***LWVNM DRAFT Position on Storage of Spent Nuclear Fuel and Greater than Class C Waste***

***January 2021***

**Position in Brief:**

The League of Women Voters of New Mexico (LWVNM) supports comprehensive measures to provide maximum protection of human health and the environment from any adverse effects of the storage of radioactive materials produced by nuclear energy, including Spent Nuclear Fuel (SNF) and Greater than Class C Waste (GTCC, **Ref. 1**).

LWVNM supports the storage of SNF/GTCC only when it is implemented in a manner that protects public health and safety and the environment. Specifically, the League supports:

* Policies for the management of SNF/GTCC wastes to protect public health and air, water, and land resources;
* The establishment of processes for effective involvement of state and local government and citizens in siting proposals for storage of radioactive wastes;
* Full environmental review of storage facilities for radioactive wastes; and
* Safe transport, storage, and disposal of radioactive wastes.

**Background:**

Dry cask storage of SNF was never envisioned when commercial nuclear energy production was initiated in the U.S. The SNF was originally intended for to be reprocessed (**ref. 2**) to produce additional fuel for power applications and minimize waste residue. The first U.S. dry cask storage system for SNF was initiated at the Surry Nuclear Power Plant in VA during 1986. (**ref.3**) Extended dry cask storage has been modeled; however, no operations data currently exist to verify this model. Instead, results of research studies have been used to formulate Aging Management Programs (AMP, **Ref.4**) which SNF storage facilities implement to detect any deterioration of the spent fuel or canisters and casks prior to (Nuclear Regulatory Commission (NRC) renewal of SNF storage facility licenses. Periodic NRC inspections also confirm that adequate protective measures are implemented at each facility.

1. **Public Information**

The public has the right to know the potentially harmful effects of materials they encounter in the workplace and community. Residents should be included in the planning and decision-making processes of SNF and GTCC material management. Adequate funding to promote public participation should be available and all options for participating during the public comment period should be made available to all residents.

**2. Regulatory Structure**

The State of New Mexico should establish an integrated regulatory structure with provisions similar to those of the U.S. Nuclear Regulatory Commission (NRC) clearly delineating jurisdictional and agency responsibilities for the safe storage of radioactive waste generated from power operations. (See Agreement States, **ref. 5**) The regulatory structure should include adequate budget and staff and be accountable to the public. New Mexico should establish both comprehensive regulations and a process for monitoring regulatory compliance for interim storage facilities with provisions for imposing penalties for any violations. The regulatory agency should:

1. Ensure that private ownership of SNF and related storage operate in accordance with the safety controls required for licensing of government-owned or utility-owned SNF storage facilities;
2. Ensure that the current AMP for SNF casks (aka Used Nuclear Fuel or UNF) is imposed at all SNF and GTCC storage facilities;
3. Require that SNF storage facility owner/operators adequately characterize the subsurface geology using modern techniques to ensure that no potential hazards are present and to ensure that no hydraulic fracturing or wastewater disposal wells are located close to the site;
4. Ensure that private contracting of SNF/GTCC transportation complies with both NRC/Department of Transportation/Agreement State requirements and the same NM and tribal notification requirements as for government transportation;
5. Ensure that responsibility for transporting the waste, for funding for upgrades to rail and roads (where accessed for SNF transport) and for cleanup in case of an accident are all identified prior to license approval for interim storage facilities.;
6. Ensure that the 2020 NRC rulemaking for GTCC storage (Ref. 4) provides adequate protection of the public and the environment until a permanent US solution for SNF/GTCC disposal is approved;
7. Ensure that requirements for repackaging SNF/GTCC prior to acceptance at the proposed SNF storage facility will be sufficient to resist fuel degradation and cask corrosion or deterioration so integrity of casks is maintained throughout the storage period.
8. Ensure that NRC evaluation of the licensing documents for the SNF/GTCC storage facility adequately covers the risk factors prior to approval.

New Mexico must enact provisions as strict as federal regulations and the regulatory body must be adequately staffed by qualified technical personnel with the education, experience, and authority necessary to sufficiently monitor SNF storage facility compliance.

**3.** **Risks**

An integrated approach should be taken to prevent harmful radiation exposure. It must consider time (radioactive decay), distance (proximity to radioactive material), and shielding (adequate containment that maintains its integrity throughout the storage and related transport, inspection, and handling operations) **(ref 6).** Contamination of the soil, surface, and ground water must be prevented. All levels of government share responsibility for preventing undue radiation exposure.

SNF and GTCC materials currently stored at reactor locations and existing Spent Fuel Storage Installations should be inspected and AMP established to ensure the continuing integrity of the radioactive materials and containers. Provisions for repackaging should be implemented, where warranted, to ensure no SNF or GTCC intended for extended storage has degraded or exceeds permissible radiation limits which could result in violation of protective measures for subsequent SNF or GTCC handling, storage, or disposal.

SNF storage facility owners/operators shall demonstrate adequate bonding or other financial guarantees to fund operations in the event of abandonment by the operator. Financial resources shall be available to comply with safety regulations or the storage facilities shall be indemnified by federal government extension of the Price Anderson Nuclear Industries Indemnification Act (PAAA, **ref. 7),** thereby promoting continued worker and public safety and protection of the environment. The state or federal government should institute an accessible, expeditious system to compensate individuals or communities for economic damages caused by involuntary exposure to radioactive materials.

**References (in draft Position)**

**GTCC Waste**

1a “Public Meeting to Discuss the Draft Regulatory Basis for the Disposal of Greater than Class C (GTCC) and Transuranic Waste,” US NRC Public Meeting Summary, 10/2/19

Ref 1b “Draft Regulatory Basis for Disposal of Greater-than-Class C (GTCC) and Transuranic Waste,” Cardelia Maupin, NRC NMSS, DUWP, LLWPB, August 2019

**SNF/Used Nuclear Fuel Reprocessing**

2a Reprocessing Definition, US NRC Glossary, [www.nrc.gov](http://www.nrc.gov) August 2020

2b Used Nuclear Fuel Reprocessing, World Nuclear Association, www.world-nuclear.org December 2020

**SNF Storage Background**

3. (Surry, 1986) Dry Cask Storage [www.nrc.gov](http://www.nrc.gov) 11/24/20

**Aging Management Program**

4. NUREG-CR/7116,” Materials Aging Issues and Aging Management for Extended Storage and Transportation of Spent Nuclear Fuel”, NRC Office of Nuclear Material and Safeguards, November 2011.

**Agreement States**

5. “Agreement States,” NRC Backgrounder, Office of Public Affairs, September 2020

**Radiation Exposure**

6. Radiation Exposure, [www.nrc.gov](http://www.nrc.gov) December 2020

**Liability and Indemnification**

7. Price Anderson Indemnification [www.doe.gov](http://www.doe.gov) July 10, 2020

**General SNF Storage Safety References**

a.”NRC Approves final Rule on Spent Fuel Storage and suspension of Final Licensing Action for Nuclear Plants and Renewals” NRC Office of Public Affairs, August 26, 2014 (NRC Licensing of SNF Storage – 100 year to indefinitely)

b. SNF Storage Q&A, [www.nrc.gov](http://www.nrc.gov), December 2020

c. US ISFSI Locations Nov 2020 [www.nrc.gov](http://www.nrc.gov)

d.” Standard Review Plan for Renewal of Specific Licenses and Certificates of Compliance for Dry Storage of Spent Nuclear Fuel”, US NRC Office of Nuclear Materials and Safeguards Final Report, June 2016

- Glossary of terms, pp.47-52

- Examples of Aging Management Programs, Appendix B

e. “Storage of Spent Nuclear Fuel”, NRC Backgrounder, [www.nrc.gov](http://www.nrc.gov) December 2019

f. “Dry Cask Storage of Spent Nuclear Fuel,” NRC Backgrounder, [www.nrc.gov](http://www.nrc.gov) October 2016

g. “Decommissioning of US Reactors – Spent Nuclear Fuel Storage Considerations,” Nuclear Energy Institute, [www.nei.org](http://www.nei.org) December 2020

**La Palabra quarterly newsletter articles** (Spring 2017 study proposal ;- Wnter 2021)

https://www.lwvnm.org/newsletters.html