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**From:** Judith Johnsrud <johnsrud@csrlink.net>  
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**Subject:** Comments on 64 FR 35090 and NUREG-1640

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TO: Secretary of the Commission  
 ATTN: Rulemaking and Adjudications Staff

FROM: NEW ENGLAND COALITION ON NUCLEAR POLLUTION  
 and  
 ENVIRONMENTAL COALITION ON NUCLEAR POWER

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Secretary of the Commission  
 U.S. Nuclear Regulatory Commission  
 Washington, D.C. 20555-0001

RE: 10 CFR Part 20 and NUREG-1640  
 "Release of Solid Materials at  
 Licensed Facilities: Issues Paper"  
 64 FR 35090 June 30, 1999

Dear Madame or Sir:

The following comments on the Commission's request for comments in the matter cited above are submitted on behalf of the New England Coalition on Nuclear Pollution (NECNP) and the Pennsylvania-based Environmental Coalition on Nuclear Power (ECNP). We ask that they be considered as part of the NRC record and adopted by the Commissioners. They are meant to supplement our previous oral comments provided to the Chairman and Staff.

First, we request that the public comment period on 64 FR 35090 be extended for, at the very minimum, an additional 180 days for both the referenced "Issues Paper" and scoping process for this Proposed NRC Rule on the release, recycle, and reuses of radioactively contaminated solid materials and wastes in consumer products, and for NUREG-1640.

#### RECOMMENDATIONS:

Our primary positive recommendations to the Commission are summarized as:

- (1) Do not allow the release of radioactive materials or wastes from regulatory control; instead, require their isolation in fully regulated facilities, at the expense of their generators and users;
- (2) Do not permit radioactive materials or wastes to be used in any consumer products;
- (3) Halt immediately the NRC's practice of deregulating radioactive materials or wastes on a case-by-case basis under the outdated Regulatory

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Guide 1.86, adopted in 1974, or any other rule or guidance; and do not use Reg Guide 1.86's age as an excuse to update and continue to use that guidance, which lacks the force and legitimacy of a formal Rule, promulgated with full public participation and judicial safeguards in accordance with the Administrative Procedure Act;

(4) Initiate a rigorous, vigorous active "Identification, Reclamation, Recapture, and Isolation Program" for the radioactive materials that have already been released into the biosystem or that are not currently under regulatory control (NORM/NARM);

(5) Withdraw both the June 30th Issues Paper on Release of Solid Materials and NUREG-1640; and abandon this proposal to proceed with Rulemaking to set public exposure standards for the release/recycle/reuse of any radioactive solid materials and/or wastes in consumer products, or to "dispose" of them in unregulated landfills, or to otherwise dump them into the environment; and

(6) Extend the opportunity for public comment on this matter, preferably through the end of the Year 2000, but at least for 180 days.

#### DISCUSSION:

The issues of Release/Recycle/Reuse of "slightly radioactive" materials and wastes in free market commerce are far too significant to present and future public health and safety and the environment for the standards-setting action under consideration by this regulatory agency. Although it has been six months since the Federal Register Notice of scoping for potential NRC Rulemaking and since the release of NUREG-1640, to the best of our knowledge, the public -- the overwhelming majority of the nation's citizens \* remain entirely unaware of the full implications of the standards-setting project that the NRC evidently plans to undertake.

The repeated efforts of the NRC during the past twenty years to expand enormously the amounts and types of radioactive materials and wastes subject to deregulation and uncontrolled dissemination throughout the biosystem have failed and should not be repeated yet again. Not under any of the NRC's rapidly evolving definitions of Reg Guide 1.86, or "Deregulation of Copper, Nickel, and Steel," "de minimis," "Below Regulatory Concern," "Scrap Metal Recycle," "Clearance Level," "Decommissioning Criteria," "Release of Solid Materials," "Control of Release of Solid Materials," or "Control of Solid Materials," or any other inventive language.

The current NRC endeavor is far more comprehensive than any past proposal, and will, if any Release Rule is promulgated, vastly expand the quantities of radioactive materials and wastes to which members of the public are unknowingly exposed. No one will be able to determine total numbers of additional contaminations from "slightly contaminated" consumer objects and other unregulated materials, or the doses received from either each such exposure or the total of all of the presumably small exposures, or the interrelationships of any of those radiation exposures with other contaminants or other individual conditions of the recipient. For these and other reasons, below, members of the public need much more time to learn of, and submit comment on, this extremely important proposal.

Furthermore, it is the statutory obligation of the Environmental Protection Agency to set the radiation protection standards for the ambient environment. The recent decision of the EPA not to pursue promulgation of such standards does not justify NRC's proceeding to do so, no matter how persuasive to the agency the financial arguments of the NRC's licensees and DOE may be.

#### COMMENTS ON NUREG-1640:

With respect to NUREG-1640, "Radiological Assessments for Clearance of Equipment and Materials from Nuclear Facilities," we note that this report was prepared by Science Applications International Corporation (SAIC), which, we have been informed, is, or has been, employed as a subcontractor for British Nuclear Fuels, Ltd. (BNFL), which is the company contracted by the Department of Energy to decommission and decontaminate the Y-12 and K-25 uranium enrichment facilities at Oak Ridge; and, as part of the contract, to be allowed to earn profit from the sale on the open market of radioactively contaminated nickel that is recovered in the decommissioning process. This clear conflict of interest demands that the NUREG-1640 report produced by SAIC be withdrawn from any consideration relevant to this proposed NRC action. We urge NRC to do so, and to re-examine permission for an Agreement State to set unilaterally any radiation standards that will affect persons and the environment that are not within the borders of the Volunteer State. Tennessee's record of protection of its environment and citizens from radiological contamination emanating from nuclear facilities within its borders confirm our objection to being exposed under any radiation dose limits that Tennessee might impose.

Moreover, NUREG-1640 is limited in its scope to some impacts of scrap metal only. Therefore this document is irrelevant to the NRC's present proposals to permit the deregulation, release, recycle, and reuses of all solid materials, not just recovered metals.

In addition, the release of the metals considered in NUREG-1640 is being allowed under the jurisdiction of the State of Tennessee, an Agreement State, but not authorized to set nationally-applicable radiation exposure standards to which people and environments far removed from that state's jurisdiction will be subjected during the present and future time in which this released "slightly contaminated" nickel will be in circulation in unregulated, unmonitored consumer products, and ultimately disposed of either in municipal solid waste landfills or dumped indiscriminately in the environment. In any scenario of future uses, human populations will receive exposures without any choice or permission, and without any realistic ability for individual recipients to measure the doses they receive.

Furthermore, the analyses in NUREG-1640, which initially appeared to be extremely detailed and comprehensive, are, upon close examination, superficial and wholly inadequate to be used as the basis for any consideration of the impacts of Release of Solid Materials at Licensed Facilities. According to staff statements in the course of consultation and public scoping meetings, the conclusions drawn from these two volumes are based on the doses that would or might be received by the scrap metal workers expected to be the most highly

exposed recipient individuals.

However, from comments of these staff sources, it is apparent that the NRC fails to assess or to take into full consideration the total numbers of exposures and total doses that would be received by a member of the public who is exposed to an unknown, unmeasurable, and thus unknowable number of various objects containing the contaminated material. From this fact, one can only conclude that the staff have no idea what the actual total additive and cumulative doses to members of the public would be or could be. Apparently the regulators believe that any dose received by an individual member of the public that is lower than the dose to the person identified as "maximally exposed" is trivial and can be ignored. This is unacceptable.

Nor did we find any evidence that the contractor or staff have taken into account the fact that scrap metal workers are not considered "nuclear industry workers" who would be subject to occupational dose standards, nor that these workers would also be receiving further additional doses outside the workplace, doses that would also be difficult or more likely impossible to monitor, much less to calculate in terms of total impact.

No consideration at all is given to the significance of the additive radiation exposures that would perforce be experienced by other forms of life throughout the environment, nor to their potential mutational effects on other life forms, some of which may in turn affect human beings, such as viruses or other disease-causing microorganisms. There is no analysis of potential interactive effects \* the synergisms \* between and among the released radiation and the whole set of other contaminants in the environment. There is no incorporation of non-fatal, non-cancer low-dose radiation impacts on human health, and low-dose effects on the most vulnerable sectors of the total population (embryo, fetus, young children, pregnant women, elderly, and those with impaired health). Standard man \* the vigorous, healthy, young adult male worker \* is still used as the basis for the unjustifiable conclusion that the exposure levels analyzed in NUREG-1640 are acceptable for the entirety of the population.

Thus, we conclude that all health- and genetics-related consequences to humans, and any comparable damage to other components of the living environment, the biosystem, must be taken into account and incorporated in all radiation protection standards. Otherwise, we face continuing increases in the levels of manmade, technologically-produced radiation, a thickening of the radiation environment. The latent adverse consequences for health, safety, and the environment cannot then be accurately calculated, nor reversed, nor can those responsible for causing the damage be held accountable and liable. For any and all of these reasons, NUREG-1640 must be discarded. It is an arbitrary and capricious action for the NRC to use it.

COMMENTS ON "Release of Solid Materials at Licensed Facilities: Issues Paper, Scoping Process for Environmental Issues, and Notice of Public Meetings," 64 FR 35090:

1. Although the June 30th FR Notice stated deadline for comment of November 15 (Summary) has already been extended, we request the additional

extension requested in the second paragraph of these comments, above, and at Point (6) of the summary of our positive recommendations: the full Year 2000, or at the minimum 180 days.

2. In this Issues Paper, the Commission proposes to allow release, recycle, and reuse of any or all kinds and forms of solid materials, superficially or volumetrically contaminated at undetermined concentrations and to set permissible dose limits for individuals and collective populations, ostensibly to "provide consistency in its regulatory framework." (Supplementary Information, 1. Background) Rather than add to the releases to radioactivity into the ambient environment via air and water pathways, the NRC should be reducing those "routine" releases and reducing the permissible dose levels to take into account the more sensitive populations and up-to-date research confirming low-dose effects not incorporated into the existing radiation standards, especially the greater relative biological effects of alpha emitters and of all internal ingestion and inhalation doses.

3. While NRC's decision to utilize again the ERORR process it employed in Rulemaking for Decommissioning Criteria for Residual Radioactivity, appears on surface to be a bow to its responsibility to improve public participation, we believe that the overwhelming majority of the public-interest environmental community were fully justified in boycotting those "public meetings." The Commission's failure to adopt essentially any of the recommendations from members of the public in the earlier ERORR meetings set a precedent that will be hard to undo.

Yet, once again, those who will in reality be far more adversely affected by the pending decision on Release/Recycle/Reuse than the generators can expect they will be ignored. It is merely economic cost that the producers of radioactive materials and their associated releases of gaseous, liquid, and solid materials and wastes will suffer; they will pass those costs through to ratepayers and the public in any event. It is good health, successful reproductive capability, genetic integrity, and a full span of life that are at risk for the public, in addition to the unaccounted economic costs that result from health damage, illnesses, treatment and care for those who are damaged or suffer genetic injuries, or for those who experience premature death. And we do not even know the full extent of risks to other inhabitants of the biological world from low levels of ionizing radiation.

4. Contemporaneously, the NRC, EPA, DOE, and other federal agencies, and other private and semi-public national and international organizations have undertaken a truly massive assault on the fundamental bases of radiation protection \* dismissing the Linear No-Threshold Dose-Response Hypothesis \* in order to justify relaxation of existing radiation standards, and in turn to allow the Release/Recycle/Reuse of radioactively contaminated solid materials and wastes as proposed in this Issues Paper. This is, to be blunt, an outrageous insult to the public's right to insist that a regulatory agency fulfill its statutory responsibility to protect the public health and safety and the quality of the environment. We call upon the NRC to take all measures available to it to reverse the efforts to relax radiation protection standards and, instead to reduce toward zero the dose limits currently in effect in 10 CFR Part 20.

5. At A.1.3 (a) Current NRC case-by-case review of licensee requests for release of solid material, the NRC states that it "will incorporate the values in the table in Regulatory Guide 1.86 into the license conditions of a facility." We note that the NRC is increasingly relying on self-regulation with reduced reporting requirements by its licensees; it is not sufficiently protective of the public's interests therefore to simply give a blanket blessing to licensees for making decisions to release materials. With due respect, the record of licensees does not justify such an action. Further, the rapid changes in the electric utility industry, resultant from sales, mergers, management, deregulation, and competition, speak to the need for more, not less regulatory supervision, control, and rigorous enforcement. Instead, we observe NRC's plans to minimize additional regulatory rulemaking and to turn to outside organizations for standards-setting. We recommend against these relaxation measures.

6. At A.1.3(b), the NRC describes its allowance of releases \* based on detection capability from the early 1970's \* if survey instruments do "not detect radioactivity levels above background." The NRC's use of the term "background" now includes 200 mrem/yr of indoor radon. That figure is based on an averaging of indoor radon levels, which is a technologically-enhanced exposure and may not represent the actual dose levels from the "naturally-occurring background radiation" that are characteristic in many parts of the country, the doses received by many individuals. The estimate of 300-400 mrem/yr attributable to "background" radiation will apparently be used by the NRC to allow higher exposures to members of the public. We request the NRC to take all measures that will further minimize permissible doses, not increase them.

7. At A.2, NRC Actions to Address Inconsistency in Release Standards by Considering Rule-making on Release of Solid Materials, we must remind the agency that consistency is well-known as the hobgoblin of little minds. We urge the NRC to bear in mind that protection of public health and the environment is a hallmark of large minds and spirits.

8. At A.2.2, the NRC describes the alternative courses of action it is considering. We support, instead, and request the Commission to adopt the alternative of not permitting release of any radioactively contaminated solid materials or wastes and requiring its sequestration in regulated facilities (but not shallow land burial), and establishment of a program to identify, reclaim, recapture, and isolate radioactive materials and wastes that have previously been released or unregulated (NORM/NARM).

9. With regard to A.3, Current Policies of International Agencies...., the NRC is not expected or required to follow an international agency, or any other that allows relaxation of regulatory control over radioactive materials and wastes. NRC should be leading the way to improved and more \* not less -- restrictive radiation protection, taking into account the factors described in these comments, above. This agency has failed to do so with respect to the continuing conflict with EPA concerning Decommissioning Criteria. We suggest that the NRC is proposing to march backward. We urge the NRC to reverse course, cancel its apparent intent to proceed with this rulemaking, and lead the rest of the world in adopting

more rigorous radiation standards.

We note that including all health effects of low-level radiation (in addition to cancers and gross genetic defects); and additive, cumulative, and synergistic radiation impacts; and protection of the environment, for its own sake were the topics of focus of the Second International Symposium on Ionizing Radiation, held in Ottawa last May \* to which the NRC did not deign to send a single representative, to the embarrassment of this U.S. participant. Private or semi-public organizations, and those that are self-selecting and not fully open to public scrutiny, should not by default be entrusted to set radiation standards. As subject as the NRC appears to be to its clients, the licensees, those organizations may be even more so. Moreover, the EPA is the agency with this responsibility for the public, and it is NRC's job to implement and enforce, not to relax, them.

10. At A 5, Potential NRC Actions, etc., the NRC discusses its ERORR plans. Particularly because those who will be the most affected refused to be drawn in to what they perceived as a biased, ineffectual process, the NRC should grant the request for an extension of the public comment period on this issue, and should cancel its intention to receive by March 2000 a staff recommendation to proceed with a rulemaking.

#### NECNP and ECNP RESPONSES TO B. ISSUES FOR DISCUSSION:

Issue No. 1: Inconsistency is addressed above. The alternatives offered are not acceptable. The better approach to consistency will be to reduce the existing permissible gaseous and liquid release limits to air and water and to eliminate the current case-by-case release practices using Reg Guide 1.86. Both surface and volumetrically contaminated materials should be regulated.

Reg Guide 1.86 should not be relied on because it is out of date, and routine approval of releases on the case-by-case basis should be discontinued. If these recommendations are adopted, there is no need to address the questions posed as Specific Items for Discussion in B.2.

Issue No. 2: The NRC should decide not to develop the Proposed Rule. The purpose and goal of the NRC should instead be to increase its regulatory control over all radioactive gases, liquids, solids, and wastes that it has allowed to be produced. We ask the Commission to direct the staff to develop and enforce standards that are more restrictive, and move toward zero releases from licensed facilities and zero permissible doses to members of the public. We urge the NRC to take actions to curtail and end as quickly as possible the generation and releases of additional amounts. There will remain plenty of regulatory work for the agency, more than enough for many lifetimes.

The costs to generators should not be an NRC consideration. In the market economy, the licensees applied for approval to use a technology that creates biologically dangerous materials and wastes. It should be their responsibility to pay the real costs of their actions, and the NRC's to see that they do so. All environmental impacts of the release of any amount of radioactivity must always be taken into consideration by the NRC, not ignored or discounted in order to justify dispersing radioactive materials

into the biosphere. The remaining questions attached to Issue 2 are irrelevant: the recommendation is to increase regulatory control and reduce and eliminate releases of all radioactive materials.

Issue No. 3: If the NRC decides not to develop this Proposed Rule, as we are requesting the Commission to decide, this section and its questions are irrelevant. It will be impossible for deregulated, released, and recycled materials to be prevented from numerous secondary reuses that will become unrestricted. It is in part because we recognize that even if the recycled materials are supposedly "restricted" any mechanism of control will be lost, that NECNP and ECNP are strongly recommending against NRC promulgation of any Proposed Rule that allows Release/Recycle/Reuse of radioactively contaminated solid materials or waste.

Respectfully submitted,  
Judith H. Johnsrud, Ph.D., Director  
Environmental Coalition on Nuclear Power;  
Trustee, New England Coalition on Nuclear Power

Paper copies will follow by U.S. Postal Service

Certificate of Electronic Service:

I, Judith H. Johnsrud, certify that the comments, above, of the NEW ENGLAND COALITION ON NUCLEAR POLLUTION and ENVIRONMENTAL COALITION ON NUCLEAR POWER on 64 FR 35090 are being electronically submitted to the Secretary of the U.S. Nuclear Regulatory Commission this 21st day of December 1999. A paper copy will follow by U.S. Postal Service.