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Re: Comments on the Scope of the Supplemental to the Final Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, NV

The undersigned environmental and consumer groups submit the following comments on the scope of the Supplemental to the Final Environmental Impact Statement for Yucca Mountain, as noticed in the Federal Register on October 13, 2006 (Volume 71, Number 198).

DOE's proposal is a major change from the Yucca Mountain FEIS, affecting waste packaging at reactors, waste transport, and design at the Yucca Mountain site. Yet, the description of the proposed action in the Federal Register notice lacked sufficient detail to enable the public to adequately assess the full scope of the proposed changes. In particular, the Federal Register notice should have included more detail on the proposed design of the canisters, the proposed design of the surface facility at Yucca Mountain, and the procedures for carrying out the proposed plans. The Supplemental EIS must include a detailed description and thorough analysis of the environmental impacts for the entire DOE proposal.

Specifically, in addition to the issues raised in the Federal Register notice, the Supplemental EIS for the Yucca Mountain must include:

- **Discussion of the Multipurpose Canister Proposal (MPC) and why it was abandoned:** The concept of "multipurpose" transport and disposal canisters is not a new idea, and goes back to the late 1970s. DOE proposed a similar plan to its current "TAD" plan in 1992 and subsequently abandoned the idea in 1995. A detailed history of these proposals, and an analysis of the reasons why they were rejected at that time, must be part of the Supplemental EIS.
- **Detailed information on the proposed TAD design:** Without more detail on the design that DOE is specifically proposing for the TADs, it is difficult to make useful scoping comments. DOE should provide diagrams and detailed descriptions of the TADs in the Supplemental EIS. What is the status of the proposed TAD design? Are these TADs licensed by the NRC? Of what material is the TAS canister made? What is the "corrosion-resistant" metal with which the overpacks will be made?

- **Quality assurance measures for TADs:** What will be the quality assurance procedures for all TAD operations from fabrication through disposal? Serious allegations have been raised by Oscar Shirani, formerly a senior lead quality assurance (QA) inspector for Commonwealth Edison/Exelon, about the structural integrity of Holtec dual purpose storage/transport containers. Shirani's quality assurance team found 9 major violations, including regulatory code violations, weld flaws, design flaws, and manufacturing flaws, affecting Holtec casks at the U.S. Tool and Die factory in Pittsburgh, Pennsylvania subcontracted to construct them. Shirani's allegations of QA violations call into question the structural integrity of the Holtec shipping containers, especially under transport accident conditions. An investigation by the NRC's Office of Inspector General concluded that Shirani's allegations were "substantiated." How is DOE, which would be responsible for oversight and quality assurance of the TADs, going to ensure that quality assurance standards are consistently met to ensure worker and public health and safety?
- **Security and risk analysis of the at-site storage and Transport of TAD Canisters:** The TADs do not shield workers or the public from radiation and will require overpacks for at-reactor storage, transport, and at-Yucca storage in order to provide radiation protection. What are DOE's procedures for ensuring that the correct overpacks will be available when fuel is transferred into TADs? Will each reactor Safety Analysis Report need to be amended to cover these operations? TADs are also not protected in any way from a terrorist attack. Two recent Ninth Circuit court decisions rejected claims by the Nuclear Regulatory Commission (*San Luis Obispo Mothers for Peace, et al. v. U.S. Nuclear Regulatory Commission*) and the DOE (*Tri-Valley CAREs et al. v. Department of Energy et al.*) that the National Environmental Policy Act (NEPA) does not require consideration of the environmental effects of potential terrorist attacks. DOE must provide a full analysis of all impacts on public health and safety arising from a terrorist attack or accident at the reactor sites, in transit, and at Yucca Mountain.
- **Impact analysis of at-reactor operations and at DOE facilities:** DOE's proposal to repackage irradiated fuel in TADs at reactor and DOE sites is a massive undertaking that will require worker training, special equipment, and security measures that do not currently exist. For example, how will the waste be loaded and unloaded at sites that do not have cranes of sufficient lifting capacity? DOE must detail the necessary training, equipment, and security measures that its proposal will require.
- **Description and impacts of retrieval and storage plans:** DOE must include a waste acceptance schedule that provides annual schedules for TAD and truck shipments from each reactor (waste acceptance schedule). DOE must analyze the impact on worker health and safety, public health and safety, and environmental contamination of packaging irradiated fuel in TADs at all 77 sites across the country where irradiated fuel is currently stored. This analysis should include the receipt of TADs, irradiated fuel loading into TADs, drying and decontamination, lid welding, loading TADs into overpacks, drying and decontamination, on-site transport, and long- and short-term storage, as well as all other aspects of this proposal. The impacts of incompleteness or inaccurate irradiated fuel records at reactors must also be analyzed. What is DOE's plan for addressing poor or incomplete records? What is

DOE's plan for handling irradiated fuel in dry storage at reactors if it is to be transferred to a TAD?

- **Procedures for identifying, handling, and packaging damaged irradiated fuel:** DOE must detail and analyze its procedures for identifying, handling and packaging damaged irradiated fuel. Is the irradiated fuel at shutdown reactors that no longer have irradiated fuel pools or hot cells, such as Big Rock Point in northern Michigan, considered part of the 10% of the waste that would be repackaged at Yucca Mountain? What other kinds of fuel would not be eligible for TADs? DOE must analyze all impacts on the worker and public health and on environment arising from permanently sealing irradiated fuel in TADs if there were a problem with the canister or the fuel inside. What are the plans for addressing such problems?
- **Impacts analysis of the proposed repository surface facility redesign:** DOE must provide a map and detailed information about the design and operation of the repository surface facility under the proposed TAD scheme. DOE must also analyze the environmental impacts of the design and operation of the proposal, such as water demand at the site on the state of Nevada, as well as any other impacted states.
- **Impacts analysis of TAD emplacement in tunnels:** DOE must provide detailed information about the design and operation of the underground emplacement under the proposed TAD scheme. As part of its analysis, DOE must prepare a one million year total system performance assessment (TSPA) for the repository under this proposed scheme, including individual barrier analysis and each barrier's contribution to performance. DOE must also analyze the health risk of exposure to mixed radioactive and hazardous or toxic materials expected to be released from the repository. DOE must analyze the impacts on worker health and safety in the context of (a) building tunnels after TADs have already begun to be put into Yucca Mountain, and (b) installing the drip shields after 50 years. Does DOE have a comprehensive plan for a ventilation system that would cool the waste and contain the radioactivity, while simultaneously removing dust and radioactivity in construction areas? Does DOE currently have the technology for installing drip shields remotely after 50 years? What is the plan if there is a problem with the equipment? How soon would rock fall begin to be a major problem within the tunnels? Could rock fall complicate drip shield emplacement? Could drip shield emplacement worsen rock fall? Could falling rocks dent or puncture drip shields, causing a funneling effect that concentrates dripping water on the waste burial container below, thus proving counterproductive and hastening and worsening corrosion and radioactivity releases?
- **Security and risk analysis of surface facilities at Yucca Mountain:** Since at least 10% of the waste will not be packaged in TADs at reactors, an irradiated fuel pool (described as a "wet handling facility" in the Federal Register notice) is presumably once again part of the design of the surface facilities at the Yucca Mountain site. DOE must provide an analysis of all impacts on public health and the environment from a terrorist attack on the irradiated fuel pool at Yucca Mountain. What are the security and accident measures planned for the fuel pool? What mitigation measures will be put in place to prevent a zirconium cladding fire that could release large amounts of radioactivity into the environment from the pool in the case of

accident or attack? Will the pool be placed under a containment structure? What precautions against the drop of heavy loads (such as fully loaded waste casks) into the pool, which could cause water to drain from the pool and result in a fire? What are the risks of accidental or intentional military airplane crashes into the pool from the nearby Nellis Training Range?

- **Operational impacts of retrieving the waste:** DOE must analyze whether the new scheme is amenable to retrieving waste from the repository, which is required for at least 50 years after first emplacement by NRC regulations.
- **Applicable laws:** List of all applicable federal, state and local laws and regulations that are applicable to DOE's proposal.
- **Legality of "aging pad":** The proposed "aging pads" are actually monitored retrievable storage facilities (MRSs) and should be labeled as such. DOE must acknowledge that MRSs are not legal at the Yucca Mountain site, according Section 141(g) of the Nuclear Waste Policy Act.
- **Reference documents:** All of the reference documents for the Yucca Supplemental EIS should be available online at the time of publishing the draft supplemental EIS, as well as the supplemental final EIS.

Thank you for the opportunity to submit comments on the scope of the Supplemental to the Final Environmental Impact Statement for Yucca Mountain. Please contact Michele Boyd at Public Citizen (mboyd@citizen.org or 202-454-5134) if you have any questions about these comments.

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