

Tennessee: The Volunteer State for Nuclear Activities

Tennessee's role as the nation's destination for low-level radioactive waste processing, disposal and more

Tennessee allows radioactive waste processing and disposal practices that are unique in the United States. It is a third world country when it comes to lax regulations around these materials. This has made Tennessee the nation's primary pathway for the processing and disposal of low level radioactive waste materials. In the year 2000 Tennessee was responsible for 58.6% of the materials that were disposed at the 3 licensed landfills receiving radioactive materials in the U.S. (That was the last year that the NRC compiled these numbers in a state by state comparison.) Add the radioactive materials that were incinerated and land filled and Tennessee received at least 75% of the nation's llrw. Currently Tennessee is collecting a 1.5 cent per pound fee on approximately 41 million pounds of material that comes to radioactive waste processors across the state annually.

Tennessee has a history of attracting polluting industries because of our desperation for jobs, especially in economically depressed areas of the state. The state government's commitment to environmental protection has generally taken a backseat to economic development; some call it "cash for crud". This has improved somewhat in recent years but historical trends like these are difficult to remedy and there has been growth in the case of radioactive waste processing and disposal.

The state's relationship with the nuclear industry goes back to the founding of the "Secret City" of Oak Ridge. It was augmented by TVA's aggressive nuclear power plant construction program. Tennessee has never exerted much regulatory control over either of these large federal entities; it is by nature an asymmetrical relationship, Federal law and regulation taking precedence. Over the years a cozy relationship between nuclear waste generators and processors and the Division of Radiological Health of the Tennessee Department of the Environment and Conservation has developed. This is a textbook example of "regulatory capture".

Here are some specific examples:

- 1) Tennessee is the only state in the U. S. that allows a program that has come to be called Bulk Survey for Release (BSFR). The state allows licensed radioactive waste processors to make a determination that materials which have come to them from generators have low enough levels of radiation to release into 4 municipal landfills across the state. This is a "blanket" permit and state oversight of the program is practically all bureaucratic; they average less than one site visit to the processors every 13 months and some of these are for other matters. In 2007, 5 million pounds of materials were disposed under this program, which has been operating since the early 1990's. In comparison, the NRC manages these types of materials under 10 CFR

- 20.2002 which requires a case by case determination. Since 2000 the NRC has received only 20 requests for such alternate disposals.
- 2) Tennessee has 6 operating incinerators or other facilities which volume reduce radioactive waste by heat treatment. A seventh is currently breezing through the permitting process. Efforts to find other radioactive waste incinerators currently operating in the rest of the 49 states have identified only one.
 - 3) Energy Solutions has applied for a permit to import 20,000 tons of radioactive waste from the abandoned Italian nuclear power program to Oak Ridge for processing. If that is approved it will probably be the first of many shipments of foreign radioactive waste to Oak Ridge.
 - 4) The Class B and C waste from the reactors in 36 states currently has no disposal path. There are two proposals from private nuclear waste processing companies to create disposal solutions: they both would have the waste coming to Tennessee for processing. One would lower the classification by blending; the other would cook radioactive resins for significant volume reduction.
 - 5) Tennessee is the only state which is home to a commercial nuclear power plant that intentionally produces nuclear weapons materials. TVA's Watts Bar 1 is producing tritium for hydrogen bombs.
 - 6) Watts Bar 2, like its sister WB1, is an "ice condenser" design with egg shell containment. TVA is currently finishing the construction of WB2 after a 20+ year cessation of construction. This design lowers the cost of construction by allowing a thinner containment structure. The "Rube Goldberg" design incorporates some 3 million pounds of ice to theoretically lessen pressure buildup in the event of a core meltdown like that at 3 Mile Island. This reactor design was obsolete decades ago and should not be finished.
 - 7) TVA is considering resuming construction of a nuclear unit at Scottsboro, Alabama. Construction of the Bellefonte units 1 and 2 was halted in the 1980's. They were on hold for many years. Several years ago TVA started salvage operations on the units after the construction permit was abandoned.
 - 8) The clean up of contaminated sites at Oak Ridge is proceeding at a very slow pace with little prodding from the state for a speed up.
 - 9) Sloppy practices, fires and accidents at the Nuclear Fuel Services facility in Erwin forced the NRC to temporarily shut down all of its operations. NFS is the largest employer in Unicoi County.
 - 10) The Army has begun efforts for long term storage of excess depleted uranium at its Munitions Depot in Milan, TN. DU ammunition and components have been stored and assembled there for many years.
 - 11) Facilities at Oak Ridge are so extensive they demand a separate fact sheet.

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