

Remarks by Keith Graham

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Purpose

- (1) To help the Blue Ribbon Commission (BRC) make some practical recommendations for measures that promote and escalate the use of nuclear energy in the US.
- (2) To help the BRC determine that SRS is the best choice for a National Headquarters for management of spent nuclear fuel and nuclear wastes.

Personal history

- Over 30 years experience as a Nuclear Power Industry Consultant with experience in nuclear plant site selection, design certification of nuclear technology, and reviews of the environmental impacts for plant operations
- Background & experience includes work at over 15 commercial nuclear power plants, Seven years at DOE SRS including the DWPF, F- and H-area canyons and tank farms Primarily focused on Regulatory affairs linked to US NRC, DOE, and ACOE approvals needed for selecting the locations of plants, licensing, and then ensuring the plant operate IAW US Government Regulations

State of Union (SOU) – US Nuclear Industry and US Government

The purpose of the SOU analysis is to recommend some measures that are necessary and expedient to resolve issues linked to spent nuclear fuel from the commercial nuclear power plants.

US Government and US nuclear power industry entered covenant agreements established by the Nuclear Waste Policy Act. The US government has not honored those commitments.

The politics of nuclear fuel have changed since original plans for underground storage of nuclear fuel in NV were established. President Jimmy Carter's plans to bury nuclear waste to prevent nuclear weapons proliferation no longer make sense (don't throw out baby with the bathwater). Reprocessing spent nuclear fuel makes sense – we have the technology and can easily develop some new skills, if needed (we don't have to re-invent the wheel).

The existing staff at Savannah River Site is an excellent resource for determining the best methods for reprocessing spent nuclear fuel. We should make use of the talent and skill sets that already exist. SRS first started taking fuel out of nuclear reactors in the early 1950s, turning it to a slurry, and separating the ingredients needed for nuclear weapons. We don't have to develop completely new technology to reclaim the remaining energy in spent nuclear fuel.

Supporting nuclear power technology from the creation of new designs for nuclear reactors to the final step in the fuel cycle is an urgent matter for the US government and is a good business platform for the CSRA. There are monetary and non-monetary benefits to be reaped. SRS is in an excellent geographical location to support future missions of the DOE programs.

We all know that we are going to run out of the fossil fuels that we use to make electricity and the prices for natural gas are going up. We have to give proper attention to nuclear power to prosper.

The citizens and government of the US should support nuclear power so that we can have all of the electricity we need AND protect the environment. Many environmentalists are now in agreement that nuclear power is our best source of energy to make electricity. Damage to the earth's atmosphere continues to increase as the US and other countries build more and more electric power plants fueled by coal and natural gas.

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The US government and private industry need to increase efforts to help people clearly understand the issues that need to be resolved and enable them to make informed decisions. The public needs to know:

- A typical nuclear power plant in a year generates 20 metric tons of used nuclear fuel. The nuclear industry generates a total of about 2,300 metric tons of used fuel per year. Over the past four decades, the entire US nuclear power industry has produced about 62,500 metric tons of used nuclear fuel. **If used fuel assemblies were stacked end-to-end and side-by-side, the storage area would only cover a football field about seven yards deep.**
- The existing US fleet of nuclear power plants currently produce approximately 20 per cent of all electricity generated. **U.S. nuclear power plants prevent 3.32 million tons of sulfur dioxide, 1.05 million tons of nitrogen oxide, and 681.9 million metric tons of carbon dioxide from entering the earth's atmosphere each year (2005 data)**
<http://www.nei.org/keyissues/protectingtheenvironment/quantifyingnuclearenergysenvironmentalbenefits>

It is estimated that less than one percent of the general public knows the facts listed above, facts that are important to making common sense decisions. We must educate the public.

Path Forward

If the US does not act with a sense of urgency to create a framework for the advancement of nuclear power then we will suffer for it. The train for the future of nuclear power is leaving the station. We all need to make a decision about how we want to travel into our future. China, India, and Middle East Countries have tickets and is onboard the train. As individuals and leaders we must get on the train or we will just be standing by the tracks and watching everyone leave the station.

ML King had a dream – Here is mine

I see nuclear plant owners shipping their spent nuclear fuel to SRS. I see the people of SC and GA recognizing the benefits (I am the opposite of the NIMBYs in NV). The Russians call their nuclear waste “National Treasure”, a term I think is much, much more appropriate.

I see politicians, engineers, and accountants working together to establish a private corporation located at SRS that will store spent nuclear fuel until it is reprocessed. They put their ideas together and realize a simple common sense approach is to build a Seismic Class I / aircraft-crash-proof storage building at SRS that would be large enough to store commercial spent fuel contained in shipping canisters until we decided the next steps we need to follow. The team members would agree a common temporary storage location makes more sense than keeping the fuel at ~120 separate storage sites.

Steps the US Government and the US Nuclear Industry Should Take

- Revise the National Policy on the storage and treatment of spent nuclear fuel and wastes.
- Establish SRS as National Headquarters for the management of nuclear waste streams from both the commercial nuclear power industry and the DOE weapons complexes.
- Establish a private corporation similar to TVA, with facilities located at SRS, to take over management of (1) commercial spent nuclear fuel, and (2) nuclear wastes from the DOE programs.
- Establish spent nuclear fuel recycling facilities at SRS to reduce amounts of high level waste.
- Congress must follow through on commitments to establish a geological repository for high level nuclear waste