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State of Utah

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'00 AUG 31 P3:46

DOCKET NUMBER
PROPOSED RULE PR 72+150
(65 FR 37712)

August 23, 2000

Attention: Rulemakings and Adjudications Staff
Office of the Secretary
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

To Whom It May Concern:

Please find attached the State of Utah's comments on a proposed rule by the Nuclear Regulatory Commission ("NRC") to amend 10 CFR Part 72 and allow storage of Greater Than Class C ("GTCC") waste at an independent spent fuel storage installation ("ISFSI") or at a monitored retrievable storage installation. If you have any questions, please do not hesitate to contact me.

Sincerely,

William J. Sinclair, Director

cc: Dianne R. Nielson, Ph.D., Executive Director, UDEQ
Denise Chancellor, Utah Attorney General's Office

Template = SECY-067

SECY-02

COMMENTS BY THE STATE OF UTAH ON "INTERIM" STORAGE OF GREATER THAN CLASS C WASTE

The State of Utah submits the following comments in response to a proposed rule by the Nuclear Regulatory Commission ("NRC") to amend 10 CFR Part 72 and allow storage of Greater Than Class C ("GTCC") waste at an independent spent fuel storage installation ("ISFSI") or at a monitored retrievable storage installation. *See* 65 Fed. Reg. 37,712 (June 16, 2000).

SUMMARY OF COMMENTS

The State of Utah is greatly concerned that NRC will allow the storage of GTCC waste at away-from-reactor ISFSIs, including at a centralized spent fuel storage site such as the one being proposed in Utah by Private Fuel Storage, LLC ("PFS"). There is the potential that most of the nation's spent nuclear fuel ("SNF") and GTCC waste could be shipped to Utah and that, once here, it will never leave the State. There are absolutely no plans for the long term disposal of GTCC waste. If the NRC intends to allow storage of GTCC waste at an ISFSI, as a matter of national policy, NRC must restrict storage to at-reactor ISFSIs and not allow GTCC waste to be shipped across the county unless and until decisive plans have been made for the permanent disposition of GTCC waste.

BACKGROUND

The NRC has established near surface burial requirements for Class A, B and C wastes under 10 CFR Part 61. Of the three classes of waste, Class C wastes have the highest level of radioactivity. The concentration limits for Class C wastes are described in 10 CFR 61.55, Tables 1 and 2. Wastes with concentrations above Class C wastes are not suitable for near surface disposal. 10 CFR § 61.55(a)(2)(iv). Part 61 requires that Greater Than Class C waste must be

disposed of in a geologic repository "unless proposals for disposal of such waste in a disposal site licensed pursuant to this part are approved by the Commission." Id.

Currently, Greater Than Class C waste is being stored under Part 50 licenses, either within the reactor vessel or in a radioactive material storage area. Authority to allow a Part 50 licensee to store such waste generated at a reactor site is authorized under Parts 30 and 70 and is included as part of a Part 50 license. When a Part 50 license terminates, so too does its Parts 30 and 70 authority to store Greater Than Class C waste. The licensee must then apply to the NRC or Agreement State for a specific license under Parts 30 and 70. In addition, a Part 72 general license, allowing the storage of SNF at the reactor site, would also terminate along with the Part 50 license.

NRC's proposal is to allow a Part 50 licensee, upon termination of its Part 50 license, to store Greater Than Class C waste under a Part 72 license. To accomplish this, NRC proposes to add the term "GTCC waste" to various sections and paragraphs in Part 72 and thus allow Greater Than Class C wastes to be licensed under Part 72. NRC will also take jurisdiction from Agreement States to issue licenses under Parts 30 and 70 for the storage of GTCC waste after a Part 50 license has terminated.

SPECIFIC COMMENTS

1. The Proposed Rule Is Premature.

In general, there are two categories of GTCC waste: (a) activated metals (irradiated metal components from the nuclear reactor core) and (b) process wastes. The U.S. Department of Energy ("DOE") is responsible for disposing of GTCC waste under PL 99-240. DOE currently anticipates that nuclear utilities store GTCC waste "at the generator site, where it will remain until a disposal option becomes available." *Draft Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada*, DOE/EIS-0250/D (July 1999) ["Yucca DEIS"] at A-56. The DOE has admitted "[t]he final disposition method of Greater-Than-Class-C waste is not known." Yucca DEIS at A-57. Furthermore, in the Federal Register notice the NRC recognizes "[t]here currently are no routine disposal options for GTCC waste." 65 Fed. Reg. at 37714.

NRC's proposed rulemaking has not fully matured. The proposed rule contains no separate design criteria for GTCC waste storage containers. NRC merely expects the safe storage of GTCC waste to be governed by the Parts 20 and 72. 65 Fed. Reg. at 37714. Furthermore, the NRC expects the applicant to ensure that the co-location of GTCC waste does not have an adverse affect on the safe storage of SNF and the operation of the ISFSI. Id. Rather than solicit comments on an explicit proposal, the NRC is seeking a way to make it financially more attractive for utilities to store GTCC waste after decommissioning their nuclear plants. NRC also appears to have initiated rulemaking, in part, to solicit information from DOE on its GTCC disposal policies. Id.

NRC will allow commingling of specific components of GTCC waste associated with

and integral to spent fuel (such as reactor core components) to be stored in the same cask with spent fuel. The rule as proposed, however, solicits public input on whether certain GTCC waste should be prohibited from storage at an ISFSI; be stored separately from SNF; be commingled in the same cask as SNF; and whether storage may be permitted if performance criteria can be established. Thus, the scope of the proposed rule is still in the nascent stages as there are significant decisions relating to technical, safety, and performance criteria yet to be made by the Commission. Accordingly, the State objects to this rulemaking as not being within the spirit or the letter of the Administrative Procedures Act notice and comment rulemaking.

2. NRC Should Not Usurp Agreement State Jurisdiction

Currently, NRC has jurisdiction of GTCC waste at nuclear reactors licensed under Part 50. After termination of a Part 50 license, an Agreement State has authority to issue specific licenses under Part 70 for the storage of GTCC waste. If NRC allows GTCC waste to be stored under a Part 72 license, then NRC argues that the same type of waste may be regulated in some instances by the State and in others by the NRC. The NRC also argues that neither Part 30 nor Part 70 include explicit criteria for storage of GTCC waste.[1] 65 Fed. Reg. at 37715. Thus, the NRC intends to circumvent the State's jurisdiction by regulating GTCC waste under Parts 30 and 70, as well as under Part 72.

There are other areas in which jurisdiction over Atomic Energy Act materials may be either State or Federal. As in the case of Utah, the State is not an Agreement State for 11e(2)

[1] This is rather a disingenuous argument by NRC because it is soliciting comments from stakeholders under the proposed Part 72 rule on whether performance criteria can be established to co-locate and commingle GTCC waste with SNF.

materials, in which case the NRC regulates 11e(2) materials. But should Utah become an Agreement State, then regulation will shift to the State.

In the case of an active Part 50 license, it is not unreasonable that NRC retains jurisdiction over GTCC waste because of the pervasive federal regulation of the facility. A different scenario exists, however, once a plant has decommissioned. NRC then plays a diminished regulatory role and the oversight of the facility and regulatory presence at the site is more likely to fall to the State. There may be cases in which SNF has been shipped off-site and only GTCC or low level radioactive waste remains on site. In such instances, an Agreement State may have a greater regulatory role at the site than the NRC. Thus, reactor generated GTCC waste would not be "surrounded on all sides by Federal regulatory authority and responsibility" as NRC has claimed. 65 Fed. Reg. at 37,716. The one area in which the State agrees that Agreement States do not have jurisdiction is the NRC's licensing of casks in which GTCC waste may be stored.

3. No Away-from-reactor Storage of GTCC Waste

The supposed impetus for the proposed rule was to avoid overlapping State-federal jurisdiction and a specific rulemaking petition to store GTCC waste at an on-site ISFSI.[2] The NRC, however, has greatly expanded on this concept. Under the proposed amendment to Part 72, the NRC will allow storage of GTCC waste irrespective of the physical location of the ISFSI.

The State of Utah adamantly opposes away-from-reactor storage of GTCC waste for several reasons. First and foremost, the DOE has no plans for the permanent disposal of GTCC

[2] The rulemaking petition is now moot because the licensee no longer needs to store GTCC waste on site. 65 Fed. Reg. 37,712, n.2.

waste. Yucca DEIS at A-57. Second, DOE anticipates that nuclear utilities will store GTCC waste "at the generator site, where it will remain until a disposal option becomes available." Yucca DEIS at A-56. Third, NRC gives short shrift to the potential volume of GTCC waste, merely comparing the relative volume of GTCC waste with the large volume of SNF generated by a nuclear power plant. Such a comparison does not address whether the highly radioactive GTCC waste should be permitted to be shipped away from the reactor site.[3] Fourth, NRC is silent on the transportation of GTCC waste. There is no discussion about the type of containers suitable for transportation of the waste or the exposure level and the population at risk from transportation of the waste. Finally, the NRC is also mute on the disposition of the waste at the end of a Part 72 ISFSI license.

4. Need for a Programmatic or Generic EIS

The Commission has decided that the final rule, if enacted, will not be "major federal action" under the National Environmental Policy Act (NEPA) or require an environmental impact statement ("EIS") under 10 CFR Part 51. 65 Fed. Reg. at 37717. The Commission has thus issued a "Finding of No Significant Impact." Id.

NEPA requires an EIS for major federal action significantly affecting the quality of the human environment. Moreover, 10 CFR § 51.20(a)(9) requires an EIS to be prepared for the issuance of an away-from-reactor ISFSI license. The Commission also has discretion under § 51.20 to determine that a proposed action will be covered by an EIS. 10 CFR § 51.20(a)(2).

NRC views its proposed rule as another licensing option available upon termination of a

[3] The total nuclide radioactivity GTCC waste from commercial light-water reactors, projected by DOE to 2055, is 8.8×10^7 curries. Yucca DEIS at Table A-52.

Part 50 license. Rather than merely an additional licensing option, however, the proposed rule has the potential for causing the relocation of GTCC waste away from a reactor site. In particular, the Private Fuel Storage, LLC centralized ISFSI on the Skull Valley Goshute Indian reservation in Utah could become the prime location for this waste. To the extent that NRC will allow away-from-reactor storage of GTCC waste, it is a significant departure from the current regulatory scheme. As such, the new rule would permit the mass movement across country of GTCC waste. In this respect, the NRC cannot rely on its "waste confidence rule" because the waste confidence rule only relates to SNF. Moreover, the DOE has openly stated it has no plans on how or when it will dispose of GTCC waste. Therefore, the policy decision on the disposition of GTCC waste is in the hands of the DOE and not the NRC. But NRC's licensing action will have a significant affect on the quality of the human environment if GTCC waste is removed off-site without any hint of how it will be disposed of permanently. The NRC simply does not address the final disposition of GTCC waste. In fact, the NRC decommissioning rule under Part 72 only requires a Part 72 applicant to propose and fund a decommissioning plan after removal of GTCC waste. *See* proposed 10 CFR § 72.30(a), 65 Fed. Reg. at 37720. This may never occur.

No EIS has ever been prepared on the transportation of GTCC waste. Table S-4 (WASH-1238), NUREG-170 and more recent technical reports, such as the Modal Study, are silent on this issue. GTCC waste may be long-lived and can contain millions of curies of radioactivity. For example, niobium-94 is a strong gamma emitter and has a half-life of 20,000 years. In particular, an EIS must be done for the transportation of GTCC resins and evaluation of the hazard of an accident involving a long-duration fire.

RADTRAN is a computer model developed by Sandia National Laboratories to estimate population risks and the financial impact of accidents from the transportation of radioactive materials. The NRC cannot rely on RADTRAN for the shipments of GTCC waste because GTCC shipments containing ion exchange resins are primarily composed of radioactivity, water and plastic. RADTRAN does not address such resins.

Furthermore, NRC cannot rely on an EIS conducted for a site specific away-from-reactor ISFSI. The PFS draft EIS, for example, does not mention GTCC waste. Moreover, PFS's application, at the moment, is only for storage of SNF – not GTCC waste. However, under NRC's proposed rule change it would not be difficult for PFS to amend its license to allow it to store GTCC waste. Such a potential at the PFS site, or any other away-from-reactor ISFSI site, demands that NRC conduct a generic or programmatic EIS to analyze all issues implicated by away-from-reactor storage of GTCC waste.

5. Technical Issues

The State is particularly concerned about the commingling or shipment of GTCC waste that contain resins. In decontaminating a reactor, by flushing out pipes before dismantling the reactor, GTCC waste may be created in reactor resins which decontaminate the flushed reagents. "Dewatered" resins are about 50% water, but have little free standing water. Resins would contain cobalt-60, Mn-54, Fe-55, Cs-137 and longer-lived materials, such as Ni-59, Ni-63, niobium-94 and transuranics, such as Pu and Am-241. Thus, reactor resins and reactor internals contain alpha, beta and gamma emitting radionuclides. Unlike the shipment of solid reactor internals, the hazard in transporting reactor resins which are primarily composed of radioactivity, water and plastic, pose a much different transportation risk – a risk that has not been analyzed by

the NRC and a risk for which performance criteria cannot act as a substitute.

The basic problem for ion exchange resins is that the resins are essentially plastic and water, in comparison to a high-level waste shipment which is solid. In a severe accident involving a fire, water in the ion exchange resins would quickly evaporate and the plastic would melt, then burn. Therefore, the dynamics of a GTCC accident involving a fire are inherently different than for a high-level waste shipment accident and, thus, RADTRAN cannot be adapted to these shipments.

In addition to the dynamics of how an accident unfolds, the dose pathways assumed in RADTRAN do not encompass all possible pathways. RADTRAN estimates a dose due to inhalation, groundshine (gamma rays from material deposited downwind on the ground), resuspension, cloudshine and ingestion. But, in addition, an accident involving ion exchange resins requires consideration of dispersal on the ground of molten radioactive plastic, which yields a direct gamma radiation dose to emergency personnel and the public at the accident scene. Further, burning plastic produces toxic chemical fumes containing dioxins and furans, which are chemical carcinogens. Low doses of dioxin are dangerous and the effects of chemical and radiation exposure are synergistic. *See* US Environmental Protection Agency, Integrated Risk Information System (IRIS).

The commingling of GTCC reactor resins and irradiated fuel poses unresolved safety issues. Alpha-emitting materials from irradiated fuel can hydrolize water, creating hydrogen gas. Further, the high heat in storage canisters can evaporate water in reactor resins and build up pressure within a canister. These issues have not been investigated by the NRC. The State opposes any mixture of gas-generating materials within a storage canister. Furthermore, the

State questions the safety of merely developing performance criteria to allow the co-location and commingling of GTCC waste with SNF instead of an in-depth technical analysis of the ramification of such a proposal.

6. Insurance and Liability

If GTCC may be stored at away-from reactor ISFSIs, and if a Part 50 license no longer exists, then there is a serious void in insurance coverage. Such waste would no longer be covered under the nuclear insurance umbrella for the nuclear facility. Furthermore, the Price Anderson Act would not cover transportation incidents because the material is not classified as high level nuclear waste. Moreover, there is nothing in Part 72 that requires an ISFSI licensee to carry on-site property insurance. Thus, accidents or releases involving GTCC waste would probably not be covered by insurance.

In addition to a void in insurance coverage, there may also be difficulty in assigning liability for accidents and releases of GTCC waste. If stored at a centralized ISFSI with waste owned by others, it may be difficult to ascertain who is responsible for a release or accident. Moreover, upon termination of a Part 50 license and decommissioning of a reactor site, there may no longer be a "deep-pocket" utility who will "own" the GTCC waste. The whole liability scheme and waste ownership has not been thought through by NRC under the proposed rule.

Finally, the State is concerned that if a release or accident did occur, the State, in order to protect public health and safety, may be forced to take action even though it is not the regulator of the GTCC waste.

7. Conclusion

The State reiterates that the NRC is premature in its rulemaking; it has not presented a solid rulemaking proposal. Furthermore, NRC has not fully investigated the technical hazards associated with commingling and co-locating GTCC waste with SNF nor has NRC analyzed transportation impacts from the shipment of GTCC waste. To this end, the NRC must conduct a generic or programmatic EIS.

The State of Utah adamantly opposes the storage of GTCC waste at away-from-reactor ISFSIs. Thank you for the opportunity to comment.