INCINERATION: A FACTSHEET

1) **EnergySolutions, which has two incinerators in Oak Ridge, wants to import 1000 tons of radioactive waste from Germany to burn in Tennessee.**

2) **Incineration of waste poses a serious health threat. Pollution from incinerators is linked to asthma, COPD, cancer, birth defects and genetic damage, cardio-vascular disease, neurological disease, learning disabilities and behavioral disorders.**

3) **Hundreds of chemical compounds, heavy metals (mercury, lead, arsenic) and particulate matter are emitted during incineration. These vary with the waste feed.**

4) **Burning plastics creates dioxins, furans, PCBs and other chemicals which poison the air, water and soil. These known carcinogens enter the food chain and accumulate in the fatty tissue of living creatures. 44% of the German waste consists of plastics.**

5) **Very high releases of dioxins occur when incinerators start-up or shut-down, greater than during standard operations. For each load of radioactive waste from Germany, the EnergySolutions incinerators will have to be shut down, cleaned out, then refilled with imported waste, burnt, then shut-down again so that ashes can be removed and returned to Germany.**

6) **Germans have state-of-the-art incinerators, yet they want to send their radioactive waste to Tennessee to be burnt. Could that be because the German limit on dioxins and furans from incineration is up to 10 times more stringent than the U.S. limit?**

7) **The health risks from older incinerators are greater than from new, well-run incinerators. The EnergySolutions incinerators in Oak Ridge are over twenty years old.**

8) **Air-borne particles pose a major health hazard. Filters can remove the largest particles, but the greatest danger comes from ultra-fine particles, which cannot be filtered out, which can travel great distances, and which are dangerous if inhaled.**

9) **When *radioactive waste* is burned, radioactive isotopes are emitted. Dr. Jeffrey Thompson explains, "microscopic particles will then be breathed in . . . These [very tiny particulates] are highly chemically reactive and will attach to radioactive matter and are so small they will be breathed deeply into the lungs, by-passing the lungs' defenses and then taken into the blood stream and into the cells. This makes incineration of radioactive matter a source of internal irradiation . . .[which] is qualitatively quite different from external irradiation. Yet whenever questions [arise] about the safety of radioactivity the authorities inevitably come up with the tired old argument that the level of irradiation is hundreds of times less than natural background radiation(NBR). . .Cancer rates do not differ in areas with widely varying levels of natural background radiation."**

10) **The incinerators at Oak Ridge have burnt radioactive waste since the late 1980s.** **Of the 25 cities most polluted by Year-Round Particle Pollution, Knoxville-Sevierville-LaFollette, TN, ranked 21st in the nation in 2010. (American Lung Association)**

(Sources on back)

SOURCES:

American Lung Association, State of the Air: 2010 Report.

Environmental Protection Agency. Integrated Science Assessment for Particulate Matter. Final Report. Chapter 3, "Source to Human Exposure." Online, Dec. 2009.

Ludwig, Udo and Barbara Schmid, "Germany's Booming Incineration Industry." Spiegel Online, 02-21-07.

Makhijani, Arjun, Ph.D. "Incineration of Radioactive and Mixed Waste." ieer.org

National Academy of Sciences. Waste Incineration and Public Health. www.nap.edu/catalog/5803/html

Thompson, Jeffrey, M.D. and Honor Anthony, M.D. The Health Effects of Waste Incinerators: 4th Report of the British Society for Ecological Medicine, 2nd edition, June 2008.

Thompson, Jeffrey, M.D. "Low-level Radioactive Waste at Colnbrook Incinerator." Online, no date.