

Doing the Doable

Further to the “Thinking the Unthinkable” editorial (*Radwaste Solutions*, “Editor’s Note,” Mar./Apr. 2006, p. 4) and the subsequent “Rethinking the Unthinkable” letter to the editor (*Radwaste Solutions*, “Venting,” July/Aug. 2006, p. 6), I submit the following comments for consideration in the spirit of “Doing the Doable.”

Pursuant to the Nuclear Waste Policy Act of 1982 (NWPA), as amended, we can (and should) design and implement a wholly integrated radioactive waste management program in the United States. That this is doable has been successfully demonstrated by the organizations populated by the nuclear power plant operators in Finland (Posiva) and Sweden (SKB) for more than 20 years (see www.skb.se and www.posiva.fi, respectively). Furthermore, when comparing the advances and the related costs incurred by the Finnish and Swedish repository programs with those in the United States during the past 23 years, it seems prudent to suggest that a leadership infusion from the U.S. utilities could likely be very advantageous to programmatic progress and the related financial burdens on rate and tax payers. Summarized below are some additional observations.

Underground, long-term storage of spent nuclear fuel (SNF) is a key component of both the Finnish and Swedish programs. In addition, Sweden safely operates a geological disposal system, the SFR, for long-lived intermediate- and low-level radioactive waste. The Finnish and Swedish SNF storage designs should be particularly appealing to a security- and safety-conscious society in that they embody very high levels of protection against intruders and terrorist actions, and limit the extension/spread of any unplanned radionuclide release(s), i.e., they provide very high protection of the general public and the environment. Furthermore, the 20-year existence of the aforementioned SNF-storage and SFR facilities has not eliminated nor slowed down the concurrent development of deep geological disposal systems for SNF. Indeed, Sweden is now first in line to open the world’s first SNF repository in 2017.

In summation, we could (and should) do the doable in the United States by promptly developing a long-term (20–100 years) federal storage facility for SNF while concurrently continuing pursuing an SNF repository at the Yucca Mountain (YM) site because, as the National Academies told us in 1995, even if we recycle the SNF, there will be residual, long-lived, highly active radioactive waste requiring safe disposal. An operating federal SNF-storage facility would also reduce the damage claims due to the utilities, estimated at \$1 billion per year by the U.S. Department of Energy and, contingent upon when the DOE

takes title to the utility-generated SNF, to total \$100 billion–\$300 billion by the utilities.

I would also like to take this opportunity to state the apolitically obvious, yet presently politically unthinkable national SNF-management solution(s). Assuming the proposed YM SNF repository can beat the odds and be licensed, constructed, and opened, the Nevada Test Site (NTS) would be an excellent candidate site for hosting both the federal SNF-storage facility and the recycling facility, along with their respective infrastructures. This package solution would bring considerable employment

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opportunities and financial benefits to the state of Nevada and its citizens without imposing any significant incremental radiation risk. Furthermore, in the event an alternate or second SNF repository would be required that could be hosted in the abundant igneous rocks on the NTS, transportation risks would remain minimal. It would also allow the U.S. the opportunity to save time and money by joining forces with the radioactive waste management programs of Finland and Sweden to take advantage of their state-of-the-art experience in developing, constructing, licensing, and operating an SNF-repository in igneous rocks.

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