

Subject: Boxer Statement: Oversight Hearing on the Tennessee Valley Authority and the Recent Major Coal Ash Spill

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For Immediate Release

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U.S. Senate Committee on Environment and Public Works

Statement of Senator Barbara Boxer Oversight Hearing on the Tennessee Valley Authority

and the Recent Major Coal Ash Spill

January 8, 2009

(Remarks as prepared for delivery)

I would like to begin today's hearing by acknowledging and welcoming some of the people who live in the area devastated by the coal ash spill in Tennessee. I spoke with them yesterday, and heard how this disaster forever changed their lives. They are farmers, ranchers, nurses, and parents. **They are in the audience today. Bridget, Melinda, Ron, Teresa and Terry, would you please stand so you can be recognized?**

The beautiful place where they lived was instantly transformed by a wall of ash, water and debris. They are anxious about the spill's potential effects on health, especially to children, and to their livelihoods. They sent me personal statements that I would like to enter into the record. **I would also like to take a moment to say that our thoughts go out to all the people affected by the spill.**

Let me describe what happened at 1 AM on Monday, December 22, 2008 near the Kingston TVA coal-fired power plant. An earthen wall failed on a 40-acre surface impoundment holding coal ash. More than one billion gallons of waste rushed down the valley like a wave, covering more than 300 acres. The volume of ash and water was nearly 100 times greater than the amount of oil spilled in the Exxon Valdez disaster.

This image shows the scale of this enormous coal ash spill. It's like a giant mudslide.

I'd like to show you a few examples of the devastation left behind in the wake of this disaster.

The flow of toxic ash and water impacted 42 parcels of properties, destroyed 3 homes, damaged 9 others, covered roads and railroads, harmed fish, and polluted the Emory River. Thankfully, no serious injuries were reported. But, this disaster happened while the community slept. I shudder to think of what could have happened if this wall had failed on a summer day, when parents and children were playing on the shore, swimming, and fishing in boats.

Senator Alexander, I look forward to working with you on the recovery efforts.

Today, I want to explore several key questions, including: How did this spill happen? What are the spill's impacts? How is this area going to be cleaned up? And, how do we ensure that events like this do not happen again?

How did this spill happen? TVA officials say they are investigating why the dam surrounding the ash collapsed. So far, they have said heavy rains and freezes may have triggered the disaster.

But, the Nashville "Tennessean" reported on January 4 that the same earthen wall had smaller blowouts in 2003 and 2006. The people that I met with yesterday said that they

knew that the impoundment had problems.

Following the 2003 event, TVA rejected several recommendations for retrofitting the impoundment because they were deemed too costly, with estimates up to \$25 million. We must find out why this wall failed.

What are the spill's impacts? This depends on what was in the coal waste.

I have a jar of the sludge from the coal ash spill, from outside one of the homes. A billion gallons like it spilled from the impoundment.

Let me tell you about some of the toxic substances that are generally found in coal ash.

This chart tells us what toxins sludge can have in it and the hazards it can pose. It does not belong in anyone's backyard or town.

At the spill site, the US EPA has found river water with arsenic, beryllium, cadmium, chromium and lead above drinking water standards. The longer this ash stays on the ground the more it can dry out and blow around. Some of the heavy metals in ash can harm people when inhaled.

We must get a complete picture of contaminants in different parts of the coal spill. Some types of coal have more contaminants than others, and TVA used this impoundment to hold coal that was combusted over a number of years. Hotspots of contamination could be buried just beneath the surface of the spill.

This raises another very important question: how is this disaster going to be cleaned up, how is this area going to be restored? Seeding the ground with grass is not a permanent solution. A cleanup can be done right, or it can be a ticking time bomb. This area must be cleaned up to address the potential long-term

threats to families who live there.

And, we must also ensure that this type of disaster does not happen again. We need to have standards in place to make certain that coal ash is managed, and disposed of properly – including the use of “dry storage” rather than “wet storage”, which the Kingston Plant used.

Over 130 million tons of coal combustion waste is produced in the U.S. every year. This is the equivalent of a train of boxcars stretching from Washington, D.C. to Melbourne, Australia.

A 2007 US EPA report found 67 ash impoundments or landfills in 23 states that had caused or were suspected of causing contamination, including to ground or surface waters. EPA knew of dozens of other sites but lacked sufficient information to single out the cause.

For nearly three decades, EPA has been looking at the issue of how to regulate combustion waste. The federal government has the power to regulate these wastes, and inaction has allowed this enormous volume of toxic material to go largely unregulated. State efforts are very inconsistent, and as more and more toxic material is removed from coal combustion, it is critically important that protective standards for coal ash waste be established.

I intend to work with the incoming Obama Administration to ensure that the necessary action is taken to protect our public health and the environment.

The disaster in Tennessee proves the point that we cannot avoid the costs associated with managing coal ash, and that it is far better to invest in preventing disasters like this than spending even more to clean them up.

This Committee has oversight responsibility for the Tennessee Valley Authority, which provides an opportunity to focus on how a utility should be managed in the 21st century. This oversight hearing is only the first in our effort to help TVA become a national leader in innovation and environmental stewardship.

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**Oral Testimony of Stephen A. Smith, DVM
Executive Director
Southern Alliance for Clean Energy**

**Delivered before U.S. Senate Committee on Environment and Public Works
January 8, 2009**

Madam Chair, Senator Alexander and members of the committee:

I want to thank you for holding these important hearings, and I also want to recognize the community members who have traveled with me here today.

The devastation unleashed on this small community on the night of December 22 is difficult to describe: words and pictures do not do justice to the magnitude of this disaster. To see hundreds of acres of nasty coal combustion sludge, many places over 20 feet deep, destroying beautiful lake front property, is truly sad.

I have witnessed a host of emotions from families in this community: fear, frustration, anger and depression. But the most of all is betrayal.

The Tennessee Valley Authority has unleashed devastation on the very watershed and communities it was created to protect.

Yet as devastating as this was, the fact that this occurred on a cold December night instead of a warm July afternoon, where people would have been enjoying the vast recreational opportunities of this once beautiful river, has potentially spared hundreds of lives.

News reports and my organization's preliminary investigation indicate that this could and should have been avoided. Shortcuts have been taken, rules were waved or broken and accountability has been absent; this was not a natural disaster this was a manmade disaster.

It is clear that, in its early response, TVA prioritized public relations over public health and has largely been overwhelmed by the size of this spill, which appears to be the largest industrial spill in our nation's history.

The force of this accident not only ripped homes off their foundations—it also ripped the lid off of a national problem and the failure of EPA to develop minimum standards for this waste. It is outrageous that the landfills holding our household garbage are more regulated than the pits holding this toxic coal sludge.

It also washed away the millions of dollars worth of “clean coal” advertisement, reminding us of the reality that burning coal is a dirty business. From Mountain Top Removal mining, which is destroying the southern Appalachian mountains, to air pollution that chokes our cities, our nation's national parks and leads to climate destabilization, to this toxic coal ash sludge spilling into an east Tennessee river: *burning coal is dirty business*.

We can and must do better. We have cleaner technologies.

But this is not just a story of TVA’s failure but also of the EPA’s. In 2000, EPA shirked its responsibility by not regulating coal ash as a hazardous waste, and it promised to promulgate minimum standards. I’m sad to report that over 8 years later, and 28 years since Congress first asked EPA to study this issue, we still do not have the most basic standards.

This, too, is a national problem. Today EPA cannot fully account for the hundreds of millions of tons of coal ash generated every year.

And this problem is only going to get worse. As we tighten air regulations removing more pollution from hundreds of smokestacks, it will end up in this ash in greater volumes and higher concentrations.

Today I call on your committee to at a minimum:

- 1: Require an orderly phase out all wet storage of toxic coal ash;**
- 2: Require EPA to immediately inspect and monitor all toxic coal ash storage and disposal units; and**
- 3: Develop the long-promised Federal regulation of all toxic coal ash storage and disposal by year’s end.**

TVA was born out of crippling economic times. As we find ourselves again in similar difficult times, this is an opportunity to remake TVA for the 21st Century.

The great challenge of how we produce and consume energy in this country cries out for leadership from the power industry. We need an agency like TVA to be a living laboratory leading us into a future heavily invested in advanced energy efficiency, smart-grid technologies and clean, safe renewable energy. This is fuel for economic recovery.

This committee has the power to confirm up to four new board members by May 2009. We must ensure that these new members have relevant experience, a strong commitment to clean energy and a bold vision for this agency’s future.

Madam Chair and members of this committee the operative words here today are *accountability and oversight* – the citizens demand and deserve no less. We must have clean up, not cover up.

**Testimony of
Tom Kilgore, President and Chief Executive Officer
Tennessee Valley Authority
Before the
Environment and Public Works Committee
January 8, 2009**

Opening Statement

Chairwoman Boxer, Ranking Member Inhofe, and members of the Committee. Thank you for this opportunity to appear before you to discuss TVA's work on recovery and clean up of the release of ash at one of TVA's power generating plants in East Tennessee. Here with me today is Bill Sansom, Chairman of the Board of Directors of TVA.

The release followed a failure of a retention wall for a coal ash containment area at TVA's Kingston Fossil Plant.

We will diligently work to determine the cause of this failure, but as I have told the members of the public in that area and our employees, our focus right now is on cleaning up the spill. I want to assure you that TVA will do a first-rate job of remediation of the problems caused by the spill.

About TVA

As you know, TVA is a corporate agency of the United States and the nation's largest public power provider. In partnership with 158 wholesale distributors, TVA provides reliable, competitively priced electricity to about 9 million people and 650,000 businesses in seven southeastern states. TVA also provides power directly to about 60 large industrial customers and federal installations. TVA is more than a power company. When Congress established TVA in 1933, it set our mission to include managing the nation's fifth-largest integrated river system, providing environmental stewardship, and being a catalyst for economic development in its 80,000-square-mile service area. TVA is funded primarily by its ratepayers and receives no appropriations.

The incident being discussed today occurred at TVA's Kingston coal plant. The Kingston plant was built in the early 1950s, in accordance with congressional authorizations, primarily to meet the defense needs of the nation – specifically, the need to provide power for the production of atomic defense materials at Oak Ridge, Tennessee.

Currently, Kingston is one of the mix of generating resources that TVA uses to supply electricity to our region. About half of our nation's electricity supply comes from coal, and the TVA region is in a similar situation. While we are working to increase the amount of carbon-free generation we use, about 60 percent of TVA's generation comes from coal. And like utilities around the nation, we must manage the ash that is a by-product of coal-fired power production.

Kingston Fossil Plant

At the Kingston plant, ash material that remains after the coal is burned is stored in a wet ash pond. Six of TVA's eleven fossil plants use wet fly ash storage cells. The other five plants use a dry fly ash storage method. All of TVA's ash disposal sites are engineered facilities and follow the permit requirements for the states in which they are constructed. They are surrounded by dikes, and they incorporate engineered drain systems and water runoff controls.

At all of our fossil plants, these areas undergo a formal inspection annually and other inspections on a quarterly and a daily basis. The storage cells at Kingston are visually checked daily by plant personnel. In addition, TVA plant personnel inspect the cell for seepage on a quarterly basis. Annually, TVA engineering staff members perform a comprehensive inspection and document the findings and recommendations in a report. Kingston's most recently completed report is dated February 2008 for the inspection conducted in December 2007. That report is currently posted on the TVA Web site. Kingston's most recent inspection was in October 2008, and the report was being compiled at the time of this incident. Initial reports from that inspection indicated no noticeable increases in seep flow were observable during the 2008 inspection.

Outreach to the Public

In the early morning hours of Monday, December 22, I received the call about the failure of the retention wall shortly after 1 a.m. and arrived at the plant within the hour. The initial response by the Roane County, Tennessee, Emergency Management personnel, along with the Tennessee Emergency Management Agency, was excellent; and we will always be grateful for their swift and professional response. Other agencies also were notified, including the National Response Center.

Of course, our first concern on hearing the news was for the safety of the neighbors in the area around the plant. Frankly, the only good news in the week was when we learned about five o'clock that morning that there was no loss of life and no injuries that required medical attention. We also made visual inspections of the ash retention dikes at our other plants to note any changes in conditions and will continue to do so.

Our first priority was to reach out to the people immediately impacted, especially the three families who lost their homes, to ensure that they were safe and that they had temporary housing, meals, and other necessities. We established a team of TVA employees and retirees to provide one point of contact for each family impacted to ensure their needs are met and concerns addressed. These support teams are continuing to work with the families.

We also have set up a 1-800 number and a local facility that is open seven days a week for residents to go to if they have a property-damage claim, question, or concern. This is in addition to the telephone line we began staffing around the clock shortly after the incident for the public to call with any concerns, questions, or requests for the State to test private drinking-water wells.

Environmental Impacts

After seeing that our first objective – the safety of the public and our employees – was

addressed, we immediately began dealing with potential public health issues and the containment and stabilization of the ash material.

Consistent with Homeland Security Directives, we are using the National Incident Management System (NIMS) approach for the onsite emergency response. This means that an onsite Command Center with a Unified Command has been established and is staffed by federal, state, and local response organizations that sit side-by-side, share the same information, and staff a Joint Information Center where information is provided to the public in a timely and coordinated manner. A number of agencies, including the Roane County Emergency Management Agency, Tennessee Department of Environment and Conservation, Tennessee Department of Health, the Tennessee Emergency Management Agency, and the federal Environmental Protection Agency are with us at the site to respond to the event and to monitor our work. The agencies are conducting their own water, air, and soil testing, and sharing all findings among the Unified Command. I would like to discuss that testing next.

In addition to the agencies listed, the United States Fish and Wildlife Service (USFWS) also responded to this incident. Service staff surveyed the affected area and assessed effects to natural resources, mainly migratory birds. USFWS's main concerns are effects on fish and wildlife from habitat loss, suspended fly ash, and metals in the water and sediment of the Emory River.

Water Quality

Within hours of the event, TVA, the Tennessee Department of Environment and Conservation, and the Environmental Protection Agency began water quality testing. Sampling is also being done at water treatment facilities closest to the site. Each agency is using certified labs for the analyses, and the data among all agencies is consistent. The results of water sampling to-date show that municipal drinking water continues to be safe. I will note that the Kingston City Water intake is actually upstream of the confluence where any suspended ash would float by. Our River Operations staff is monitoring the water flow to maintain a positive flow in the correct direction, past the water treatment plant, in order to protect the water supply. The State is also sampling private groundwater wells within a four-mile radius of the plant.

While most of the fly ash deposited in the water sank, there was a lighter, inert part of the fly ash that floated. It is a hollow, sand-like material that is actually collected and sold for use in a variety of products, including cosmetics, bowling balls, and fillers. We have dispatched more than 12,000 feet of boom skimmers to collect and dispose of this material.

Soil quality

Our next focus was on the material deposited offsite. The ash material is not classified as a hazardous waste under the standards of the Environmental Protection Agency. It is not classified as a carcinogen and it is not combustible, but it does contain trace amounts of metals. Regardless of the inert nature of fly ash, however, it is meant to be contained, and we are committed to cleaning it up.

One of our first actions was to test and characterize exactly what was in the material that moved offsite and compare it to historic data on the content of storage cells. Preliminary

testing of the offsite soil samples shows, as was expected, that metals are well below the limits for classification as a hazardous waste. They are 10 to 100 times below the limits for metals. The trace concentrations of metals in the offsite material sampled are consistent with and generally lower than that of the historic sampling results from the storage cell. The data shows that the concentrations of most metals in the deposited ash are not dramatically different from concentrations found in natural, non-agricultural soils in Tennessee, with the exception of arsenic. Total arsenic results were above the average that occurs naturally, but well below levels found in soils that are well-fertilized and significantly below the limits to be classified as a hazardous waste.

Air Quality

Now that I've addressed the water and the soil, let me turn to the air we breathe. Breathing particulates – fly ash or any other airborne particulates – over long periods of time can, however, irritate the respiratory system. For that reason, we are taking measures to keep the ash residue damp and monitor the air quality in the area. We have begun spreading grass seed and fertilizer over the area as part of our immediate actions to minimize dust and erosion. This process is similar to the one used by highway departments to provide ground cover. Prior to this action, we began real-time, hand-held monitoring of air quality and established fixed air monitoring locations. More than 700 real-time monitoring points have been logged, and air monitoring takes place 24 hours a day at five fixed stations located in residential areas near the plant and on-site. The most recent results show that concentrations of air particulates remain below levels established by the National Ambient Air Quality Standards.

I know that technical data and monitoring equipment do not make the human emotions and the physical effects of this incident go away. But I hope that the results of the preliminary environmental data and the objectivity provided by multiple agencies and certified labs will help reassure members of the public and address their concerns. We are sharing the information with the public as it becomes available.

Recovery Efforts

On the operations side, we have moved into the important recovery phase. About 275 surface acres were impacted, and cleanup and recovery efforts are under way. These efforts are being conducted under the watch and with the assistance of other concerned Federal and state agencies.

Starting on the day of the incident, we put equipment and personnel in place to immediately begin placing barriers to minimize the movement of ash and to begin clean up. Those crews have been working around the clock since then. Each day, we make progress on removing the ash from two local roads. One road is still closed to public traffic but has been cleared sufficiently for use by construction equipment. We are creating a 100-foot buffer between the road and the remaining fly ash. The damaged rail track has been removed, and reconstruction on the track has begun.

We are also constructing two weirs, one underwater and one above water, in the affected area to let water flow continue while trapping the ash material so it does not move down stream. The first weir is underwater and is almost complete. It spans approximately 615 feet across the Emory River, just downstream of the failure, to further contain the ash. The second weir is in design and is essentially a dike; it will be

approximately 2,000 feet long and located at the site of the failure. When complete, it will confine the largest body of the ash and keep it from entering the river during the process of dredging the river. Dredging may occur wherever there is ash; the U.S. Army Corps of Engineers will approve the dredging plan while TVA is responsible for the dredging. The Corps also provides underwater river mapping contour information and has provided new contour information to us subsequent to the failure. For public safety while recovery operations are under way, the U.S. Coast Guard has closed approximately 4 miles of the Emory River to navigation, except for vessels involved in the sampling and recovery operations.

Now that we have entered the recovery phase, we are turning our attention to a long-term plan for full recovery and restoration. I cannot tell you at this point how long this might take, but we are planning to work with area residents and public officials to develop sound plans and to keep them informed as we move forward. We are beginning an independent, in-depth root-cause analysis to determine why the ash pond dike failed. And, as our work continues, public safety and the safety of our employees at work on the job are paramount.

Continuing Commitment

TVA has been part of the Kingston and Roane County community since 1951, and for its first decade of operation the Kingston plant was the largest of its kind in the world. The 300 TVA employees who live and work in the area care deeply about their community. We will continue to reach out to Roane County residents over the coming weeks, keeping them informed of our activities, and making sure they have the information they need. We will continue working, as well, with federal, state, and local elected officials and agencies, and with you and other members of Congress.

Since being established by Congress in 1933, TVA has served the people of the Tennessee Valley region and our nation, generating and delivering the electricity required for a stronger economy and brighter future.

At TVA, we take seriously our mission of providing electricity, environmental stewardship, and economic development to the Tennessee Valley region. The quality of life in the Valley region and the natural beauty of the region and its rivers are special to all of us at TVA, and we are committed to restoring and protecting these resources.

As we make progress toward restoration, we will also share information and lessons learned with those in regulatory roles and with others in our industry, for everyone's benefit.

As I stated at the beginning of my comments here, TVA will do a first-rate job of containment and remediation of the problems caused by the spill. We are going to be able to look our neighbors in the eye and say that TVA is doing the right thing.

Thank you for the opportunity to provide this report on our continuing recovery efforts, and I look forward to your questions.

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