

***Out of Control- On Purpose:
Dispersal of Radioactive Waste into Landfills and Consumer Products***

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Tennessee is becoming the nation's nuclear power and weapons waste destination.

Memphis is receiving radioactive waste in two ways:

- (1) 2 local **solid waste landfills** bury nuclear power and weapons radioactive waste (brought in and "released" from regulatory control by state licensed "processors")
- (2) 2 local state-licensed "**processors**" bring in radioactive waste from closed and operating nuclear power and weapons sites across the country

Browning Ferris Industry (BFI)'s **North and South Shelby landfills** are among 4 or 5 solid waste landfills in TN to accept nuclear waste. (BFI's Middle Point in Rutherford County might have stopped taking it due to community education and pressure. Waste Management's Chestnut Ridge landfill in Anderson County and Carter Valley landfill in Hawkins County are the other Class D solid waste facilities that take "special" radioactive waste in the state.)

Tennessee Department of Environment and Conservation (TDEC)'s Division of Radiological Health licenses about a dozen or more radioactive waste "processors." They receive radioactive material and can treat, sort, shred, compact, melt, incinerate, otherwise "process," and "free release" it. (Not all do all of these functions.) Some of the released radioactive waste can go to regular trash landfills. Some could go to commercial recycling or for reuse. (See App. A and B of *Out of Control* report for list of licenses and licensees in 1999 and 2006.)

The two Memphis processors, Studsvik-RACE and EnergySolutions, are the two local "processors" based on President's Island. Both are international corporations. Both have other processing facilities in TN. EnergySolutions runs two of the 3 licensed nuclear waste dumps in the US (in Barnwell, SC and Clive, UT).

Studsvik RACE

Here in Memphis, Studsvik-RACE processes large contaminated components from nuclear power and weapons facilities and super-compacts paper, plastic, wood, cardboard, rubber, metal (pipes, valves, motors, conduit, wire, etc.) asbestos, soils and debris in addition to many other activities. Studsvik, at its Erwin, TN site, "thermally processes" radioactive resins –some of the hottest so-called "low-level" radioactive waste from nuclear power reactors. Community concerns stopped the company here in Memphis and later in Erwin from opening a new nuclear incinerator, but they still

perform other nuclear processes in both locations. (Their current website indicates incineration intent.) In Sweden, their origin, they “recycle” radioactive metal from closed European nuclear reactors into the everyday metal recycling market to make anything made of metal. They have gotten contracts to “process” closed nuclear complexes in the UK including the infamous Sellafield reprocessing site, attributed with radioactively contaminating the Irish Sea.

From their website re Memphis location:
(www.studsvikRACE.com click on “Services” tab):

“The Studsvik BSFR license permits the disposal [*at solid waste sites*] of low concentrations of over 90 specific radioisotopes and practically all forms of high or medium density solid waste materials, or materials that can be made solid. These include:

- Paper/Plastic/Card board
- Wood
- Rubber
- Concrete & Building Rubble
- Metals
- Soils/Sand/Gravel/ Asphalt
- Aqueous Liquids (which are absorbed)
- Oils/Grease
- Resins/Sludges/Charcoal
- Most all non-RCRA Waste Materials “

EnergySolutions began in Utah with a limited waste disposal license but continues to expand. They now take mixed radioactive and hazardous waste and a portion of the so-called “low-level” nuclear waste from nuclear power and weapons. They operate the Barnwell commercial nuclear waste dump in South Carolina which is slated to close to all but SC, Ct and NJ nuclear waste generators in June 2008. They bought up many TDEC licensed processors including one in Memphis, 2 incinerators in Oak Ridge, a metal melter in Oak Ridge and others. They have expanded internationally and have numerous Dept. of Energy contracts at nuclear weapons sites. Here in Memphis they have stated [www.energysolutions.com/Decommission/large_component_disposition.php] that they are the “industry leader for engineering, transporting, processing, and disposing of large components such as:

- reactor vessel heads
- reactor pressure vessels
- steam generators
- pressurizers
- coolant pumps
- rotors”
- turbines

What is going to the Shelby landfills and from where?

RACE (now Studsvik RACE) has a license to send “cleared” Bulk Survey For Release – BSFR- nuclear waste to North Shelby landfill. Other processors across the state could have licenses for the North or South Shelby landfills. The origin of the waste coming to the processors is sometimes not public information. Radioactive waste comes to TN from as far as California, Washington, Michigan, Connecticut and other countries. Specific research is needed to identify what comes to Shelby County for processing and disposal.

TDEC Division of Radiological Health licenses processors. TDEC Division of Solid and Hazardous Waste license the solid waste (class D) landfills to receive the “special” radioactive waste). There has been **express effort to prevent public knowledge** about the radioactive materials going to landfills so learning the full scope of what has and is coming to the Shelby landfills will require investigation of TDEC’s permitting and licensing amendments in both Divisions.

What is the risk?

There is no safe level of ionizing radiation exposure. Adding to natural background only increases the risks. Radiation is a known cause of cancer and birth defects. It is also believed by more and more to cause or be associated with ischemic heart disease. It can reduce immunity making us more susceptible to diseases and health problems we would otherwise resist or avoid. It acts synergistically with hazardous and other environmental stressors making the health effects worse than additive. Any manmade radionuclides can go to the landfills even long-lasting and biologically active ones such as plutonium, cesium, strontium, iodine and many others.

A government-created computer code called RESRAD is used to guess the doses to the public now and in the future from the nuclear waste dumped. It cannot be verified that the projections are correct since they are calculations based on many questionable assumptions.

National context: All six of the nation’s licensed nuclear waste dumps have or are leaking, as most landfills eventually do. Increasingly, nuclear power utilities and weapons site operators think it is too expensive to send their radioactive waste to licensed nuclear disposal sites. As old reactors close and new nuclear power reactors are proposed, more wastes need places to be dumped. “Creative” ideas include pretending the waste is not radioactive and treating it like regular trash, denying the risks of radiation exposure to justify cheaper disposal at sites not licensed for nuclear materials (such as solid waste landfills) and donating or selling the waste to recyclers or for reuse. Volume reduction concentrates the waste but releases radioactivity to the air, water and environment as well as generating more waste. Other processes are licensed in Tennessee, making the state an appealing option for nuclear waste generators not wanting to pay for licensed disposal. In June 2008, the state-owned, EnergySolutions-operated nuclear waste site at Barnwell, South Carolina will close to all nuclear generators except those in the Atlantic Compact (SC, CT and NJ), so the TN options will become more appealing.

What can you do?

- Learn more about what nuclear waste is coming in, who is allowing it and what rights they have to let it in.
- Demand accountability from state “regulators,” your state and local legislators and governor.
- Determine if you want TN and your community to be the nation’s repository for nuclear waste and let your elected officials know what you decide.
- Work to prevent unnecessary generation of nuclear (and other) waste.
- More info: www.nirs.org and www.citizenstoendit.org (End Nuclear Dumping In TN).