary to provide for clarity of this issue and awareness of the NRC's regulatory program and mission.

  
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  6/30/11    
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**NOTATION VOTE**

**RESPONSE SHEET**

TO: Annette Vietti-Cook, Secretary

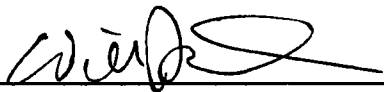
FROM: COMMISSIONER MAGWOOD

SUBJECT: SECY-11-0019 – SENIOR MANAGEMENT REVIEW OF  
OVERALL REGULATORY APPROACH TO  
GROUNDWATER PROTECTION

Approved X Disapproved \_\_\_\_\_ Abstain \_\_\_\_\_

Not Participating \_\_\_\_\_

COMMENTS: Below \_\_\_\_\_ Attached X None \_\_\_\_\_

  
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6 July 2011  
\_\_\_\_\_  
DATE

Entered on "STARS" Yes X No \_\_\_\_\_

**Commissioner Magwood's Comments on SECY-11-0019:  
"Senior Management Review of  
Overall Regulatory Approach to Groundwater Protection"**

Over the last year, the staff has conducted a very thoughtful process to respond to recent concerns about tritium contamination of groundwater. Both the Groundwater Contamination Task Force (GTF) and the Senior Management Review Group (SMRG) have performed important work that has advanced the agency's development of strategies to deal with a difficult problem that has the attention of a wide array of stakeholders.

Legal analyses by the staff have confirmed that the NRC's ability under existing law to regulate releases that do not—according to the scientific facts—impact human health is very limited. As we engage this matter, while it is appropriate that we should seek to respond to public concerns, the agency must take care not to exceed our legal and regulatory mandates. Nevertheless, it is certainly within our ability to take appropriate actions to create an overall environment that advances the protection of public health and addresses sincere public concerns.

In that respect, I believe that assuring the complete, successful, and ongoing implementation of the voluntary initiatives implemented by the industry strikes an appropriate balance. I therefore agree with the SMRG that incorporating these voluntary initiatives is unnecessary at this time. Although the initiatives are voluntary, it is my understanding that they are being fully implemented industry-wide. The staff should continue to monitor and periodically assess the effectiveness of these initiatives and should assure that they are cognizant of ongoing industry research and technical developments related to groundwater protection.

Such a monitoring activity is consistent with the Government Accountability Office's recent recommendations and will assure that if regulatory changes are needed in the future, the staff will be well-positioned to make such changes. It is, therefore, reasonable for staff to include these initiatives, where appropriate, in inspection activities. Nevertheless, the slope here is potentially a slippery one and staff is cautioned to remember that its purpose is to monitor these efforts, not to regulate them. That said, if these voluntary efforts are not conducted in a committed and enduring fashion, staff should present information to this effect to the Commission which can and, if necessary, will revisit this matter.

I am somewhat less concerned than some of my colleagues about the proposed revision of the radiological effluent performance indicator. The current performance indicator was not handed down by the gods and is, therefore, not unassailable. However, the Commission will need to review and consider the proposed revision very carefully. Unless staff presents a strong technical basis for the revision that is consistent with our regulatory mandate, it should not be adopted.

Finally, it has been my experience from my discussions with members of the public that there has been, at times, a great deal of confusion and concern regarding groundwater protection. Therefore, I am pleased to hear that the staff is developing a new communications strategy to provide information to both states and members of the public on groundwater issues. Staff should never be confused about the fact that how policies are communicated is unquestionably a policy matter that must be reviewed and approved by the Commission unless the Commission determines otherwise.

I therefore support Commissioner Svinicki's proposal that staff prepare a follow-on paper for Commission review and approval that more clearly delineates staff's plans, milestones, and required resources to deal with this issue and a range of options for Commission consideration. This decision paper should include, for Commission review and approval, a plan to improve groundwater-related communications. Ideally, a paper of this nature might have been presented to the Commission in the first instance; doing so would have saved considerable time and enabled the agency to respond more promptly to groundwater protection concerns.



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William D. Magwood, IV

4/6/11

Date

**NOTATION VOTE**

**RESPONSE SHEET**

TO: Annette Vietti-Cook, Secretary

FROM: COMMISSIONER OSTENDORFF

SUBJECT: SECY-11-0019 – SENIOR MANAGEMENT REVIEW OF  
OVERALL REGULATORY APPROACH TO  
GROUNDWATER PROTECTION

Approved X Disapproved \_\_\_\_\_ Abstain \_\_\_\_\_

Not Participating \_\_\_\_\_

COMMENTS: Below \_\_\_\_\_ Attached X None \_\_\_\_\_

  
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6/27/11  
DATE

Entered on "STARS" Yes X No \_\_\_\_\_

## **Commissioner Ostendorff's Comments on SECY 11-0019, "Senior Management Review of Overall Regulatory Approach to Groundwater Protection"**

Considering the significant interest in groundwater protection issues and the scope of follow up actions in response to senior management's review of the task force report on groundwater protection, I believe that it is appropriate that the Commission provide clear direction on this topic. I therefore appreciate Commissioner Svinicki's efforts to address the staff's paper on groundwater protection as a voting matter. I also appreciate the diligent work of the groundwater task force and the senior management review group (SMRG) in thoroughly evaluating this controversial and complex policy issue. I approve the SMRG's recommendations as described in SECY-11-0019 with the following comments.

There are a variety of regulatory tools available to the agency in carrying out its safety mission. The determination of which tool is appropriate should be case specific, considering the safety significance of the issue and the likelihood that the approach will accomplish the agency's safety objectives. In the case of groundwater protection, the SMRG determined that voluntary initiatives can enhance the prevention, response, and remediation of potential threats to groundwater and that none of the events involving degradation of piping have resulted in releases that exceeded a small fraction of existing radiation protection limits. Voluntary initiatives appropriately balance the concerns of some stakeholders that undetected leakage, no matter how minimal, is a concern with the agency's responsibility to ensure regulatory activities are consistent with the degree of risk. I also agree with our stakeholders that have emphasized the importance of continued oversight to ensure the proper implementation of voluntary initiatives. Accordingly, I support continued evaluation of the effectiveness of the industry initiatives through the reactor oversight process (ROP).

Given the above considerations, I support the SMRG's conclusion that rulemaking or some other form of a regulatory requirement to codify voluntary initiatives would not result in a substantial increase in the overall protection of the public health and safety. The staff should make no changes to the regulatory framework associated with groundwater protection without Commission approval. While I support the staff's continued participation in consensus standard activities which have the objective of reducing undetected leakage, if the staff determines that revisions to the agency's regulations are necessary to incorporate changes to the ASME codes in this area, the staff should seek Commission approval via a notation vote paper. Similarly, while I support the staff's plans to issue a generic communication on leaks and spills, I share Commissioner Svinicki's concern that, such guidance, if not clear, may create "de facto" regulations. The staff should make it clear in the generic communication that, while the agency will continue to evaluate the industry's voluntary initiatives through the ROP, no changes to the regulatory framework are currently being contemplated.

I agree that proactive communication is essential and that actions should be taken to enhance public education and awareness of issues related to groundwater contamination. The staff's efforts in the area of communication outlined in the February 9, 2011 memorandum titled "Initiatives for Improved Communication of Groundwater Incidents" are an appropriate first step. In addition, given the significant overlap in regulatory functions between the NRC, EPA, and the States, the staff should inform other relevant federal agencies and States of the NRC's approach to groundwater protection related to leaks and spills of buried components.