

LWVSC POLICY IRRADIATED COMMERCIAL NUCLEAR FUEL STORAGE AT SRS

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Thirty years ago South Carolina stood almost alone in urging federal funding for the permanent management of defense wastes collected at the Savannah River Site (SRS). The League of Women Voters of South Carolina was then part of the concerned community, and now will do all we can to keep this state from becoming a storage site for commercial nuclear wastes.

South Carolina is being considered as a potential nuclear dumping ground due to the following contributing factors:

- the likely closing of Yucca Mountain as a commercial high level nuclear waste burial site;
- the desire for new nuclear jobs at the SRS;
- the strain on the nuclear utility industry which hoped for a promised, but stalled federal disposal site for utility wastes; and
- the heavy French participation in the US nuclear power industry, and French promises of successful methods for reprocessing nuclear waste.

The League of Women Voters of South Carolina is opposed to consideration of the Savannah River Site as a storage site for spent commercial fuel, and considers the reprocessing of spent commercial fuel an unnecessary, unsafe, unclean and expensive option. Until a suitable federal solution is identified, this waste should stay where it is, that way, the industry as well as the 30 states and more than 70 Congressional Districts that currently benefit from nuclear power would continue to participate actively in finding a solution. South Carolina should not stand alone again as a repository for the nation's commercial nuclear waste.

Biggest misunderstandings:

SRS currently stores defense and foreign nuclear wastes, but does not manage "commercial" spent fuel from the US nuclear electricity industry.

The nuclear industry in the United States now has France as a very active partner, and the US nuclear industry has been lobbied by France that the "French nuclear model" (of designing and building affordable nuclear plants and subsequent tidy reprocessing of commercial fuel) is a successful model. It isn't.

The French experience in this country and elsewhere has been extraordinarily mysterious, more expensive than planned, and has problems managing wastes. Probably the biggest reprocessing waste problem is that greater volumes of wastes, particularly liquid "higher than Class C" radioactive wastes, are generated and the "best" way of managing this waste stream is to repackage it about every 30 years for about 300 years

BACKGROUND

Yucca Mountain - Early in 2010 federal funding for continued development of a permanent storage site for high level wastes at Yucca Mountain was halted. The initial site determination

was based on political grounds; the final determination to halt the program was also made on political grounds: President Obama promised Senator Harry Reid of Nevada that Yucca Mountain would be terminated. The technical reasons for termination have not yet been the focus of public scrutiny, but both the hydrology and the geology of the Yucca Mountain site have been of serious concern to those paying attention - almost from the beginning. The future of Yucca Mountain is now in the courts. Yucca Mountain, as originally legislated, would have stored most of the commercial spent fuel generated to date (and little more) and about 1/10th of that volume of defense high level waste (not even enough space to store much SRS high level defense wastes). The original legislation would have sited a second repository, probably in either Texas or Washington State, but Congress has since prohibited the second repository.

Savannah River Site (SRS) - SRS employees and community leaders have been advocating for the continued nuclear use of the Site and its employees after cleanup of legacy defense wastes. A "Nuclear Park" concept became public in 2008 and 2009 at community meetings. This concept of a Park is not clearly or uniformly defined, but usually has included a nuclear reprocessing facility experiment with commercial spent fuel and/or with storage of commercial spent fuel for future reprocessing. Citizens around Aiken and in the US nuclear industry have been lobbied by the French nuclear industry that reprocessing is a successful option. Because of the Socialist nature of the French industry, some facts have been elusive and nuclear economics is a particular mystery but the US, France, England, and Japan have all had very serious problems with reprocessing and with the management of the wastes which are generated during reprocessing. The SRS community is convinced that reprocessing is part of the future of the US nuclear power industry and is actively lobbying for reprocessing at SRS in Washington DC, Columbia, and elsewhere.

Spent Fuel Buildup – The US nuclear power industry is most anxious to remove spent fuel from their sites, where they are responsible for safe keeping, and to move it to the long-promised permanent federal site. The industry is largely aware of the problems of reprocessing, but the SRS invitation to receive spent fuel is overwhelmingly welcomed. Therefore, the perfect confluence of needs - the likely closing of Yucca Mountain as a commercial high level nuclear waste burial site; the desire for new nuclear jobs at the SRS; the strain on the nuclear utility industry, which hoped for a promised but stalled federal disposal site for utility wastes; and the heavy French participation in the US nuclear power industry and French promises of successful methods for reprocessing nuclear waste - have invited many to look longingly at South Carolina as the nation's spent fuel dumping ground.

How to NOT move forward - If SC were the spent fuel storage site, more than 70 congressional districts located in 30 states as well as many related - and powerful - industries would be relieved from the concerns and expenses of future investment in spent fuel management and disposal. The waste would become the property of the/ taxpayers. In addition storage "away" at SRS would not encourage appropriate federal discussion of or investments in the country's commercial nuclear waste challenge. South Carolina was one of a few states finding itself in exactly this position in the 1950s and into the 1990s, when defense waste was stored and largely ignored at SRS and other federal facilities.

Problems of Reprocessing - Reprocessing of irradiated fuel is claimed to reduce the hazards and volumes of spent fuel, as well as reclaiming useful products such as uranium and plutonium. The most prominent promoter of reprocessing is the French firm AREVA. This largely France-

owned corporation has designed and sold reactors, and has purchased portions of existing and future US nuclear power plants.

Wastes from French reprocessing have caused environmental and political problems in France, Russia, England and Germany. Costs associated with “cost effective” reprocessing have been estimated by the National Academy of Sciences as costing more than \$500 billion for one proposal and the Congressional Budget Office has stated that reprocessing of U. S. spent fuel would cost 25% more than direct disposal.

Reprocessing can reduce the volumes of high-level waste which would require disposal in a geological repository – about 20-25% less by volume. However, U.S. Department of Energy (DOE) data indicates that reprocessing greatly increases the total volumes of radioactive wastes as compared to geologic disposal of spent fuel unprocessed. This is because very large volumes of both low-level and especially “greater than Class C” wastes would be generated. The United States currently has no strategies for caring for these commercial wastes. The numbers are very complicated, and vary according to assumptions regarding decommissioning of facilities required for nuclear reprocessing and fuel fabrication, removal of certain isotopes from waste streams, assumptions about how many times waste streams would have to be repackaged for safety over the years, and whether uranium, once reprocessed, can be enriched a second time for subsequent use.

Moreover, proposing a waste "solution" that poses risks and responsibilities for the next dozen generations is at least troublesome.

Reprocessing of spent nuclear fuel is expensive and would increase, not decrease, the total volumes of nuclear waste. Reprocessing is not a sensible answer to the nuclear waste problem. South Carolina should not accept commercial irradiated fuel rods for that or any other reason.