



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

April 28, 1997

MEMORANDUM TO: Chairman Jackson, S.A.  
Commissioner Rogers, K.C.  
Commissioner Dicus, G.S.  
Commissioner Diaz, W.S.  
Commissioner McGaffigan, E.

FROM: L. Joseph Callan *High L. Thompson*  
Executive Director for Operations

SUBJECT: RESULTS OF APRIL 21, 1997 NRC-EPA MEETING ON DRAFT FINAL  
RULE ON RADIOLOGICAL CRITERIA FOR DECOMMISSIONING

On February 21, 1997, the staff sent the Commission a paper (SECY-97-046) which requested Commission approval to publish a final rule on radiological criteria for license termination (this paper was later revised for certain editorial and technical changes and resubmitted as SECY-97-046A). Subsequently, in an April 4, 1997 memorandum from L. Joseph Callan to the Commission, the staff requested that the Commission delay voting on the final rule to allow time for EPA to review the final rule. In response to the April 4 memorandum, the Commission issued an Staff Requirements Memorandum (SRM) dated April 11, 1997 (Attachment 1) agreeing to delay voting on the final rule. The SRM directed the staff to meet with EPA staff in a public forum for the purpose of clarifying staffs' views and presenting data and views on matters that have not been the subject of past discussions, and also to report to the Commission on the results of the NRC-EPA meeting including an identification of the areas of disagreement between NRC and EPA staffs. This memorandum summarizes the issues discussed in this meeting.

A public meeting between the NRC staff and the staff of the EPA was held on April 21, 1997. At that meeting, both NRC and EPA presented prepared descriptions of their understanding of the principal areas of disagreement (Attachment 2 and 3). EPA indicated that it has four principal areas of disagreement with the NRC's draft final rule and that, therefore, it could not find the draft final rule sufficiently protective of the public health and safety. The four principal areas of disagreement, summarized below, are the unrestricted use dose criterion and separate requirements for groundwater protection, each of which had been previously identified, and use of alternate criteria and public participation, which are new issues.

The EPA staff was not willing to engage in any substantive dialogue with the NRC staff to pursue consensus agreement on these issues in a public meeting and agreed to participate only by making prepared statements. Despite the tone and content of the EPA statement it appears that EPA's concerns on public participation are resolvable as discussed below. However, during the summary

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review at the end of the meeting, it was agreed that EPA had presented no new technical information and that agreement on the remaining issues could not be reached at the staff level but would require elevation to the Chairman and the Administrator of EPA.

1. Unrestricted use dose criteria: NRC's draft final rule indicates that a site will be considered acceptable for unrestricted use if the dose from residual radioactivity distinguishable from background does not exceed 25 mrem/year and that residual radioactivity has been reduced to levels that are as low as is reasonably achievable (ALARA). These two provisions are based on staff analysis of potential sources of exposure, on analysis of costs and impacts of cleanup at various dose levels, and on recommendations made by the NCRP, ICRP, and ACNW. The staff concluded from its analysis of sources that using a dose criterion that would represent 25% of the public dose limit provides an ample and sufficient margin to assure that it would be unlikely that doses to an individual would exceed the 100 mrem/yr public dose limit in 10 CFR Part 20. The staff further concluded that licensees should be required to further reduce doses to levels that are ALARA, thereby providing additional margin of safety below the public dose limit.

EPA disagreed with NRC's selection of a 25 mrem/year dose criterion, indicating that this increase from the 15 mrem/year value in the proposed rule would nearly double the public risk and stating that EPA's proposed Federal Radiation Protection Guidance recommended that the risk from any individual source should be "well below" the 100 mrem/year public dose limit at a lifetime risk level goal of no greater than about one in ten thousand. The EPA presentation did not address the fact that inclusion of ALARA in the draft final rule would result in further reduction of doses, and associated risks, below the dose criterion for the large majority of NRC sites. This issue has been discussed at length between the NRC and EPA staffs in several meetings and no new information was presented in the April 21, 1997 meeting.

2. Use of Alternate Criteria: The concept of establishing alternate criteria based on site specific circumstances was included in the draft final rule because it was thought to be preferable to codify provisions for dealing with problem sites under the aegis of the rule rather than requiring licensees to seek an exemption process outside the rule as envisioned in the proposed rulemaking. Under this provision, the Commission could consider terminating a license using alternate criteria greater than 25 mrem/year if the licensee provided assurance that it was unlikely that the total dose would exceed the 100 mrem/year public dose limit and if the licensee had employed restrictions on site use to the extent practical. The alternate criteria concept was considered to be consistent with the basic principle that the 25 mrem/year unrestricted dose criterion represents an ample and sufficient, but not necessary, margin of safety below 100 mrem/year, although it was noted in the preamble to the draft final rule that the Commission would limit the conditions under which a licensee would apply to the NRC for alternate criteria to unusual circumstances.

EPA disagreed with inclusion of alternate criteria in the draft final rule, in particular noting that it was inappropriate to allow doses as high as 100 mrem/year for unrestricted use because of the associated risk. EPA indicated that they were unclear as to what sites the alternate criteria would be applied to, although they noted that it was not appropriate to allow its use for reactors. EPA stated that their preference in dealing with difficult sites was to apply the requirements (contained in both the proposed and draft final rules) which allow restricted use because they provide sufficient flexibility for dealing with such sites. The issue of alternate criteria has not been discussed in detail with EPA previously.

It appears that EPA may misunderstand the purpose and application of alternate criteria. EPA noted that it would be too easy for licensees to release sites for unrestricted use at levels greater than 25 mrem/year. In response, NRC noted that the preamble to the draft final rule (pages 60-62 of the FRN) indicates that the conditions under which a licensee would apply to the NRC for alternate criteria would be limited to unusual circumstances and also noted in the meeting that it would be difficult and very rare for alternate criteria to be granted. In particular, a licensee applying for alternate criteria would have to: (1) provide assurance that public health and safety would be protected, and that a total dose from all sources of more than 100 mrem/yr would be unlikely, by submitting an analysis of possible sources, (2) employ restrictions on site use to the extent practical thereby minimizing exposures at the site, and (3) reduce doses to ALARA levels. It is anticipated that alternate criteria would therefore be employed in only a few cases because the very large majority of NRC-licensed sites would not apply for alternate criteria because: (a) most licensees would find that it would be practical to reduce doses to less than 25 mrem/yr by restricting site use, and (b) having done that, they would not want to undertake the additional effort to provide assurance that the total dose from all sources would be unlikely to exceed 100 mrem.

3. Public Participation The draft final rule deletes the specific requirement for a site specific advisory board (SSAB) when a licensee plans to restrict use, and instead includes a general provision that advice be sought from the affected community on the adequacy of site restrictions to protect public health and safety and not impose undue burden on the community. An SSAB could be one way of obtaining such advice but not necessarily the only way. For this reason, the final rule deleted specific requirements for the convening of an SSAB and for how it should function (including SSAB composition, administration, and participation by NRC on the SSAB). The final rule also deleted the specific requirement that advice be obtained on methods for reducing residual radioactivity to unrestricted levels, and instead focused the requirement on seeking advice as to how well the restrictions will perform their intended function.

EPA indicated that they disagreed with the draft final rule because they believe that NRC had weakened public participation requirements and



decreased the opportunity for public input. This issue had not been discussed with EPA in detail previously. In response to these EPA comments, NRC noted that the final rule would retain the requirement that licensees seek advice from affected communities on the site restrictions, but that the specific convening of a SSAB would be only one way among several to obtain such advice. It was noted that the preamble to the draft final rule indicates that details regarding alternative methods for seeking such advice, and the functioning of such methods including SSABs, would be more appropriately contained as part of regulatory guidance.

EPA also expressed concern that the NRC would not resolve comments from the public on restricted site use or alternate criteria. In particular, it was not clear to them whether and when the NRC would respond to comments or licensee plans, and whether this is clearly stated in the license termination rule or whether it derives from other rules. NRC noted that the draft final rule would require that there be a request for public comment on all license termination plans and decommissioning plans or whenever the Commission deems such notice to be in the public interest (presumably this would likely occur in cases where a licensee applied for alternate criteria). While the preamble to the draft final rule does not explicitly discuss the fact that such comments will be resolved by the NRC, that in fact has been, and would continue to be, the case. The preamble could readily clarify this point and this issue is likely resolvable.

4. Separate Requirements for Groundwater: The approach in the draft final rule is to include doses from groundwater sources of drinking water as part of complying with the 25 mrem/year and ALARA unrestricted use criteria, rather than as a separate standard as contained in the proposed rule.

EPA disagreed with NRC's deletion of a separate groundwater requirement and stated that groundwater is a natural resource that needs special protection, that protecting groundwater used as drinking water is a public health issue, and that costs of cleanup of the groundwater should not be passed on to non-licensees. The NRC staff noted in the meeting that it agrees with the need to control exposures from drinking groundwater that is potentially contaminated and agrees that the environmental integrity of the nation's groundwater needs to be protected. Nevertheless the NRC staff further noted that it has concluded that protection of public health and safety in the use of this valuable resource is achieved by limiting exposure to persons from all potential sources of radioactive material, including the groundwater source, to the 25 mrem/year unrestricted dose criterion. The NRC staff also noted that licensees would have to evaluate further reduction in doses from the groundwater source based on ALARA considerations. This issue has been discussed at length between the NRC and EPA staffs in several meetings and no new information was presented in the April 21, 1997 meeting.

The Commissioners

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Following the EPA and NRC presentations, there was an opportunity afforded for members of the public in attendance to provide comment. Seven persons presented viewpoints on various sides of the issues and their remarks are summarized in Attachment 4. These comments have not provided any new insights significantly different from those obtained during the public comment period on the proposed rule which were summarized in NUREG/CR-6353 and which are discussed in detail in SECY-97-046A.

As noted above, at the conclusion of the meeting there was general agreement that the issue concerning public participation could be resolved. No consensus was reached between the staffs of NRC and EPA on three of the issues which will need to be elevated to the Chairman and the Administrator of EPA.

Attachments: As stated (4)

cc: SECY  
OCA  
OGC  
OCA  
OPA

ATTACHMENT 2

DISCUSSION OF THE UNRESTRICTED DOSE CRITERION IN  
NRC'S DRAFT FINAL RULE (SECY 97-046A) AND CHANGES  
FROM THE 1994 PROPOSED RULE APPROACH

CHERYL A. TROTTIER, USNRC

Discussion of the Unrestricted Dose Criterion  
in NRC's draft Final Rule (SECY-97-046A)  
and Changes from the 1994 Proposed Rule Approach

Proposed rule:

A site would be considered suitable for unrestricted release if the residual radioactivity, that is distinguishable from background, would result in a radiation dose that does not exceed 15 mrem per year, and, in addition, that the residual radioactivity level has been reduced to levels that are as low as is reasonably achievable.

Further, the proposed rule stated that licensees would be required to demonstrate that residual radioactivity from the site would not cause the level of radioactivity in any groundwater that is a current or potential source of drinking water to exceed the limits in EPA's National primary drinking water regulations.

Draft Final Rule in SECY-97-046A

A site will be considered suitable for unrestricted release if the residual radioactivity, that is distinguishable from background, would result in a radiation dose that does not exceed 25 mrem per year, including that from groundwater sources of drinking water, and, in addition, that the residual radioactivity level has been reduced to levels that are as low as is reasonably achievable.

To summarize, the two major differences between the proposed and draft final rules are: 1) the value chosen for the dose criterion, and 2) not requiring a separate criteria for groundwater.

How the NRC Staff Reached the Conclusions it did in  
the draft Final Rule (SECY-97-046A)

- The staff evaluated the comments from members of the public on the 1994 proposed rule and found that many commenters objected to the use of 15 mrem as a dose criterion for unrestricted release. Some found the number to be too high and recommended a criterion that would be essentially zero, while others found it to be too low and recommended values as high as 100.
- The staff considered the alternatives presented in the public comments and reexamined the rationale of the proposed rule.
- The NRC's first fundamental principle in preparing both the proposed rule and the draft final rule, is that a dose criterion for decommissioned sources should be set low enough that it provides a sufficient margin of safety to assure that doses are unlikely to exceed 100 mrem/year when you take into account the possibility of an individual being exposed to multiple sources of man-made radiation. The 100 mrem/year value was selected because it is the public dose limit contained in NRC's regulations in 10 CFR Part 20, and has been recommended for use as a public limit by the National Council on Radiation Protection (NCRP) and the International Commission on Radiological Protection (ICRP).
- The second fundamental principle considered is that, having assured that the first principle is met, that doses will be further reduced to levels that are as low as is reasonably achievable.



- The NRC staff considered potential man-made sources that a person could be exposed to from a review of data in its final Generic Environmental Impact Statement, and in other published sources, and determined that it would be highly unlikely that a person receiving a dose from a decommissioned source would also receive exposures from other sources so that the cumulative dose would approach 100 mrem/year. Sources that a person may be exposed to may include being a full time resident on a decommissioned site or working full time in a decommissioned building. Other sources might include exposure from consumer products and other licensed facilities, each of which have been found to contribute only a few mrem/year.
- Based on its analysis, the NRC staff concluded that, on a generic basis, using a dose criterion that would represent 25% of the NRC public dose limit provides an ample and sufficient margin to assure that it would be unlikely that doses would exceed 100 mrem/year. This conclusion is consistent with recommendations made by the NCRP, the Chairman of the ICRP, and the NRC's Advisory Committee on Nuclear Waste.
- Following up on the second fundamental principle stated above, which is also recommended by the NCRP and ICRP, is that, in addition to complying with the 25 mrem dose standard, that licensees would also be required to evaluate whether further reductions to doses can be made to levels that are as low as is reasonably achievable. This analysis would compare the benefits obtained from further reduction in dose levels to the costs and risks resulting from that reduction. An example of risks that might occur from reducing dose levels include traffic accidents that could occur during transport of additional quantities of waste to achieve the lower doses.

- For the large majority of NRC licensees, this evaluation will result in returning sites to pre-existing background conditions because the residual radioactive contamination is so low that it will be easily cleaned up or will decay quickly to low levels. For facilities where contamination of soils and/or structures exists, further reductions in residual levels below the 25 mrem dose standard may not be feasible, but the requirement to reduce doses to levels that are as low as is reasonably achievable will assure that the dose is reduced as appropriate.
- With regard to the need for a separate requirement for groundwater protection, such a requirement was included in the proposed rule, at the request of EPA. NRC requested public comment on the advisability of including this separate requirement in the final rule. This provision would have required that residual radioactivity could not result in levels of radioactivity in groundwater, that are a current or potential source of drinking water, exceeding the maximum contaminate levels specified in EPA's National Primary Drinking Water regulations contained in 40 CFR Part 141.
- In preparing the draft final rule, the NRC staff's evaluation of groundwater was guided by the fundamental public health protection principles noted earlier. Based on those principles, the 25 mrem dose standard limits the amount of radiation that a person can receive from all potential pathways to which they could be exposed if they live or work at a decommissioned facility. These pathways would include direct exposure to residual radioactivity on surfaces, eating food grown on the site, and drinking water obtained from groundwater sources on the site.

- The NRC staff agrees with the need to control exposures from drinking groundwater that is potentially contaminated and agrees that the environmental integrity of the nation's groundwater needs to be protected. Nevertheless the NRC staff has concluded that protection of public health and safety in the use of this valuable resource is achieved by limiting exposure to persons from all potential sources of radioactive material, including the groundwater source.
- The NRC staff concluded that there is no reason from the standpoint of protecting public health and safety to have a separate, lower criteria for one pathway as long as the dose from all pathways does not exceed the 25 mrem dose standard in the draft final rule.
- Further, the cost/benefit analysis provisions discussed earlier would also be applied to groundwater cleanup. This would require licensees to evaluate further remediation of groundwater at their sites especially for situations where relatively large populations could obtain their drinking water from the plume. It should be noted that such large populations are highly unlikely at most NRC licensed sites where groundwater may be affected.
- The NRC staff also believes that a limit on radiation exposure from all pathways at a decommissioned facility provides a uniform approach for protecting public health and safety making reliance on separate requirements for each pathway unnecessary. Furthermore, the current values in 40 CFR 141 are not uniformly protective since they can result in a wide range of doses for different radionuclides (e.g., less than 0.1 mrem per year to over 30 mrem per year), do not include all radionuclides (e.g. uranium), and at actual sites, have created significant technical and cost problems when applied to groundwater.

- In summary, the NRC staff approach will protect public health and safety through a rule that is clear, consistent, and can be implemented in a practical manner.



ATTACHMENT 3

STATEMENT BY THE ENVIRONMENTAL PROTECTION AGENCY STAFF  
ON THE NUCLEAR REGULATORY COMMISSION'S RULE ON  
RADIOLOGICAL CRITERIA FOR LICENSE TERMINATION

RAMONA TROVATO, USEPA

STATEMENT ON THE NUCLEAR REGULATORY COMMISSION'S RULE ON  
RADIOLOGICAL CRITERIA FOR LICENSE TERMINATION

Ramona Trovato

Environmental Protection Agency  
Office of Radiation and Indoor Air  
Office Director

April 21, 1997

INTRODUCTION

Good afternoon. My name is Ramona Trovato; I am the director of EPA's Office of Radiation and Indoor Air. Today I represent the United States Environmental Protection Agency in our role of protecting the health of our fellow Americans from exposure to environmental radiation. My responsibilities include developing standards to protect the public and the environment from radiation. Protecting the public is more than just a duty to me, it's the right thing to do, even though it is not always the popular or easy thing to do. I know that my colleagues at the Nuclear Regulatory Commission feel the same way. That is why my staff and I are troubled by the NRC draft rule on radiological criteria for license termination that is before us today. We believe the Nuclear Regulatory Commission started on the right path, in the development of its decommissioning rule, but is now on the wrong path.

For many years, the EPA and NRC staffs have met on numerous occasions to discuss issues pertinent to the proper cleanup of sites contaminated with radiation. They reviewed data, and discussed technical and policy issues. EPA participated in NRC's extensive national public workshops on site cleanup. Even though they did not always agree on every point, the result of that cooperative effort was the NRC's proposed decommissioning rule. EPA supported that rule. We believed, and continue to believe that the NRC proposal was protective of public health and the environment. EPA

was prepared to exercise its option to exempt NRC from EPA rulemaking based on a finding that NRC's proposed rule was sufficiently protective of public health and the environment. I regret to say that the rule that NRC now proposes to finalize would not adequately protect either the health of our citizens or our nation's natural resources.

In August of 1994, the NRC proposed new regulations that would have mandated how clean nuclear power plants and other radiation facilities would have to be before they could be released to the general public. The proposed regulations were good for protecting the public and the environment for two basic reasons. First, they proposed sufficiently protective levels for cleaning the air, soil, and water (including groundwater) of radioactivity. The regulation would have ensured equity for all Americans who might be exposed to residual contamination, be it a single family living on the land and drinking from a well or an entire urban neighborhood living on released property. Second, if it was too difficult to clean up the radioactive pollution on the property for unrestricted use, the proposed standard allowed beneficial use of the land by requiring restrictions on uses of the land to ensure adequate protection of the public and the environment.

On November 15, 1996, Chairman Jackson in a letter to OMB, stated that NRC planned to make significant changes to its proposed rule.

Changes were made, but EPA did not see these changes until April 1, 1997 (three weeks ago), when NRC sent copies of its draft rule to EPA. We were very disappointed. The changes that were made would permit a significantly increased risk of cancer to the public, would drastically reduce the protection of a major national, natural resource -- ground water, and would reduce public input to the decision process at sites difficult to clean up. NRC staff, in the preamble of the current draft, states its belief that EPA should find the NRC rule sufficiently protective. Let me state clearly and unequivocally that EPA cannot find NRC's draft rule to be sufficiently protective. That conclusion has been conveyed in writing by the Administrator of EPA to the Chairman of the Commission.

Today, I want to discuss three fundamental issues, and tell you about EPA's concerns. The first is the need to establish a level of protection from radioactive materials that is both adequately protective and consistent with the protection afforded the public from other environmental carcinogens. The second is the issue of adequate

provision for public participation. The third is the need to protect our Nation's natural resources -- in this case, ground water that is a current or potential source of drinking water.

#### LEVEL OF PROTECTIVENESS

Let me first discuss the level of protectiveness afforded by the current draft rule. For unrestricted release of a site to the public, NRC originally proposed a cleanup level of 15 millirem per year. The current NRC draft increases this to 25 millirem per year, nearly doubling the allowed level of cancer risk to the public. But that is not the whole story. NRC has also added a provision that would allow as high as 100 millirem per year for unrestricted release. This level is an increase of seven times their original proposal and, by NRC's own assessment, corresponds to a lifetime risk of cancer of one in two hundred ( $5 \times 10^{-3}$ ). Whereas the draft does have some restrictions that would prevent some sites from going to 100 mrem/yr, we think it is clear that in practice the rule often would allow sites to clean up to only 75, 80, or more. Although 80 is better than 100 mrem/yr, it still results in a cancer risk of 1 in 250, a risk that is simply unacceptably high. It is ironic to note that at the same time the President was saying, in his State of the Union message, "If you pollute the environment, you should clean it up.", NRC was loosening up its cleanup standards. Why is this relaxation needed for NRC licensees?

Both the proposed and the current draft provide flexibility for difficult-to-clean up sites by including criteria for license termination under restricted use. The criteria include, among other things, requirements that the licensee make provisions for legally enforceable institutional controls that will protect citizens from the higher levels of contamination that are left in place. The licensee must also provide sufficient financial assurance to enable an independent third party to provide the necessary control and maintenance. We agree with this flexibility and the efficiency it provides, but believe this flexibility is sufficient for the tough cases that NRC is concerned about.

EPA's Superfund experience is that protective levels can be met with creative land use controls and reasonable cleanup efforts. There is simply no need to allow higher risks to the public just to decommission sites. We have repeatedly asked NRC for specific examples of cleanups where protective levels cannot be met. We have yet to see any. We would hope that NRC would not change a fine proposal and expose the



public to unnecessary risks without first allowing us to work together on a real world example of a supposedly problem site.

NRC has expressed the view that this draft rule would satisfy Federal radiation protection guidance, proposed for public comment by EPA on December 24, 1994. For the record, I wish to state that it would not. EPA's proposal made a clear distinction between a theoretical upper bound on exposure of individuals to radiation from all sources, now and in the future, and limits applicable to individual sources. It specified that regulations applicable to any individual source of exposure should be limited to well below that theoretical upper bound. The objective of the guidance was to achieve consistency among the risk management goals that apply to all environmental carcinogens, including radiation, under a wide range of environmental statutes. The goal specified was a lifetime risk of no greater than about one in ten thousand. Perhaps the proposed guidance did not make this adequately clear. We will ensure that any final recommendations to the President are unambiguous on this point.

NRC's draft final rule would permit, at the extreme, release of a site for unrestricted use with residual radioactive contamination yielding the full value of the theoretical upper bound on dose to an individual - 100 mrem per year. The fact that the rule contemplates that a lower value, 25 mrem per year, will normally be met is irrelevant. The function of a standard is to provide a limit for the difficult cases, not to identify the parameters bounding the easy ones.

To illustrate the unreasonableness of this change in the allowable dose, let me point out that nuclear power reactors are now operating successfully under EPA's standards, set almost 20 years ago, with maximum releases of radioactive materials that correspond to doses of approximately 15 mrem per year effective dose equivalent. NRC's implementation of this standard has, in both guidance and practice, been even more protective. Under the license termination draft before us today, a reactor site could be released for unrestricted use with residual contamination yielding doses approximately *seven times higher* than those permitted from a reactor during its operating lifetime, when it was producing the benefit of electrical power to society - thus promoting inconsistent protection of the public. I must also point out that a 100 mrem dose would result in a risk that is seven times higher than would be permitted for other environmental pollutants under the Nation's laws governing the cleanup of

contaminated sites. Why should a citizen who lives on or near a former NRC-licensed site be exposed to a higher risk of cancer than one living near an operating nuclear power plant, or someone living on or near a former superfund site? NRC's proposed rule recognized this dichotomy, and protected everyone equally.

This year's State of the Union address included an exhortation to protect our environment in every community so that our children grow up next to parks, not poison. There are over 4,500 NRC licensees that could release contamination into the environment, and these licensees should live by a simple rule: If you pollute our environment, you should pay to clean it up. To put it bluntly, radiation should not be treated as a privileged pollutant. You and I should not be exposed to higher risks from radiation sites than we would be from sites which had contained any other environmental pollutant.

In a separate, but related issue, on September 16, 1996 NRC released a series of Strategic Assessment Issue Papers. One dealt with decommissioning of non-reactor facilities. That paper included an option for transferring certain sites to the EPA's Superfund program. Among the reasons cited for the transfer, NRC said that this option would enable EPA to utilize its greater legal authority to compel remediation. NRC must have known that transferring these sites to Superfund would ensure that they would be cleaned up to criteria similar to those set forth in their proposed rule for radiological criteria for license termination. Now, NRC is suggesting a different, more lenient standard for the rest of their licensees. Why should we have a double standard for these cleanups?

NRC says in the preamble of their current draft that EPA should find their rule to be sufficiently protective. Let me emphasize once again, NRC's draft rule is not sufficiently protective.

#### **PUBLIC PARTICIPATION**

I know that NRC and EPA share the view that early, direct, and meaningful public involvement is essential in decision-making to protect our environment. In fact, the Commission states that public involvement is a cornerstone of strong, fair regulation of the nuclear industry.

I know, however, that there are differences in how EPA and NRC translate policy into action. In its regulatory requirements under this decommissioning rule, NRC does not require itself to incorporate or respond to public comments regarding its own license termination actions.

NRC has weakened public participation requirements, while at the same time, loosening the standards that its licensees must meet. While we oppose this action, it seems obvious to us that any regulatory activity that could result in increased risk to the public should require public input to the public entity making that decision, in this case, the NRC. The NRC owes it to the public to respond to their concerns on the record. The public is entitled to know why decisions are made to put their lives at increased risk.

In addition, NRC has removed the provision requiring a Site Specific Advisory Board. In the proposed rule, this Board was to have been convened for situations in which a licensee could not meet the conditions for unrestricted release, in order to obtain advice regarding the proposed restricted decommissioning. The Advisory Boards were to provide advice to NRC licensees on ways to reduce the radioactivity; on whether institutional controls would actually meet the standard, would be enforceable, or would impose undue burdens on the local community; and on whether the licensee had provided sufficient financial assurance. EPA has found these boards to be very helpful in improving cleanup decisions at Superfund sites. Unfortunately, the NRC's most recent draft has deleted the requirement for a Site Specific Advisory Board. We believe that both NRC and the public will suffer from its removal.

#### GROUND WATER THAT IS A CURRENT OR POTENTIAL SOURCE OF DRINKING WATER

We are deeply concerned over the inadequate protection of ground water that is a current or potential source of drinking water in this draft rule. NRC has not adequately addressed the three crucial issues involved in the protection of ground water. First, ground water must be protected as a natural resource. Second, protecting ground water used as drinking water is a human health issue. Third, protecting ground water used as drinking water involves basic issues of economic fairness.

EPA's position on protecting ground water as a natural resource represents a balanced, reasoned approach. Not all ground water, but rather only ground water that is a current or potential source for drinking water must be protected. That protection must

meet the public health requirements set out in the Safe Drinking Water Act, not because those requirements were developed for ground water, but because current and potential sources of drinking water are an important national resource. Finally, there is no justification to pass the cost of cleanup from the polluter to the user. As President Clinton said in his State of the Union Address, "Americans have a right to expect that our water will be the cleanest in the world."

In 1994, the NRC proposed in their draft rule a separate ground water standard that protected ground water to the drinking water standards. NRC's current draft rule is radically different from their original proposal. Now, no separate ground water standard exists.

In a November 15, 1996 letter to OMB, NRC Chairman Jackson asserted that protecting ground water is too costly. Part of the NRC rationale is that much of the ground water is clean, and that the expensive testing needed to determine that it is clean would not result in any saved lives. But these arguments (please pardon the pun) don't hold water. First of all, in any situation where a drinking water pathway now exists, NRC would have to include ground water testing. Without it, NRC would be unable to demonstrate compliance with its own standard.

Secondly, in any situation where contamination threatens ground water, and NRC does not require testing, NRC would be allowing potentially unlimited contamination of that ground water. The fact that NRC thinks there are many places where testing would not occur illustrates that the draft rule would allow many places to have radioactively contaminated ground water. In that same letter, NRC says that the cost of cleaning the water can be justified only when there is a relatively large population near the polluted water. I am certain that NRC does not mean to suggest that rural citizens have a lesser right to safe drinking water than do city dwellers or that whether or not a person is at a risk for cancer should depend on how many neighbors he or she has.

It is important to note that NRC, in its rule on uranium mill tailings, already protects ground water used, now or in the future, as drinking water to the levels specified under the Safe Drinking Water Act. Last August, when signing the "Safe Drinking Water Act Amendments of 1996, the President said "this Act will provide the American people with much greater protection for the drinking water on which we all rely every day of our lives." Six months later, NRC deleted its requirement for meeting MCLs



from their cleanup rule. Why is the NRC changing its policy on ground water used as drinking water?

In looking for guidance on protecting ground water as a natural resource, we should look to the precedents on how we protect our nation's air and surface water. Air and surface water are protected as natural resources through the Clean Air Act and the Clean Water Act. Just because ground water is "out-of-sight" doesn't mean that it should be, or can be "out-of-mind." This vital resource provides over 50% of the U.S. population -- 140 million citizens-- with their drinking water. Nearly two thirds of all ground water now in use is used by farmers for irrigation of the fruits and vegetables that you and I eat every day.

The issue of ground water is also a health issue -- our health. As I stated earlier, NRC removed the separate ground water standard from the current draft. NRC licensees now would be allowed to pollute ground water --water that you and I could drink -- with radioactive contaminants at levels 25 times greater than drinking water standards; this equates to a lifetime fatal cancer risk of 1 in every 200 people. For the 50 million people drinking water from private wells (well water that is infrequently if ever tested for radionuclides) the NRC draft would permit unprecedented risk and costs.

This final point, about the economics of cleaning up contaminated ground water, is of vital importance. The concept of "polluter-pays" is ultimately a question of fairness. The burden of cleaning up ground water cannot be allowed to shift from the polluter to the public, as it would under the current NRC draft rule. If the polluter escapes his responsibility, any number of innocent property owners could be forced to pay. How? In many localities, private ground water sources must be tested and, if necessary, remediated or treated before a property can be sold. This could decrease the value of the home and it could require the homeowner to pay for expensive systems to reduce the radionuclides in their water. On a broader scale, this same scenario could affect an entire aquifer or an entire community. Don't forget, ground water and pollution in ground water often move very slowly. It could be decades or centuries before the contamination shows in the wells of community water systems adjacent to a former licensee--long after the former NRC licensee is forgotten or has gone out of business. Does the NRC expect that the responsibility for managing and remediating such sites should be transferred to EPA's Superfund program?

In conclusion, let me summarize our concerns. This draft rule would not ensure adequate protection of the public health and the environment. It would not provide the public the level of protection from residual radioactive materials from NRC licensees that they are afforded for other environmental pollutants under EPA's remediation programs, including those that involve radioactive materials. It would weaken key opportunities for public input. Finally, it would exempt radioactive pollutants from most NRC licensees from the ground water protection requirements that others must meet. In short, it would create a situation in which radioactive materials that are subject to NRC regulation are treated as privileged pollutants that may meet lesser, more relaxed goals for protection of the public and natural resources than other carcinogens.

As the Administrator advised the Chairman of the Commission in her letter of February 7 1997, regarding the current draft of this rule, EPA would find it necessary to reconsider its exemption of NRC licensees from provisions of Superfund. That exemption was based on the presumption that NRC will provide protection of the public and the Nation's natural resources equivalent to that provided under Superfund. This draft of the rule would not satisfy that test. We trust that, upon reconsideration, the NRC will satisfy EPA's concerns. If that does not occur, these issues should be elevated to the Administrator of EPA and the Chairman of the NRC for resolution.

We know that our colleagues at NRC consider protecting human health and the environment to be a national priority. We sincerely hope that they will return to their earlier proposal on radiological criteria for license termination as a reaffirmation of that principle.

ATTACHMENT 4

SUMMARY OF PUBLIC COMMENTS MADE AT APRIL 21, 1997  
EPA-NRC MEETING

Summary of Public Comments Presented at the  
April 21, 1997 EPA-NRC Meeting

After the EPA and NRC presentations at the April 21, 1997 meeting, there was an opportunity afforded for members of the public in attendance to provide comment. Seven persons presented viewpoints on various sides of the issues and their remarks are summarized in this attachment. The following were the major points made by the commenters:

1. Effect of Low Doses on Health and Safety - Commenters stated that no data exists indicating that doses of less than 100 mrem/year cause any harm and also that the EPA does a disservice to talk to the public about deaths at these low levels because of the low risk. Another commenter indicated that there is documented evidence of harm at low doses. One commenter indicated that the NCRP is continuing to study the linear non-threshold theory and the cleanup standard should not be published until completion of that study. Another commenter indicated that the rule should not be published until more decommissioning experience is obtained.
2. Comparison and Interaction With Other Risks - A commenter stated that the issue of nuclear facility cleanup should be considered in the context of fossil fuel facilities where the limits on public exposures are higher. Another commenter expressed agreement with EPA that the doses should be maintained at a low level, noting that there is a synergism between the variety of pollutants which can exist, and was concerned about non-cancer impacts and recycle of materials.
3. Requirement for Convening SSABs - A commenter indicated that they were concerned about removing the requirement for SSABs.
4. Groundwater - A commenter stated that the MCLs were originally developed for the purpose of minimizing risk from fallout in the Great Lakes and that the fuel cycle standard of 25 mrem/year developed in the 1970's included impacts from both water and air pathways so that therefore the standard also included groundwater as part of that all-pathways approach. Another commenter indicated that the regulations should protect all water sources not just groundwater which is a current source of drinking water, noting that man is not the only species on the planet.
5. Costs - A commenter indicated that there is not enough information as to whether NRC sites at the low dose levels contained in the draft final rule could make the National Priorities List (NPL), or what would happen if they were placed there. Another commenter stated that licensees should pay for decommissioning, not taxpayers, and that it is not clear that ALARA provisions will result in reduction of doses below the standard.

These comments have not provided any new insights significantly different from those obtained during the public comment period on the proposed rule which were summarized in NUREG/CR-6353 and which are discussed in detail in SECY-97-046A.

EDWARD J. MARKEY  
7TH DISTRICT, MASSACHUSETTS

COMMERCE COMMITTEE  
RANKING MEMBER  
SUBCOMMITTEE ON  
TELECOMMUNICATIONS, TRADE  
AND CONSUMER PROTECTION  
RESOURCES COMMITTEE  
COMMISSION ON SECURITY AND  
COOPERATION IN EUROPE

**Congress of the United States**  
**House of Representatives**  
**Washington, DC 20515-2107**

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May 9, 1997

The Honorable Shirley Ann Jackson  
Chairman  
Nuclear Regulatory Commission  
11555 Rockville Pike  
Rockville, MD, 20852

The Honorable Carol M. Browner  
Administrator  
U.S. Environmental Protection Agency  
Washington, DC, 20460

Dear Chairman Jackson:

We are writing to encourage you to reach an environmentally responsible agreement on the Nuclear Regulatory Commission's (NRC) draft rule for cleanup of groundwater and soil at the hundreds of radioactively contaminated sites in the U.S.

We are aware of the February 7, 1997 letter sent to Chairman Jackson by Administrator Browner regarding NRC's reported intent to make significant changes to its August 22, 1994 proposed rule. We share her concerns that these proposed changes are not protective under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) or the Safe Drinking Water Act.

While CERCLA allows a maximum level of residual contamination of 15 millirems/year (mrem/yr), the NRC rule has a basic standard of 25 mrem/yr and an alternative standard of 100 mrem/yr. This corresponds to an almost 10-fold increase in the lifetime risk.

The standard for safe drinking water (Maximum Contaminant Levels or MCLs) is 4 mrem/yr, but the NRC rule would allow for the release of property that has ground water that is contaminated at levels of up to 100 mrem/yr, even if the water is currently used as drinking water. If the ground water migrates off-site and is used for drinking water at some time after the site has been released, the future users would be responsible for meeting the MCLs of 4 mrem/yr. CERCLA requires that a cleanup protects ground water that is a current or potential source of drinking to the MCLs, ensuring that future innocent users of the water are protected from health risk and financial liability.

We are also concerned that the NRC has proposed to restrict community involvement in cleanup decisions by deleting requirements for a site-specific advisory board from its proposed rule.

5/12....To EDO to Prepare Response for Chairman's Signature...Date due Comm: May 27  
Cpy to: Chairman, Comrs, OCA to Ack, RF...97-0464



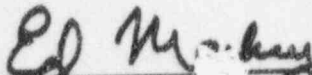
Dr. Shirley Jackson

May 9, 1997

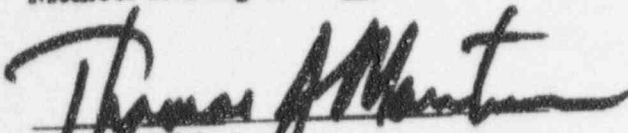
Page 2

We believe that the decommissioning of the nation's radioactive sites should proceed with the utmost concern for the protection of public health and the environment. We do not believe that the changes to the draft rule proposed by the NRC would do so. We trust that the NRC will work with the EPA to establish rules that will establish cleanup standards that are consistent with those defined by CERCLA and the Safe Drinking Water Act.

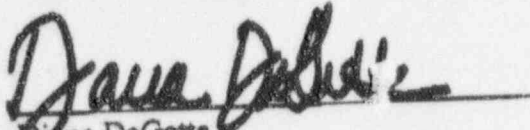
Sincerely,



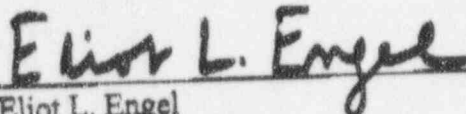
Edward J. Markey  
Member of Congress



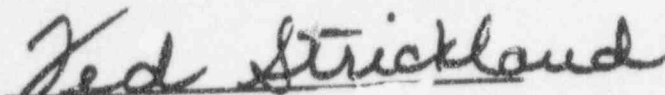
Thomas J. Manton  
Member of Congress



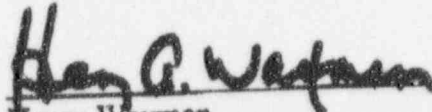
Diana DeGette  
Member of Congress



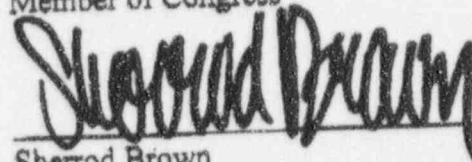
Eliot L. Engel  
Member of Congress



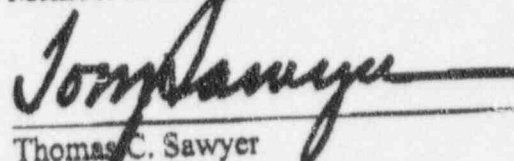
Ted Strickland  
Member of Congress



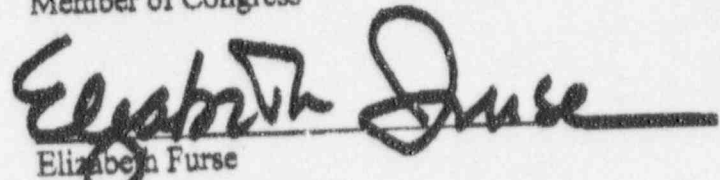
Henry Waxman  
Member of Congress



Sherrod Brown  
Member of Congress



Thomas C. Sawyer  
Member of Congress



Elizabeth Furse  
Member of Congress

ATTACHMENT 1

SRM. dated 4/11/97



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

April 11, 1997

Action: Morrison, RES

Cys: Callan  
Thompson  
Jordan  
Norry  
Blaha  
Paperiello, NMSS

MEMORANDUM TO: L. Joseph Callan  
Executive Director for Operations

FROM: *Annette L. Vietti-Cook*  
Annette L. Vietti-Cook, Acting Secretary

SUBJECT: STAFF REQUIREMENTS - COMSECY-97-008 - STAFF  
PROPOSAL FOR ALLOWING EPA TO INVOKE NRC-EPA  
MOU PROCEDURES WITH RESPECT TO SECY-97-046A,  
FINAL RULE ON RADIOLOGICAL CRITERIA FOR  
LICENSE TERMINATION

In a memorandum dated April 4, 1997, you requested that the Commission delay voting on the proposed final rule on radiological criteria for license termination at least until April 28, 1997. The request was made to allow time in the schedule for EPA to review the document, an opportunity for the NRC and EPA staffs to meet to discuss areas of disagreement, and time for the staff to report to the Commission on the results of the NRC-EPA discussion.

The request has been approved subject to the following conditions:

- 1) the staff may meet with the EPA but the staff shall prepare an agenda for the discussions in advance of the meeting.
- 2) if there is a meeting between the two staffs, it should be held only for the purpose of clarification of staffs' views and to present data and views on matters that have not been the subject of past consultations or discussions. Any such meetings must be held on or before April 25, 1997;
- 3) such meetings and interactions with EPA must be accomplished in a public process, documents exchanged between the staffs should be placed in the PDR, and meetings between the NRC and EPA shall be noticed and open to the public;
- 4) The staff should respond to EPA concerning EPA's request for additional meetings, consistent with the conditions noted here. The letter to EPA reporting the

9704180068 opp.

Commission's decision on EPA's request should reflect the long history of EPA/NRC interactions and consultation on the cleanup standards issues and note that the Commission does not believe the meetings to which it is agreeing are required under the NRC-EPA MOU. Rather, the NRC is agreeing to the meetings in view of EPA's request for additional meetings and in furtherance of agency cooperation. The letter should be submitted to the Commission for expeditious approval prior to dispatch.

- 5) the NRC staff report to the Commission on the results of the NRC-EPA discussions should include an identification of the areas of disagreement. The report should be provided to the Commission by April 28, 1997.

~~(EDQ)~~ (RES)

(SECY Suspense: 4/28/97) 8300615

In addition, the Commission will support a public meeting between the Commission and EPA in which an EPA policy level Presidential appointee addresses the Commission on EPA's concerns. The Commission will endeavor to hold such a meeting before May 9, 1997 so that the Commission's vote on the cleanup rules will not be further delayed.

cc: Chairman Jackson  
Commissioner Rogers  
Commissioner Dicus  
Commissioner Diaz  
Commissioner McGaffigan  
OGC  
CIO  
CFO  
OCA  
OIG