



# Union of Concerned Scientists

Citizens and Scientists for Environmental Solutions

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Robert A. Nelson     Mail Stop: 0-8 E1A  
Deputy Director, Division of Operator Reactor Licensing  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

**Subject: Followup to Public Workshop on Groundwater Protection**

Dear Capt. Nelson:

This letter supplements the comments I provided verbally during the April 20<sup>th</sup> workshop on groundwater protection held by the Nuclear Regulatory Commission at their headquarters.

During the meeting, many individuals spoke about credibility. I wholeheartedly endorse the viewpoint expressed by then Commissioner Nils J. Diaz at a Commission briefing about a decade ago. I do not have his precise words, but generally Dr. Diaz said that credibility<sup>1</sup> should not be the NRC's goal because it is a byproduct from the true goal of competent performance. His point was that when the agency does its job properly, credibility follows.

I could not agree more. To me, consistency creates credibility. Put another way, when the NRC acts inconsistently, those on the opposite side of the other agency decision have solid grounds to feel they have been wronged.

With respect to the subject of the workshop, we strongly feel that the NRC's actions (and inactions) demonstrate considerable inconsistency, thereby resulting in little if any credibility. The remainder of this letter focuses on the inconsistencies. If the NRC succeeds in addressing these inconsistencies, that outcome can only improve credibility.

The quintessential example of NRC's inconsistency with regard to recurring leaks of radioactively contaminated water is shown by how the NRC handled River Bend in September 2008 and how the NRC handled Braidwood, Indian Point, Salem, Connecticut Yankee, Vermont Yankee, et al over the past decade. In September 2008, Hurricane Gustav's high winds literally blew the metal siding off the sides of the turbine building at River Bend. Entergy was preparing to restart the reactor with plans to fix the turbine building's walls after the plant was operating again. The NRC stepped in to remind Entergy that the plant's design and licensing bases, as discussed in the Updated Final Safety Analysis Report (UFSAR), require that all releases of

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<sup>1</sup> At the time, "public confidence" was the term of the month covering the topic now labeled "credibility."

radioactively contaminated gas be via controlled (10 CFR 50 Appendix A General Design Criterion 60) and monitored (10 CFR 50 Appendix A General Design Criterion 64) pathways. Although the integrity of piping and components within the open-air turbine building were intact, any leak that subsequently developed would result in uncontrolled, unmonitored releases of radioactively contaminated gas to the environment – a violation of regulatory requirements and the plant's operating license. The turbine building needed to have walls in order for leaked gas to be routed through the ventilation ducting past radiation detectors (GDC 64) that would alarm on high radiation to trigger the isolation of the discharge pathway (GDC 60). The potential for uncontrolled, unmonitored releases of radioactivity to the environment was sufficient to prevent River Bend from operating until that potential was removed.

Had River Bend restarted with its turbine building *sans* walls, the regulatory limits on radiation doses to members of the public (10 CFR 20.1301) would not have been violated. Remember, the piping and components handling radioactive gas inside the turbine building were intact. Thus, the NRC, and the licensee, did not fall back on compliance with 10 CFR 20.1301 alone. ALL elements required for adequate protection of public health and safety were properly invoked and ALL of them had to be met for River Bend to operate, not simply the least onerous among them.

After I raised this River Bend example during the April 20<sup>th</sup> workshop, Mr. Chuck Castro, chair of the NRC's groundwater protection task force, explained that the NRC had not ordered River Bend to remain shut down until the turbine building was repaired; the NRC had conveyed its concerns and Entergy saw the wisdom. We are in violent agreement with the notion that compliance with ALL applicable regulatory requirements is wise. We are also in violent agreement with the corollary – non-compliance with ALL applicable regulatory requirements is unwise. Bordering on stupid.

Radioactivity was detected in a sample drawn in November 2009 from a monitoring well at Vermont Yankee. It was reasonable to assume at the time that radioactivity had reached that well via an unmonitored, uncontrolled pathway (i.e., non-compliance with applicable regulatory requirements). Ensuing activities at Vermont Yankee identified the source of the leakage which was reportedly corrected on February 15, 2010. Thus, from November 2009 until February 15, 2010, Entergy knowingly operated Vermont Yankee with ongoing leakage of radioactively contaminated water via an uncontrolled and unmonitored pathway. In other words, Entergy willfully, deliberately, knowingly, and unwisely violated regulatory requirements at Vermont Yankee – the very same regulatory requirements that Entergy wisely abided by, with NRC's help, in September 2008 – for nearly 90 days. That can invoke traditional enforcement for the willful, deliberate nature of the violation and could incur the \$140,000 per day per violation sanction permitted by federal regulations.

There's a humongous inconsistency here. Entergy did not operate River Bend when the *potential* for uncontrolled, unmonitored releases of radioactivity to the environment existed. Yet Entergy did operate Vermont Yankee with known *actual* uncontrolled, unmonitored releases of radioactivity to the environment. In both cases, 10 CFR 20.1301 appears to have been satisfied. But only in one case – River Bend – were the other applicable regulatory requirements invoked. At Vermont Yankee, those very same applicable regulatory requirements were ignored.

And Vermont Yankee is not the only reactor to have ignored these applicable regulatory requirements. Braidwood operated for years with uncontrolled, unmonitored releases; ultimately “giving” some six million gallons of radioactively contaminated water to the environment. Any one paying a nickel for an overdue library book paid a higher price than NRC exacted from Exelon for having willfully violated applicable regulatory requirements for hundreds of days. Salem put a lot of radioactively contaminated water into the ground via an uncontrolled, unmonitored pathway from a spent fuel pool. The State of New Jersey is making PSEG clean it up – the NRC never cared an iota. PSEG did not even get the white finding that NRC wrist-slapped Braidwood with. Indian Point (Entergy again) put radioactively contaminated water into the ground via several uncontrolled, unmonitored pathways. In these cases and many more, the applicable regulatory requirements invoked at River Bend were ignored.

If ignorance is bliss, a bliss reduction program is sorely needed.

How should the proper – and wise – application of regulatory requirements at River Bend be factored into the NRC's handling of groundwater protection cases in the future? We recommend that the task force give serious consideration to these factors:

### **1. Identification of an unmonitored, uncontrolled leakage pathway**

The moment that an unmonitored, uncontrolled leakage pathway is detected should start the \$140,000 per day civil penalty meter if any reactor at the site is operating. If the licensee shuts down all reactors at the site that day, the meter stops. If, however, the licensee deliberately opts to continue operating a reactor at the site, the meter should continue racking up daily \$140,000 charges until all sources of leakage are found and fixed. This may appear harsh, but it is really not. Both the NRC and the nuclear industry often assert that public safety is the top priority. Until the source of leakage is identified, little assurance exists that radioactively contaminated water is not reaching drinking water. Adequate protection of public health and safety demands the source of the leakage be expeditiously found and stopped. The reactor shut down or daily civil penalty provides sufficient inducement for licensees to resolve ongoing leakage problems ASAP.

Harsh treatment would entail reactor shut downs or daily civil penalties until the leaked water was fully remediated. For example, it is taking PSEG years to remediate the radioactively contaminated water leaked from the spent fuel pool at Salem. PSEG likely could have undertaken more rapid remediation if Salem was not permitted to operate or the \$140,000 per day meter was running. But the efforts undertaken to find and stop the leakage source generally define the magnitude of the underground plume, permitting an informed evaluation of the hazard posed to 10 CFR 20.1301 compliance. Thus, it seems reasonable to link reactor restart and civil penalties to stoppage of the leak rather than its final remediation.

## **2. Enforcement options for duration of leakage preceding identification**

When leakage is identified via aggressive, pro-active efforts by the licensee (e.g., monitoring wells installed per the NEI groundwater protection initiative, non-destructive examination of buried piping, ground-wave monitoring of piping, etc.), “sins of the past” should be forgiven with no civil penalties assessed for leakage prior to the moment of identification.

When leakage is not identified via aggressive, pro-active efforts by the licensee (e.g., the Braidwood neighbor who notified Exelon about a field now flooded despite no recent rainfall), the \$140,000 per day civil penalty should be applied up for the entire period of leakage preceding discovery.<sup>2</sup>

A grand total of zero (0) regulations would have to be revised to implement these measures. The NRC’s enforcement regulations and policies have allowed the agency to impose \$140,000 per day per violation civil penalties since October 2008. As River Bend demonstrated, the GDC 60 and 64 requirements are in place. All that is needed to implement these measures is gumption.

One other humongous inconsistency needs to be resolved. It involves the NRC depriving the American public of basic rights entitled by both the Atomic Energy Act, as amended, and the Administrative Procedures Act, as amended.

When the NRC (or its predecessor, the Atomic Energy Commission) developed federal regulations such as Appendix A to 10 CFR Part 50, it did so via a formal rulemaking process. The public and the industry had opportunities to comment on the proposed rule. The NRC’s final rule defined the height of the safety bar setting. This formal rulemaking process resulted in a contract between the NRC, its licensees, and the American public. That contract protected

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<sup>2</sup> The \$140,000 per day per violation civil penalty is the current inflation-adjusted value. For very long duration leaks, the actual daily charge would reflect the appropriate daily limits.

licensees from NRC requiring higher standards to be met. That contract equally protected the American public from the NRC accepting performance below the final standard.

The NRC granted initial operating licenses and ensuing amendments to those licenses through an equally formal process. The public could intervene if it was felt that a plant's proposed configuration would not assure conformance with previously established safety bar settings. Likewise, the applicant/licensee could challenge NRC mandates it felt exceeded the height of the previously established safety bar setting. The operating license and its amendments defined the configuration of the facility demonstrating conformance with the NRC's regulations and requirements. Once again, the operating license represents a three-way contract. The NRC cannot require licensees to do more. The NRC also cannot allow licensees to do less.

With respect to groundwater protection, the NRC's regulatory requirements and the explicit conditions of the operating licenses prohibit the release of radioactively contaminated gas or liquid except via controlled and monitored pathways. True, there are also regulatory requirements and explicit operating license conditions that limit how much radioactivity is released via the controlled and monitored pathways. All three elements – control, monitor, and cap – are applicable regulatory requirements governing groundwater protection.

For the NRC to essentially ignore violations of the control and monitor elements on the basis that the cap was not violated breaches its contract with the American public. The NRC could go through a formal rulemaking process to eliminate or modify any regulations it does not want to enforce as currently written. That would afford the American public the opportunity to challenge the proposed rule change. Likewise, any licensee could seek a formal amendment to its operating license to eliminate or modify any requirement it no longer wants to meet. That would afford the American public the opportunity to contest the proposed amendment. The rights of Americans would be protected by these formal processes.

The American public is being deprived of its due rights by how the NRC is handling groundwater protection events. The NRC is breaching its contracts with the American public. The American public never got an opportunity to challenge the NRC's penciled in provisions to its copy of Appendix A to 10 CFR Part 50 that GDC 60 and GDC 64 would be enforced only when the staff felt like it – at River Bend, but not elsewhere. UCS for one would have fought that change tooth and nail. But we never got the chance. Similarly, the American public never got an opportunity to challenge the licensees' penciled in revisions to their UFSARs about their liquid waste systems. UCS did not see where any licensee submitted an unreviewed safety question (USQ) to the NRC pursuant to 10 CFR 50.59 about radioactively contaminated water being discharged into the ground as long as 10 CFR 20.1301 was fortuitously met.

It is inconsistent for the NRC to enter into contracts with the American public via formal rulemaking and reactor licensing proceedings to establish where the safety bars are set and how plant configurations assure those safety bars are met and then turn around and breach those contracts by accepting different – and UCS would argue lower – safety bars and plant configurations established via a non-public, informal process.

The NRC is depriving the American public of our rights. And it appallingly improper for the NRC to justify this deprivation on the basis that since we are still alive, it must be okay. “No blood, no foul” simply won’t work, unless it is established via a formal rulemaking process.

Sincerely,

A handwritten signature in black ink that reads "David A. Lochbaum". The signature is written in a cursive, flowing style.

David Lochbaum  
Director, Nuclear Safety Project  
PO Box 15316  
Chattanooga, TN 37415  
(423) 468-9272, office  
(423) 488-8318, cell