

Prepared Remarks by Lawrence E. Nanney, Director
Division of Radiological Health
to the
Municipal Solid Waste Advisory Committee
Regarding Bulk Survey for Release
July 5, 2007

Mr. Chairman, members of the committee, my name is Eddie Nanney, and I am the director of the Division of Radiological Health in the Tennessee Department of Environment and Conservation. I welcome the opportunity to be here today, to help explain to you what has come to be known as the Bulk Survey for Release (or BSFR) disposal program.

In a little while, one of my staff will describe to you what the BSFR program is, what it does, and how it works. First, I want to tell you something of how it came to be. I hope we'll be able to set the record straight on some issues that seem to be widely misunderstood.

First I need to explain that Tennessee is one of 34 States holding status with the U. S. Nuclear Regulatory Commission (or NRC) as an Agreement State. Each of those States has authority to regulate radioactive materials that would otherwise be regulated by the NRC, and which are regulated by the NRC in States without such Agreements. Under this system, either an Agreement State or the NRC regulates most radioactive materials throughout the nation, other than those used by the U. S. Department of Energy, which is self-regulating for radioactive materials under the federal Atomic Energy Act.

Conducting this Agreement State program is the responsibility of the Tennessee Division of Radiological Health (or DRH). DRH has a comprehensive program for regulating the use of ionizing radiation, from all sources and in all environmental media, and for protecting human health and the environment. The major responsibilities of DRH are to:

- regulate the use and possession of radioactive materials and radiation producing machines within the state,
- inspect and enforce compliance with rules, regulations, and other requirements,
- monitor the environment for radiation, especially around nuclear facilities and other major radioactive material users,
- provide emergency response training to first responders and medical facility staff in localities potentially affected by major nuclear facilities, and to
- respond to accidents and incidents involving radiation.

DRH regulates approximately 17,000 x-ray machines used mostly in medical practices, and 600 or so specific licensees authorized to use radioactive materials in medicine, industry, and academic institutions.

The BSFR program is only a small part of what DRH does to protect human health and the environment.

Four (4) companies statewide are licensed by DRH to conduct BSFR activities. These companies grew out of the waste processing industry, which chose to concentrate in Tennessee for a number of business and economic reasons which are important to understand.

In 1980, the U. S. Congress passed the Low-Level Waste Policy Act, which allowed the States to form compacts to facilitate the siting of regional low-level radioactive waste disposal facilities. In 1983, Tennessee joined the Southeast Compact, which included the State of South Carolina and its existing, licensed, low-level radioactive waste disposal site located at Barnwell, SC.

Barnwell was perhaps the most successful disposal site in the nation, and the circumstances seemed favorable to replace Barnwell, whenever it might close, with another facility to be sited in North Carolina. The Compact structure allowed for the importation of low-level radioactive waste from unsited states and compacts. Prospects looked good for the Southeast Compact.

Several factors helped create favorable business and economic conditions for the development of a waste processing industry based in Tennessee. These included:

- Most of the nuclear electric utility industry is located in the eastern half of the United States.
- Tennessee is centrally located in the eastern U. S., and had unfettered access to the Barnwell site.
- The disposal pricing structure used by Barnwell was based primarily on the volume of waste to be disposed.

The business plan was to process low-level radioactive wastes to achieve volume reduction and to put them into more stable forms for disposal at Barnwell. These businesses grew, and soon much of the low-level waste going to Barnwell was being volume-reduced in Tennessee first.

Predictably, this led to reduced revenues for Barnwell. A new pricing structure, based less on volume and more on radioactive content, soon followed. Since that time, it has been a sparring match between waste processors and the licensed low-level waste disposal sites, both competing for business in a tightening market, as low-level waste generators took actions themselves to reduce their waste generation.

Tennessee came to be in the position of having some of its licensed waste processors focusing resources on the development of alternative methods to safely dispose of some bulky wastes containing extremely low levels of radioactive material.

I have been talking a lot about low-level radioactive waste. Now would be a good time to digress for a moment to talk about what that is, and what it is not. There is a common misunderstanding which must be cleared up.

BSFR material has been characterized in media reports on this issue as “low-level radioactive waste”. This characterization has led people to believe that these materials

can only be properly disposed in a licensed low-level radioactive waste disposal facility. This is both confusing and untrue.

To clarify this confusion requires an understanding that the definition of "low-level radioactive waste" has no lower endpoint, below which something is considered "not radioactive". But everything in the world is radioactive to some extent. The foods we eat, the building materials in our homes, and even our own bodies, contain measurable and often significant levels of naturally occurring radioactivity. By that definition, all waste materials could be considered low-level radioactive waste.

But that is not the way the definition was ever intended to be applied. It was anticipated that common sense would be used, and common sense tells us that not all solid wastes can, or even need to, go to one of only 3 licensed low-level waste disposal facilities in the nation. The question remaining is, where do you draw the line between what needs to go to a licensed low-level waste facility, and what can safely be disposed in a modern solid waste landfill?

DRH drew that line at a maximum dose of 1 millirem per year to any individual, now or in the distant future. To be acceptable for BSFR disposal, waste material must meet certain requirements that are designed to achieve that dose criterion. Any wastes not meeting that criterion cannot be disposed, except at a licensed low-level waste disposal facility.

A dose of 1 millirem is generally accepted worldwide by the radiation protection profession, and in national and international publications and guidance, as negligible. It is less, and in many cases significantly less, than doses considered by the NRC and by the EPA as acceptable for release of a site for unrestricted use.

In a few minutes, a member of my staff will put this issue into proper context and provide some information which will explain how compliance with the 1 millirem per year criterion is determined.

Let me finish up quickly with the story I had begun about the origin of the BSFR program. DRH began receiving numerous requests to utilize a rule, which is in place in the regulations of the NRC, Tennessee DRH, and all other Agreement States, which authorizes the granting of license approvals for alternative disposal procedures.

At first these requests were evaluated on a case-by-case basis. That is typically how it still is done by other States and the NRC, and it is not an efficient process. Long delays in other States and with the NRC are the norm.

When a backlog of unreviewed requests began to mount, DRH moved to develop the framework for a structured regulatory review process, which has evolved into what has come to be known as the BSFR program. Today, Tennessee has an efficient and well-regulated program for disposing of waste materials containing extremely low levels of

radioactive materials, which has proven to be a popular means of disposal for those wastes which can meet its very strict criteria.

Before I turn over the remainder of the time to one of my staff for his presentation, I simply must comment on statements which have been made in a nationally circulated report relative to the regulatory program which I now lead.

The factual errors and misrepresentations in that report are numerous. It makes many controversial assertions which are not supported by reference to the professional literature. It implies by its focus on and specific mention of Tennessee that many of the practices described, often inaccurately, are peculiar to Tennessee, when, in fact, they are practices commonly utilized throughout the nation, under the jurisdiction of the NRC or Agreement States. It makes extensive use of non-technical, disparaging, and inflammatory language. It abuses and misuses much of the science on which modern radiation protection philosophies, principles, and practices are based.

You may have read in that report that some states have a favorable attitude, or a lack of oversight, toward nuclear activities. It singled out Tennessee as the leader.

Regarding the "favorable attitude" accusation, I must point out that it is not the role of government regulatory programs to either favor, or oppose, the authorization of licensed activities involving radioactive material. Their proper role is to ensure that any activities, which may be authorized, incorporate appropriate controls and are effectively regulated in a manner which protects human health and the environment.

Regarding the "lack of oversight" accusation, recall that Tennessee is one of 34 Agreement States. These Agreements contain language requiring the NRC and the Agreement States to use their best efforts to maintain "compatible" programs. Failure to maintain an adequate program is grounds for revocation of the Agreement. The NRC has a program under which it evaluates both its own performance and that of the Agreement States. During its most recent review of the Tennessee program, NRC found Tennessee DRH to be both "compatible" and "adequate to protect public health and safety".

The truth of the matter is that Tennessee Radiological Health has a strong program for regulating the use of radiation and for implementing specific requirements and controls to protect the public and the environment. Further, the nuclear industry, including the waste processing and disposal component of that industry, is among the safest industries in the world. The system of regulation utilized by the Agreement States and the NRC is part of the reason that is true.

I can stand before you today and assure you that there is no subject more intensely studied than radiation, and no industry more tightly regulated than those engaged in the use and handling of radioactive materials. There is far more known about the health effects of radiation than most of the chemicals we are exposed to in our daily lives. Radiation protection standards are more protective of human health and the environment than any other standards I am aware of.

Now, I will turn the time over to one of my staff, who will present information about the nature of the materials accepted for the BSFR program, and about how those materials are regulated to ensure the safety of the public. Many of you may be surprised, because much of what you will hear will not sound like the litany of "facts" you have been hearing from various sources that have been so vocal in opposition to this program.

I am pleased to present to you Roger Fenner.