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SIERRA CLUB  
NATIONAL WASTE COMMITTEE  
NUCLEAR WASTE WORKING GROUP

RE::67 FR 83: 21328-288; 390-21484  
April 30, 2002

TO: Secretary of the Commission  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001  
Attention: Rulemaking and Adjudications Staff

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

TO: Dockets Unit  
U.S. Department of Transportation  
Room PL 401  
400 Seventh Street SW  
Washington, D.C. 20590-0001

Docket No. RSPA-99-6283 (HM-230)  
RIN 2137-AD40;49 CFR Part 171, et al.  
Compatibility with the Regulations of  
the International Atomic Energy Agency  
Notice of Proposed Rulemaking

July 28, 2002

**DOT AND NRC PROPOSED RULEMAKING:  
COMPATIBILITY WITH INTERNATIONAL ATOMIC ENERGY AGENCY  
RADIOACTIVE MATERIALS TRANSPORTATION REGULATIONS  
COMMENTS OF THE SIERRA CLUB**

The Sierra Club's National Waste Committee and Nuclear Waste Working Group submit the following comments to the Department of Transportation ("DOT") and Nuclear Regulatory Commission ("NRC") jointly, on the agencies' two April 30, 2002, Federal Register Notices of Draft Proposed Rules. The major purposes of the Proposed Rules seem to be: a) to "harmonize" the U.S. regulations for transportation of radioactive materials with those of the International Atomic Energy Agency ("IAEA"); b) to reduce regulatory requirements, and costs, of transport for many radioactive materials and wastes to the benefit of licensees; c) to pave the way for the exemption and release of a great many more contaminated materials and wastes from various decommissioned nuclear facilities; d) to relax or abolish many restrictions on nuclear waste movements; and e) to encourage the expansion of international commerce in nuclear materials. These reasons are not persuasive of the environmental or societal benefits that could be derived from final promulgation of either of the Rules as they have been drafted.

The agencies both admit that these Draft Rules do not address either the anticipated growth in the numbers of nuclear waste shipments or the major changes in national security considerations since the September 11, 2001 attacks. These drafts also do not appear to have considered the full range of "worst case" accident and diversion scenarios that could have serious radiological contamination consequences, potentially affecting wide areas and large urban populations. The drafts are therefore not ripe for approval and promulgation. It is recommended

A second very disturbing theme throughout both Proposed Rules is the marked reliance of both agencies on exemptions from regulatory controls. In the Exemption Tables, many A1 and A2 radionuclides are assigned exemption values that will increase doses to the public (a few have lower values), but the net effect will be to establish, essentially, permissible dose standards for exposures to the public with no opportunity for any review, comment, or input from anyone. This action will be accomplishing indirectly what the NRC and other agencies have been prevented by citizen opposition and by law from doing since the late 1970's: namely, the deregulation, release, recycle, and reuse of radioactively contaminated materials and "low-level" radioactive wastes. When nuclear materials have been exempted from regulation at any stage of their "life cycle," they will be freed to be entered into commerce and to be refabricated into consumer products or for other purposes. This rule would thereby add to the exposures that may be received by members of the public and workers without their being able to know or to avoid these additional radiation doses from which they incur added risk of injury but derive no benefit. And these materials may also be engaged in international trade and reuses without any controls. They may be disposed of or abandoned without regard for any radiological hazard they may pose. All of these consequences are, to be blunt, an illegal way for these agencies to perform and they will be in violation of the provisions of the Administrative Procedure Act. At issue here are various recently reported research findings on the damaging impacts of low-level radiation on cells, on molecular functioning, on human health. These advances in our understanding of radiation impact argue against allowing these materials to be exempted from strict regulatory controls and enforcement. For these reasons, it is strongly recommended that both agencies not rely on or permit exemptions. It is requested that NRC and DOT remove all provisions in these Proposed Rules that allow or encourage exemptions.

There are ever-increasing amounts of radioactive materials and both high- and low-level wastes being generated as a result of the nation's continuing reliance on commercial nuclear power reactors, on industrial, medical, and research uses, and the nuclear weapons facilities, some of which are being dismantled and cleaned up, others undertaking new nuclear weapons-related research. In their feasibility and safety analyses, however, the DOT and NRC are relying on long out-of-date (c.1985) data and other outdated information about transportation conditions and about radiation health and safety impacts for their assessments of transportation performance and risks to populations and the environment. Current data must be obtained and used in order to formulate sound future projections about the impacts of these proposed rules. The computer codes that are used for these calculations must be reconsidered and made more accessible and transparent to the public. Independent examination and verification of the agencies' underlying assumptions, their models, calculations, and conclusions must be possible and required prior to any further action on these regulations.

It is observed that there is no immediate necessity for either NRC or DOT to act on these matters. In view of the duration of hazard and potential negative consequences to human health and safety and to the quality of the environment that the Sierra Club exists to protect from harm, the best course of action is withdrawal of these proposals and full reconsideration with adoption of public recommendations that enhance safety for all.

Another, newly recognized but significant factor that should cause both NRC and DOT to withdraw, review, and revise these Proposed Rules is the sudden emergence of a wealth of disclosures about the dishonest, fraudulent, perhaps criminal behaviors of numerous U.S. corporations and corporate executives. This situation, termed by many a major national scandal, should caution the agencies to conduct thorough investigations into both the honesty and veracity of licensees and the manufacturers of packaging and other equipment, the vehicles, of drivers, highway and rail conditions, and uncertainties of aircraft safety and security. Inaccurate reporting, inspection failures (e.g., Davis-Besse reactor head), faulty equipment – all occur in this industry and may contribute to severe mishaps in transit. They should be re-examined, with regulatory revisions before either Rule is finalized. The burden of proof has now shifted to those whose actions may cause irreversible harm and substantial economic damages to the nation.

Discussions in the texts of transport vehicle, container, and package testing are of concern to Sierra Club. Contrary to claims of a good transportation record, the nuclear industry has, over the years, experienced trucking accidents, spills, and lost or stolen materials. Other non-nuclear-related serious accidents, some involving hazardous materials, must be reexamined and incorporated into revised risk analyses. In the contemporary climate of national security concerns, both older shipping containers and the sorely needed new and presumably safer canister designs must be subjected to far more stringent testing procedures to assure their ability to withstand damage and prevent releases: longer drops; greater crash impacts; longer and higher pressure water submersion; leakage resistance; higher, longer, more intense fire temperatures; and much greater explosive forces.

Protection of plutonium shipments, in particular, must not be relaxed, as is proposed by the NRC to eliminate the requirement for double containment. Controls of plutonium should, instead, be further enhanced to deal with the expected increases in its transport in coming years.

The NRC has indicated that adoption of increases in the proposed exemptions is expected to have a negative effect on public health. Such changes should not be allowed. It is recommended that the NRC's outdated radiation protection standards be subjected to rigorous review – including reliance on independent outside expert medical and public health consultants who do not have a history of association with or funding from the nuclear industry. The full range of deleterious health effects should be included. Standards should take cognizance of and be based on protection of the most sensitive and vulnerable members of the population, not those who are best able to withstand potential radiation-induced harm.

Beyond the immediate adverse effects of these exemptions, they will also give impetus to the drive on the part of the nuclear industry and its regulators to hasten the planned massive deregulation of other radioactive materials for recycle and reuse in consumer products, both in the United States and in other nations that adopt the IAEA regulations. Such releases are contrary to sound public health practices and should be abandoned by both agencies. A thorough reassessment of radiation impacts is needed and it is requested that both NRC and DOT remove all provisions of these Proposed Rules that permit reduction of radiation protection pending review..

“Radioactive materials” and “contamination” should not be redefined as presented in the draft rule; the new definitions would expand exemptions and the deregulation and recycling of more nuclear materials and wastes.

No licensees, shippers, brokers, and others should be permitted to effect changes in any designs, tests, performance specifications, requirements, or in other ways without application and documentation to the appropriate regulatory agency and its full evaluation prior to approval.

In summary, in addition to the suggested changes cited above, it is recommended:

- \*\* that the proposed nuclide-specific exemptions proposed by DOT not be legalized;
- \*\* that NRC prohibit exemptions of nuclear materials, or exemptions from secure packaging of all transported materials and wastes, or other releases into commerce or the environment;
- \*\* that the transport of all nuclear materials and wastes be minimized, except to enhance safety;
- \*\* that double containment of plutonium in transit be retained and shipping security upgraded;
- \*\* that no volumetrically-contaminated materials or wastes be released from regulatory control, and that no increases be allowed in shipping container surface contamination levels
- \*\* that the NRC, in concert with other agencies, identify and recover formerly-regulated nuclear materials that have been deregulated or have escaped from control in the past.

This concludes these summary comments of the Sierra Club on 67 FR 83: 21-328-388 and 21390-484. Supplemental comments may be submitted.