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October 29, 2010

Ms. Cindy Bladey, Chief
Rules, Announcements and Directives Branch
Division of Administrative Services, Office of Administration
Mail Stop: TWB–05–B01M
U.S. Nuclear Regulatory Commission
Washington, DC 20555–0001

Subject: Docket ID NRC–2010–0302-0002

Dear Ms. Bladey:

The New Jersey Department of Environmental Protection (DEP) has reviewed the NRC's Groundwater Task Force Final Report dated June 2010. The NJ DEP appreciates the opportunity to provide feedback and comments on the subject document. Without question, the events of the past several years related to the unintentional release of tritium to groundwater at commercial nuclear facilities has raised public interest and concern. In addition, many state public health and environmental agencies have been actively involved in the investigation, root cause analysis and follow up actions at sites where uncontrolled releases of licensed material have occurred. In several of these instances, NRC and State government have disagreed about the best approach to address tritium in groundwater. Based on the experiences that New Jersey has had with this process, it is clear that there is a gap in the oversight process that would prevent these releases and deficiencies in the process for investigating, reporting and mitigation of releases that do occur.

The following pages provide the comments and suggestions the NJ DEP would like the NRC to consider before finalizing any policy changes or guidance document development. We have attempted to frame our responses in the context of the questions that were posed in the document. The DEP would be happy to discuss our comments and suggestions further with NRC if requested. Should you have any questions or concerns regarding the comments provided please feel free to contact Mr. Patrick Mulligan at (609) 984-7701.

Sincerely yours,

Jill Lipoti

Jill Lipoti, PhD
Director

Theme 1: Reassess NRC's Regulatory Framework for Groundwater Protection

NRC regulation evaluates the impact of radiological releases, either intentional from normal operations or unintentional via unexpected releases using 10 CFR Part 20 values and a dose based assessment for the public. For groundwater contamination, it is unlikely that the concentrations of tritium necessary to exceed those limits would be reached. However, EPA drinking water standards have been set at 20,000 pCi/l for tritium. This value is well below the threshold value that would be necessary to reach the 10 CFR 20 limits for public dose. NRC should recognize that many states have adopted the EPA drinking water standards and apply them under state regulation to groundwater and surface water as well as drinking water. Other states have set target goals well below the EPA limits. In this respect, there is a conflict in regulatory limits set by some states and the NRC. The NRC states they have statutory authority for drinking water under the Atomic Energy Act. However, some state environmental protection programs in adopting EPA standards might very well challenge that authority based on state law.

Certainly the most controversial issue will be groundwater affected in areas directly under plant property. The degree that state laws apply to those areas may vary from state to state depending on the language of the law and the rules and standards developed for enforcement. However, where the standards are exceeded in groundwater off of the NRC licensed facility property, it appears more likely that State or EPA regulations would be found to be applicable

It is apparent that this issue will not be resolved through this task force but it does raise interesting legal questions. It is clearly stated by NRC in this document that their standards for public protection are dose based and directly related to public health and safety. The NRC further states that regulation based on environmental protection is not within the NRC's statutory authority. State environmental programs are stewards of natural resources, including groundwater, and take appropriate actions to regulate those resources from an environmental protection perspective.

1. The apparent ambiguity in federal and state regulatory authority for groundwater and the protection of the environment needs to be discussed in detail and changes made where appropriate.

2. The NRC states that the current regulatory framework impacts their ability to respond to leaks as the public would like. If the NRC is unable to regulate groundwater effectively from an environmental protection perspective then the authority should be with those agencies that do have the authority, namely EPA or the state.

Theme 2 – Maintain Barriers as Designed to Confine Licensed Material

This is the area where the NRC can make real changes that can be most beneficial. There is no doubt that the best way to protect groundwater and other natural resources from unintentional contamination is prevention. At least part of the issue that undermines a robust prevention program is that underground piping that carries licensed material is not safety related. Therefore, issues related to underground piping inspection and maintenance never rise to anything greater than a green finding because it carries low safety significance from a risk perspective. The reactor oversight program as it relates to these non-safety related pipes does not adequately identify performance problems.

Deficiencies in this area can lead to serious environmental impacts like the contamination of groundwater, potentially denying its use as a drinking water source, but will not result in increased NRC oversight because of the low public health impact. Further, the Public Radiation Safety Cornerstone is clearly not a good indicator of performance because there have been no findings in this area despite the growing number of unintentional releases of tritium to the environment. It is the unreasonably high threshold values established under the dose based evaluation on 10 CFR 20 limits that prevents these significant environmental events from being reported. The reporting limits severely impact the possibility of a thorough follow up investigation, root cause analysis and corrective action program to prevent future events. It is recognized that many licensees are voluntarily reporting impacts to State and local governments below the NRC reporting limits. However, voluntary reporting is not an acceptable substitute for a comprehensive regulatory program.

Licensees are obligated to maintain plant design throughout the course of operations to ensure that licensed materials are contained. As plants age, more effort needs to be done in the area of inspection, maintenance and repair of components that are involved with the containment of licensed material. Based on historical evidence from several sites, UT and guided wave are not sufficiently reliable to assure the integrity of the containment systems. Further, record keeping and plant modifications have not been properly documented leading to false assumptions about material and pipe coating. NRC needs to take a more pro-active role in the inspection of these systems to ensure the integrity is maintained and licensed material controlled in accordance with the design.

1. The NRC needs to improve the Reactor Oversight Process to make Performance Indicators more meaningful.

2. The NRC needs to evaluate the reporting requirements for loss of control of licensed material so that events are identified in a timely manner, investigated thoroughly and actions are taken to mitigate future occurrences.

3. The Groundwater Protection Initiative should be made a requirement. While prevention is the preferred method to ensure protection of the environment, detection is essential to identify unknown leaks before the contamination migrates offsite. An onsite monitoring well program designed by an experienced hydrologist, that places wells strategically near high risk areas for leaks are necessary for early detection and should be mandatory.

4. Each site should be required to perform a detailed hydrogeologic study in order to fully understand the flow of groundwater at the site. The studies should include vertical as well as horizontal flow so that consequences and impacts can be more readily evaluated in the event of an unintentional release and can be used to inform the placement of on- site monitoring wells.

5. For reporting, NRC should be aware that radiological material is considered a hazardous material in certain states such as New Jersey and reporting events to the State is mandatory regardless of concentration.

Theme 3 – More Reliable NRC Response

Based on the historical evidence, the NRC response to the uncontrolled release of licensed materials at commercial nuclear reactors is inadequate. The NRC should develop a standard response to all events that involve the loss of control of licensed material. That should start with reporting. There is clearly no reliable method to detect a tritium leak other than a well placed monitoring well. That is not to say that a robust program of routine monitoring of site stormdrains, building sumps and perimeter drains should not be part of the program. However, until more monitoring wells are placed in the vicinity of a suspected leak, it is impossible to make a determination of the extent, magnitude and origin of the leak. Regardless of initial sampling results or screening tests, all leaks should be reported to the NRC and the state upon recognition. A prompt investigation should start immediately in order to bound the extent and magnitude of the release.

Based on experiences in New Jersey, without a thorough investigation, it is nearly impossible to determine how long the release has been occurring or how much material has been released. Further, until the extent of the plume is fully characterized and the source of the leak determined, it is impossible to know the maximum concentration of the tritium in the environment or the extent of the resulting groundwater plume. Until that is determined, any calculations of offsite dose consequences can only be guesswork. The NRC performs what they term "bounding calculations" that represent worst case scenarios. However, that calculation is based on assumptions that have not been determined with any degree of certainty. Basing decisions regarding public health and safety on these calculations is part of what leads to public distrust. The NRC makes public statements in most cases based on the bounding calculations prior to the completion of an investigation.

The NRC should be transparent in sharing with the public facts about the investigation including verified data, sources of the leak, root cause analysis reports and corrective actions. The information should be shared timely, as it is verified and available. Transparency helps to build trust and trust leads to confidence. The NRC should include the EPA in their investigation to advise and provide expertise in matters of groundwater quality and drinking water standards. Further, the NRC should engage experts from the US Geological Survey to provide expertise in hydrogeology, fate and transport evaluation and groundwater flow. By engaging other federal agencies in the process, both the state and local government agencies, interested stakeholders and the public will be better informed through a more thorough NRC investigation.

The preceding paragraph is meant to advise the NRC regarding the expected level of investigation and use of experts in their own analysis of the root cause and environmental impact from an identified leak. NRC should recognize that each state will conduct an independent investigation, analysis and assessment of the environmental impacts to natural resources under the protection of the state. Any investigation should be coordinated with state involvement and licensee support. All data, information and findings must be openly shared between state and federal organizations.

The NRC should ensure that the site fully investigates the root cause of the issue and identifies weaknesses in similar plant structures and equipment. Lessons learned should be shared with the industry and measures should be taken to establish a best practices policy in to prevent similar occurrences at other sites. Corrective actions and mitigation measures should be implemented so that future releases are prevented and routine monitoring is increased for "at risk" equipment. Follow up

site inspections should be performed by NRC to ensure that licensees are in compliance with corrective action commitments. The investigation, findings and outcomes should be published in a report that is publically available.

Theme 4 – Strengthen Trust

Dr. John Till summarized four essential points in his discussion of this theme at the public meeting held on October 4, 2010. We agree with the discussion Dr. Till made and would offer the NRC a summary of those points to consider moving forward.

Trust and credibility have to be earned. There is no scientific title, no particular regulatory agency, no set amount of experience, no education that guarantees credibility with the public. It must be earned.

Trust and credibility can only be earned if there is a basis in science and fact. Stakeholders have to be assured that the risk assessment is based on actual monitoring results, modeling of fate and transport, exposure pathway analysis, and that specific assumptions are based on actual stakeholder inputs. Each stakeholder must be able to envision themselves within the available data and analysis.

All data should be available in a transparent manner, and timeliness is part of transparency. Results cannot be held back for further analysis. If any radioactivity is confirmed that goes beyond the plant boundary, the public must be informed. The information should be available in real time, or as close to real time as can be achieved.

Earning credibility and trust requires a public agency to go beyond the regulatory requirements. The public expects more than just compliance. The public expects excellence, not just adequacy.