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# Studsvik

June 28, 2007

Mike Apple  
Director, Solid Waste Program  
Department of Environment and Conservation  
L & C Annex, First Floor  
401 Church Street  
Nashville, TN 37243

Dear Mr. Apple:

I am writing to call your attention to a disturbing situation that has arisen here in Tennessee and one that threatens to undermine the state's long leadership in nuclear technologies and related business investment.

After 20 years of the safe, sensible and heavily-regulated disposal of very low-level radioactive waste products in Tennessee, an anti-nuclear special interest group based in Washington, D.C. has recently teamed with WSMV Channel 4 News in Nashville to launch a series of overly-dramatic and highly-misinformed attacks on the State of Tennessee and the state's long-standing public health and safety record on this issue.

Although most of these misinformed attacks have been directly aimed at Rutherford County and the Middle Point Landfill, an operation that we are not directly involved in, our company is quite concerned that the state legislature so quickly passed a moratorium on a safe and proven disposal process just because of a short series of false and very-biased news reports. As we understand it, the legislation requires the State's Municipal Solid Waste Advisory Committee to now study the State's Bulk Survey for Release Program (BSFR) and its impact at Middle Point Landfill and to report back within 60 days from July 5, 2007.

To help address the many incorrect items reported by the news media and to help set the record straight, I have attached for your review a document entitled, "And Now the Rest of the Story..."

I hope as you review the merits of this issue that you will carefully weigh the actual scientific information and the BSFR's strong safety record to help separate fact from the news media's fiction on this important issue.

Studsvik, Inc. is proud of the role that our global company plays in support of the nuclear industry and the work of our over 200 people we employ here in Tennessee, at operations in both Erwin and Memphis, to help provide safe and essential services to the nuclear industry. We very much want to continue serving both Tennessee and the nation in these important ways. Thank you for your consideration and leadership on this important issue.

Sincerely,



W. Gerald Webb  
Vice President  
Studsvik Inc.

Enclosure

# And Now For the Rest of the Story....

## The Facts...

### About Low-Level Radioactive Waste Disposal in Tennessee

After 20 years of safe, sensible and heavily-regulated disposal of low-level radioactive waste products in Tennessee, an anti-nuclear special interest group based in Washington, DC has recently teamed with WSMV Channel 4 News in Nashville to launch a series of overly-dramatic and highly-misinformed attacks on the State of Tennessee and the state's long-standing public health and safety record on this issue.

To serve their own interests, rather than the public interest, neither WSMV Channel 4 nor NIRS, the highly-biased special interest group, have chosen to tell the public "the rest of the story." We hope the following will help you better assess the accuracy of these recent news reports.

#### Background:

The State of Tennessee's Bulk Survey for Release (BSFR) program was developed by the Tennessee Department of Environment and Conservation so the state could have a standardized and regulated process to analyze materials with extremely low-levels of radioactivity before approving disposal in Class I landfills.

Such low-level radioactive waste typically comes in the form of building rubble, metals, soils, asphalt, paper, plastics and wood that has been exposed to some source of radioactive contamination.

The process for the acceptance and disposal of such material is heavily-regulated through a series of sophisticated measuring, monitoring and safety techniques used by state experts and licensed processors to ensure that the combined exposure of all material disposed of in the landfill through the BSFR process cannot contribute more than one additional millirem of radiation exposure per year to any member of the Tennessee general public.

#### Does the exposure of one millirem per year present a new and dangerous public health risk?

#### The answer is clearly NO.

On average, each member of the Tennessee general public receives a radiation dose of about one millirem per day or more than 300 millirem per year from everyday background sources of radioactive materials, that are normally found in food, in the building materials where we live and work, from naturally occurring cosmic rays and radon (radioactive gas), etc. — just as we all go through life each day.

(The amount of radiation dose that individuals absorb is measured in "rem" or "millirem." A millirem (mrem) is one-thousandth of a rem. Rem measures the ability of the specific type of radiation to do biological damage to human tissue.)

Background radiation sources include additional amounts of man-made radiation:

- A person taking a cross-country flight receives about 2-5 additional millirem of radiation per roundtrip; (Source: Department of Energy: Office of Civilian Radioactive Waste Management)
- Those who smoke a pack of cigarettes each day are exposed to about 15-20 millirem of additional radiation per year; (Source: Department of Energy: Oak Ridge Office)
- The average chest X-ray exposes a person to about 10-20 millirem each time; (Source: Department of Energy: Oak Ridge Office and Office of Legacy Management)
- A person undergoing a full set of dental X-rays receives about 10-39 additional millirem each time a set is taken; (Source: Department of Energy: Office of Civilian Radioactive Waste Management)
- According to the U.S. Environmental Protection Agency (EPA), just watching television over the course of the year, adds one additional millirem of radiation exposure — the same level of additional exposure as limited and regulated over the course of a year under Tennessee's BSFR waste disposal program.

#### So how great is the added health or cancer risk of being exposed to one additional millirem per year?

According to the National Safety Council, the odds of dying by being struck by lightning in one's lifetime is about 1 in 80,000 or about .001 percent — which is about 10 times higher than the risk of incurring cancer from exposure to 1 millirem of radiation.

# And Now For the Rest of the Story....

## The Facts...

### About the State of Tennessee's Bulk Survey for Release (BSFR) Program

*(As Prepared and Distributed by the  
Tennessee Department of Environment and Conservation -- June 2007)*

#### **Bulk Survey for Release Program**

The Nuclear Information and Resource Service (NIRS) has issued a report critical of Tennessee's Bulk Survey For Release (BSFR) program that was the subject of a recent television news story.

The report confuses Department of Energy self-regulated practices with commercial nuclear energy activities regulated by the U.S. Nuclear Regulatory Commission and Agreement States and has a number of factual errors and misrepresentations, including its portrayal of Tennessee's BSFR program. This information is provided to help put this information into better perspective.

- Naturally occurring radioactivity is found in nature and materials all around us, thus very low-level radioactive material is disposed of everywhere, all the time.
- Tennessee is unique in that it has more waste processors than other states due primarily to the role played by the Oak Ridge Reservation in the development of atomic energy. Tennessee is not the only state, however, that allows very low-level radioactive material in landfills.
- Materials that are candidates for the BSFR program are of such low levels other states generally would exempt them from further regulation as a radioactive material and allow their unrestricted disposal, while Tennessee has developed a regulatory framework for it.
- The Bulk Survey for Release program was developed in order to have a standardized process to analyze materials with extremely low levels of radioactive contamination for disposal in specified Class I landfills. These levels of contamination, while detectable with modern equipment, pose no hazard to human health or the environment by being disposed of in this manner. Examples of materials analyzed under the program are bulk materials such as building rubble, metals, soils, asphalt, paper, plastics and wood.
- There are currently four licensees in Tennessee authorized to conduct the BSFR program. They are IMPACT, RACE, Toxco, and Duratek/Energy Solutions. Nuclear power plants or other entities with very low-level radioactive material may send their waste to one of the four licensees. The materials may be evaluated at the generator's site before going to the licensee's facility for required sampling and analysis. The sampling and measurement process must indicate the material meets BSFR criteria prior to it being disposed of as part of this program. It would further have to pass through detection monitors at the landfill site.
- The criteria are extremely conservative for accepting material under the BSFR program. BSFR waste cannot contribute more than five percent of the total landfill waste, and it cannot contribute a dose of more than one millirem per year to any member of the public. To put that in perspective, the public is exposed to approximately 300 millirem per year in Tennessee from naturally occurring radiation in the environment.
- The department is currently in the process of implementing improvements in the BSFR program that will make it even more protective by requiring additional and more detailed sampling methodology and practices.
- Any material that does not meet the strict requirements of the BSFR program would need to be disposed of in a radioactive waste facility, of which there are three commercial facilities in the United States.
- By allowing waste that does not pose any significant risk to be disposed of under the BSFR program, space in the limited number of radioactive waste facilities can be conserved for the material that truly requires that type of disposal.

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# And Now For the Rest of the Story....

## The Facts...

### About The So-Called Nuclear Information and Resource Service (NIRS)

WSMV Channel 4 and other media outlets have repeatedly used highly-biased misinformation from an avowed anti-nuclear advocacy group as the source for much of their news coverage.

Accordingly, it is important for all to know more about this outside special interest group that is coming into Tennessee to launch attacks on the Tennessee Department of Environment and Conservation and to stir health and safety hysteria among the general public.

### **Consider the Source – The Facts about the Nuclear Information and Resource Service (NIRS)**

NIRS was founded in 1978 and works to define and shape a future that ensures nuclear power is not part of America's solution for future energy needs, or to help end our dependence on foreign sources of oil, or to help address issues involving climate change.

In fact, NIRS boasts that they are the information and networking center for citizens and environmental organizations that are opposed to anything nuclear-related.

NIRS is closely-affiliated with several well-known anti-nuclear groups like Public Citizen, the Sierra Club, Eco Group and Beyond Nuclear.

NIRS actually formed Beyond Nuclear because they felt the world was moving ever more rapidly toward an increased build-up and use of nuclear reactors and nuclear weapons.

NIRS and Beyond Nuclear felt that these twin nuclear threats had been separated in the minds of the public for too long. So, Beyond Nuclear's goal is to lay out pathways to a world without nuclear reactors and without nuclear weapons.

NIRS proudly boasts of a number of celebrities as top supporters, all of which are well-known anti-nuclear and environmental activists:

Bonnie Raitt  
The Indigo Girls  
Mary Chapin Carpenter  
Deani Stockwell  
Ed Begley Jr.

Jackson Browne  
Bob Weir  
Whoopi Goldberg  
Ed Asner  
James Cromwell

And surprisingly, the NIRS Board of Directors is not composed of scientists or nuclear experts, but rather a variety of pseudo-celebrities and anti-nuclear activists.

The [www.NIRS.org](http://www.NIRS.org) web site lists the following as the board of directors for the organization:

- Susan Alzner, *Tour manager for singer Ani DiFranco*
- Paul Caltz, *Former International Nuclear Campaigner for Friends of the Earth*
- Kay Drey, *Intervener before NRC in Callaway-1 license hearings*
- Gary Ferdman, *Business Leaders for Sensible Priorities*
- Kad Grossman, *Journalism professor, SUNY, Co-founder of EnviroVideo*
- Timothea Howard, *Community Activist, formerly with Environmental Action & Institute for Policy Studies*
- Judy Johnson, *Director, Environmental Coalition on Nuclear Power, original intervener against Three Mile Island*
- Debby Katz, *President, Citizens Awareness Network*
- Elizabeth May, *Executive Director of Sierra Club, Canada*
- Vladimir Sliviak, *Co-Chairman of Ecodefense! Russia and anti-nuclear campaigner for Socio-Ecological Union International*
- Doug Teper, *Georgia House of Representatives, former activists with the Union of Concerned Scientists*
- Frank Van Shaik, *Representative of World Information Service on Energy (WISE)*
- Harvey Wasserman, *Author, commentator, organizer*
- Chris Williams, *former executive director, Citizens Actions Coalition of Indiana*

Is there a reason WSMV Channel 4 and other media outlets have not informed the public of the extreme views and anti-nuclear bias of NIRS and its sister organizations?

While it is important for all us to support a safe and healthy environment, shouldn't WSMV Channel 4 and other media outlets first depend on actual experts, hard facts and real science to help inform public opinion on the options and solutions to America's future energy needs, rather than the fear and misinformation stirred by a highly-biased and politically-active special interest group?

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# And Now For the Rest of the Story....

## The Facts...

### About Tennessee's Exposure to Low-Level Radiation Sources

According to the Department of Energy, Office of Civilian Radioactive Waste Management, a person's exposure to radiation is measured in units called millirem, which measures the effects of radiation on the human body -- much as degrees measures body temperature.

In the United States, a person's average exposure to radiation is about 360 millirem per year. Roughly 300 millirem come from natural sources of radiation, and 60 millirem come from man-made sources, primarily medical procedures. It's important to note that the majority of radiation we are exposed to (more than 80 percent) comes from such natural sources as sunlight, soil, and certain types of rocks.

#### Below is a comparison scale of several sources of radiation, from highest to lowest levels of exposure:

**Working in a Nuclear Plant -- 300 millirem a year:** A person working in a nuclear power plant would typically receive approximately 300 additional millirem per year (the Nuclear Regulatory Commission's absolute limit for occupational exposure is 5,000 millirem per year). (Source: Department of Energy, Office of Civilian Radioactive Waste Management.)

**Getting a Chest X-ray -- 10-20 millirem per chest X-ray:** According to the U.S. Department of Energy, a chest X-ray delivers approximately 20 millirem of radiation to the patient for each X-ray. ((Source: Department of Energy, Oak Ridge Office and Office of Legacy Management)

**Smoking Cigarettes -- 15-20 millirem per year:** According to the U.S. Department of Energy, a pack a day cigarette smoker receives approximately 15-20 millirem of radiation per year. (Source: Department of Energy, Oak Ridge Office.)

**Getting a Dental X-ray -- 10-39 millirem (per dentist visit and X-ray):** A person undergoing a full set of dental X-rays would receive about 10-39 additional millirem per set -- so X-rays once a year would expose a person from anywhere to 10-39 millirem per year. (Source: Department of Energy, Office of Civilian Radioactive Waste Management.)

**Using Natural Gas in the Home -- 9 millirem a year:** According to the U.S. Department of Energy, using natural gas to power the home can add an additional 9 millirem of radiation per year. (Source: Department of Energy, Oak Ridge Office.)

**Flying Cross-Country -- 2-5 millirem per roundtrip flight:** A person taking a cross-country flight would receive about two to five additional millirem of radiation per roundtrip, depending on flight altitude and shielding on the airplane. Due to the thinner atmosphere at the altitudes involved in cross-country flights, a traveler is exposed to more cosmic radiation. NOTE: Airline crew members and frequent flyers receive annual doses on the order of between 500 and 600 millirem per year. (Source: Department of Energy, Office of Civilian Radioactive Waste Management.)

**Watching Television -- 1 millirem a year:** According to the U.S. Environmental Protection Agency, a person who watches television adds an additional 1 millirem a year of radiation to their total exposure count. (Source: U.S. Environmental Protection Agency.)

**Exposure from Tennessee's BSFR Waste Disposal Program -- 1 millirem a year:** State officials have imposed a limit of no more than one additional millirem per year that can come from Middle Tennessee's Middle Point Landfill, or any other landfills where low-level radioactive materials are properly disposed of through the BSFR. (Source: Tennessee Department of Environment and Conservation.)

**NOTE:** According to the National Safety Council, the odds of dying by being struck by lightning in one's lifetime is about 1 in 80,000 or about .001 percent -- which is about 10 times higher than the risk of incurring cancer from exposure to 1 millirem of radiation.

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