DOCKET NUMBER
PROPOSED RULE PR 71
(67FR21390)

DOCKETED
USNRC

August 6, 2002 (3:30PM)

OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

(109)

ENVIRONMENTAL COALITION ON NUCLEAR POWER
Judith H. Johnsrud, Ph.D., Director
Headquarters: 433 Orlando Avenue
State College, PA 16803
Phone: 814-237-3900
E-mail: <johnsrud@uplink.net>

and

NEW ENGLAND COALITION ON NUCLEAR POLLUTION
P.O. Box 545
Brattleboro, Vermont 05302
Phone: 802-257-0336
E-mail: <necnp@necnp.org>

July 12, 2002

Secretary of the Commission
United States Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Attention: Rulemaking and Adjudications Staff

RE: 10 CFR 71: Compatibility with IAEA Transportation Safety Standards (TS-R-1) and Other Transportation Safety Amendments: Proposed Rule

The following comments and requests are submitted on behalf of the Pennsylvania-based Environmental Coalition on Nuclear Power (ECNP), founded in 1970, and on behalf of the New England Coalition on Nuclear Pollution (NECNP), founded in 1971. Remarks of the commenter, which were offered at the June 24, 2002, NRC meeting, are incorporated by reference. We begin with requests for immediate actions by the Nuclear Regulatory Commission (NRC; the Commission).

Requests for Immediate Actions by the Nuclear Regulatory Commission:

1. First, ECNP and NECNP respectfully request that the NRC (and DOT) both extend their comment periods for180 additional days beyond the July 29, 2002, deadline. This request is due to the length and number of background documents related to the proposed rule, the long delay since NRC's mere three public "meetings" on this rule in the year 2000 -- plus the unanticipated radical national security changes since that time. Much has occurred in these two years to alter the fundamental bases and risks associated with regulations governing transcontinental and international shipments of radioactive "spent" fuel, plutonium, and other nuclear materials and wastes.

2. ECNP and NECNP request the NRC to withdraw this Proposed Rule and recalculate the full adverse consequences and the full long-term financial, health, and environmental costs to the public, the nation, and the economy of worst case terrorist actions This request stems both from expanded national security considerations that were not present nor accounted for in risk analyses when the NRC's and DOT's draft rules were fashioned, and from advances in understanding of low-level radiation impacts on biologic organisms not included. The kinds of events and potential damage previously dismissed as "incredible" or unverified have now entered into the realm of reality, are undeniably "credible" and significant, and must be evaluated.

3. At 10 CFR 21391, Paragraph 2, Section "II. Summary of Public Comments," the staff states that "Comments not specific to this rulemaking...are [not] discussed for relevancy to the scope of this proposed action." In the altered circumstances of our nation's vulnerability to terrorist attack, we ask that the NRC staff must reconsider how broad that scope is and what it means for public safety in the transport of radioactive materials and wastes.

4. Although the staff summarizes comments from its meetings in 2000, there appears to be no evidence that issues to improve the protective adequacy of the regulations which were raised then by members of the public have been fully adopted. If any were adopted, we ask that changes that were adopted in

Template=SECY-067

SECY-02

response to public comments in 2000 must be specified in a revised Proposed Rule.

5. Furthermore, no formal public hearings on the April 30, 2002 Draft Rule(s) have taken place. Before the Commission or DOT can legitimately proceed with revised transportation regulations, full public hearings -- not mere meetings with a panel of "stakeholders" chosen by the agency – must be held. Because the radioactive materials and wastes will move both nationwide and worldwide, hearings throughout the United States are essential and should follow a thorough reconsideration and revision of the Proposed Rule. At the June 24th Rockville "public meeting" one participant was informed by staff that an issue raised had "already been discussed in DOT hearings held in 2000" and that the commenter had had an opportunity for input at that time. That dismissive staff response to a legitimate query and objection was entirely inappropriate.

6. The interagency and international scope and implications of this particular rule mean that the Commission has a special obligation to assure that critical comments and objections have been fully addressed before proceeding to promulgate compatibility requirements. Some pertinent documents have been inaccessible to members of the public, except at substantial cost. The long exclusion from public sources of codes and IAEA documents that are cited by reference in the draft has precluded citizens from fully assessing the Proposed Rule. We request that this deficiency be corrected by providing all documents and adequate additional time for members of the public to obtain and review all of them and incorporate evaluations of them into formal comments,

Summary ECNP and NECNP critique of the Proposed Rule.

1. "Harmonization" of U.S. nuclear waste transportation rules with those adopted by a non-elected, appointive international body -- well known for its bias favoring the wishes of the nuclear industry that the U.S. NRC is by law required to regulate -- and without a full democratic public review and input process by IAEA is not an appropriate regulatory process for our nation; nor is it required that the United States match its protective regulations to weaker ones of other nations. Yet this appears to be occurring to satisfy demands of the nuclear industry and affected governmental bodies for relaxation of requirements and reduction of costs to the generators of radioactive materials and wastes, to foster increased trans-boundary commerce in nuclear materials and deregulated wastes, and to support renewal of the nuclear power option. These ends are neither necessary nor desirable for the American public's interests and safety.

2. Adoption of this rule will weaken regulatory control, or relinquish it altogether, over large amounts of radioactive materials and wastes, allowing increasing quantities into commerce and into the lives of individual citizens without their knowledge or approval. The consequence of this action will be to add potentially many multiple sources of undetected and undetectable exposures to individuals absent their consent. Such a rule violates the most fundamental premises of radiation protection, namely that (a) the individual recipient of an added dose should receive a benefit greater than or commensurate with the added risk of genetic or somatic injury, (b) should be fully informed, and (c) should be able to accept or reject the additional exposure.

3. This proposed IAEA compatibility rule will also enable further expansion of federal preemptive regulatory authority over the states and municipalities which have obligations to protect their populations. This exercise of preemptive power is antithetical to the proper functioning of a democratic society, imposing additive biologic hazards without the consent of those exposed or of the governments

most directly responsible for their protection . The U.S. populations that will be placed at heightened risk from radioactive waste in transit have had no opportunity to comment on or otherwise participate in the earlier formation of the IAEA rules.

4. The promulgation of this rule will be enabling of the commercial and military nuclear industries' desire to revive and expand, thereby generating ever more wastes to be stored, transported and ultimately – one had hoped – sequestered from the biosystem. The greater the amounts of such hazardous materials and wastes in circulation, the greater the danger and damage to human health and to other forms of life.

5. The already inadequate safety testing of transportation casks is to be opened to further weakening, thereby increasing the risks of significant, if not catastrophic, releases of the radioactive contents of shipments in the event of worst case accidents that exceed the design criteria and destructive proof-testing of the shipping containers.

6. Potential maximal adverse consequences for the public and the environment resultant from other activities associated with transport have not been adequately assessed.

7. Health effects analyses continue to utilize "standard man." The majority of the U.S. (And world) population is not composed of NRC's standard men. The impacts of potential exposures to the most susceptible portions of the population -- ova, embryo, fetus, rapidly growing young child, elderly, and those with impaired health -- are not the basis of the radiation protection standards or risks used in development of the Proposed Rule. In the event of accidental or intentional releases from radioactive materials and waste shipments, it is the impacts upon those segments of the population that should be the measure of damage assessments and risk analysis.

8. The analyses on which risk determinations are based fail also to account for recent and current scientific research findings on low dose and low dose-rate irradiation at cellular and molecular levels. The argument of nuclear industry proponents that new information need not be considered is invalid since the NRC's legal mandate is to protect the public's health and safety. This mandate is violated by ignoring cautionary information that is now available in the peer reviewed literature.

9. Moreover, there has not been even an attempt to assess and incorporate impacts of additive exposures to other forms of life and to ecosystems (a matter of significance now recognized by other nations' radiation protective bodies) nor to include the adverse impacts upon an individual recipient of the combinations of and synergies among radiation and other contaminants to which people are exposed.

10. The draft rule opens plutonium transport containment to extremely significant weakening by elimination of requirements for double containment. Thousands of tons of plutonium will be shipped in coming years. Heightened risk of accidental or intentional release is not acceptable.

Comments on Section III Request for Cost-Benefit and Exposure Information at FR 21393:

In Paragraph 2, at FR 21393, staff aver as "fact" that the current regulations "have provided adequate protection of the public health and safety." This statement is without foundations, because the current regulations do not take into account the full range of potential injuries and adverse public health consequences associated with radiation exposures; are not based on impacts to the most sensitive segments of the population; and are not based on safety testing of canisters to worst case scenarios.

Nor do they account for severity of damages to the environment from worst case transportation accidents or terrorist attacks. The staff has ignored severe accident and attack conditions and consequences that now, in the aftermath of the World Trade Center destruction, must be given full credence. For example, the true costs to the government (e.g., taxpayers) and personally to members of the public from immediate and latent injuries have not been assessed in either the past regulations or the proposed ones.

These comments apply throughout the draft rule and these failings must be rectified before these regulations can go forward. The costs of environmental decontamination following a worst case (or lesser) accident are not included. These, too, the Commission must include in their analysis. We note that NRC's recently adopted more permissive regulatory philosophy ("risk-informed, performance-based") does not relieve the staff of its statutory mandate to provide for the protection of people and environment, for they are the components of the "general welfare" cited in the governing law. (Atomic Energy Act, Chapter 1, Section 1, Declaration).

There can be no doubt that increases in radiation exposure to members of the public and to workers will also result from exemptions from control that are proposed by the staff. It is the duty of the agency, not the public, to do these evaluations and incorporate them into the rule.

With respect to the staff enquiry at FR 21394 about quantification of compatibility with IAEA TS-R-1, we emphasize what the itself staff admits: *viz.*, that (a) U.S. citizens had no input to the IAEA regulations, and (b) it is the obligation of the NRC staff to set regulations that protect Americans and their land. If that means that the U.S. Part 71 regulations are not in "harmony" with those of the IAEA, then more stringent ones must nonetheless be adopted to provide appropriately conservative protection for our citizens. By comparison, we note that certain U.S. states exercise their authority to set standards more restrictive than those of other states (e.g., agricultural products entering the State of California that are subject to inspection and seizure). The United States is not required, to the best of our knowledge, to acquiesce in weaker standards just because IAEA has adopted them.

Moreover, in this same section, staff suggests that economic impacts of harmonization are the matter of concern. That is so to the extent that all externalities currently excluded most be taken into account. It is the staff's job to seek and collect all data. We add that it is not enough for the staff to accept data provided by licensees. The licensees are energy companies, whose veracity is presently at a low ebb; any data provided by the utilities, which have the greatest vested interest in minimizing their own costs in the outcome of this exercise, must be independently verified.

With respect to possible Part 71 and TS-R-1 differences, dual standards must be adopted if they are necessary to fully protect the American population with more stringent (or more costly) regulations, and any added packaging and shipping costs to the nuclear industry must be accepted as legitimate costs of doing business and must be borne by the industry. It is not essential for NRC to adopt IAEA regulations in whole or in part.

(ECNP and NECNP responses to repetitive questions throughout the remainder of the Proposed Rule will be selective, if perforce somewhat redundant. We regret both sources of repetitions.)

Request for Responses to Issue-Specific Questions:

Issue 2 – Radioactive Exemption Values: It is our position that radioactive materials and wastes that have been generated by the nuclear industry and governmental agencies and naturally-occurring radioactive

materials that have been removed from their place of occurrence and put to industrial or other uses (TENORM) should not be exempted from regulatory control or allowed to be released and recycled into unlabeled products or for other unregulated uses. Despite extra costs of packaging, transport, and isolation for the generators and users, such materials and wastes should be required to remain under regulatory control. If already exempted, they should be recovered at the expense of the licensee. RCRA sites that supposedly are being cleaned up should not become a dumping ground for radioactive materials and wastes, including NORM. Added costs must be borne by licensees or those utilizing and financially benefitting from use. .

Issue 3 – Revision of A-1 and A-2: In all instances, any added packaging, shipping, and isolation costs must be borne by licensees and beneficiaries of use of materials. See also NIRS comments; we concur.

Issue 4 – UF-6 Packaging Requirements: Maximum protection of workers and the public should be the basis of determination.

Issue 5 – Introduction of Criticality Safety Index Requirements: The Criticality Safety Index should be set so as to maximize protective benefit for workers and the public without regard for added costs to licensees and users.

Issue 8 – Grandfathering Previously Approved Packages: All packages and containers should be subject to upgraded safety testing and more rigorous standards than have been required in the past. This may be considered a fallout from the September 11. 2001, terrorist attack. Laxity of testing and containerization can no longer be tolerated. Again, added costs are the responsibility of licensees, contractors, and others who profit from the enterprise as costs of doing business.

Issue 10 – Crush Test for Fissile Material Package Design: This commenter had encountered (and avoided by minutes being beneath) a boulder the width of the highway in the Wyoming Wind River Range some years ago. No vehicle or container could have withstood the impact of that boulder's fall from several hundred feet above. The experience was not a theoretical highly improbable event. Crush testing must be mandatory, with the cost borne by licensee or user.

Issue 12 – Special Package Approval: We urge the NRC not to offer "special conditions" that allow a licensee or shipper or other user to request relief from regulations. The staff has already been exempting and deregulating on case-by-case bases for many years, resulting in substantial amounts of deregulated materials and wastes in commercial circulation and uses without the knowledge or consent to additive doses on the part of individuals who may be exposed, and with no requirement or effort by the responsible agencies to study possible negative impacts of those exemptions and releases..

Issue 17 – Double Containment of Plutonium (PRM-71-12): ECNP incorporates by reference the ECNP comments submitted in response to 63 FR 8362, Docket No. PRM-71-12 to amend Part 71.63(b). The only benefits from eliminating double containment for plutonium would accrue to the DOE, to contractors, licensees, and shippers in the form of cost savings. It is absolutely unconscionable for the NRC to relax packaging and shipping requirements for plutonium in any form. With the dismantling of nuclear weapons and the evident intent of the federal government to proceed with MOX fuel, larger and larger amounts of plutonium may be on the roads, railroads, or possibly barges – in a time of national security threats. Few terror threats could exceed the hazard of an attack on plutonium in transit. Safety of containerization must be maximized, not relaxed, no matter how burdensome either the government, contractor, or others may consider it to be. Shipment of plutonium in liquid form should be prohibited

altogether.* To reduce or eliminate any safety requirements whatsoever for the packaging, handling, and shipment of plutonium would be actionably arbitrary and capricious, and contrary to the mandates of applicable laws, including the Atomic Energy Act and National Environmental Policy Act. Double containment must be required for all plutonium packaging and transporting.

Issue 18 – Contamination Limits as Applied to Highly Irradiated "Spent" Fuel and High-Level (HLW) Packages: Removable contamination of external "spent" fuel shipping packages must be kept to the absolute minimum attainable, even if extra cost is incurred in doing so. Full data on container surface contamination must be kept and submitted to the regulatory agency as part of required manifest records.

IV. Discussion:

We note in this section (and elsewhere in the document) that the NRC has ignored public comments that, in the staff's judgment, are not "sufficiently pertinent" to the draft rule. This arbitrary exclusion violates the Commission's policy of seeking, paying attention to, and acting upon public participation. What the affected members of the public consider to be pertinent should be addressed by the staff; the public's perceptions and definitions of what is pertinent is for the commenter to decide, not the staff.

A. TS-R-1 Compatibility Issues:

Issue 1 -- Changing Part 71 to SI Units Only: This change should be rejected. All NRC regulations and guidance must retain the use of dual units, in accordance with its "Metrication" Policy. As indicated in earlier comments, use of only SI units has the potential to cause errors that can result in improper exposures to workers and members of the public, with adverse impacts also on licensees who may then be subject to litigation for damages. This issue's importance is underscored by a new report on the numbers of iatrogenically-induced and other causes of preventable deaths in the U.S. medical care system, due to carelessness, lack of funds, or other systemic failures. We concur with the NRC's position on this issue.

Issue 2 – Radionuclide Exemption Values: We oppose the adoption of NRC rules that allow exemptions of radionuclides from regulatory control. Adoption of even a one millirem per year dose standard opens the way for many "small" doses to individuals without their knowledge or consent from these sources, in addition to the many other sources of radioactive materials and "low-level" wastes, NORM, TENORM, and depleted uranium. Our opposition to a one mrem per year standard does not mean that we favor the 70 Bq/g (c.50 mrem average) alternative; we are in opposition to adoption and use of that exemption standard as well. From the NRC's own diagrams of its proposed "exemptable" exposures, it is evident that that agency has anticipated increasing levels of allowable doses. (See appended diagrams.) ** We assume that it, and perhaps others, still do.

---

* We enclose a copy of our earlier comments on PRM 71-12, in case the Commission has failed to retain past submissions or has destroyed documents. An effort to find our earlier comments listed in the NRC system came up with nothing, indicating to us that the NRC had ignored or disposed of them.

** "Proposed Exemption Policy for a Justified Practice," NRC Staff Recommendations to the Commission, July 11, 1989; "Policy Dose Criteria," Below Regulatory Concern (BRC) Policy Statement, presented at NRC public meeting, Chicago, IL, August 28, 1990. This Policy Statement was revoked by the National Economic Policy Act of 1992.

Our concern is based on the fact that neither NRC, DOE, DOT, FDA, nor EPA, nor the states are calculating the total numbers of a recipient's one mrem sources, or the impacts of those "small" doses in concert with other contaminants to which the individual is exposed. In addition, the manner in which a dose-based standard is applied is not, in our view, acceptable. This approach, using, for example, calculated organ doses that may be based on Standard Man, rather than the recipient (who may be a fetus, a young child, a cancer patient with compromised immunological function, etc.), cannot assure accuracy, even if the multiple sources of "small" exposures were being accounted for. We cannot advocate adoption of a standard that will be permissive of release, recycle, reuse, and unregulated disposition (abandonment) of additive quantities of radioactive materials and wastes in the biosystem. We strongly urge the NRC not to adopt a one mrem per year standard and to abandon use of the higher 70 Bq/g (50 mrem equivalent) per year for allowable doses or for exemptions.

Nor should a special exemption be allowed for Pu-244; appropriately protective containers should be used.. Once again, the costs for transportation safety are a necessary cost of doing business and must be borne by the licensee or other responsible parties. They must not used as an excuse for deregulation or exemptions. The greater the latitude the Commission allows, the higher will be the resultant levels of radiation in the environment – that is the antithesis of good regulatory practice and would be an arbitrary failure to exercise regulatory control by the NRC.

Issue 3 – Revision of A-1 and A-2: At 21399, staff states that new A-1 and A-2 values are "in general" increased "within a factor of about three of the earlier values." This indicates, for the radionuclides with higher values, a significant amount of increase in allowable exposures to members of the public, absent increased benefit to the recipients. Increased values should not be adopted. From the NRC's narrative, it appears that these increases are proposed only to conform with IAEA values. That is not a valid justification for any increased levels of exposure for American citizens. Again, negative impacts on the nuclear industry are not justifiable reasons for NRC to relax any standards for protection of the public.

Issue 4 – UF-6 Package Requirements: No relaxation of packaging standards should be allowed. In recent months, the United States has experienced both prolonged fire (Baltimore tunnel hazardous waste accident) and higher drop with extended submersion (Arkansas River bridge rammed and collapsed by a barge, caused by human error) exceeding current container test requirements. No exemptions from requirements should be allowed.

Issue 5 – CSI Requirements: There appear to be no strong arguments against adoption of the IAEA's Criticality Safety Index. However, the CSI per package increase from 10 to 50 for fissile material packages in nonexclusive use shipments does not have adequate justification. Cost reduction for licensees is the only reason offered for the change; that is insufficient. ECNP and NECNP recommend not including that change.

Issue 6 – Type C packages and Low Dispersible Material: The insufficient testing requirements for Types B and C packages are ample reasons for rejecting the IAEA permission for use of the less protective Type B packaging for materials in air transport. September 11, 2001, also included a terrorist attack that resulted in the crash and destruction of a commercial aircraft of a type that might transport radioactive materials or wastes. Note also the extraordinary accidents cited above. The rigor of both Type B and Type C performance testing must be upgraded, not diminished, to meet the greater threats of accidents and of acts of terrorism (based now on experiences, not theoretical events). A Type C package may well be exposed to fire at extreme temperatures and far longer than the one hour mentioned. There is no excuse for the NRC to fail its national security obligations to assure a far higher level of safety

restrictions and requirements than were deemed to be appropriate in the more naive past. More stringent Type C and Low Dispersible Materials worst case proof testing requirements should be adopted. Type C containers should be required to assure the highest probability that packages will survive unbreached.

Issue 7 – Deep Immersion Test: Requirements should be markedly upgraded. A one-hour submersion without collapse, buckling, or leakage is wholly inadequate as a risk basis, given that as many as 100,000 shipments of highly irradiated "spent" fuel are anticipated to be moving transcontinentally on highways and railroads -- even more will have to go somewhere if the NRC continues to pursue the granting of 20-year license extensions for aging reactors and if the NRC persists in its plans for licensing new reactors. Barge shipments should be prohibited outright. Highly irradiated "spent" fuel does not belong on our lakes, rivers, or offshore. The Commission will be remiss if it fails to toughen immersion testing for shipping canisters..

Issue 8 – Grandfathering Previously Approved Packages: Grandfathering is a serious mistake and should be entirely disallowed by NRC. Past container testing has been disgracefully lax. At best, it will be a number of years before appreciable amounts of "spent" fuel can be transported for more permanent disposition, even if Yucca Mountain is ultimately licensed by NRC. This gives a substantial window of time for the design, development, and proof testing of new, better shipping casks, if HLW is to be moved. However, licensees should not be given a three-year grace period in which to continue to use casks based on ancient 1967 requirements. Moreover, 1985 safety testing criteria are also woefully outdated. More stringent up-to-date testing and performance levels must be adopted by the NRC in light of contemporary security concerns. HLW movement should be kept to an absolute minimum until the quality and durability of casks have been substantially improved to meet contemporary needs for greater safety.

Issue 9 -- Changes to Definitions: In no case should NRC Part 71 definitions be relaxed or downgraded merely to provide "internal consistency and compatibility with TS-R-1." If the rest of the world chooses to lessen their degree of safety, that is their affair, but it should not be allowed for the United States. Those who may wish to engage in trans-boundary trade in nuclear materials can be required to meet stiffer U.S. import requirements. The justification offered by staff that modifications would benefit licensees "through more effective understandings of the requirements of Part 71" is, as some might say, a very lame dog that won't hunt. Again, regulatory relaxation via redefinition is clearly both arbitrary and capricious and is unacceptable. Full clarity needs to be in the wording of definitions. To the extent that proposed changes of the definitions of CSI, A-1 and A-2 , LSA-III – and any other changes that are located elsewhere in these draft regulations but not identified in the proper section – involve reduced safety levels or relax requirements, they should be rejected by the Commission. The change in definition of "radioactive material" is especially troubling; it will in effect allow shipments of radioactively contaminated materials that are declared to be exempted according to the concentrations and consignment limits shown in the Exemption Tables.

Issue 10 – Crush Test for Fissile Material Package Design: In the absence of ready availability of the IAEA TS-R-1 document, it is ingenuous, at best, for the NRC to give the references to the actual testing requirements in terms of TS-R-1 paragraph citations. It is, however, clear that both crush tests and drop tests need to be far more rigorous than the present ones to assure survival of containers in the event of severe accidents.

Issue 11 – Fissile Material Package design for Transport by Aircraft: The peculiar wording of the *NRC's Proposed Position* arouses a suspicion that the staff does not intend increased regulatory requirements for all packages allowed air transport. The staff needs to clarify in plain explanatory language.

D. NRC-Initiated Issues:

Issue 12 – Special Package Authorizations: The shortcoming of dual regulation is evident in the handoff of regulatory control from one agency to another – here with respect to large components of aging and decommissioned reactors (e.g., reactor vessels, steam generators). It is not acceptable for NRC to wash its hands of its responsibility for packaging and containers by handing over authority to another agency. Staff provides no data to back up its claim that such components are "so large that it is not practical to fabricate authorized packagings for them." Is this merely a matter of cost reduction for licensees? NRC must clarify reasons for impracticality. Citizen groups that have attempted to accompany such shipments are not persuaded of the safety of such unprotected transport. If this argument is allowed to prevail, will licensees in future ask that other regulations be relaxed as being no more hazardous or accident-vulnerable? What will guarantee that the Commission will not acquiesce? This concern is validated by the existence of precedent in the cases of Shippingport, Trojan, and Yankee Rowe. Moreover, the staff troubles to make the point that Part 71.8 provides authority for the NRC to grant any exemption if staff decides life, property, and national security would not be compromised. Post-September 11, 2001, the Commission should not assume the legality or safety of any exemptions from full packaging and containment requirements. The quotation from TS-R-1 Paragraph 312 does tend to confirm that "special arrangement" can be invoked to allow "special components" to be shipped with lesser protection against accident or attack. This is not in the public interest and should be changed. The decision is turned over to the Department of Transportation, not a comforting abdication by NRC. DOT according to the NRC's own statements uses altered definitions to justify transporting special (large) components without the amount of protection demanded of lesser components; this is unacceptable and a failure of NRC to exercise its mandated responsibility. The staff does not provide a definition of "reasonable assurance." Further, to the extent that the staff's focus is on high-level waste transport, the allowances for exemptions of lower activity materials and wastes will tend to be ignored. Their passage from a regulated status to exemption and release into commerce or unregulated "disposal" will increase risks to the public that NRC ignores. This is not acceptable deregulation, is a capricious failure to protect the general welfare, and is therefore contrary to law. We reiterate our objection to the NRC's reliance on "performance-based risk-informed" regulation that permits less stringent requirements for containment and for transportation.

Issue 13 – Expansion of Part 71 Quality Assurance Requirements to Certificate of Compliance (CoC) Holders: It is not clear how the NRC intends to assure compliance with all regulations by shippers of radioactive materials and wastes. In the current climate of corporate illegalities in the U.S. – including some in the energy field – we see, in the staff discussion, nothing to assure that the Enforcement Policy can or will work, that licensees or shippers will comply, or that the NRC plans adequately to carry out its threats of Notices of Violation and of Nonconformance. The staff states merely that it is "expected" that regulations will be obeyed. While we applaud any improvement in QA and QC requirements, from the descriptions in this section, these seem worthy of Mr. Milquetoast, unworkable in the real world. Is NRC abdicating actual observation of compliance to DOT? Or to no one to be present throughout transit to ensure regulations are fully conformed with?

Issue 14 – Adoption of ASME Code: The staff states that a major revision of the ASME Code is forthcoming and that, therefore, it would be imprudent to rely on the old code about to be outmoded. (This logic could be applied also to recent and forthcoming research on the health impacts of low-level radiation rather than the old findings.) The staff position argues for the withdrawal of this draft rule and its delay until the new ASME Code is available and fully reviewed. In the past, the authoritativeness of this presumably independent professional organization has been a valuable source of confirmation.

Issue 15 – Change Authority for Dual-Purpose Package Certificate Holders: Under no circumstance should the NRC allow design changes by any licensee or package user without full NRC review, proof-testing, and approval. There is no precise definition for "minimal change." It is difficult to believe that "minor" design changes that a licensee or shipper might desire would not have a potential safety effect. Based on this commenter's prior participation in a NARUC proceeding on dual- and multi-purpose canisters, we find it inadvisable for the Commission to allow a Type B(DP) dual purpose package for storage and transportation, particularly with general license and permission for certificate holders to engage in alterations of the package design. The public's interest in safety is not well served by this provision; we recommend that the NRC drop it.

Issue 16 – Fissile Material Exemptions and General License Provisions: The history of NRC general licenses issued over the years by the staff is not savory. We believe that under no circumstances should the NRC issue general licenses for shipments of radioactive materials and wastes (or, for that matter, for other purposes). Nor should fissile materials be exempted from packaging and transportation regulations. Under absolutely no circumstances should transport subject to even remotely possible criticality accidents during shipment be approved. We consider it an outrage, furthermore, that the NRC had approved an "emergency final rule" allowing shipments of fissile materials in 1997 without affording the public full opportunity for comment. So much for the Commission's much-touted "public participation."

At FR 21418 footnote, the staff claims that its Part 71 regulations "ensure protection of public health and safety by requiring that Type AF, B, or BF packages used for...large quantities of radioactive materials [must be] approved by the NRC." ECNP, intervenor in ASLB licensing of TMI-2, is not convinced. Nor is NECNP, intervenor in Vermont Yankee, Yankee Rowe, and Seabrook cases. NRC approval is virtually guaranteed in almost all cases, whether or not the decision contributes to public health and safety, not to mention the environment.

Issue 17 – Double Containment of Plutonium: ECNP and NECNP repeat: under no circumstance should the NRC remove the requirement for double containment of Plutonium, in any form. To the extent possible, shipments of liquids containing plutonium should be barred.

Issue 18 – Contamination Limits as Applied to Spent Fuel and High level Waste (HLW) Packages: The Europeans may dismiss contamination "incidents" as having no radiological consequences, but that is not convincing, in view of recent research findings concerning adverse impacts of low-level radiation at the cellular and molecular levels. There should be no relaxation of radiation protection in any shipments, especially high-level wastes and intensely irradiated "spent" fuel. Although there have been comparatively few HLW/SF shipments in the past, the numbers may increase in near term years. For that reason maintenance of maximum control must be a principal goal of the NRC.

Issue 19 – Modifications of Event Reporting Requirements: The NRC should not allow any relaxation of reporting requirements but should, instead, increase the manifesting requirements and, in particular, should greatly increase enforcement. There can be no excuse for a 60-day – or a 30-day -- delay in filing a report on any event involving the malperformance of a package or container. While we would concur that a certificate holder should be required to have input with a licensee in order to determine if there were design defects, equally important would be possible production defects. We support the NRC's concern that there should be direction provided about the expected contents of a report. However, the requirement should not be so restrictive or so "unambiguous" as to preclude identification of possible multiple causes of package or container malfunction. If a performance problem arises while a package or container is in use and "on the road" there should be immediate notification of the NRC staff by the

responsible party or parties (licensee, certificate holder, driver, guard, other accompaniment).We suggest a two-stage reporting process: initial, short-term while the incident or observation is fresh within a few days (c. one week) and a final detailed report within no more than one month, unless extension is needed to complete investigation. Timeliness of reporting should serve the needs of the staff – and public safety – not of convenience for the licensee. The locus for submitting reports (Document Control Desk) seems rather bureaucratic, eccentric to the agency division with primary need to know (NMSS). For the reasons given, ECNP and NECNP oppose the NRC's Proposed Position.

IV. Section-by-Section Analysis; Subpart I; Appendix A -- Determination and Table A - 1 -- A-1 and A-2 Values for Radionuclides; and V!. – Criminal Penalties:

These sections describe the arrangement of the parts and material to be omitted or added. Comments and discussions above have addressed items that otherwise would be discussed here.

VII. – Issues of Compatibility for Agreement States:

In the narrative portion, the description of the categories and program elements that an Agreement State is required to adopt in whole or in part is succinct and reasonably clear. Not mentioned, however, is the status of non-Agreement States with respect to compatibility with NRC program requirements. Nor is there a full enough explanation of the extent to which a State or Agreement State may deviate from NRC program elements, definitions, and standards. There is also no mention of federal preemption. The Part 71 Table – Packaging and Transportation of Radioactive Material is quite explicit and complete.

IX. – Voluntary Consensus Standards:

It is ECNP's and NECNP's position that our sovereign nation may (should) adopt standards, definitions, and regulations that provide the maximum protection for our population, regardless of whether they conform with those of the IAEA. The final sentence of this section is puzzling and should be clarified.

X. – Environmental Assessment: Finding of No Significant Impact:

The staff states that the change from 70 Bq/g to radionuclide-specific activity limits will have mixed results, with some higher and some lower exemption values, levels of protection, and numbers of exempted shipments. The same statement is given for addition of the Type C package and low-level dispersible material. We are not reassured by the NRC and IAEA claims that the increases will be minor and/or harmless. More detailed information on how many and which radionuclide level will rise or fall should be clearly stated. The statement by IAEA and NRC that "this change would not significantly increase the risk to individuals" is insufficient. What is the definition of "significantly"? How was the level of "risk" determined? The issue of relaxation of plutonium shipping requirements appears again. We strongly urge the NRC <u>not</u> to eliminate the double containment. The probability and consequences of severe and worst case accidents must now be supplemented with new and through analyses of worst case terrorist attacks. Surface contamination limits on spent fuel and HLW containers is indeed a topic that must be addressed. It should be addressed in these transportation regulations.

NECNP and ECNP take issue strongly with the Commission with respect to these regulations being a major Federal action. The transportation of radioactive materials and wastes, of fissile material, of plutonium that will be traversing at least four-fifths of the states throughout the next three and more

decades is, beyond question, a major Federal action that will have significant effects on the quality of the human (and the natural) environment. Therefore, a full EIS should be produced. To fail to do so is an arbitrary decision by the Commission. It is a capricious decision in disregard of public health and safety. It subverts the intent of NEPA and is therefore contrary to law, as well. A generic EIS dating from 1977 – a quarter of a century ago – is not applicable to many aspects of the nation today. Nor is the 1985 study adequate to the current and future need. Changes in population, in land use, in the transportation system, in laws, in issues of national security – all require updating and new analysis relevant to the future time in which these regulations will be in force.

Finally, we believe that the NRC's NUREG-0170 assessments of accident and non-accident probabilities and consequences are not based on worst case accident events, on conservative estimates of the full range of health impacts not limited to fatal cancers, or on the newly validated real risks associated with threats to national security and terrorist attacks. Nor is there any indication of consideration of the relationships between and among the exposures associated with these packaging, container, and transportation regulations and all other sources of radiation exposures and exposures to other contaminants which individual members of the public (and workers) will experience and which will be additive in the adverse impacts on their health and genetic integrity.

Respectfully submitted,

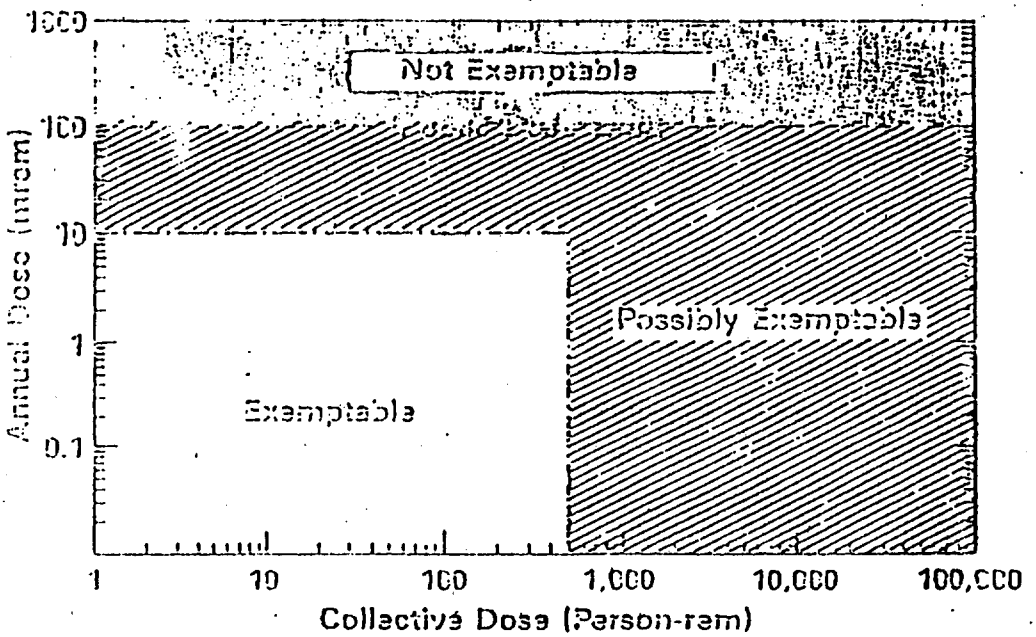
/s/ Judith H. Johnsrud

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

Source: NRC Staff recommendations to Commissioners, July 11, 1989

Attachment 3a

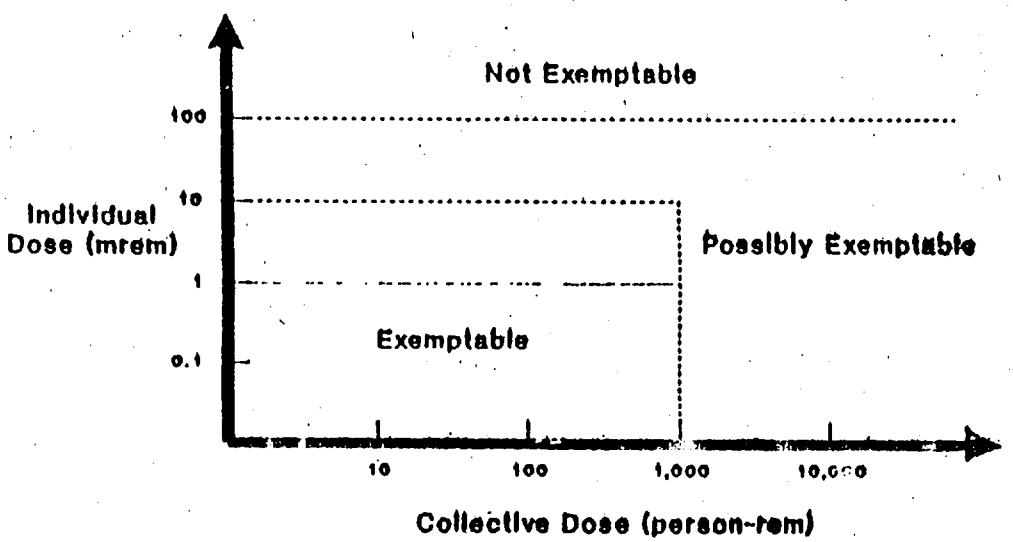
PROPOSED EXEMPTION POLICY FOR A JUSTIFIED PRACTICE



8

Attachment 3b

POLICY DOSE CRITERIA



Source: NRC Staff Presentation of NRC's BRC Policy Statement August 28, 1990

ENVIRONMENTAL COALITION ON NUCLEAR POWER
Director: Judith H. Johnsrud, Ph.D.
Headquarters: 433 Orlando Avenue **Phone/Fax: 814-237-3900**
State College, Pennsylvania 16803 **e-mail: johnsrud@csrlink.net**

Secretary of the Commission
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001
ATTN: Chief, Docketing and Service Branch
Rule

RE: 63 FR 8362 Docket No. PRM-71-12
Petition for Rulemaking: 10 CFR
Special Requirements for Plutonium
Shipments; and NRC's Proposed

to Amend Part 71.63(b)

Dear Madam or Sir:

First, we request an extended period for response to this extremely important notice; finding the information on the NRC's portion of the Internet is still difficult for novices in the use of computers (in this instance, both printer and sending problems).

The following comments are submitted by the Pennsylvania-based Environmental Coalition on Nuclear Power (ECNP), a not-for-profit public-interest organization concerned with issues of nuclear power, weapons, radioactive waste, and radiation impacts on human health and the environment. Please include these comments for the Commission's consideration of the petition filed by a Frank Falci, International Energy Consultants, Inc. His petition requests the NRC to (a) relax requirements for the transportation of plutonium, and (b) delete the provisions of 10 CFR 71.63(a) or (b), or both. We are commenting also on the NRC's Proposed Rule to amend 10 CFR 71.63(b), removing canisters containing vitrified high-level radioactive waste (HLW) from the double containment packaging requirement.

ECNP respectfully requests of the Commission the following:

1. Reject this petition requesting elimination of Parts 71.63(a) and (b)
2. Retain the NRC requirement in 10 CFR 71.63(b) for double containment of packages used for shipment of vitrified HLW.
3. Prohibit shipment of plutonium in liquid form.
4. Delete the exemption for solid plutonium reactor fuel elements, metals or metal alloys, and other plutonium-bearing solids that the Commission might determine should be exempt from the requirements of this section.

At the minimum, some five relatively unanticipated, new situations are now realities that call for the NRC to assure the most conservative regulatory requirements for the management of plutonium.

(1) With the end of the Cold War, both the United States and the States of the former Soviet Union have undertaken to dismantle nuclear weapons. These policies and actions are of great benefit to all, but they have created a plutonium stockpile and surplus that require careful regulation and essentially permanent control in isolation for millennia to come.

(2) As new weapons production presumably ceases, the Department of Energy has undertaken difficult decommissioning and decontamination of its weapons production sites. Whether or not the Waste Isolation Pilot Project site can be used for transuranic waste "disposal," shipments of plutonium and plutonium-bearing wastes may be expected to occur from and between these sites.

(3) The Department is also promoting the use of mixed oxide (MOX) fuels for the nation's remaining commercial reactors, an action that would greatly increase the numbers of plutonium shipments through densely populated areas – from DOE storage sites to fuel fabrication facilities, to reactors, and eventually to some more permanent "disposal" facility.

(4) Worldwide "transboundary" processing of and trade in plutonium has begun, with air and ocean shipments. The United States, as a major promoter and generator of plutonium, has an ethical obligation to set a positive example among nations for the most secure regulatory requirements to reduce to an absolute minimum risks of transportation accidents involving plutonium in all forms.

(5) Potential Congressional action may soon require some tens of thousands of shipments of "spent" fuel rods to begin to be transported a non-existent interim storage facility at the Yucca Mountain site or other location, plus international shipments of "spent" fuel.

Our opposition to petitioner's request for relaxation of NRC's plutonium shipment containment requirements is based foremost on considerations of public health and future genetic integrity. These concerns are founded in the extreme toxicity of plutonium and its very long hazardous life. Pu-239, an alpha particle emitter, is a potent inducer of lung cancer. In addition to its hazardous life of at least 20 times the 24,400-year half-life, recent research indicates its assumed greater relative biological effectiveness may not adequately account for the potential microbiologic damage of alpha emitters. For this reason, instead of relaxation, we strongly urge the NRC to set an even more rigorous packaging requirement for plutonium amounts below the 20 curies per package specified in 10 CFR 71.63.

Furthermore, the frequency of plutonium shipments is expected to increase markedly in coming years for the reasons described above. Prudent regulatory philosophy mandates that, in anticipation of increased traffic and accident risks, the NRC should set the most conservative requirements, not lesser ones.

No nuclear industry cost arguments should be considered by the Commission. Throughout its fifty years of existence, the AEC/NRC have totally ignored the very real economic costs to human health that are born by individuals who experience the cancers, leukemias, heart disease, mental retardation, and other ills that the National Academy of Science has identified with exposures to ionizing radiation. Those societal

economic costs far outweigh any shipping costs that the nuclear industry might have to pay for proper double containment of its dangerous products. We urge that the NRC instead now incorporate the public health costs of radiation exposures, and undertake the assessment of the health consequences and costs to the affected public of the synergistic relationships of exposures to radiation in combination with exposures to the multitude of other toxic substances that have been released into the environment.

The maximum protection of public health and safety must hereafter be the Commission's premier mission. And at this historic moment – the turn of both a century and millennium -- to that end, the NRC must recognize and correct its past focus on promotion and encouragement of the nuclear industry in favor of paramount concern for present and future health protection.

As for petitioner's claim of unequal treatment for plutonium, the NRC should respond by increasing, not decreasing, its regulatory control over other radionuclides as well as plutonium. A positive first step would be to increase the NRC's shipment requirement for plutonium in liquid form – certainly not to decrease this control, as would occur if petitioner's request for elimination of 10 CFR Part 71.63(b) were to be granted. Just as NRC requires that "low-level" radioactive waste and transuranic wastes destined for "disposal" may contain no more than 1% liquid, so also the NRC should apply that conservative limit to the transportation of plutonium.

Petitioner's dire warnings of "challenges" if his demand is rejected should be rejected by the NRC along with rejection of his demand. Strengthening, not weakening, the regulation of plutonium control while in transit is precisely the action by which the NRC properly fulfills its Congressional mandate to protect health, safety, and the environment. Thank you for consideration of these comments.

Respectfully submitted,

Judith H. Johnsrud, Director
Environmental Coalition on Nuclear Power