A Free Market Approach to Managing Used Nuclear Fuel

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Transforming how the United States manages used nuclear fuel is critical to the long-term success of nuclear power. Private sector nuclear operators produce used nuclear fuel, are technically adept at working with it, and depend on its successful disposition for future operations. However, the private sector's strong interest in used fuel management is undermined by the current system, which places the responsibility for waste management in the hands of the federal government.

Unfortunately, the federal government has been unable to fulfill its waste management obligations. Giving the private sector responsibility to manage used nuclear fuel would align those with the strongest interest in developing a sustainable used fuel strategy with the authority and motivation to do something about it. Although the privatization will remove the federal government from the responsibility of managing used fuel, its role as a regulator to protect public health and safety, ensuring that national security requirements are met, and taking title of any permanent storage facilities after decommissioning would endure.

Such a transformation will not be easy. It will require a commitment by the Administration to willfully give up control of the process, Congress will have to significantly amend important pieces of legislation and the private sector will have to be willing to take on the responsibility of waste management.

But it can be done. And the first step will be to empower nuclear operators (waste producers) to manage their own used nuclear fuel and authorize them to manage Yucca Mountain. This would place the responsibility of waste management with those with the greatest interest in a sustainable waste management strategy. It would also allow them to manage the one scarce resource (geologic storage space) that is common to all waste management strategies.

Steps to Reform

- Empower private sector to manage used fuel;
- Allow the NRC to carry out its review of the Department of Energy's Yucca Mountain construction permit;
- Create a private entity (PE) that is representative of, but independent from nuclear operators to construct and manage Yucca Mountain;
- Repeal the 70,000-ton limitation on the Yucca Mountain repository;
- Empower PE to commoditize geologic storage;
- Repeal the mil and abolish the Nuclear Waste Fund allowing nuclear operators to fold the costs of waste management into the price of nuclear powered electricity;
- Limit the federal government's role to providing oversight, basic research and development, and taking title of spent fuel upon repository decommissioning.

Advantages of Privatizing Used Nuclear Fuel Management

Sustainable over time. Nuclear operators have the greatest interest in a successful fuel disposition program. A safe and economical used fuel strategy allows them to maximize the economic benefits of their investments. If given the opportunity, they will develop a sustainable strategy.

Economically rational. Permanent geological storage capacity is a finite resource, which would carry a very high value if subjected to the market. Commoditizing this resource will allow its value to rise as its availability decreases. This will empower nuclear operators to consider the actual costs of geologic storage and integrate other technologies, such as recycling, into their overall waste management strategies in an economically rational way.

Promotes competition. Private sector control of used fuel management promotes competition throughout the fuel cycle. An inflexible government approach can artificially limit how used fuel is produced, i.e. what type of reactor, to meet government used fuel standards. This limits competition for nuclear reactor technologies. The private sector could choose to pursue other reactor technologies that better fit into their waste management models.