

STATE OF SOUTH CAROLINA  
*Governor's Nuclear Advisory Council*

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October 17, 2011

The Blue Ribbon Commission on America's Nuclear Future  
U.S. Department of Energy  
1000 Independence Ave., SW  
Washington, DC, 29585

Subject: Comments on Draft Report to the Secretary of Energy

Dear Commissioners:

Thank you for the opportunity to provide comments on the Commission's recommendations. The South Carolina Governor's Nuclear Advisory Council (GNAC) has reviewed the draft report to the Secretary, and the subcommittee draft reports. On the whole we support your recommendations.

However, we urge you to add an express recommendation for the prompt treatment and disposal of certain research reactor aluminum-clad enriched uranium used nuclear fuel (RRUNF) currently stored or planned to be stored at the Savannah River Site (SRS). We believe that safety and prudent management of future contingencies necessitate this recommendation. Absent such a recommendation, we understand that DOE will not process RRUNF at SRS in the foreseeable future.

As you know, the United States has been accepting and storing at SRS RRUNF from domestic research reactors and from research reactors throughout the world in order to limit the availability of highly enriched uranium (HEU) and other nuclear materials, and intends to continue accepting this fuel through 2019. Until very recently, DOE planned to promptly process the fuel in the SRS's H Canyon, recovering the HEU uranium, blending the HEU down to low enriched uranium (LEU) and shipping the LEU to the Tennessee Valley Authority, and vitrifying the waste from this process in the Defense Waste Processing Facility in preparation for disposal. In early 2011 DOE postponed the processing of RRUNF in H Canyon until the BRC has made recommendations regarding disposal of this fuel. No such recommendations were included in the draft report. As of now, the RRUNF is an orphaned material, with no disposition path, and a plan for long-term "wet" storage in L Basin, a facility already 50 years old.

The GNAC considers this plan unacceptable for several reasons. Most importantly the RRUNF is not uniform and was not designed for long-term storage. As a consequence, we believe the

RRUNF poses a potential risk to workers, the public, and the environment. As the fuel and the storage facility age, that potential risk (and economic exposure) likely will increase. Although DOE has indicated that long-term wet storage can be safely managed and is economically feasible, definitive analyses are ongoing. We also know from experience that DOE's successful management of some RRUNF types will be challenging.

Secondly, the cost of prompt processing in H-Canyon should be less than the life-cycle costs of extended wet storage and deferred disposal. As the BRC knows, extended wet storage requires stringent water chemistry controls, and additional facility maintenance and surveillance. Additionally, DOE will have to rerack the fuel at significant costs to acquire enough additional storage locations to meet projected receipts, which would be unnecessary if the fuel were dispositioned on DOE's original schedule. To the extent DOE might consider dry storage, the incremental costs of dry storage may also be significantly greater than prompt processing through H-Canyon. At this time, the feasibility and economics of extended dry storage is unknown.

Finally, from a policy perspective, when DOE made the decision to ship RRUNF to SRS, it also committed to the citizens of South Carolina and eastern Georgia to process the fuel to a more stable state by approximately 2020 – 2025. As you know, GNAC agrees with the Commission that public participation must be an essential component of future decisions regarding the treatment and disposal of nuclear waste materials. For public participation to be effective, all sides must act in good faith. We believe that DOE's inability to meet its existing contractual and good faith commitments to the State of South Carolina regarding RRUNF will hinder future discussions with South Carolina regarding nuclear waste in the State.

The Subcommittee on Reactor and Fuel Cycle Technology recognized the challenge of long-term storage of RRUNF. The second, and final, conclusion of the Subcommittee is that "no currently available or reasonably foreseeable reactor and fuel cycle technologies...have the potential to fundamentally alter the waste management challenge this nation confronts over at least the next several decades, if not longer." The Subcommittee further concludes that new technology developments in the next three to four decades will not "change the underlying need for an integrated strategy that combines safe, interim storage of spent nuclear fuel with expeditious progress toward siting and licensing a permanent disposal facility or facilities." And finally, the Subcommittee notes that "[t]his is particularly true of defense high-level wastes and some forms of government-owned spent fuel that can and should be prioritized for direct disposal at an appropriate repository."

While the Commission calls out direct disposal as a near-term priority, South Carolina believes that processing through H Canyon is the only near-term solution. However, it is clear that the disposition of government-owned spent fuel should be a priority. Processing this fuel now in H Canyon is the cost effective approach to the disposition of the aluminum-clad enriched uranium RRUNF and would reduce the risk at SRS.

For these reasons, we believe that RRUNF should be considered separately from commercial nuclear fuel and we request that the Commission recommend the prompt treatment of RRUNF in H Canyon.

Sincerely,

A handwritten signature in cursive script that reads "Ben C Rusche".

Ben Rusche, Chair  
South Carolina Governor's Nuclear Advisory Council

Cc: Governor Haley  
Members of GNAC  
Dr. Dave Moody, DOE-SR Manager