

Getting the Institutional Framework Right and Using it Well

Summary for Blue Ribbon Commission

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Obtaining the cooperation of localities and states on siting spent nuclear fuel management facilities requires more than building trust with local communities. States having an appropriate site will view it as a valuable energy systems asset and will want financial compensation not at the level of a few percent, but measured in tenths of the cost of the entire project. If siting is really to be voluntary, it is important not to put a single state in a monopoly position of having the only licensed site. To do so will generate tension with the federal government over the level of financial benefit to the host state and within the host state over whether the final arrangement is equitable. There must be a sensible mechanism for compensating host states and a process that leads to more than one site being licensed and ready for use.

Institutional Framework: The institutional framework recommended by the BRC should function at least as well as that described in “ ‘Plan D’ for Spent Nuclear Fuel” (<http://acdis.illinois.edu/publications/RR.html>). This includes:

- Payments into a **Permanent Fund** whenever products from nuclear reactor discharge are moved into a host state.
- Establishment of an **Escrow Fund** as each dry storage cask is filled for all spent fuel from all newly licensed reactors, and for as many other casks as possible.

Interest earnings above what is need to satisfy federal regulations for safe and secure long-term spent nuclear fuel management would be available to the state or its residents, as decided by state governments and any affected Indian tribes. Escrow Fund balances above transportation costs and payments into Permanent Funds would revert to utilities or their customers as decided by state regulatory bodies. These funding approaches provide both an incentive for shipment of spent nuclear fuel away from reactor sites when economically optimal and for states to receive the shipments.

Use of the Framework: Congress should set the maximum allowed Permanent Fund charges high enough to make hosting spent fuel management facilities something that several states desire rather than wish to avoid. A short list of geological repository sites in at least six states should lead to a competition to be amongst two or preferably three chosen for licensing. It is economically optimal to age spent fuel intact over a few of the c. 30 year half lives of its most intense fission product heat generators, before its final disposition. Thus, a similar number of spent fuel aging facilities should be licensed, some of which may be at repository sites. In this context spent fuel reprocessing will not be economically favorable for many decades, if ever. If a pilot scale reprocessing facility is nevertheless licensed, it should also be licensed as an indefinitely renewable aging facility, as no reprocessing facility anywhere has yet both operated as planned and removed all high-level radioactive materials from site.