

Thinking the Unthinkable

Generally, my job on this page is to be informative and upbeat. In this issue, however, while I still plan to be informative, I want to take a look at some worst-case scenarios, if only to see just how bad they really are.

First worst-case scenario: *Yucca Mountain Never Opens*. At least, not in my lifetime (statistically, I have about another 25 years ahead of me), or perhaps yours either. So, what happens?

Well, spent fuel remains on the plant sites, most likely in dry storage containers at independent spent fuel storage installations. This creates problems for a few single-asset utilities, like Maine Yankee, that have decommissioned their plants and will not be able to go out of business as planned. Instead, they will be hit with additional millions of dollars per year in expenses for security for the ISFSIs. For the rest of the nuclear utilities, however, is this really a problem?

It may be a public relations problem, in that they have told their customers, neighbors, and shareholders that fuel will be going to a national repository, but is it really a problem otherwise?

Most nuclear utilities in the United States have already, or will be soon, filing for license renewal for their plants, so their reactors will be operating for another 20 years beyond the original projected end of life. Consequently, they will continue to operate, even as their spent fuel is loaded into an ISFSI. And because they are operating beyond the 40-year design life of the plants, they are generating additional spent fuel that never would have gone into Yucca Mountain anyway. (At least, not according to current law.)

Therefore, most currently operating utilities will have spent fuel onsite anyway, and the amount that would have been disposed of at Yucca Mountain doesn't really change the situation at their plants. Whether an ISFSI has 50 casks or 100 casks is mostly a matter of the cost of the casks and canisters, and doesn't much affect security or other ISFSI issues.

And there is the potential for

away-from-reactor storage offered by Private Fuel Storage LLC, which is proposing to build a large spent fuel storage facility on Tribal land in the Utah desert.

What about new plants? Will they be held hostage because there is no spent fuel repository? Again, maybe it's not such a big deal. Oh, we still are hearing a few voices demanding a repository before the industry orders any new plants, but when the lights start to dim because there isn't enough power, a lot of those voices are going to be softened considerably. Instead, we will hear *demands* for new nuclear power plants. The supposed iron bands that bind a nuclear renaissance to responsible waste management are turning out to be mere threads.

Second worst-case scenario: *Private Fuel Storage Never Operates*. If this happens, we eliminate one possible option for utilities that do not want an ISFSI on their property. However, beyond that, is the industry irreparably harmed? The same arguments that we applied to the Yucca Mountain case apply here.

Third worst-case scenario: *There Is No Replacement for Barnwell*. Unless you have been living under a rock for the past several years, you are aware that after June 30, 2008, generators of low-level radioactive waste in 36 states (whether they be nuclear power plants, universities, research labs, hospitals, or manufacturers of some sort) will have no access to a disposal facility for Class B and C wastes (the more radioactive of the three types of LLW). What will happen to those waste producers? Will they immediately go out of business?

Well, probably not. Most will simply go into the waste *storage* business, whether they want to or not. For several years now, nuclear power plants have been working on ways to decrease the amount of B and C waste they generate. EPRI is looking at how long it takes B and C waste to decay into Class A waste. Besides efforts to reopen Barnwell, there may be some pressure put on Washington State to allow the US Ecology facili-



ty at Hanford to accept some out-of-compact waste (don't count on Washington State to pay much attention to this pressure).

New nuclear plants, if they are built, will most likely be designed to minimize any B and C waste generation, and to contain adequate storage capacity for the life of the plant (or the life of the waste). Plants that shut down, instead of being decommissioned, will go into SAFSTOR for an indefinite period.

Granted, hospitals, research labs, universities, and other users of radioactive products and materials will have more serious problems, mostly because they were not designed to be radwaste storage facilities, and that is what they will most certainly become.

I don't want to minimize the seriousness of the waste disposal situations the nuclear industry—as well as other industries that use nuclear materials—is facing these days in the United States. And that is certainly not my intent in this editorial. However, I simply want to point out that life will go on, that the industry will continue to exist, that our work will continue. No matter where it is stored or disposed of, the waste still needs to be managed.

Besides, maybe the industry *needs* a disposal crisis at some point. Politicians, it appears, respond best to a crisis. A *problem* is just an annoyance to elected officials; a *crisis*, on the other hand, allows politicians to rise above partisanship and become diplomats.—Nancy J. Zacha, Editor ■