

November 2, 2006

MEMORANDUM TO: Ho K. Nieh, Chair
Petition Review Board

FROM: Jon B. Hopkins */RA/*
Petition Manager

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION (NRC) STAFF
RESPONSE TO COMMENTS ON PROPOSED DIRECTOR'S DECISION
RE: PETITION ON GROUNDWATER CONTAMINATION

This memorandum documents the NRC staff response to comments on the proposed Director's Decision (DD) for the Petition filed in accordance with Section 2.206 of Title 10 of the *Code of Federal Regulations* (10 CFR) by Mr. David Lochbaum of the Union of Concerned Scientists and numerous other organizations and individuals (the Petitioners) concerning the control, monitoring, and reporting of possible releases of radioactive liquid effluents from NRC-regulated facilities. The proposed DD was issued on June 28, 2006, and requested comments within 30 days. We received comments on July 20, 2006, from Mr. David Lochbaum on behalf of more than two dozen organizations and individuals.

We have made some changes to the proposed DD to acknowledge the Petitioners' concerns and articulate the rationale for our decision. The following items represent our response to the Petitioners' comments. The letter "L" represents that the comment came from the Petitioners' letter and the letter "T" represents that the comment came from Table 1 submitted by the Petitioners. Table 2 included information on past information submittals to the NRC and as such was not addressed. Some portions of the Petitioners' comments were not related or relevant to the actions requested in the Petition regarding the control, monitoring, and reporting of possible releases of radioactive liquid effluents from NRC-regulated facilities and, as such, are not addressed in the following comment resolution.

Additionally, comments were received from the Nuclear Energy Institute (NEI) dated July 28, 2006. The NEI's comments support the proposed DD; therefore, no response is necessary.

L.1. Comment:

The proposed DD relies heavily on rumors about a voluntary industry initiative. While your staff held two public meetings with the industry on this subject (and who knows how many secret phone calls), there was no publicly available documentation about the specifics of the rumored initiative other than the few words appearing in NEI's PowerPoint slides for the May 9th public meeting on June 28th when you proposed to deny our petition. The "collected works" available to the public on the alleged industry initiative (i.e., the May 9th PowerPoint slide, the two one-page hand-outs from the June 21st public meeting, and the three documents sent by NEI to NRC on July 12th) provide no substantive information and outline - at best - this notion about an industry initiative. And yet that information void somehow provided you amply bases for rejecting

our petition. Shameful, unless, of course, you were pre-disposed to nod “yes” to anything industry promises verbally and shake “no” to anything we meticulously document in writing with extensive source citations. The fact that you would rely - essentially sight unseen - on vague rumors about an alleged industry voluntary plan is extremely disconcerting.

L.1. Response:

The NRC is not relying upon the industry initiative to assure public health and safety from possible releases of radioactive liquid effluents from NRC-regulated facilities. The NRC has responded to specific cases of unmonitored releases from nuclear power plants and to the general issue and related public concerns about possible groundwater contamination near NRC-regulated facilities. The NRC’s mission is to protect the public health and safety from radiation due to its licensed facilities and all available information on the releases cited by the Petitioners show no threat to the public health and safety. The NRC is also taking additional actions to ensure continued public health and safety including the conduct of special inspections, the revision of NRC inspection guidance, and the formation of a lessons learned task force.

Licensees have submitted their responses to the NEI questionnaire. The NRC finds that this information substantially provides the information requested in the petition. The NRC will examine the development and implementation of the rest of the industry initiative to ensure that the requested information is made available to the NRC, State and local governments, and the public. The NRC will revisit the need to issue a generic communication or take other action if problems arise with the implementation of the industry initiative or the NRC identifies additional concerns as a result of the information provided by the initiative or by ongoing NRC inspections, or through operating experience, or through other activities such as the ongoing lessons learned task force. Additional information on the industry initiative was made available at the August 10, 2006, public meeting.

L.2. Comment:

The proposed DD relies exclusively on non-binding, non-required, non-regulated industry promises. As you point out to us in your decision, the owners of NRC-licensed nuclear power plants have not committed to the NRC to do anything. Instead, they have a contractual obligation with the NEI. Thus, any owner opting not to submit information to the NRC will not be violating a regulation or a regulatory commitment to the NRC, but only a breach of contract with NEI. And even if all owners dutifully honor their NEI contracts by submitting information to the NRC, the Petitioners are concerned about the veracity and accountability for this voluntarily supplied information. If the right thing is done and our petition is granted, the owners will provide the information to the NRC under the accuracy and completeness conditions of 10 CFR 50.9 and/or 10 CFR 50.54(f). As documented in Table 2, licensees have repeatedly violated these regulatory requirements by providing incomplete and/or inaccurate information to you. Given the industry’s pitiful track record conforming with the information accuracy and completeness standards, it is totally improper for you to rely on the markedly lower information accuracy and completeness standard associated with information provided to avoid breaching a contract with NEI.

L.2. Response:

All information submitted to the NRC, voluntarily or otherwise, must meet the completeness and accuracy requirements of 10 CFR 50.9. The NRC will revisit the need to issue a generic communication or take other action if problems arise with the implementation of the industry initiative or the NRC identifies additional concerns as a result of the information provided by the initiative or by ongoing NRC inspections, or through operating experience, or through other activities such as the lessons learned task force.

T.1. Comment:

“All available information” is precisely the objective for and reason behind our petition. If “all” were sufficiently broad such that people living downstream and downhill of NRC-licensed facilities could reasonably believe that they and their families were not exposed to unlawful, unplanned releases of radioactive liquids, there would be no need for the DFIs sought by the Petitioners. But “all” in this case is very, very narrow, leaving few Americans with reasonable assurance that they are not exposed to unlawful, unplanned releases of radioactive liquids.

What the Petitioners do know is that the licensee for the Braidwood nuclear plant, with the knowledge and therefore implied consent of the NRC, repeatedly spilled millions of gallons of radioactively contaminated water and that some of that contaminated water migrated offsite in an unmonitored, uncontrolled, and unlawful manner.

What the Petitioners (and the NRC) do not know is whether there are any NRC-licensed facilities with spills of radioactively contaminated water as bad as or worse than Braidwood. The Petition seeks to bridge this information gap. The proposed DD seeks to accept the gap in some kind of “ignorance is bliss” scheme.

T.1. Response:

The licensee's responses as part of the industry initiative has provided information on groundwater contamination at power reactor sites; hence, the proposed DFI is not necessary.

The NRC will revisit the need to issue a generic communication or take other action if problems arise with the implementation of the rest of industry initiative or the NRC identifies additional concerns as a result of the information provided by the initiative or by ongoing NRC inspections, or through operating experience, or through other activities such as the lessons learned task force.

T.2. Comment:

The Petitioners emphasize that the NRC cannot “make sure that nuclear material doesn't end up where it's not supposed to” simply by edict and press release. The NRC needs to acquire, review, and independently analyze currently unavailable information so as to “analyze the situation.” The objective for and reason behind the Petition is to provide the NRC with information that it presently lacks. Without this information, the NRC simply cannot perform the “important” task of analyzing the situation.

T.2. Response:

This comment does not refer to the proposed DD, but to a statement by Mr. James Caldwell, Region III Administrator. However, a significant amount of the information requested by the Petitioners has been provided by the information submitted as part of NEI's initiative regarding groundwater contamination, specifically the licensee responses to the NEI questionnaire.

T.3. Comment:

Public confidence is not helped when an agency needs so many lessons learned task forces.

The public would be better served by an agency displaying some capacity for incorporating lessons learned from lessons learned task forces so as to reduce the number of miscues that invoke lessons learned task forces.

T.3. Response:

The staff agrees with this comment in that this lessons-learned task force on groundwater contamination seeks to prevent future issues in this area.

T.4. Comment:

The Petitioners hasten to remind the NRC that an inadequate response by one of its licensees to a series of groundwater containment events at the Braidwood nuclear plant in Illinois led to the NRC taking enforcement action:

“NRC Issues a White Finding to Exelon for the Handling of Unplanned Tritium Releases at Braidwood.” NRC News Release No. III-06-026, June 30, 2006.

Thus, it is reasonable that, absent an adequate response to the DFIs sought in this petition, this history will repeat itself. It is NOT unduly speculative to suggest that which happened just a few days ago might happen again in the future unless SOMETHING is done to correct the behavior problem. The Petitioner's DFI is doing SOMETHING. The proposed denial of this petition by the NRC equates to doing NOTHING. The Petitioners are not satisfied, or amused, by the NRC inaction.

It might be that you were unaware of the NRC enforcement action taken against Exelon for the groundwater contamination at Braidwood. After all, the enforcement action was announced on June 30th, two days after you proposed denying our petition. If this new information alters your decision, please let us know.

T.4. Response:

The issuance of a notice of violation for Braidwood is consistent with NRC oversight and enforcement as warranted by a situation; however, the incident does not indicate that a DFI would be warranted for all other reactor sites.

T.5. Comment:

As of July 17, 2006, the only paper available to the public on the so-called, alleged "industry initiative" are the slides from the May 9th public meeting.

In SECY-99-063 dated March 2, 1999, the NRC outlined key elements for voluntary industry initiatives. The 6th key element defined by the NRC staff was "public participation" which included this provision:

"Care must be taken to ensure that sufficient information is available from voluntary initiatives to keep the public informed and to support appropriate opportunities for public participation. Issues such as the proprietary nature of material would need to be addressed. The staff intends to solicit stakeholder input to help with the process development and make the guidelines publicly available."

The Petitioners point out that the paucity of publicly available information on the alleged voluntary industry initiative fails to approach this standard. There's nearly more verbiage in the disclaimer on a bottle of aspirin than appears in the collected works from the industry on its alleged voluntary initiative. The rumored voluntary industry initiative is so poorly documented that the public has had no real opportunity to comment on the initiative. And that detail-deprived documentation provide the NRC with insufficient basis to find that it adequately covers the information needs identified in our petition.

T.5. Response:

The responses from the industry initiative questionnaire have been received and placed on NRC's public web site.

T.6 Comment:

Petitioner NEIS responds:

NEIS is not concerned with whether "the industry initiative and related questionnaire will satisfy the NRC's current information needs." Our prime concern is from this point forward whether the public gets ITS information needs met. The NRC has historically made a farce of meaningful regulation by capriciously picking and choosing among the information it DOES receive, to the point where it can longer discriminate between fact and fantasy. The institutionalization and codification of such psychotic group thinking has progressed to such a point as to make it impossible for NRC to maintain that its regulations can demonstrate the benchmarks used to determine if the Rule of Law still exists in this context, if it ever did.

All Petitioners respond to the point about "NRC's current information needs" by emphasizing the fact that on June 28, 2006, when the draft DD was mailed to us, the NRC had received scant information from the industry about its alleged voluntary initiative. Apparently, the NRC's threshold on "information needs" is so low that "scant" suffices. If the NRC's information needs for the amount of information possessed on

the alleged voluntary initiative is any indication, it appears to the Petitioners that the NRC's information needs for the amount of information from its licensees about groundwater contamination are dangerously low.

During the May 9th public meeting between NEI and NRC, the NEI representative suggested that the first question in our petition (e.g., What are the systems and components at your licensed facility that contain radioactively contaminated water?) was unnecessary because all of that information resides in Chapter 11 of the Updated Final Safety Analysis Report for each NRC-licensed power reactor. Petitioners Gunter and Lochbaum contested this assertion during the meeting, pointing out that the NRC removed UFSAR information from the public arena after 09/11. The NEI representative indicated he hadn't realized this information was no longer publicly available. The NRC responded to Petitioners Gunter and Lochbaum by committing to restore the UFSAR Chapter 11 information to the public arena. On July 18, 2006, the NRC contacted Petitioner Gunter and informed him that the NRC did not have all of the Chapter 11 information in electronic format, thus making it very hard to post said information on the NRC website or place it in ADAMS. The NRC offered to mail Petitioner Gunter a CD with whatever Chapter 11 files the NRC had in electronic format.

This renegeing on the promise (and the Petitioners reemphasize our concern about unfulfilled promises) made to us during the May 9th meeting is simply unacceptable. First, we have reason to believe that one or more plant owners will explain in its submittal to the NRC that the equipment containing radioactively contaminated water at its nuclear plant is that equipment described in UFSAR Chapter 11 - the now "hidden" files. Second, the Petitioners possess the ability to transfer documents from hard copy form and microfiche to electronic format and we know for a fact that the NRC also possesses this capability (we order documents in hard copy form or on microfiche in the NRC's Public Document Room and have the option of receiving our ordered files in electronic format), so the excuse about not having all the UFSAR Chapter 11's in electronic format is hollow at best. Third, the mere fact that the NRC cannot easily provide the UFSAR Chapter 11 material is a very strong and compelling argument for the DFIs sought in our petition. After all, if its all that hard to fetch this material, the Petitioners have ample reason to believe that NRC inspectors and other decision-makers are not doing the fetching when making other regulatory decisions - omissions that might be corrected when the NRC received the information from its licensees in response to Question #1 in our petition.

T.6. Response:

With respect to concerns about the public availability of UFSAR Chapter 11 data, the NRC seeks to place this data in a publicly available format as soon as possible and in the most convenient form possible. See response to Comment T.5. for concerns about whether the information would be publicly available. See response to Comment L.1. for concerns about what is known concerning the industry initiative. For concerns about reliance upon the industry initiative, see response to Comment L.2.

T.7. Comment:

The Petitioners take zero comfort in knowing that, if plant owners renege on their alleged promises to NRC to comport themselves by the terms and conditions of the alleged industry initiative, they will find themselves in breach of contract with the nuclear industry's trade group. The NRC should be ashamed for even trying to substitute contractual obligations for regulatory compliance/enforcement.

Table 2 documents numerous instances (and Table 2 is an abridged listing) where NRC's licensees were sanctioned for having provided the agency with incomplete and/or inaccurate information in violation of federal regulations.

Given this chronic history of NRC's licensees failing to abide by federal regulations regarding complete and accurate submittals, it is LUDICROUS for the NRC to think - yet alone believe - that the submittals received by the agency from a non-binding, non-required, non-regulated voluntary exercise will be "magically" complete and accurate.

The Petitioners remind the NRC staff of the consensus it recorded on use (and misuse) of voluntary industry initiatives following a September 1, 1998, public workshop on the subject in Chicago:

"A comment from the majority of participants at the September 1, 1998, stakeholders' meeting, including people with interests in industry and the environment, was that issues related to adequate protection of public health and safety are the responsibility of the NRC and should not be addressed through voluntary industry initiatives. The staff agrees that relying on voluntary industry initiatives in lieu of NRC actions to ensure adequate protection would be inappropriate since they would be based on commitments rather than requirements." SECY-99-063, March 2, 1999.

The Petitioners remind the NRC staff of the sheer folly in relying on non-binding commitments rather than somewhat binding requirements.

T.7. Response:

With respect to SECY-99-063, all information on releases-to-date shows no threat to the public health and safety; Therefore, this industry initiative is in accordance with SECY-99-063, since it does not relate to adequate protection of public health and safety.

T.8. Comment:

The Petitioners respectfully and TOTALLY disagree.

First, the NRC really doesn't know what information it may receive from its licensees via the alleged industry initiative for the simple reason that the industry hasn't bothered to submit substantive details about their alleged initiative. Thus, the NRC based its decision largely on rumors, supposition, and undocumented nuances.

Second, even if the alleged industry initiative results in NRC's licensees submitting information to the agency along the lines of that specified in the Petition, there's a huge difference between the credibility of information submitted under 10 CFR 50.9 and/or 10 CFR 50.54(f) and information voluntarily submitted. The former is subject to regulatory sanctions if later determined to be incomplete or inaccurate, as shown by the long but abridged listing provided in Table 2. The latter is worth the paper it's typed upon and no more.

The Petitioners analyze the scope and quality of the information the nuclear industry apparently volunteered to submit to the NRC in the following point/counterpoint.

T.8. Response:

See response to Comments L.1 and L.2.

T.9. Comment:

The answers to the industry's five question survey CAN NOT sufficiently answer the five questions posed in our petition.

First, each of the five questions on the industry survey includes the qualifier "briefly." In fact, three of the questions begin with this rejoinder. As evidenced by the abridged list of times when the NRC licensees violated federal regulations by providing the agency with inaccurate and/or incomplete information, the Petitioners are justifiably skeptical about the quality of the industry's "brief" answers to voluntary questions. The industry has a demonstrated penchant for providing the NRC with incomplete information, in violation of federal regulations. The Petitioners are rightfully concerned about the completeness of "brief" responses voluntarily submitted under penalty of NEI breach of contract. The DFIs sought by the Petitioners would have required NRC's licensees to provide complete and accurate information pursuant to 10 CFR 50.9 and/or 10 CFR 50.54(f). The NRC's proposed acceptable of "brief" replies to questions voluntarily answered is all too likely to result in half-truths and innuendoes.

Second, the questions on the industry survey are designed to render non-detailed, general responses whereas the Petitioners crafted questions that would require detailed, specific responses. For example, the industry survey's first question is "Briefly describe the program and/or methods used for detection of leakage...." The Petitioners' analogous questions (Nos. 2 and 3) were "What methods are being used to monitor leakage...?" and "What is the largest leak rate that can remain undetected by the monitoring methods...?". The Petitioners' questions would elicit information as to the size of leak that could remain undetected, thus providing essential information needed to evaluate whether the onsite groundwater monitoring capabilities (e.g., response to industry survey question 2) are sufficient. Absent such details, meaningful assessments of the responses will be impossible.

The Petitioners do not consider it likely that the responses to the industry survey questions will sufficiently address the questions posed in our petition. Therefore, the

Petitioners reiterate our request for the NRC to issue the DFIs to obtain the information necessary to permit meaningful evaluations of the groundwater contamination risk.

The Petitioners also note that whereas Question 5 on the industry survey is backward looking (i.e., what have you done to clean up yesterday's spills(s)), our Question 5 is forward looking (i.e., "What assurance is there against a leak of radioactively contaminated water into the ground around your licensed facility from remaining undetected long enough to permit migration offsite in quantities exceeding federal regulations?").

There is a significant difference between the Petitioners' five questions and the five questions in the industry survey. One of the Petitioners (Lochbaum) worked on commitment documentation and verification projects at the Grand Gulf, Wolf Creek, Susquehanna, and Salem nuclear plants. That experience provides the Petitioners with clear insights into what constitutes "licensing commitments" made to the NRC. The five questions in the industry survey will elicit responses of a descriptive nature (e.g., the spent fuel pool has level instrumentation that can indicate a leak in progress). Descriptive text is not considered a licensing commitment and therefore is unlikely to be entered into the onsite commitment control program. On the other hand, the five questions posed by the Petitioners will elicit responses that are "licensing commitments." For example, the Petitioners' fifth question seeks responses on assurances against an undetected leak migrating offsite. Such responses will likely be along the lines of steps x, y, and z. Those responses move beyond mere description of onsite systems to describe the specific features and practices relied upon to prevent the undesired outcome. That explicit reliance becomes a licensing commitment, tracked within the commitment control program. Inclusion within the commitment control program provides greater assurance that whatever is done today is not undone tomorrow.

Addressing "sins of the past" is important, but secondary to ensuring that no more harm is done. The industry survey simply does not provide that assurance, or any assurance. The Petitioners' Question 5 is extremely important in that it speaks to how all the elements (e.g., monitoring leakage from plant piping, pools, and tanks containing radioactively contaminated water, understanding site hydrology, sampling onsite wells, etc.) work together to protect people in nearby communities. The answers to Petitioners' Questions 1-4 provide the context and detail needed for us, and the NRC, to independently determine if the answer to Question 5 is adequate. The answers to the industry survey's five questions do not permit a comparable assessment. Therefore, the industry survey is not a suitable or appropriate substitute for the Petitioners' five questions.

T.9. Response:

Licensees have responded to the questionnaire and submitted the results to the NRC. The NRC staff finds that the submittals substantially provide the information requested in the Petition.

Additionally, with respect to completeness and accuracy of information submitted to the NRC and the necessity of a DFI, see the response to Comment L.2. With respect to Question 5 of the Industry Questionnaire, this data will be useful in understanding past incidents of operational leakages.

T.10. Comment:

The Petitioners agree that this statement is true, but question why such an irrelevant and totally pointless statement was written.

No one, repeat no one, has suggested that there is a causal linkage between power level of the NRC-licensed facility and the initiation of or severity of the leak of radioactively contaminated water. Indeed, the spills at Connecticut Yankee, Salem, and Indian Point came from the spent fuel pools and are totally unrelated to the licensed power level and operating history of the nearby reactors.

Unless proposed DDs need to satisfy some word count criterion (perhaps to compensate for the lack of written words from the industry about their alleged voluntary initiative), Petitioners don't understand why this irrelevant statement was provided.

T.10. Response:

The statement reflects the larger potential for a public health and safety concern from a power reactor. Therefore, the NRC staff does not agree that the statement is irrelevant.

T.11. Comment:

The Petitioners hasten to point out that the NRC staff has conveniently omitted from this discussion another characteristics of RTRs – their geographical “footprint” is much smaller than that of NRC-licensed power reactors and RTRs are physically located closer to highly populated areas. A factor in how long it takes radioactively contaminated water to migrate past the fence boundary and potentially expose members of the adjacent community to harm is the size of the owner-controlled property. That size for RTRs is a mere fraction of that for power reactors. A factor in how much harm can occur when radioactively contaminated water migrates past the fence boundary is the population density on that side of the fence. The population density outside the fence of many RTRs is significantly higher than that outside the fence of NRC-licensed power reactors.

So, while it is true that RTRs have smaller volumes of contaminated water, they also have smaller land margins should a leak occur. The NRC has not shown that the

volume scale factor is not at least matched by the land area scale and population proximity factors.

In addition, the NRC staff's position that RTR "licensees will likely recognize even a small loss of water to this environment" is absurd given the history on this matter. The spent fuel pool at the RTR at Brookhaven (not an NRC-licensed RTR but an RTR nonetheless) was known to be leaking radioactively contaminated water for many years, yet its operator and regulator did nothing about it. Likewise, there were numerous leaks of MILLIONS OF GALLONS OF RADIOACTIVELY CONTAMINATED WATER at the NRC-licensed Braidwood facility spanning many years that the owner and the NRC knew about but did nothing about. The Petitioners sought more than this pattern of mindful neglect through the 5th and final question in the DFIs requested via our petition:

5. What assurance is there against a leak of radioactively contaminated water into the ground around your licensed facility from remaining undetected long enough to permit migration offsite in quantities exceeding federal regulations?

In denying the DFI for RTRs, the NRC has essentially answered question 5 with "sheer luck."

The Petitioners are not satisfied by this NRC answer.

T.11. Response:

The staff agrees that RTR's geographical footprint is smaller and that RTRs are typically closer to higher populated areas. The staff has changed the DD to reflect the smaller geographical footprint. However, the staff still concludes that NRC-licensed RTRs pose a minimal risk for a significant release of contaminated liquid effluent, and therefore, the staff continues to deny the Petitioner's request for DFIs to be issued to RTRs.