

**Summation of Comments Received and Response to Comments**

**TVA Kingston Fossil Fuel Plant Release Site  
Administrative Order and Agreement on Consent  
Docket No. CERCLA-04-2009-3766  
Public Comment Period May 18 – July 20, 2009**

On May 11, 2009, the U.S. Environmental Protection Agency (EPA) signed an Administrative Order and Agreement on Consent (AOC) pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) with the Tennessee Valley Authority (TVA) to oversee the comprehensive cleanup of coal ash at the TVA Kingston Fossil Fuel Plant Release Site (the Site) in Roane County, Tennessee. Under the AOC, TVA will perform the required cleanup with EPA's oversight, and TVA will reimburse EPA for its oversight costs. On May 18, 2009, EPA issued a public notice announcing the availability of the AOC and its associated Administrative Record (AR), and starting a 30-day public comment period. The initial comment period ran from May 18, 2009, through June 19, 2009. On June 15, 2009, EPA announced that it was extending the public comment period on the AOC and its associated AR through and including July 20, 2009. In addition, a public meeting was held on June 23, 2009.

EPA has reviewed and carefully considered the public's comments. Pursuant to Paragraph 51 of the AOC, work has continued at the Site under the AOC during this public comment period. Therefore, many of the comments have already been addressed by ongoing work at the Site, or by work plans or other deliverables prepared under the terms of the AOC, which are available at [www.epakingstontva.com](http://www.epakingstontva.com). After careful evaluation of all the comments received, EPA has concluded that no comments were received that disclosed facts or considerations which indicate that the AOC is inappropriate, improper, or inadequate. As a result, EPA is not seeking any modifications to the AOC based on the comments received during this public comment period.

Presented below are the comments and EPA's responses to the comments received during the Public Notice and Comment Period. Similar comments are grouped together where possible, and a single response is provided for several comments if appropriate.

**Comments Regarding the Transportation and Off-Site Disposal of Coal Ash**

*A number of commenters expressed concern relative to the ultimate disposal destination for the coal ash material, as well as the possible use of a disposal site located near Smith Mountain Road in Cumberland County, Tennessee. In addition, many commenters raised concerns regarding the potential use of trucks for the off-site transport of coal ash. Comments specific to these issues are listed below, along with EPA's responses.*

Comment 1: Thank you for extending the comment period. It is much appreciated. My wife and I are new residents in Fairfield Glade TN (outside Crossville) in Cumberland County. We moved here primarily because of the environmental beauty and healthy/fresh air and water. We are about 5 miles from the Smith Mountain Coal Mine

being considered as a potential mono-fill landfill site for coal ash and other assorted residues from the Kingston Power Plant.

We have 5 specific questions or issues that truly concern us – in terms of our overall physical health, as well as of air, ground, and water quality. We also are concerned about our property values as a portion or [sic] our retirement portfolio. *[To facilitate this Response to Comments, this commenter's five questions appear as Comments 2, 3, 6, 7, and 8.]*

Comment 2: We have heard about ash being sent from the Kingston site to Alabama and/or several other existing landfills in Tennessee, Cumberland County, however, is never mentioned. Yet, rumors persist that the Smith Mountain site is to be used by EPA/TVA as a landfill for ash or other CCPs from Kingston. What, specifically, does EPA/TVA have in mind as a use for Cumberland County's now-defunct Smith Mountain coal mine?

Comment 3: We understand that EPA/TVA's goal for the Smith Mountain landfill is as a mono-fill. Is this correct and under what circumstances could EPA/TVA change its mind about what is to be moved there?

Comment 4: Please find enclosed the comments by my wife and I that were provided [to] the Cumberland County Mayor and the County Commission. We have lived in Cumberland County for more than 10 years, selecting it as a retirement place along with more than 10,000 other retirees. To spoil the peace and tranquility of this mountain setting is most upsetting. It is morally wrong to subject the inhabitants of Smith Mountain Road to more than 250 tri-axle dump trucks per day. This is not progress!! Please deny any and all permits for this site on Smith Mountain.

We, the undersigned, believe strongly that the Coal Mine property should NOT be utilized as a dumping ground for the “fly ash” from the disaster at TVA/VEC Kingston coal fired facility because:

We do not reside on Smith Mountain; however we did drive the road this past weekend, and found it to be narrow, hard for 2 cars to pass in places, tar and stone surface with many places deteriorated, washed out, etc. This road would require many millions of dollars to bring up to a standard that would accept heavy loaded trucks.

About 4 years ago [name redacted] attended a meeting at the request of the Road Commissioner, Wendell Houston, which took place at the Holiday Inn, Crossville. Also attending were representatives of the Coal Co., from Vancouver, Canada, TDOT management from their Chattanooga Office, and Mayor Hill. [The] [p]urpose of the meeting was to ascertain if TDOT would buy into funding road improvements for trucks to remove coal from the mine. It was stated that more right of way would need to be purchased, a minimum of 8 to 10 inches of blacktop applied in layers, and in some areas the road bed itself would need to be rebuilt. There is one concrete bridge that is not wide enough for 2 trucks to pass. The bottom line was it would cost millions of dollars, money

that neither TDOT nor the Cumberland County Road Commission had available, so the improvement was dropped. Using the figure of 200 trucks a day, that is 400 trips over this **Country Road**.

There are school buses on this road 3 times a day, stopping many times where there are blind spots in the roadway for oncoming traffic. An accident would be waiting to happen, an unnecessary exposure for the children!

In reviewing "Fly Ash" on Goggle [sic], it is obvious there are serious questions regarding long term health hazards. A major complication not covered, is the removal of long term waste from the river bottom, along with the ash, that must be dealt with. There is only SPECULATION as to the long term impact. Why take the risk for these folks who bought property in the peace and quiet of Cumberland County.

What is the impact of these loaded trucks on the 1-40 several mile climb to the Plateau? Slow moving trucks, spewing diesel fumes will undoubtedly cause impatience with drivers, leading to possible serious accidents, and the closing of 1-40. This stretch of highway is notorious for its accident rate.

Finally, the fly ash itself. I[t] must be covered after each load is dumped. Where will the fill come from for the cover? The trucks must be covered and sealed to preclude ash dust from spewing along the way. Are the truck drivers HASMAT trained, will special clothing be required, are the trucks mechanically reviewed each day for malfunctions? Are the truckers independent contractors with little supervision? Are there street sweepers to pick up the dust each day off ALL roadways including, 1-40?

This project will bring few, if any, jobs to Cumberland County. Most will come from distant areas, including Roane County.

In summary, 4 County Commissioners have been consulted, with all agreeing they have not been over the Smith Mountain Road in the last few years. Our fear is that each of the Commissioners have not driven this route and do not know this area, will vote yeah, just for the proposed money! Without a Contract and a minimum \$40 million performance bond, this project will only cost County and State taxpayers millions of dollars needlessly should the Clients default or are non-compliant with EPA standards.

This project should die an immediate DEATH, now! ! ! !

Comment 5: Please help us. After looking for years my husband and I bought land for our retirement home on beautiful, unspoiled Smith Mountain Road in Cumberland County, Tennessee. There are many in our same situation. We knew there was an old mine down the road and that there was dangerous truck traffic; but the trucks were few, so we decided we could tolerate that if we were careful.

I don't know if this has reached your attention, but please be aware of this now. There is a proposal before the County Commission of Cumberland County to be voted on June 15,

2009 that will allow up to 5.4 million cubic yards of the Kingston coal ash to be hauled at the pace of 180 dump truck trips a day (each way), 12 - 16 hours a day, 6 days a week for three years or more along eight or more miles of our winding mountain road to an abandoned coal mine on Smith Mountain Road in Cumberland County, Tennessee. This above information about truck traffic was reported in the newspaper though the "proposal" has no trucking details except that: "Smith Mountain Solutions is committed to upgrading and maintaining roadways as necessary to provide for public safety."

TDEC's solid waste director, Mike Apple, told citizens publicly that coal ash was not a hazard unless it becomes airborne. One [of] our major concerns is in regard to airborne particulates from this endless parade of unregulated trucks on our narrow winding road. There are no specifications in the proposal about coverings for the trucks, cleaning them after dumping, or who will be responsible for spills on the road. That's not even to mention the noise, danger to property and life from the dump truck traffic alone.

This proposal seems likely to be passed as there appears to be support from the start from Mayor Brock Hill and many of the County Commissioners.

Our fear is that this project is being fast tracked to conclusion under your radar. I have enclosed the "fact sheet" which is supposed to inform the public about the project under The Jackson Law. It is incomplete at best in regard to the truck transportation and route, and certainly self-serving. The only other information published was four maps of the landfill with site plans, no other written comments.

There is no federal regulatory oversight in place, to my knowledge, in regard to the proposed route. There is no plan for enclosing the trucks and preventing airborne coal ash along this dangerous route, and certainly no assurances for the public at any stage that this will be hauled safely. The trucking company to be used is not even publicly disclosed at this point.

Please look at this fast moving proposal by the newly created Smith Mountain Solutions. Please pay particular attention to the proposed route from I-40, exit 340 down Airport Rd/299 for 1.4 miles, then left onto Golliher Rd for .8 miles, then right on winding, narrow beautiful Smith Mountain Road for 6.7 miles to the entrance to Turner Mine. Is that safe and appropriate for this intensity of truck traffic?

This is an intense proposal in terms of quantity and time frame and surely profit. We and others like us want to just enjoy our retirement homes in this beautiful countryside without the pollution and dangerous traffic of 180 dump trucks [sic] trips a day, back and forth, (360 trips up and down the mountain per day) 12 - 16 hours a day, 6 days a week for over three years, putting us in danger of accidents and health risks at our own front doors.

We also invite you or your representative to come to Cumberland County to meet with concerned citizens, drive Smith Mountain Road and educate us on the nature of coal ash.

I am enclosing some of my letters to the mayor and county commissioner and some newspaper articles for your information. Those of us who are fighting this at the county level do not hold out much hope for success. Please provide some protection for us. Thank you for your help.

Comment 6: As I read the Order, it doesn't deal with transporting Kingston CCPs to the selected site - why not? Using trucks on the Interstate system and small rural mountain roads poses a real threat to the public from wind-blown CCPs, auto accidents, flat tires, burned-out brakes, etc. Shouldn't EPA be as concerned about this aspect of the clean-up almost as much as the engineering specifications of the landfill, itself? Why is that not addressed?

#### **EPA's Response to Comments 1 through 6:**

##### **EPA's Response regarding Smith Mountain Coal Mine:**

There is currently no plan to ship ash generated during the response actions under the AOC to an abandoned coal mine on Smith Mountain Road in Cumberland County, Tennessee. Pursuant to Paragraph 28 of the AOC, TVA is required to submit an Off-Site Ash Disposal Options Analysis (Off-Site Options Analysis) to EPA for review and approval within 15 days of approval of the time-critical Action Memorandum. TVA submitted the Off-Site Options Analysis ahead of schedule and EPA approved it on July 2, 2009. Under the approved Off-Site Options Analysis, coal ash removed from the area east of Dike 2 will be disposed of at the Perry County Arrowhead Landfill located in Perry County, Alabama. In addition, the AOC sets forth several requirements which must be met for any off-site disposal of Waste Material from the response actions under the AOC. Specifically, no permanent off-site disposal of Waste Material is allowed unless the facility is operating in compliance with RCRA Subtitle D permitting requirements for operation and disposal of industrial wastes and, at a minimum, meets the following requirements: (1) the use of a synthetic liner; (2) leachate collection system; (3) groundwater monitoring; (4) financial assurance; and (5) closure and post-closure care.

Additional evaluation of ash disposal options will continue during the Engineering Evaluation/Cost Analysis (EE/CA) process, which will occur as part of the non-time-critical removal action.

##### **EPA's Response regarding Truck Transport:**

EPA acknowledges these commenters' concerns regarding truck transport of the coal ash off-site. The Off-Site Options Analysis prepared by TVA and approved by EPA on July 2, 2009, contains a thorough evaluation of the use of truck versus rail for the coal ash transport. Rail was ultimately selected as the preferred means of off-site transport of the coal ash and, as of August 14, 2009, more than 280,000 tons of ash have been transported safely off-site for disposal. The Off-Site Options Analysis is available for review at [www.epa.gov/region4/kingston/index.html](http://www.epa.gov/region4/kingston/index.html) and [www.epakingstontva.com](http://www.epakingstontva.com).

Comment 7: We are being told that EPA has designated CCPs generally as non-toxic. Regardless of the pure "dictionary" definition of coal ash or CCPs, it seems to me that the

Order describes the Kingston coal ash as very, very toxic. Does the generic “dictionary” definition of ash or CCPs apply specifically to the Kingston ash/residue/sludge that may be moved to Cumberland County?

**EPA’s Response to Comment 7:** EPA is uncertain what the commenter is specifically referring to as the dictionary definition of coal ash. However, EPA considers Coal Combustion Products (CCPs) or Coal Combustion Wastes (CCWs) to include any byproduct from the combustion of coal. Fly ash and bottom ash (which are collectively referred to as “coal ash” within this Response to Comments) were included among coal ash materials that were released during the December 22, 2008, event and are CCPs.

CERCLA, which is the basis for the AOC, uses the terms “hazardous substance” or “pollutant or contaminant” when describing materials which are being addressed in a response action, rather than “toxic” or “non-toxic.” The coal ash released at the TVA Kingston Site is not currently regulated as a hazardous waste under Subtitle C of the Resource Conservation and Recovery Act (RCRA) as it is excluded from regulation under Section 3001(b)(3)(A)(i), 42 U.S.C. § 6921(b)(3)(A)(i). The material does, however, contain measurable concentrations of a number of hazardous substances as defined under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14), including arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, and zinc. As discussed in Paragraph 19 of the AOC, these constituents could have harmful impacts to human health or the environment.

Comment 8: What role does EPA have in the disposition of ash that is not specifically related to the Kingston spill - e.g., ash or CCPs produced by current on-going processes? Thank you for the opportunity to share our concerns.

Comment 9: Regulation of coal by-products and impoundments. EPA/TVA understand and state in the docket that “hazardous substances” are present in coal ash which contain “elements, which after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunctions in reproduction) or physical deformations, in such organisms or their offspring”, EPA/TVA should move to immediately reclassify coal ash and related byproducts of coal combustion as regulated, hazardous waste under RCRA, as EPA/TVA are liable under sections 106(a), 101(20), 107(a)(1) of CERCLA/SUPERFUND, 42 U.S.C. 9601(20), 42 U.S.C. 9601(22), 42 U.S.C. 9606(a), and 40 C.F.R. 300.700(c)(3)(ii). Standards should be designed to protect both public health and natural resources, taking into account existing federal and state standards for protecting drinking water and aquatic life. Regulations should apply to all forms of land disposal, not just surface lined coal combustion waste landfills leaking arsenic into groundwater. The wet storage or disposal of coal combustion waste should be phased out. All containment structures around coal combustion waste surface impoundments should be examined immediately to ensure their structural stability, and contained wastes should be transferred to lined and consistently covered landfills located

outside of flood plains. Active surface impoundments should be closed and emptied within two years. Monitoring and cleanup standards should be required for impoundments that have already closed, and any remaining ash should be transferred to dry disposal sites within five years. Coal combustion waste should be carefully analyzed to determine its toxic constituents and the likelihood that contaminants will leach under real world conditions. This characterization should include test measures called for in the National Research Council's 2006 report, Managing Coal Combustion Residues in Mines, and recommended by the EPA's own Science Advisory Board to evaluate the hazards of coal combustion waste at existing and proposed disposal sites. The topography and hydrogeology of proposed disposal sites should be carefully examined to evaluate the likelihood that toxic metals and other contaminants will migrate offsite. Siting requirements should keep coal combustion waste landfills out of locations that are vulnerable to leaks, contamination, or major breaches of waste into the surrounding environment, such as flood plains, wetlands, sandy or gravel soils, shallow groundwater tables, active seismic fault lines, karst zones, and sensitive wildlife habitat. Coal combustion waste disposal facilities should be designed to prevent offsite contamination. Standards should include placement of waste well above the water table, composite synthetic liners to prevent leaks, leachate collection systems to trap and treat any wastes that do escape, caps and covers to minimize the creation of leachate, and fugitive dust controls to eliminate dispersion of dust or fine particles. The discharge of any wastes into groundwater, surface water or air should be strictly prohibited. Groundwater and surface water should be sampled to fully characterize baseline (predisposal) water quality and monitored above and below a disposal site and in likely pathways for offsite migration of toxic metals or other pollutants. Samples should be collected frequently enough to detect contamination and long enough to take into account that pollutants may be released over an extended period of time. Monitoring should be designed with clear corrective action standards to detect and prevent contamination from the full range of pollutants that are associated with coal combustion waste. Site owners and operators should assume responsibility for monitoring of disposal sites for at least 30 years after closure, and for cleaning up any contamination that may result during that time. Owners or operators should be required to demonstrate that they have the financial means to meet these obligations and post appropriate financial assurance to ensure these obligations are promptly met. Federally enforceable permits should be required for the construction or operation of new or expanded coal combustion waste disposal sites. The public should have the opportunity to participate in permit proceedings, submit comments, request a public hearing, and appeal a final decision by EPA or the authorized state agency. Unsafe practices should not be sheltered under so-called "beneficial use" exemptions. In particular, the use of coal ash to "reclaim" surface or underground mines, including abandoned mines, should be subject to the same stringent standards to prevent offsite contamination that apply to land disposal facilities. As recommended by the National Research Council, the characteristics of both coal combustion waste and potential reclamation sites should be evaluated to determine whether mine filling is suitable for specific locations. EPA, in consultation with the Office of Surface Mining, should promulgate enforceable federal regulations governing the disposal of coal ash in mines.

**EPA's Response to Comments 8 and 9:** As a consequence of the necessary configuration of the coal ash time-critical removal operation, coal ash that is being generated as part of normal plant operations is dewatered, stockpiled, and shipped off-site for final disposal along with that which is being recovered from the Emory River.

Despite the necessary commingling of some of the process ash with the dredged ash, the AOC does not specifically address the disposition or handling of ash in the normal course of the plant's operations.

In terms of the future regulation of coal ash, EPA is currently evaluating new regulations governing coal combustion residuals and anticipates issuing proposed regulations by December 2009. Please refer to <http://www.epa.gov/osw/nonhaz/industrial/special/fossil/coalashletter.htm> for additional information regarding these efforts.

#### **Comments Regarding Community Relations Activities and the Technical Assistance Plan**

*A number of commenters offered comments regarding EPA's community outreach efforts and public involvement with respect to the ongoing cleanup. These comments are listed below, along with EPA's responses.*

**Comment 10: Page 30 "Community Involvement Plan".** TVA suggests that IT select a 'qualified community Group' to work on a Technical Assistant Plan", that it (this TVA selected group) be paid \$50,000 to find independent technical advisors. Well, **the only group located in Roane County that has served the citizens there even before the coal ash tragedy has been United Mountain Defense!** And in spite of the threats, intimidation, and fines and jail, these courageous young people are staying put, continuing to provide professional services to their neighbors. **I nominate UMD for TVA to "hire", to pay the \$50,000 for services UMD already provide [sic] free, for this 'community plan'. In fact, I insist that EPA take on ALL responsibility for any and all environmental testing, and take it out of TVA's hands.**

**Comment 11: TVA should immediately select UMD and the TCASN survivors group as the "Qualified Community Groups" and allow these volunteers helping their neighbors to find Independent Technical Assistants for the "TAP".** This would show that TVA intends to keep all its promises to Roane County and its citizens still in jeopardy.

#### **EPA's Response to Comments 10 and 11:**

The AOC does not allow TVA to select the community group to receive TAP funds. In addition, EPA has outlined specific processes which must be followed in order for an eligible group to apply for TAP funds. These processes are summarized in the TAP Brochure that has been distributed to the public and is available on EPA's website ([www.epa.gov/region4/kingston/index.html](http://www.epa.gov/region4/kingston/index.html)), and in the "Frequently Asked Questions," also available on EPA's website. Letters of Interest and applications for TAP funds were to be submitted directly to EPA.



Groups interested in receiving TAP funds were instructed to submit a Letter of Interest to EPA by July 17, 2009, followed by a TAP Application, due on August 17, 2009.

With respect to the commenter's statement that EPA take on "ALL responsibility" for environmental testing, EPA advises this commenter that all work to be done at the Site under the AOC shall be performed by TVA with EPA's oversight.

**Comment 12: The AOC Should Require Consideration of Funds Beyond the Initial \$50,000 for the Technical Assistance Plan.** According to paragraph 100 of the AOC, TVA shall provide the EPA with a Technical Assistance Plan for providing and administering \$50,000 of TVA's funds to be used by a qualified community group to hire independent technical advisors during the response activities performed to address the mid-term and longer-term strategic Site objectives. The AOC should provide for the granting of additional funds upon the demonstrated need of the grant recipient or other qualified community group. The cost of hiring a technical advisor to provide meaningful assistance for a multi-year cleanup action will likely considerably exceed \$50,000. The AOC should provide a mechanism by which TVA can award subsequent grants upon demonstration of continued interest and need.

**EPA's Response to Comment 12:** The \$50,000 TAP funds are intended to assist the community in understanding the mid-term and longer-term actions being undertaken pursuant to the AOC. The provision of such funds is not a statutory requirement, but given the importance of public participation at this Site, EPA requested, and TVA agreed, to provide \$50,000 of TAP funds under the AOC. If the community determines that it requires additional funds, there is nothing in the AOC that would prevent TVA from providing these funds if it so chooses. EPA reminds this commenter that the purpose of the TAP funds is not continual oversight of TVA's work, but the hiring of a Technical Advisor to help the community understand work plans and other reports generated during the cleanup activities.

**Comment 13: EPA must hold regular hearings**, monthly at [the] very least, **NOT** run by TVA, in this immediate area, and ask for comments regularly, good and bad, from the residents, the sick, and those effected [sic] in any way by the spill.

**EPA's Response to Comment 13:** EPA intends to hold public meetings on a quarterly basis. Meetings will be advertised by public notice in local newspapers and on EPA's websites ([www.epa.gov/region4/kingston/index.html](http://www.epa.gov/region4/kingston/index.html) and [www.epakingstontva.com](http://www.epakingstontva.com)) informing the community of the date, time, and location of such meetings. EPA also plans to hold public meetings at critical decision points in the non-time-critical removal process, which involves the Engineering Evaluation/Cost Analysis (EE/CA). In addition, EPA held a joint public meeting with TVA and the Tennessee Department of Environment and Conservation (TDEC) on June 23, 2009. Because all three agencies have a role in cleanup activities, joint meetings are the most efficient way to disseminate information and to respond to public concerns.

Comment 14: That significant and appropriate public involvement is missing from the language and structure of the Order.

**EPA's Response to Comment 14:** EPA has taken steps to ensure enhanced public participation throughout the cleanup process. First, pursuant to Paragraph 51 of the AOC, EPA ensured that both the AOC and the Administrative Record (AR) supporting the AOC were made available for public comment. Second, under the terms of the AOC (Paragraphs 29, 30, and 52), all approved Action Memoranda and work plans, as well as the EE/CA, shall be put into TVA's AR and made available for public comment. In addition, once finalized, these documents are uploaded to [www.epakingstontva.com](http://www.epakingstontva.com) for the public to review. Third, Section XXXVII (Community Relations) of the AOC outlines the required community relations and public outreach activities. The details of this public involvement and outreach will be set forth in TVA's Community Involvement Plan, which is due to EPA in August 2009, and will be provided to the public for comment. Fourth, the AOC requires that TVA comply with all appropriate public participation requirements in the National Contingency Plan (NCP), 40 C.F.R. §§ 300.415(n), 300.430(c) and 300.155. Fifth, EPA is committed to holding quarterly public meetings (see EPA's Response to Comment 13) and meetings at critical decision points in the EE/CA process (see EPA's Response to Comment 19). Finally, EPA is committed to working with the Roane County Community Advisory Group (Roane County CAG) to address any questions and/or concerns the public may have regarding the EE/CA.

Comment 15: That the order has not been widely publicized so that the general public is aware of the matter.

**EPA's Response to Comment 15:** EPA has made every effort to publicize the issuance of the AOC and to provide the public with the opportunity to comment on the AOC and its AR. On the day of issuance, EPA issued both a press release and a Questions and Answers document regarding the AOC, and posted both documents on its website at [www.epa.gov/region4/kingston/index.html](http://www.epa.gov/region4/kingston/index.html), along with the AOC, itself. Notice of availability of the AOC and the AR was also published in the Knoxville News Sentinel and the Roane County News. Upon extension of the public comment period, EPA issued another press release which was posted on its websites, as well as in the local papers. By June 15, 2009, EPA had posted the entire AR supporting the AOC online at both [www.epa.gov/region4/kingston/index.html](http://www.epa.gov/region4/kingston/index.html) and [www.epakingstontva.com](http://www.epakingstontva.com). EPA continues to update both these websites with new developments.

Comment 16: The time period for public comment be extended beyond June 19<sup>th</sup>.

Comment 17: I, (Name Redacted), am requesting an extension on the comment period for this order. Stephanie Brown of EPA stated that I could request an extension and that it would be granted. *[Comment dated July 20, 2009]*.

**EPA's Response to Comments 16 and 17:** On June 15, 2009, EPA granted a 30-day extension to the public comment period on the AOC and AR supporting the AOC, which

gave the public an additional 30 days to provide comments. EPA announced this extension on its website at [www.epa.gov/region4/kingston/index.html](http://www.epa.gov/region4/kingston/index.html) and in the local newspapers. EPA believes that a 60-day public comment period on the AOC is sufficient.

**Comment 18:** That the EPA schedule a public hearing for the Administrative Order and work plans so that public concerns can be addressed.

**EPA's Response to Comment 18:** EPA held a public meeting on June 23, 2009, to address questions regarding the AOC. A notice for this meeting was posted in local newspapers and on [www.epakingstontva.com](http://www.epakingstontva.com) and [www.epa.gov/region4/kingston/index.html](http://www.epa.gov/region4/kingston/index.html). EPA is committed to holding public meetings quarterly, giving the public an opportunity to ask questions and inquire about ongoing cleanup efforts.

**Comment 19: The AOC Should Require Public Meetings at Critical Decision Points.** The AOC should require that TVA hold public meetings at critical decision points. At a minimum, the EPA should require that a public meeting be held after the completion of the Engineering Evaluation/Cost Analysis (EE/CA) and at the completion of the jurisdictional assessment required in paragraph 34(b).

**EPA's Response to Comment 19:** In addition to EPA's intention to hold quarterly public meetings (see EPA's Response to Comment 13), EPA also intends to hold public meetings at critical decision points in the EE/CA process, including the jurisdictional assessment, which is a component of the EE/CA. EPA is also committed to working with the Roane County CAG to properly address any questions and/or concerns the public may have regarding the direction and conclusions of the EE/CA. EPA plans to have a public meeting when the EE/CA Work Plan is available for public review, which is anticipated to be in mid- to late-September 2009. All public meetings will be advertised by public notice in the local newspapers and on EPA's websites, informing the community of the date, time, and location of such meetings.

As discussed in EPA's Response to Comment 14 above, the AOC already contains enhanced public participation requirements. As such, EPA does not believe that an amendment to the AOC is warranted.

**Comment 20: The EPA Should Require TVA to Provide Improved Access to Documents through the Internet and Provide Electronic Notice of Availability of Documents for Public Comment.** The AOC in paragraph 29 requires that TVA update the Administrative Record "when additional work plans are approved and if and when any amendments are made to the Action Memorandum." Paragraph 29 of the AOC also requires that TVA provide a public comment period upon any updates to the Administrative Record. However, the AOC does not require TVA to post notice of Administrative Record updates on its website, nor does it require TVA to affirmatively contact interested members of the community that such updates have occurred. In order to ensure meaningful public input, the AOC should require that such measures be taken. Otherwise, it is highly likely that important updates to the Administrative Record will go

unnoticed, the public will miss the opportunity to comment and TVA decision-making as well as EPA oversight will lack the insights of knowledgeable citizens and those most affected by this disaster.

**EPA's Response to Comment 20:** As this commenter correctly notes, Paragraph 29 of the AOC requires that TVA provide for a 30-day public comment period upon any updates to the Administrative Record. In order to provide for such public comment period, TVA must communicate such updates to the public. To satisfy the requirements of Paragraph 29 of the AOC, TVA has informed EPA that it will inform the public of updates to its AR through notices on its website ([www.tva.gov/kingston/index.htm](http://www.tva.gov/kingston/index.htm)). The required 30-day public comment period will begin on the day that the notice is posted on the TVA website.

**Comment 21: The EPA Should Require TVA to Conduct Community Interviews as Part of Its Preparation of a Community Relations Plan.** According to 40 C.F.R. § 300.415(n)(3), for CERCLA removal actions where on-site action is expected to extend beyond 120 days from the initiation of on-site removal activities, TVA, by the end of the 120-day period must

conduct interviews with local officials, community residents, public interest groups, or other interested or affected parties, as appropriate, to solicit their concerns, information needs, and how or when citizens would like to be involved in the Superfund process.

Although paragraph 96 of the AOC requires TVA to comply with section 300.415(n), the EPA should clarify specifically that the above provision requiring community interviews applies to TVA.

**EPA's Response to Comment 21:** Under the terms of Section XXXVII (Community Relations) of the AOC, TVA is required to comply with all community relations and public participation requirements, including the requirement for community interviews found in 40 C.F.R. § 300.415(n)(3)(i). TVA conducted community interviews in May 2009, during which time over 50 residents, business owners, community organizations, and elected officials were interviewed. TVA's Community Involvement Plan, which is due to EPA in August 2009, will include information gathered through this interview process, and will outline a schedule for future interviews.

**Comment 22:** Here is a list of trainings that I would like to receive through the EPA CERCLA community outreach workshop list.

7th Passive Sampling Workshop and Symposium (Day 1) (Internet-based seminar)  
7th Passive Sampling Workshop and Symposium (Day 2) (Internet-based seminar)  
7th Passive Sampling Workshop and Symposium (Day 3) (Internet-based seminar)  
Acid Mine Drainage (AMD) & ART: Combining Science and Art (Internet-based seminar)  
Administrative Hearings and Trials Training (NETI CST207)

Advanced Administrative Practice Institute (NETI CST302)  
 Air Facility System (AFS) 101 (AIR104)  
 Air Inspector Workshop (EPA Region 5) (NETI AIR112)  
 Air Monitoring for Emergency Response  
 Air Monitoring for Hazardous Materials  
 Air Plume Maps, Basic Interpretation  
 Airborne Spectral Photometric Environmental Collection Technology (ASPECT)  
 Training  
 Apology - Is it a Tool for Conflict Prevention or Resolution???? (An Interactive Discussion Workshop)  
 Assessing Wetlands Loss/Conditions and Restoration (Internet-based seminar)  
 Benefits of Watershed-Based NPDES Permitting (Internet-based seminar)  
 Best Practices for Efficient Soil Sampling Designs  
 Bioavailability - Metals (Internet-based seminar)  
 CERCLA Financial Responsibility Training (NETI CER 105)  
 Chronic Effects and Toxicity of Contaminants to Organisms in Aquatic and Marine Systems (Case Studies in Environmental Toxicology)  
 Clean Air Act Enforcement/Permitting Workshop  
 Clean Water Act (CWA) Section 404 Training (NETI CWA103)  
 Clean Water Act/NPDES Computer-Based Inspector Training (WEB-Based) (NETI CWA904W)  
 Collecting and Handling of Water Samples for Trace Metal Analysis  
 Constructed Treatment Wetlands (Internet-based seminar)  
 Continuing Challenge Hazmat Workshop  
 CWA/NPDES Inspector "Train-the-Trainer" Course (NETI CWA306)  
 CWA-NPDES National Technical Inspector Workshop (NETI CWA211)  
 Data Quality Assessment Practical Methods for Data Analysis (Part 1 - Introduction)  
 Data Quality Objective Process Workshop  
 Data Quality Objectives (DQO) Managing Uncertainty and Systematic Planning for Environmental Decision Making  
 Data Validation Course  
 Decontamination and Decommissioning of Radiologically-Contaminated Facilities (Internet-based seminar)  
 Design, Installation and Monitoring of Alternative Final Landfill Covers (Internet-based seminar)  
 Detecting Deception in the Field  
 Effects and Management of Superfund Stress  
 Eight Tools of Watershed Protection in Developing Areas (Internet-based seminar)  
 Endangered Species Training (NETI FED101)  
 EnviroCrimes: A Clear and Present Hazard (CD-ROM) (NETI CRM901)  
 Environmental Dredging (Video Presentation)  
 Environmental Enforcement Negotiations Skills - The Basics (Video) (NETI CST805)  
 Environmental Justice "Train-the-Trainer" (NETI OEJ105)  
 EPA Emergency Response Planning Workshop for Small and Medium Drinking Water Utilities  
 EPA Region 4 Grant Writing Workshop (Internet-based seminar)

EPA-449 Incident Command System (ICS) Train-The-Trainer (TTT) Course  
 Evaluating Stormwater Technology Performance: Module 1 (Internet-based seminar)  
 Evaluating Stormwater Technology Performance: Module 2 (Internet-based seminar)  
 Field Sampling Techniques Workshop  
 Field-Based Analytical Methods for Explosive Compounds (Internet-based seminar)  
 Fundamentals of Environmental Justice (EJ) Workshop (U.S. EPA - Region 10)  
 Fundamentals of Environmental Justice Workshop (NETI OEJ104)  
 Fundamentals of Superfund On-line Course  
 Getting In Step: Developing Your Message and Publicizing it Effectively (Internet-based seminar)  
 Getting Started in Volunteer Water Quality Monitoring (Internet-based seminar)  
 Hazardous Waste Site Sampling (NETI RCR106)  
 Hazardous Waste Site Sampling (Region 4) (NETI CER202)  
 Health and Safety - 40 Hour  
 Identifying Exposure Pathways  
 Improper Practices at Environmental Labs: A Timely Training Topic for Compliance Inspectors (NETI TTT101)  
 Incorporating Environmental Justice Considerations into RCRA Permitting (NETI OEJ904)  
 Innovative Air Monitoring at Landfills Using Optical Remote Sensing with Radial Plume Mapping (Internet-based seminar)  
 Intermediate Predicting the Toxicity of Metals to Aquatic Organisms: An Introduction to the Biotic Ligand Model  
 Interpreting Non-Detect Data Correctly  
 Introduction to Aquatic Toxicology (Understanding Impacts of Organic Chemicals and Metals on Aquatic Ecosystems)  
 Introduction to ArcGIS 9 for Fisheries and Wildlife Biology Applications  
 Introduction to ArcHydro Managing and Mapping Hydrologic Data with ArcGIS  
 Introduction to Environmental Justice (Web-based training) (NETI OEJ901)  
 Introduction to Groundwater Investigations  
 Introduction to the Toolkit for Assessing Potential Allegations of Environmental Injustice (NETI OEJ903)  
 Introduction to Water Quality Assessments (Region 4)  
 Introductory Predicting the Toxicity of Metals to Aquatic Organisms: An Introduction to the Biotic Ligand Model  
 Jump-Starting Ecological Restoration (Internet-based seminar)  
 Jump-Starting Ecological Restoration - Soil Health (Internet-based seminar)  
 Kentucky Oil Wells Plugging (Video Presentation)  
 Key EPA Internet Tools for Watershed Management (Internet-based seminar)  
 NEPA and Air Impacts (NETI FED111)  
 NEPA Cross-Cutting Training (NETI FED108)  
 NIEHS/EPA Metals - Analytical Methods (Internet-based seminar)  
 NIEHS/EPA Metals - Bioavailability (Internet-based seminar)  
 NIEHS/EPA Metals - Remediation (Internet-based seminar)  
 Non-Detects and Data Analysis (Statistics for Censored Environmental Data)  
 NPDES Inspector Training (Region 4) (NETI CWA107)

NPDES Inspector Training Video: Conducting a Performance Audit Inspection of a  
 Laboratory (Video - NETI CWA805)  
 OEI Environmental Justice Training (NETI OEJ109)  
 Opportunities for Citizen Involvement in the Clean Water Act (Internet-based seminar)  
 Passive Sampling Workshop and Symposium  
 Permanent Relocation  
 Phytoremediation of Metals (Internet-based seminar)  
 Phytoremediation of Organics (Internet-based seminar)  
 Phytoremediation: The Potential is Growing (Internet-based seminar)  
 Phytostabilization of Mine Tailings in Arid and Semi-Arid Environments (Internet-based  
 seminar)  
 Phytotechnologies (Internet-based seminar)  
 Phytotechnologies - Mechanisms and Applications  
 Plan2Fund: A Tool to Organize your Watershed Funding (Internet-based seminar)  
 Psychological Effects and Community Stress: Community Stress Training for  
 Environmental Health Professionals - Section I - Overview (Net Web Conference  
 Training)  
 Psychological Effects and Community Stress: Community Stress Training for  
 Environmental Health Professionals - Section II - Chemical Disasters (Net Web  
 Conference Training)  
 Psychological Effects and Community Stress: Community Stress Training for  
 Environmental Health Professionals - Section III - Response Strategies to Acute  
 Exposures (Net Web Conference Training)  
 Psychological Effects and Community Stress: Community Stress Training for  
 Environmental Health Professionals - Section IV - Response Strategies to Chronic  
 Exposures (Net Web Conference Training)  
 Psychological Effects and Community Stress: Community Stress Training for  
 Environmental Health Professionals - Section V - Coping Skills for Health Assessors  
 (Net Web Conference Training)  
 Quality Assurance/Quality Control  
 Radiation Site Cleanup: CERCLA Requirements and Guidance (Internet-based seminar)  
 Revegetation with Native Plants (Video Presentation)  
 Sampling for Hazardous Materials  
 Sediment Remedies: Dredging - Technical Considerations for Evaluation and  
 Implementation (Internet-based seminar)  
 Superfund & Federal Facility Cross Program Revitalization Measures (CPRM)  
 Superfund 101  
 Superfund Relocation  
 Sustainable Funding for Watershed Groups (Internet-based seminar)  
 Temporary Relocation  
 Use of Bioavailability Information at Hazardous Waste Sites (Internet-based seminar)  
 Using Contaminant Information in Evaluating Water Contamination Threats and  
 Incidents  
 Waste Treatment, Transportation, and Disposal

**EPA's Response to Comment 22:** Although this comment is outside the scope of the AOC, EPA advises this commenter that many of the training sessions listed in Comment 22 are geared towards professional audiences involved in site cleanup activities. While some courses are open to the public as part of a broad spectrum of environmental education, many training opportunities are reserved specifically for federal and state regulators.

**Comment 23: Work to be Performed IX. Mid-term Strategic Objectives:**

- EPA should consult with the impacted community members also to figure out where the coal ash should be removed from the community
- Make sure to include impacted residents in any decisions about where the coal ash will be disposed of.

**Comment 24: Work to be Performed IX. Longer-term Strategic Objectives.** Make sure to include impacted residents in any decisions about where the coal ash will be disposed of.

**EPA's Response to Comments 23 and 24:** The Off-Site Options Analysis only covers coal ash disposal during the time-critical removal action. The EE/CA will specifically address ash disposal options during the mid-term and longer-term response actions, and a formal comment period will be provided on the EE/CA documents that propose any future disposal actions for coal ash addressed during the non-time-critical removal action.

In addition, the Roane County CAG will serve as a conduit for information to and from the community. All residents will be invited to comment on public documents through public notices appearing in local newspapers and on EPA's websites. EPA will prepare fact sheets and hold quarterly meetings to inform the public and take comments on the cleanup, including decisions regarding disposal of the coal ash from the cleanup.

**General Comments Regarding the Terms of the AOC**

*A number of commenters offered comments regarding the terms and provisions of the AOC. These comments are listed below, along with EPA's responses.*

**Comment 25:** To explain my concerns regarding this issue, I am a single mother, grandmother, community activist and friend to the victims and survivors of the Coal Ash Disaster of December 22, 2008. Since the EPA is asking for public comments relating to this "Order", following are my comments, opinions and challenges/changes I insist be made, on behalf of all my friends in Roane County.

First, be assured that I have read this Draft, all 32 pages. In my opinion this piece is nothing but a thinly disguised paper written by TVA lawyers to attempt to delay indefinitely the "plan" for TVA to "put the area back like before" as it claimed in January 2009. This Order allows **TVA to set dates, make rules in terms of purpose, plans and provide more empty promises.** In this letter I will put real people in the tragic story,



faces on those still sick, stressed about losing their homes or those forced to live in the toxic dump that is now Swan Pond Road or Swan Pond Circle or close by. **And I insist that this Order be upgraded to reflect the real truth about how TVA has NOT been responsible or answerable to date for this disaster.**

**EPA's Response to Comment 25:** EPA acknowledges this commenter's concerns. The AOC is an EPA "order" entered into through mutual agreement between EPA and TVA to expedite the cleanup at the Site; ensure that assessment and response actions satisfy all federal and state environmental requirements; and ensure that the cleanup is conducted in a manner that is protective of public health and the environment. In addition, the AOC specifies several specific deliverables and their associated due dates (see Paragraphs 28 and 30, for example). Thus, TVA is not allowed to set its own dates and plans, and is subject to stipulated penalties for failure to meet any established schedule (see Section XXVIII of the AOC – Stipulated Penalties). TVA is currently meeting all required deadlines.

Since execution of the AOC, removal of coal ash from the Emory River has accelerated by more than ten-fold under the time-critical phase of the cleanup, and work plans are being developed to arrive at an Engineering Evaluation/Cost Analysis (EE/CA) that will guide assessment, further cleanup, and restoration work to take place during the non-time-critical phase of the cleanup. Thus, work is well underway and will continue to proceed pursuant to an aggressive schedule.

**Comment 26: Page 3 of the Order states the true "Purpose"** of why TVA must have cover under EPA rules. It plainly illustrates this by the following statement: **"Actions undertaken by TVA...do not constitute any admission of any liability by TVA."** That says it all! And this is a brazen attempt by TVA to remove themselves from liability in this spill. But TVA is **most definitely** liable! For at least the last ten years, TVA's coal ash ponds have failed inspections but were never updated, corrected or fixed'...why? Because the managers did not want to spend the money..."it would cost too much"...this is why this pond collapsed. And this is also why the managers and emergency control folks refused to adequately test air, water or soil in the days and weeks following the spill. It was because they were afraid to learn the truth, or afraid the area would learn the worst...that the toxic sludge in every thing, rivers, coves, inlets, soil, and air was filled with pollutants and carcinogens! In fact TVA did not pay attention to the danger until the local community began to learn how sick many of their neighbors were. At the same time they learned that a "qualified community group", United Mountain Defense had been working to help its neighbors for some time. Beginning on December 23<sup>rd</sup>, the day after the catastrophe, volunteers from UMD started testing the river and soil and setting up air quality monitoring devices. They solicited funds to buy effective (three-filter respirators, took air quality training (**through the guidance of Global Community Monitoring**), and collected daily samples that were sent to legitimate, independent laboratories. They also asked for donations to provide funds for those most sickened to be tested for toxins and for appropriate medical treatment. These tests were done for over 30 individuals at a cost of \$500 each, and the test results proved these folks were suffering from exposure to this deadly mix. And today, UMD is **still testing air,**

**soil and water**...even though they have been threatened with jail and fines for telling the truth and even though some of their testing equipment has been ‘taken over’ by TVA illegally.

**EPA’s Response to Comment 26:** This comment appears to relate not to the work being required under the AOC, but to the alleged insufficiency of TVA’s management of its coal ash ponds and subsequent testing efforts in the aftermath of the December 22, 2008, release. With respect to TVA’s denial of liability in the AOC, this sentence is purely model language that is contained in every EPA AOC for removal or remedial work. It has no bearing on TVA’s obligation to perform the cleanup under the terms of the AOC.

The coal ash ponds at the TVA Kingston Fossil Plant (KIF) are operated under a permit issued by the Tennessee Department of Environment and Conservation (TDEC). Comments regarding alleged past compliance or non-compliance under the terms of the operating permits should be directed to TDEC. In addition, investigation into the failure of the ash ponds is being required under the TDEC Commissioner’s Order, issued on January 12, 2009.

EPA appreciates the efforts that UMD has undertaken in terms of sampling. However, EPA respectfully disagrees with the commenter relative to the contention that there was a refusal on the part of emergency response personnel to perform adequate sampling and monitoring in the days and weeks following the December 22, 2008, release. In the days and weeks immediately following the release to the present, EPA, TDEC, and TVA have all undertaken significant sampling of air, water, sediment, and ash material. Results from such sampling are available at the following websites:

(1) [www.epakingstontva.com](http://www.epakingstontva.com); (2) [www.tva.gov/kingston/index/html](http://www.tva.gov/kingston/index/html); and  
(3) <http://www.state.tn.us/environment/kingston/index.shtml>. For additional information regarding ongoing sampling efforts, please refer to EPA’s Response to Comment 32.

Comment 27: Page 1, 2<sup>nd</sup> Paragraph. The Order states that... “TVA is to provide for the safety of area residents, monitor and assess air and water quality in an immediate response”. This did not happen with the exception of two or three of those who became the sickest or whose homes were covered with the coal ash.

**EPA’s Response to Comment 27:** This comment refers to a “whereas” clause contained in Section I (Purpose) of the AOC. The statement is provided solely as background with the purpose of acknowledging TVA’s response actions in the immediate aftermath of the release. In the immediate aftermath of the spill, EPA joined TVA, TDEC, the Roane County Emergency Management Agency, and the Tennessee Emergency Management Agency in a coordinated response to the release. Extensive sampling was performed by both TVA and EPA of surface water, municipal water supply intakes, finished water, soils, private drinking water wells, air, soil, and coal ash, all to determine the appropriate response for the protection of public health and the environment. The AOC requires continued monitoring of air and water quality to ensure the safety of area residents. (See EPA’s Responses to Comments 31 and 32.)

**Comment 28: Page 1, 3<sup>rd</sup> Paragraph.** On February 4, 2009 TVA promised to provide a plan for disposal of the coal ash; however as of today's date (5/26/09), no plan has been announced by TVA, by truck or rail. We did learn, however, that TVA has sold some of the coal ash to **an area mulch company!** The article stated that a couple living nearby has filed suit, claiming that the landfill on the mulch company property poisoned their well water!

**EPA's Response to Comment 28:** Pursuant to Paragraph 28 of the AOC, TVA is required to submit an Off-Site Ash Disposal Options Analysis to EPA for review and approval within 15 days of approval of the time-critical Action Memorandum. TVA submitted this plan ahead of schedule and EPA approved it on July 2, 2009. Under the approved plan, coal ash removed from the area east of Dike 2 will be disposed of at the Perry County Arrowhead Landfill located in Perry County, Alabama. Rail has been selected as the preferred means of off-site transport of the coal ash and, as of August 14, 2009, more than 280,000 tons of ash have been transported off-site for disposal. The Off-Site Options Analysis is available for review at [www.epa.gov/kingston/index/html](http://www.epa.gov/kingston/index/html).

All ash being disposed of under the terms of the AOC must be pursuant to an EPA-approved plan. EPA has not approved the sale of any coal ash to any area mulch company and has confirmed that no ash from the Kingston Site has been sold to any mulch companies.

**Comment 29: Page 2, under "Purpose".** "TVA has been protecting public health, workforce and the environment." This is a false and distorted statement! There are still residents sickened by the toxic air in the immediate area. These are folks who cannot afford to move away. Many are senior citizens, renters, some with no transportation that cannot get away. TVA did buy up property around the area, just enough to create a 'restricted area' that TVA now owns; only those who live there and have a 'pass' can enter or leave. Also, they are not providing adequate respirators for their 'workforce' involved in the cleanup. (I could provide names and tell about victims still there but some are too afraid to speak out.) If this is TVA's idea of protecting the area and its survivors, well, it really did nothing to support this claim, a real contradiction in terms.

I would rather speak again about the work of the dedicated 'qualified community group', UMD. Rather, it was these courageous volunteers, not TVA, who led the survivors to become organized to help each other.

**EPA's Response to Comment 29:** This comment refers to a "whereas" clause contained in Section I (Purpose) of the AOC. The statement is provided solely as background with the purpose of acknowledging TVA's commitment to protecting the health and safety of the public and workers, and to protecting and restoring environmentally sensitive areas, and keeping the public and stakeholders informed and involved. The Work required under the AOC will help TVA fulfill this commitment. With respect to the portion of the comment referencing TVA's alleged failure to provide adequate respirators for its workforce involved in the cleanup, EPA directs the commenter to Paragraph 35 of the AOC, which requires that TVA's Health and Safety Plan be consistent with the

Occupational Safety and Health Administration (OSHA) provisions for response action worker safety and health found in 29 C.F.R. Part 1910. These regulations address when respirators are required during a cleanup.

Comment 30: Page 6. TVA is given (or gives itself!) 45 more days to create a plan to monitor air and water, a plan to address any health and safety hazard! UMD has been carrying out those immediate needs daily since 12/23/08.

**EPA's Response to Comment 30:** The comment is directed to a portion of Paragraph 14 of the "Findings of Fact" section of the AOC which references the work required by the TDEC Commissioner's Order issued on January 12, 2009. The 45-day deadline for submission of a Corrective Action Plan was a requirement of the TDEC Order and is not addressed by the EPA/TVA AOC. The TDEC Commissioner's Order is not subject to public comment during this EPA/TVA AOC comment period.

Comment 31: Page 7, Items 18 and 19. Question: What happened to all the arsenic and heavy metals found in the water in the Emory and Clinch Rivers right after the disaster? Even recently (2 weeks ago) the Knoxville News Sentinel had a front-page article about all the fish caught containing massive amounts of selenium...deadly to fish and aquatic life and toxic to humans in large amounts...where did it go, possibly into the Tennessee River? Watts Bar Lake?

**EPA's Response to Comment 31:** The coal ash released from TVA to the Emory River is known to contain measurable concentrations of a number of heavy metals, including, but not limited to, arsenic, cadmium, chromium, lead, and selenium. In the immediate aftermath of the spill, samples of water collected from the Emory River were found to contain elevated concentrations of metals, believed to be present because of suspended coal ash in the water column. Subsequent sampling events found decreasing amounts of suspended ash in the water, and showed metals concentrations below drinking water limits, thus demonstrating that as the ash settles out, water quality improves. Municipal water intakes nearest to the release site are the Kingston, Cumberland, and Rockwood water treatment plants (WTPs). Data derived from analysis of samples of treated water being provided to area residents from these WTPs were below federal Maximum Contaminant Levels (MCLs) for drinking water. Testing also confirmed that treated water at the Cumberland and Rockwood WTPs did not exceed any MCLs. A regular sampling program implemented by TDEC at the Kingston WTP is in place and has consistently demonstrated that treated water being produced at that facility meets state and federal drinking water standards.

One of the metals known to be contained in the coal ash is the element selenium. Concerns have been raised relative to the potential for selenium to be released into the Emory and Clinch Rivers as a result of the coal ash spill and subsequent dredging. Surface water monitoring for selenium and other metals is being conducted on a routine basis by TVA and TDEC. The Tennessee Wildlife Resources Agency (TWRA), TDEC, and TVA have conducted tissue sampling from fish collected in the Emory and Clinch Rivers, as well as from fish residing in the existing Coal Ash Stilling Pond at the

Kingston Plant. The results of those analyses are available on the TVA and TDEC websites which can be accessed at [www.tva.gov/kingston/index/html](http://www.tva.gov/kingston/index/html) and <http://www.state.tn.us/environment/kingston/index.shtml>. In summary, TDEC has concluded that there appears to be no pre-existing or current selenium toxicity problem within the Emory River. EPA does note, however, that there are fish consumption advisories that predate the coal ash spill for the Clinch River and portions of the Emory River for mercury and PCBs. TDEC advises that the public continue to follow the advice provided in the existing advisory.

On May 22, 2009, the Acting EPA Region 4 Regional Administrator, and the Acting Assistant Administrator of the Office of Solid Waste and Emergency Response (OSWER), directed the formation of an internal Science Review Panel to ensure that any selenium contamination that could potentially be released into the environment as a result of the spill or cleanup operations is thoroughly investigated and assessed for its impacts to human health, wildlife, and the ecosystem. Additionally, the U.S. Army Corp of Engineers Engineer Research and Development Center (ERDC) and the U.S. Geological Survey Columbia Environmental Research Center (CERC) are conducting studies to evaluate the short- and long-term impacts of coal ash on the geochemistry, water quality, and aquatic biota of the Emory River. The findings and recommendations of that panel will be made available to the public when its report is finalized.

**Comment 32: Page 10, “Short Term Strategies”.** These ‘strategies do not address air quality monitoring TODAY...or how TVA is preventing the dust from the dried and uncovered coal ash from polluting air in the area? What about the trucks covered with toxic sludge and dust? No mention of washing trucks leaving the site. **Where and how is TVA going to dispose of this toxic waste?**

**EPA’s Response to Comment 32:** The short-term strategic objectives referred to in this comment are the objectives of the time-critical phase of the cleanup. EPA recognizes that windblown ash poses a potential risk to public health and on-site workers. The health and safety of workers, the community, and protection of the environment are the primary objectives underlying implementation of removal operations at the Site. Consequently, air sampling and monitoring at the TVA Site began shortly after the coal ash release and are continuing during the time-critical removal action. Paragraph 28 of the AOC requires that TVA submit a Site Dust Control and Air Monitoring Plan within five days of Action Memorandum approval. This plan was submitted on August 14, 2009. The monitoring is being carried out primarily by TVA with EPA and TDEC oversight. To date, more than 60,000 air quality measurements have been performed in areas surrounding the Site. Particulate levels in the air have measured below the National Ambient Air Quality Standards (NAAQS) for these parameters. TVA has constructed five air monitoring stations in residential neighborhoods surrounding the Site and has developed a strategy for air monitoring throughout the duration of the cleanup. Extensive air monitoring is also being performed to assess air quality conditions for workers whose assigned tasks involve direct contact or close proximity to coal ash. Samples are collected to assess air quality conditions under a variety of work activities, including heavy equipment operators, truck drivers, laborers, and flaggers. This effort has included

collection of more than 3,000 integrated air samples which have been analyzed for total dust, respirable dust, crystalline silica, and metals. None of the results have exceeded currently established occupational exposure limits. Additional information regarding the air monitoring program can be found on the EPA, TVA, and TDEC websites at [www.epakingstontva.com](http://www.epakingstontva.com); [www.tva.gov/kingston/index/html](http://www.tva.gov/kingston/index/html); and <http://www.state.tn.us/environment/kingston/index.shtml>, respectively.

Aggressive dust suppression and control measures are being implemented at the Site to prevent fugitive emission of coal ash. Vehicles that enter portions of the Site where they come in contact with coal ash are required to pass through vehicle wash stations prior to exiting the Site, and all rail cars transporting coal ash off-site are covered to prevent air emission of ash during transport. The results of air monitoring within the work zone at the Site and in surrounding areas demonstrate that these dust control measures have been effective.

Please refer to EPA's Response to Comments 1-6 regarding off-site disposal of the coal ash.

**Comment 33:** One place TVA assumes it is safe from prosecution in this mess is that the EPA has not declared coal ash to be toxic waste. It has never been regulated because of the direct influence of coal ash and coal companies and their lobbyists in Congress, previous administrations or public power companies. This is another way TVA is writing its own "clean up Plan".

**EPA's Response to Comment 33:** Although the AOC acknowledges that coal ash is not currently regulated as a hazardous waste under the Resource Conservation and Recovery Act (RCRA), it does contain a number of heavy metals, including, but not limited to, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, and zinc, which are hazardous substances as defined under of Section 101(14) of CERCLA, 42 U.S.C. § 9601(14). See also EPA's Response to Comment 7. The management and disposal of coal ash generated from cleanup actions under the AOC are specifically governed by the terms of the AOC. Specifically, Paragraph 45 of the AOC only permits off-site disposal of coal ash from the cleanup into a landfill that is operating in compliance with RCRA Subtitle D permitting requirements for industrial wastes and which complies with the following requirements: use of a synthetic liner, leachate collection system, groundwater monitoring, financial assurance, and closure and post-closure care.

In terms of the future regulation of coal ash, EPA is currently evaluating new regulations governing coal combustion residuals and anticipates issuing proposed regulations by December 2009. Please refer to <http://www.epa.gov/osw/nonhaz/industrial/special/fossil/coalashletter.htm> for additional information regarding these efforts.

**Comment 34: Page 10, #27.** TVA did little or NO air quality monitoring until late February 2009, when it confiscated the new, professionally installed, legitimate air quality monitoring stations and equipment set up and paid for by donors to United

Mountain Defense. This is when TVA ‘restricted the contaminated area and began using UMD’s equipment as its own.

**EPA’s Response to Comment 34:** Please see EPA’s Response to Comment 32. EPA acknowledges the comment relative to the activities of United Mountain Defense, but has no additional response as the comment is not relevant to the AOC or AR for the AOC.

Comment 35: The “Health and Safety Plan”. This is nothing more than an attempt for TVA to submit samples to labs that will find results that TVA wants...and meanwhile, folks in the area are still sick, ill from breathing all the toxic dust. To date, TVA has NOT ensured the protection of the public health and safety; rather, conditions indicate the opposite.

**EPA’s Response to Comment 35:** The objective of the Health and Safety Plan is to assure that all work conducted during Site cleanup efforts is done as safely as possible with full consideration and awareness of potential risks. The goal of this plan is to conduct a cleanup and removal project with no injury or impairment to human health. Pursuant to Paragraph 35 of the AOC, TVA’s Health and Safety Plan must be prepared in accordance with EPA’s Standard Operating Safety Guide (PUB 9285.1-03, PB92-963414, June 1992). With respect to sampling, the AOC sets forth a number of requirements that its proposed laboratories must meet, including the requirement that laboratories have a documented Quality System that complies with ANSI/ASQC E-4 1994, “Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs” and “EPA Requirements for Quality Management Plans (QA/R-2) (EPA/240/B-01/002, March 2001), or equivalent documentation as determined by EPA. In addition, as part of EPA’s oversight of TVA’s quality assurance/quality control (QA/QC) and data validation procedures, EPA may require that any TVA-utilized laboratory analyze EPA samples for QA monitoring. EPA may also take split or duplicate samples, or any additional samples that EPA deems necessary at the Site. See Paragraph 36 of the AOC.

Comment 36: Question: Is TVA going to be allowed to use “force majeure” often and indefinitely to delay clean up efforts? LIKE, ‘too much rainfall’, ‘drought conditions’, etc?

**EPA’s Response to Comment 36:** Paragraph 69 of the AOC defines force majeure as “any event arising from causes beyond the control of TVA, or of any entity controlled by TVA, including but not limited to its contractors and subcontractors, that delays or prevents performance of any obligation under this Order, despite TVA’s best efforts to fulfill the obligation.” Force majeure could include “adverse weather conditions that could not have been reasonably anticipated,” so it is possible that TVA could assert a force majeure claim predicated on “too much rainfall” or “drought conditions.” However, the AOC does not permit a force majeure claim to indefinitely delay cleanup efforts. Any assertion of force majeure must be followed by a written explanation of the event, the anticipated length of the delay, measures taken to minimize the delay, the timetable for implementation of the measures, and TVA’s rationale for attributing such

delay to a force majeure event. An event will not be considered a force majeure event unless EPA agrees with TVA's assessment of the event. Even if EPA agrees that a delay is attributable to a force majeure event, the time period for performance of the obligation shall be extended only as deemed necessary by EPA (See Paragraph 71).

Comment 37: Roane County and Kingston Officials recently demanded that TVA give the Area \$1.9 million to pay a PR firm in Nashville to 'rebuild the area's reputation as a pristine tourist spot.' This is ridiculous. This would end up being another taxpayer supported waste as well as a PR Campaign based on half-truths, and concealing the dirty air and nasty rivers.

**EPA's Response to Comment 37**: EPA acknowledges this comment but offers no response as this is an issue outside the scope of the AOC and its associated AR. EPA directs the commenter to the Roane County and Kingston governments.

Comment 38: **The bottom line is this: EPA must make the rules, must provide NEW, strict guidelines, not based on 1990 regulations, but based on the size and scope of this environmental disaster...here...now. TVA is most certainly responsible, liable and accountable for this man-made toxic waste mess.**

**EPA's Response to Comment 38**: EPA believes that this commenter is referring to the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) rules that were finalized in 1990. These rules provide detailed requirements that can be applied to all releases of hazardous substances, without regard to the size of the cleanup. TVA has committed under the AOC to performing the cleanup at the Site under the terms of CERCLA and the NCP, and with EPA's oversight.

Comment 39: So to sum up:

- a. **For the testing plans, TVA must be told that other independent professionals such as UMD have equal access** to its monitoring and testing equipment. Then both sets of samples can be sent to separate labs for testing and the results of BOTH **must** be made public.

**EPA's Response to Comment 39.a**: Requiring that independent professionals and groups have access to TVA equipment is beyond the scope of EPA's authority under CERCLA. Note that EPA does have the authority, as discussed in Paragraph 36(c) of the AOC, to take split or duplicate samples, so there is an opportunity for independent EPA oversight and sampling.

- b. **The victims and survivors must be given attention, help and funds to seek additional medical help if needed...by TVA and by EPA. Their medical needs must be confirmed and met and their present and future living conditions must be taken care of.** These victims were NOT at fault! They have either been forced from their homes or they are forced to stay due to lack of



money or access to another safe home and environment. Many have been forced to file suit against TVA because they had no other choice.

**EPA's Response to Comment 39.b:** EPA acknowledges the comment, but offers no further response as this is an issue outside the scope of the AOC and AR for the cleanup. However, EPA advises this commenter that Oak Ridge Associated Universities (ORAU), in conjunction with Vanderbilt University Medical Center toxicology experts, are currently conducting free medical screenings for Kingston/Roane County residents affected by the December 22, 2008, release. A link to the ORAU Kingston Project is available at [www.epakingston.tva.com](http://www.epakingston.tva.com).

- c. Finally, there must be a clear answer from EPA to the question that TVA will not be able **to get all the lawsuits against it dismissed because of being covered under this EPA Order!**

Roane County, Kingston, the victims and survivors need answers from EPA...and TVA **now!**

**EPA's Response to Comment 39.c:** EPA is not a party to any pending lawsuit against TVA and cannot speak to any legal issues surrounding such lawsuits. The court will determine how, if at all, the EPA AOC affects the pending lawsuits.

Comment 40: That this administrative order deviates significantly from CERCLA; it is unclear to me what role CERCLA serves in structuring cleanup efforts.

**EPA's Response to Comment 40:** CERCLA provides the sole authority for the issuance of the AOC, and the AOC is specifically issued under the authority of Sections 106(a) and 107 of CERCLA. The AOC follows EPA's model removal agreement, but is actually more comprehensive as it covers several phases of cleanup that might generally be addressed through separate orders. In addition, the AOC requires that all aspects of the cleanup be consistent with CERCLA and the NCP.

Comment 41: I am concerned with how the boundaries of the disaster and ownership of land are defined in the Order. I am very concerned that the Order does not address the problem of work trucks tracking sludge all over the roads and roadsides as they exit the work site. This is a critical and timely issue for the local community.

**EPA's Response to Comment 41:** The AOC defines "Site" to include those areas of the TVA Kingston Fossil Fuel Plant where "Waste Material" from the December 22, 2008, release has been deposited, stored, disposed of, or placed, or has migrated or otherwise come to be located. "Waste Material" includes all wastes related to the December 22<sup>nd</sup> release or generated in connection with response actions related thereto. Although the NCP does not contain a definition for "site," it does define "on-site" to include "the areal extent of contamination and all suitable areas in very close proximity to the contamination necessary for implementation of the response action." 40 C.F.R. § 300.5.

Thus, Site is defined broadly and is intended to cover all areas where hazardous substances from the release have come to be located, notwithstanding property boundaries.

In terms of this commenter's concern about work trucks exiting the work site, please see EPA's Response to Comment 32.

Comment 42: I am concerned that the health impacts of the disaster are not sufficiently addressed.

Comment 43: I am writing about Docket No. CERCLA-04-2009-3766. I spent several weeks in December and January documenting the TVA coal ash disaster. I am very concerned about the health impacts on local and downstream residents. It is clear to me that this disaster will cause death and disease in the region, but no one has come right out and said this.

**EPA's Response to Comments 42 and 43:** The health and safety of workers, the community, and protection of the environment are the primary objectives underlying implementation of cleanup operations at the Site. The EE/CA Work Plan will comprehensively and quantitatively assess the potential hazards to human health posed by the coal ash. Risks to both current and potential future receptors will also be evaluated. The EE/CA will include a risk analysis that will be based on analytical data collected from coal ash, surface water, sediment, and fish tissue.

In addition, the Tennessee Department of Health is currently preparing a Public Health Assessment regarding the release, with assistance and review from the Agency for Toxic Substances and Disease Registry (ATSDR). For additional information regarding this Public Health Assessment, refer to <http://health.state.tn.us/coalashspill.htm>.

Comment 44: I am concerned that the Administrative Order does not specify how monitoring will be conducted.

**EPA's Response to Comment 44:** AOCs are not meant to detail every facet of a response action. Rather, they memorialize the jurisdiction and factual basis on which the Order is based and define the objectives of the work to be performed, the work plans and reports that shall be developed, and the time frames within which deliverables such as work plans and reports shall be submitted. In terms of specific requirements regarding monitoring, the AOC allows TVA to proceed with sampling in accordance with its "KIF Fly Ash Pond Incident Environmental Sampling Plan" (approved February 2009), and requires the submittal of both a "Site Dust Control and Air Monitoring Plan" and a "Surface Water Monitoring Plan for the Emory, Clinch and Tennessee Rivers" (Paragraphs 27-28). These work plans will detail the specific requirements for monitoring the various media and are subject to EPA review and approval. All work plans governing Site cleanup actions are available at [www.epakingstontva.com](http://www.epakingstontva.com).

**Comment 45: The EPA Should Require TVA to Perform a Timely Preliminary Assessment.** As a threshold matter, the EPA should require TVA to perform as soon as possible a Preliminary Assessment pursuant to Section 120(d) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. § 9620(d). According to paragraph 30 of the AOC, TVA is required to perform a Preliminary Assessment only *after* completion of both the time-critical and non-time-critical removal actions. Section 120, however, contemplates that a Preliminary Assessment will [be] completed in a timely fashion after the EPA is notified of the release and/or after the listing of the federal facility site on the Federal Agency Hazardous Waste Compliance Docket pursuant to Section 120(c). 42 U.S.C. § 9620(c).

It is critical to complete a Preliminary Assessment in a timely manner because the completion of the assessment will trigger the requirement to evaluate the site in accordance with the Hazard Ranking System established under the National Contingency Plan. 42 U.S.C. § 9620(d)(1)(A). The delay in performing a Preliminary Assessment until substantial cleanup has already been performed will prevent the Hazard Ranking System results from reflecting the severity of conditions at the Site. Consequently, this after-the-fact assessment is likely to result in the inability to list the site on the National Priority List, even if that listing was wholly warranted by current site conditions. According to the EPA's current guidance on the Hazard Ranking System, the scoring of the site should occur no later than 18 months after the site was placed on the Federal facilities docket or after the release was reported to EPA. See Hazard Ranking System Guidance Manual, Chapter 2: Policy and Statutory Issues, found at <http://www.epa.gov/superfund/sites/npl/hrsres/hrsgm/ch2.pdf> (last checked July 7, 2009).

Consequently, we recommend strongly that the EPA instruct TVA to conduct a Preliminary Assessment as soon as possible and that the EPA promptly evaluate the site pursuant to the Hazard Ranking System based on the results of the Preliminary Assessment.

**EPA's Response to Comment 45:** EPA appreciates this commenter's concern regarding a Preliminary Assessment at the Site and evaluation under the Hazard Ranking System. EPA refers this commenter to the attached June 19, 2009, letter to the commenter regarding this same issue. Section 120(d)(3) of CERCLA requires that a preliminary assessment (PA) "be completed in accordance with a reasonable schedule established by the Administrator." In addition, Paragraph 31 of the AOC specifically requires that TVA conduct a preliminary assessment at the end of removal activities. Based on the results of the PA, EPA will determine whether further investigatory work, and, potentially, NPL listing, is appropriate to address any residual contamination that may remain after the removal work is complete. In addition to the AOC requirement, EPA retains its authority to proceed with an HRS evaluation and possible NPL listing at any time should the Agency determine, for any reason, that such action is warranted. Given the nature of the cleanup and the enhanced public participation that is being provided under the AOC, EPA believes that the removal approach is the appropriate one at this time for the Kingston spill Site.

**Comment 46: The AOC's Conditions Concerning Off-Site Shipments and Other Disposal of Waste Material Are Not Sufficient to Protect Human Health and the Environment.**

a. The Terms of the AOC are Unclear. According to paragraph 45 of the AOC, TVA shall not permanently dispose of any waste material at an off-site facility, or in a new landfill on-site, unless that facility or landfill is:

operating in compliance with *RCRA Subtitle D permitting requirements for operation and disposal of industrial wastes* which, at a minimum, shall include the use of a synthetic liner, leachate collection system, groundwater monitoring, financial assurance, and closure and post-closure care.

(Emphasis added.) This requirement is confusing because RCRA Subtitle D “requirements” pertaining to use of liners, leachate collection systems, groundwater monitoring, etc. apply only to municipal solid waste landfills. There are no RCRA Subtitle D permitting requirements for industrial waste. Comprehensive municipal solid waste landfill requirements are found at 40 C.F.R. Part 258. RCRA Subtitle D “requirements” for disposal of industrial waste are found in 40 C.F.R. Part 257, and they do not require use of liners, leachate collection systems, groundwater monitoring, financial assurance, or closure and post-closure care. Thus, this section, as a start, should be clarified to indicate that only landfills that comply with the guidelines applicable to municipal solid waste landfills set forth in 40 C.F.R. Part 258 can be *considered* for disposal of waste materials from the site.

**EPA's Response to Comment 46.a:** The commenter is correct that the requirements for municipal solid waste landfills in Part 258 represent the minimum standard applied to the disposition of the TVA Kingston coal ash. The reference to permitting requirements for industrial wastes was intended to recognize that certain states may choose to develop more stringent requirements for industrial wastes that could apply to the Kingston ash. However, the AOC makes clear that notwithstanding applicable permitting requirements, no off-site disposal of Waste Material will be allowed unless it is to a facility or landfill that has a synthetic liner, leachate collection system, groundwater monitoring, financial assurance, and closure and post-closure care.

b. The AOC should require that any landfills accepting waste materials from the site provide safeguards tailored to the threats posed by coal combustion waste. In addition to requiring all landfills accepting waste materials from the Site be in compliance with 40 C.F.R. Part 258, the AOC should require additional safeguards tailored to protect human health and the environment from the specific threats posed by coal ash. At a minimum, landfills accepting coal ash for disposal must (1) take measures to minimize the creation of fugitive dust during transport to the landfill, during off-loading, and while the waste is stored or disposed at the landfill; (2) maintain a groundwater monitoring system whose sampling

parameters include hazardous constituents common to coal combustion waste, such as antimony, boron, molybdenum and sulfate—these constituents are often not included in the list of monitoring parameters at Subtitle D landfills and the latter three of these are not being analyzed for in most of the water monitoring data contained in the Administrative Record; and (3) comply with location restrictions that include prohibition of storage and disposal of ash in floodplains, wetlands, seismic impact zones, fault areas, or unstable areas, as defined in 40 C.F.R. §§ 258.11-15. There is no documentation in the Administrative Order that a comprehensive dust monitoring system, with clear and sufficiently protective provisions, is in place today despite the onset of the summer at the Kingston site. Indeed there is no documentation in the Administrative Record that offsite shipments of ash are even being covered.

**EPA’s Response to Comment 46.b:** EPA will address each of this commenter’s proposed safeguards in turn. First, with respect to the minimization of fugitive dust during transportation and off-loading, storage and disposal, the Off-Site Options Analysis discusses the processes which will be followed to address these issues, including the use of railcar liners and burrito wraps. With respect to groundwater monitoring and location restrictions, the Arrowhead Landfill is an existing state-of-the-art landfill that meets all Alabama Department of Environmental Management (ADEM) permitting requirements. As such, EPA believes it is sufficient for the ultimate disposal of this ash material.

Finally, with respect to dust monitoring, TVA submitted a Site Dust Control and Air Monitoring Plan on August 14, 2009, in accordance with the terms of the AOC. In addition, aggressive dust suppression and control measures are already being implemented at the Site to prevent fugitive emission of coal ash. Vehicles that enter portions of the Site where they come in contact with coal ash are required to pass through vehicle wash stations prior to exiting the Site, and all rail cars transporting coal ash off-site are covered to prevent air emission of ash during transport. The results of air monitoring within the work zone at the Site and in surrounding areas demonstrate that these dust control measures have been effective.

- c. The AOC should prohibit disposal of waste materials from the Site in surface impoundments.

The AOC should require dry disposal of all coal ash removed from the Site in an engineered landfill, as that term is defined under RCRA Subtitle D. The AOC currently does not prohibit the disposal of waste removed from the Site into ponds or surface impoundments. To ensure that public health and the environment are protected from future releases of hazardous constituents from the coal ash, it is essential to clearly and effectively prohibit wet disposal of the ash. The AOC leaves the door open for TVA to permanently dispose of the coal ash “to an existing landfill on-Site,” pending EPA approval. The onsite “landfill” permitted by TDEC at the TVA site, which on December 22, 2008 released over 5 million

tons of waste, was, in fact, a *surface impoundment*. Thus it is unclear what the AOC is referring to when it states that waste material could be permanently disposed in an “existing landfill on-Site.” The AOC must be clarified to indicate that any future onsite disposal may only be allowed in dry landfills.

**EPA’s Response to Comment 46.c:** Paragraph 45 of the AOC states that if TVA proposes to dispose of waste material in an existing landfill on-site, it must satisfy both TDEC and EPA that such disposal complies with all state permitting requirements, and is otherwise protective of human health and the environment. During the EE/CA process, EPA will evaluate a range of coal ash disposal options that will involve on-site, off-site, and a combination of on-site/off-site coal ash disposal alternatives. EPA will work closely with TDEC during the EE/CA process to fully evaluate and consider all important design and construction parameters for any on-site ash disposal. The public will have an opportunity to review the proposed disposal option(s) as part of the Action Memoranda for the non-time-critical removal action(s).

d. The AOC should clarify the standards applicable to waste materials disposed on-site in existing landfills. The AOC must impose clear standards for any on-site disposal of coal combustion waste from this site to protect the community from further devastation to human health or the environment from such disposal. In paragraph 45, the AOC states:

If TVA proposes to permanently dispose of any Waste Material to an existing landfill on-Site, it must satisfy both TDEC and EPA that such disposal *complies with all state permitting requirements* and is otherwise protective of human health and the environment.

(Emphasis added.) This provision is insufficient to protect human health and the environment because Tennessee permitting requirements for coal ash landfills and surface impoundments, as applied by the Tennessee Department of Environmental Conservation (TDEC) pursuant to its guidance documents, are insufficient to protect health and the environment.

According to Tennessee law, coal combustion waste may be placed in a Class I or a Class II landfill. Tenn. Comp. R. & Regs. 1200-1-7-.01(3)(a) & (b). Class I landfills require a greater level of environmental controls than Class II landfills. In practice, coal combustion waste in Tennessee, when disposed in landfills, is disposed largely, if not entirely, in Class II facilities.

Further, any standard or requirement in the Tennessee solid waste regulations may be waived by the TDEC commissioner “if the [disposal unit] operator can demonstrate . . . that the standard is inapplicable, inappropriate, or unnecessary to his facility, or that it is equaled in effect by alternative standards or requirements.” Tenn. Comp. R. & Regs. 1200-1-7-.01(5). For example, Tennessee regulations require that Class I and II facilities must have composite liners and leachate

collection systems. However, composite liner requirements have been waived for nearly every coal combustion waste landfill in the state. Further, according to TDEC's 2006 *Solid Waste Program Policy and Guidance Manual*, coal combustion waste disposed in a Class II landfill requires *no* leachate collection system. See Document 93, TDEC, *Solid Waste Program Policy and Guidance Manual* 105 (Oct. 2006), attached as Attachment A [see below]. In addition, Tennessee regulations require Class I and II facilities be constructed with a buffer having a (1) "maximum hydraulic conductivity of  $1.0 \times 10^{-5}$  cm/s" measuring at least 10 feet from the bottom of the liner to the seasonal high water table, (2) "maximum hydraulic conductivity of  $1.0 \times 10^{-6}$  cm/s" measuring at least 5 feet from the bottom of the liner to the seasonal high water table, or (3) "other equivalent or superior protection," Tenn. Comp. R. & Regs, 1200-1-7-.04(4)(a)2(iii) & 1200-1-7-.04(4)(a)4; 1200-1-7-.04(4)(b). However, according to TDEC's *Solid Waste Program Policy and Guidance Manual*, coal combustion waste disposed of in a Class II facility requires only a 3-foot buffer from the base of the fill to the seasonal high water table with a maximum hydraulic conductivity of  $1.0 \times 10^{-6}$  cm/s and requires no collection of leachate, despite the diminished buffer requirement. *Id.* Lastly, the *Solid Waste Program Policy and Guidance Manual*, also allows final cover at a coal combustion waste landfill to consist of only "24 inches of compacted soil." *Id.* While it is not clear whether TDEC's 2006 manual is still in effect after the massive spill in Kingston, its policies have driven the sufficiency of safeguards at all coal ash landfills built prior to 2009 including the lax Class II safeguards that were in place for the wet dredge dewatering cell that collapsed at the Kingston Plant.

Furthermore, Tennessee regulations do not require *any* basic safeguards at coal combustion waste surface impoundments. The regulations are completely absent of any requirements to install liners, covers, leachate collection systems, groundwater monitoring or to maintain financial assurance, closure plans, etc. Coal ash surface impoundments are subject only to safety requirements mandated by individual permits and the Clean Water Act.

Thus, the requirement in the AOC that disposal of the waste materials occur in an existing onsite landfill that "complies with all state permitting requirements" does not guarantee protection of health and the environment. EPA should set out in the AOC that such existing onsite landfills must comply with specific safeguards concerning isolation from groundwater, liners, monitoring, leachate collection, final cover, financial assurance, post-closure care, etc., that will be sufficient to ensure protection of health and the environment.

ATTACHMENT A  
TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
Division of Solid Waste Management  
FOSSIL FUEL FLY ASH AND BOTTOM ASH DISPOSAL WITHIN A CLASS II  
FACILITY POLICY

The purpose of this policy is to establish the criteria by which fossil fuel fly and bottom ash may be disposed of in a Class II facility:

1. The geologic buffer required will be 3 feet in total thickness with a maximum hydraulic conductivity of  $1 \times 10^{-6}$  cm/sec. The thickness will be measured from the base of the fill to the seasonal high water table of the uppermost unconfined aquifer, or the top of the formation aquifer;
2. No leachate migration control system will be required;
3. No gas migration control system will be required;
4. The final cover shall be 24 inches of compacted soil with a minimum of 6 inches which shall support vegetative cover; and
5. No random inspection program will be required.

Any variance to the Class II facility permit criteria will require the Commissioner's approval.

(Signature on File) \_\_\_\_\_ 9-7-01 \_\_\_\_\_

Mike Apple, Director Date  
Division of Solid Waste Management  
policy/notebook/pn093  
Revision 1: September 2001

**EPA's Response to Comment 46.d:** EPA intends to work closely with TDEC and TVA during the EE/CA process to fully evaluate and consider all important design and construction parameters associated with on-site and/or off-site disposal alternatives for recovered coal ash. Response actions selected under CERCLA must provide for the protection of human health and the environment. The public will have an opportunity to review the proposed disposal option(s) as part of the Action Memoranda for the non-time-critical removal action(s).

e. The AOC should explicitly require that relevant groundwater contamination pathways be assessed and identified contamination abated at the Kingston site.

Even if surface waters and the aquatic ecosystem damaged by this spill are remediated, as a practical matter, the AOC will not be successful in remediating damage from coal ash if its provisions are not expanded to explicitly address the potential, if not probable, pollution of groundwater resources that may be occurring as a result of many decades of disposal of wet ash in unlined surface impoundments at the Kingston site. As part of ensuring that a major release of hazardous substances to the environment in contravention of Superfund and RCRA does not continue, the AOC should explicitly require a comprehensive



characterization of groundwater resources underneath all ash storage and disposal facilities including the cell that collapsed so that a competent monitoring system can be established to remediate any residual contamination and protect underground water supplies and any hydrologically connected surface waters from further degradation. If CCW dewatering, storage and disposal units are located over karst geologic terrain as has been reported, the potential for rapid migration of contaminants from the site could be high and the ability to monitor and abate that contamination may be difficult. Token “snap shot” sampling of residential water wells near the site and surface water sampling that is addressed in the Administrative Record, without understanding of groundwater flow systems and their interconnections with surface waters at this site is of marginal value to achieving the genuine remediation objectives stated or implied in Sections IX, XII, XVII, XVIII, XXX, XXXII, and XXXVIII among other Sections of the AOC. At a minimum, without a complete assessment of groundwater resources and abatement of groundwater contamination as well as surface water pollution that may be occurring from decades-old lax management of CCW at the Kingston site, the requirement in Section XXXVIII, “NOTICE OF COMPLETION” to demonstrate in paragraph 101 that, “b) The site is protective of human health and the environment;” cannot be met.

**EPA’s Response to Comment 46.e:** Shallow groundwater movement within the Site locality is generally from upland areas to adjacent stream valleys with groundwater ultimately discharging to streams and springs. Measurement of hydraulic head from on-site monitoring wells indicates that underlying groundwater likely discharges to the Emory River, its tributaries or to springs. The primary effect of the ash release on local groundwater resources would be infiltration of ash leachate below ash impact areas along the Emory River. Preliminary review of available water supply data indicates that most, if not all, of the water supply wells and springs in the Site locality are situated upgradient of the ash-impacted land.

Groundwater detection monitoring at the ash dredge cell facility has been conducted by TVA as a requirement of TDEC’s solid waste permit since June 2005. The facility remains in compliance with the detection monitoring program per the solid waste processing and disposal Rule 1200-1-7-.04(3). TDEC has collected samples from private drinking water wells within a four-mile radius of the Site for metals. To date, nearly 100 wells have been sampled and results have not indicated exceedances of the maximum contaminant levels (MCLs) for metals. In addition, an EPA contractor collected samples from three nearby residential wells. As with the TDEC data, all results were below the drinking water standards. EPA will evaluate the need for further groundwater assessment at the Site during the review of the draft EE/CA Work Plan.

**Comment 47: The Jurisdictional Assessment Should Be Open for Public Comment.** Paragraph 34(b) of the AOC requires TVA to comply with Clean Water Act Section 404(b)(1) guidelines to restore waters of the United States to the functional level

occurring prior to the ash release. Further, in order to identify the full extent of response activities necessary to meet this applicable or relevant and appropriate requirement (ARAR), the AOC requires TVA to conduct a jurisdictional assessment of the Site, which will identify all waters of the United States impacted by the release. According to the AOC, this assessment shall be performed by an independent environmental management professional or other expert deemed qualified by the EPA, and it shall include mapping and physical inspection of affected banks, streambeds and adjoining shorelines of all impacted areas. Further, as part of the jurisdictional assessment,

TVA shall identify the mechanisms of mobilization and deposition of the ash material in the surface water bodies and adjacent riparian areas affected by the release and identify locations and depths of the ash in these water areas and the changes in these parameters over an appropriate period of time, as determined by field measurements. This assessment shall also include an evaluation of the impacts to habitats due to the release, and prediction of future impacts to aquatic species upon re-suspension and deposition of ash.

AOC, paragraph 34(b). This jurisdictional assessment constitutes a critical step in defining the extent of the contamination and scope of the future cleanup. Based on the results of the assessment, TVA will propose final cleanup criteria that address removal of ash from stream/slough/river beds, banks, floodplains, adjacent wetlands and the shorelines adjoining navigable waters, replanting of the riparian zone, and compensatory mitigation for any permanent loss to waters of the United States.

The size of this spill was unprecedented, and the contamination resulting from it is likely to be pervasive, extending for many miles downriver. Because the jurisdictional assessment plays such a critical role in the decision-making process at the Site, the preparation of the jurisdictional assessment should be conducted with great transparency. The AOC should be amended to require publication of a draft jurisdictional assessment, the holding of a public meeting to explain the methodology and results, and an opportunity for the public to submit comments to TVA and EPA on the draft assessment. The AOC should also state that third party data from the monitoring of the effects of the spill and dredge activities should be considered in the draft assessment so that the final jurisdictional assessment will include all relevant data on the extent of the contamination of water, soils, sediment, and aquatic life.

**EPA's Response to Comment 47:** The jurisdictional assessment is considered an integral component of the non-time-critical removal action. The jurisdictional assessment will be completed within the EE/CA process and, as such, the public will have the opportunity to submit comments to TVA and EPA. Concurrent with the EE/CA process, EPA has encouraged TVA to establish a separate Natural Resource Trustee Council so damages to trust resources can be defined, and compensatory mitigation can be determined. EPA also plans to hold public meetings at critical decision points in the EE/CA process, including the jurisdictional assessment. See EPA's Response to Comment 19.

**Comment 48: The AOC Should Require a Date Certain for Completion by TVA of the Structural Integrity Assessments of Other TVA Facilities.** Paragraph 33 of the AOC requires TVA to conduct assessments of all of its existing coal ash impoundments located at its eleven (11) coal-fired power plants, including analyses of the structural integrity of such impoundments. The AOC, however, provides no date by which these assessments must be completed. The AOC should set a date for completion of this critical task and require that this information be made available to the public on TVA's website upon completion.

**EPA's Response to Comment 48:** Paragraph 33 of the AOC does not "require" TVA to conduct assessments of its existing coal ash impoundments. Rather, this Paragraph of the AOC simply acknowledges that TVA is undergoing this evaluation and requests that it cooperate and share its findings with EPA. As a result, no deadline is provided. Information regarding the status of TVA's ash impoundment assessment can be found at [www.tva.gov/power/storage/index.htm](http://www.tva.gov/power/storage/index.htm). According to a July 16, 2009, TVA Fact Sheet, TVA has targeted summer 2010 for the completion of the comprehensive engineering and structural analysis of all of its storage impoundments. See [www.tva.gov/power/storage/EPA\\_Fact\\_Sheet.pdf](http://www.tva.gov/power/storage/EPA_Fact_Sheet.pdf). The Tennessee Department of Environment and Conservation (TDEC) also required a comprehensive review of all TVA coal ash impoundments located within the State of Tennessee. On June 24, 2009, TVA completed its "Report of Phase 1 Facility Assessment: Coal Combustion Product Impoundments and Disposal Facilities, Various Locations, Tennessee," which includes the results of the assessments for TVA's eight plants in Tennessee, along with recommendations for further evaluation. This report is available at <http://tennessee.gov/environment/kingston/pdf/tva/StantecPhaseIReport.pdf>.

**Comment 49: Under part IX, "Work to be performed", #26 and 27,** EPA/TVA cannot designate short-term, mid-term, and long-term strategic objectives. This constitutes a violation and/or subversion of law under CERCLA/SUPERFUND. According to "A legislative history of the superfund amendments and reauthorization act of 1986" (P.L. 99-499) vol. 6 & 7, there are two recognized actionable stages under CERCLA/SUPERFUND law: a remedial stage and an emergency stage. According to this document, an emergency stage can be funded at the level of up to the amount two million dollars (\$2,000,000) and/or 12 months in duration. EPA/TVA "short-term, mid-term, and long-term strategic objectives" are in effect a subversion of CERCLA/SUPERFUND law, as the actions they propose must meet the classifications under CERCLA/SUPERFUND as either remedial or emergency actions. Projects either in excess of the two million dollar limit, or which will not be complete by the 12-month cutoff (or both) must be considered *REMEDIAL* actions, with the attendant adherence to the full letter of CERCLA/SUPERFUND law. EPA/TVA must list all actions to be undertaken, their lifetime budgets, and their classifications as either *EMERGENCY* or *REMEDIAL* actions. EPA/TVA must hold **immediate public hearings** under CERCLA/SUPERFUND; EPA and TVA must provide a reasonable opportunity for submission of written and oral comments and an opportunity for a public meeting at or near the facility at issue regarding the proposed plan and regarding any proposed findings under section 9621(d)(4). The President or the State shall keep a transcript of the meeting

and make such transcript available to the public. The notice and analysis shall include sufficient information as may be necessary to provide a reasonable explanation of the proposed plan and alternative proposals considered. Additionally, notice of the final remedial action plan adopted shall be published and the plan shall be made available to the public before commencement of any remedial action. Such final plan shall be accompanied by a discussion of any significant changes (and the reasons for such changes) in the proposed plan and a response to each of the significant comments, criticisms, and new data submitted in written or oral presentation. EPA and TVA have thus far provided for comment periods of inadequate length. We demand that the comment period be extended to allow for a reasonable opportunity for submission of written and oral comments by the affected and interested public. All notices of comment periods and public hearings must be published in publically-available newspapers and media outlets, with evidence of such published media put on file and made available to public scrutiny. All data collected and data collection procedures by EPA/TVA must be made available to the public and subject to public commentary. EPA/TVA must offer immediate, free blood/fecal/urine testing for all affected residents of the TVA ash disaster. EPA/TVA must immediately implement surface monitoring and air monitoring on the ash disaster site as well as to all potentially affected downstream water users (agricultural, municipal, residential). EPA/TVA must immediately publish and/or make available the administrative record for all actions thus far, without waiting for approval.

Comment 50: **Under part IX, “Work to be performed”, #28**, EPA/TVA are attempting to define “time-critical removal actions”. This constitutes a violation and/or subversion of law under CERCLA/SUPERFUND. According to “A legislative history of the superfund amendments and reauthorization act of 1986” (P.L. 99-499) vol. 6 & 7, there are two recognized actionable stages under CERCLA/SUPERFUND law: a remedial stage and an emergency stage. According to this document, an emergency stage can be funded at the level of up to the amount two million dollars (\$2,000,000) and/or 12 months in duration. EPA/TVA “time-critical removal actions” are in effect a subversion of CERCLA/SUPERFUND law, as the actions they propose must meet the classifications under CERCLA/SUPERFUND as either remedial or emergency actions. Projects either in excess of the two million dollar limit, or which will not be complete by the 12-month cutoff (or both) must be considered *REMEDIAL* actions, with the attendant adherence to the full letter of CERCLA/SUPERFUND law. EPA/TVA must list all actions to be undertaken, their lifetime budgets, and their classifications as either *EMERGENCY* or *REMEDIAL* actions. EPA/TVA must hold **immediate public hearings** under CERCLA/SUPERFUND; EPA and TVA must provide a reasonable opportunity for submission of written and oral comments and an opportunity for a public meeting at or near the facility at issue regarding the proposed plan and regarding any proposed findings under section 9621(d)(4). The President or the State shall keep a transcript of the meeting and make such transcript available to the public. The notice and analysis shall include sufficient information as may be necessary to provide a reasonable explanation of the proposed plan and alternative proposals considered. Additionally, notice of action shall be published and the plan shall be made available to the public before commencement of any remedial action. Such a plan shall be accompanied by a discussion of any significant changes (and the reasons for such changes) in the proposed plan and a response to each of

the significant comments, criticisms, and new data submitted in written or oral presentation. All notices of comment periods and public hearings must be published in publically-available newspapers and media outlets, with evidence of such published media put on file and made available to public scrutiny. We request a full environmental impact statement (EIS). EPA/TVA's arbitrary 5-day action memorandum approval, 15-day action memorandum approval, and 45-day action memorandum approval are unacceptable: EPA/TVA must hold **immediate public hearings** under CERCLA/SUPERFUND; EPA and TVA must provide a reasonable opportunity for submission of written and oral comments and an opportunity for a public meeting at or near the facility at issue regarding the proposed plan and regarding any proposed findings under section 9621(d)(4). The President or the State shall keep a transcript of the meeting and make such transcript available to the public. The notice and analysis shall include sufficient information as may be necessary to provide a reasonable explanation of the proposed plan and alternative proposals considered. Additionally, notice of action shall be published and the plan shall be made available to the public before commencement of any remedial action. Such a plan shall be accompanied by a discussion of any significant changes (and the reasons for such changes) in the proposed plan and a response to each of the significant comments, criticisms, and new data submitted in written or oral presentation. All notices of comment periods and public hearings must be published in publically-available newspapers and media outlets, with evidence of such published media put on file and made available to public scrutiny. No actions should be considered or undertaken without this vital public commentary/feedback period, unless they are part of EMERGENCY actions under CERCLA/SUPERFUND, which follow law and provide a reasonable opportunity for submission of written and oral comments and an opportunity for a public meeting at or near the facility at issue regarding the proposed plan and regarding any proposed findings.

Comment 51: Under part IX, "Work to be performed", #30-31, EPA/TVA are attempting to define "non-time-critical removal actions". This constitutes a violation and/or subversion of law under CERCLA/SUPERFUND. According to "A legislative history of the superfund amendments and reauthorization act of 1986" (P.L. 99-499) vol. 6 & 7, there are two recognized actionable stages under CERCLA/SUPERFUND law: a remedial stage and an emergency stage. According to this document, an emergency stage can be funded at the level of up to the amount two million dollars (\$2,000,000) and/or 12 months in duration. EPA/TVA "non-time-critical removal actions" are in effect a subversion of CERCLA/SUPERFUND law, as the actions they propose must meet the classifications under CERCLA/SUPERFUND as either remedial or emergency actions. Projects either in excess of the two million dollar limit, or which will not be complete by the 12-month cutoff (or both) must be considered *REMEDIAL* actions, with the attendant adherence to the full letter of CERCLA/SUPERFUND law. EPA/TVA must list all actions to be undertaken, their lifetime budgets, and their classifications as either *EMERGENCY* or *REMEDIAL* actions. EPA/TVA must hold **immediate public hearings** under CERCLA/SUPERFUND; EPA and TVA must provide a reasonable opportunity for submission of written and oral comments and an opportunity for a public meeting at or near the facility at issue regarding the proposed plan and regarding any proposed findings under section 9621(d)(4). The President or the State shall keep a transcript of

the meeting and make such transcript available to the public. The notice and analysis shall include sufficient information as may be necessary to provide a reasonable explanation of the proposed plan and alternative proposals considered. Additionally, notice of action shall be published and the plan shall be made available to the public before commencement of any remedial action. Such a plan shall be accompanied by a discussion of any significant changes (and the reasons for such changes) in the proposed plan and a response to each of the significant comments, criticisms, and new data submitted in written or oral presentation. All notices of comment periods and public hearings must be published in publically-available newspapers and media outlets, with evidence of such published media put on file and made available to public scrutiny. We request a full environmental impact statement (EIS). Additionally, notice of action shall be published and the plan shall be made available to the public before commencement of any remedial action. Such a plan shall be accompanied by a discussion of any significant changes (and the reasons for such changes) in the proposed plan and a response to each of the significant comments, criticisms, and new data submitted in written or oral presentation. All notices of comment periods and public hearings must be published in publically-available newspapers and media outlets, with evidence of such published media put on file and made available to public scrutiny. No actions should be considered or undertaken without this vital public commentary/feedback period, unless they are part of EMERGENCY actions under CERCLA/SUPERFUND, which follow law and provide a reasonable opportunity for submission of written and oral comments and an opportunity for a public meeting at or near the facility at issue regarding the proposed plan and regarding any proposed findings. REMEDIAL actions should not be undertaken without public hearings, public commentary, and a feedback period, PRIOR to actions taking place.

**Comment 52: Correction of definition: “Time-critical removal actions”.** According to “A legislative history of the superfund amendments and reauthorization act of 1986” (P.L. 99-499) vol. 6 & 7, there are two recognized actionable stages under CERCLA/SUPERFUND law: a remedial stage and an emergency stage. According to this document, an emergency stage can be funded at the level of up to the amount two million dollars (\$2,000,000) and/or 12 months in duration. EPA/TVA “Time-critical removal actions” are in effect a subversion of CERCLA/SUPERFUND law, as at this point they are either far in excess of the two million dollar limit, will not be complete by the 12-month cutoff (or both) and therefore must, by law, be considered *REMEDIAL* actions, with the attendant adherence to the full letter of CERCLA/SUPERFUND law. This means EPA/TVA must, at a minimum, hold public hearings under CERCLA/SUPERFUND; EPA and TVA must provide a reasonable opportunity for submission of written and oral comments and an opportunity for a public meeting at or near the facility at issue regarding the proposed plan and regarding any proposed findings under section 9621(d)(4). The President or the State shall keep a transcript of the meeting and make such transcript available to the public. The notice and analysis shall include sufficient information as may be necessary to provide a reasonable explanation of the proposed plan and alternative proposals considered. Additionally, notice of the final remedial action plan adopted shall be published and the plan shall be made available to the public before commencement of any remedial action. Such final plan shall be

accompanied by a discussion of any significant changes (and the reasons for such changes) in the proposed plan and a response to each of the significant comments, criticisms, and new data submitted in written or oral presentation. EPA and TVA have thus far provided for comment periods of inadequate length. We demand that the comment period be extended to allow for a reasonable opportunity for submission of written and oral comments by the affected and interested public. All notices of comment periods and public hearings must be published in publically-available newspapers and media outlets, with evidence of such published media put on file and made available to public scrutiny. All data collected and data collection procedures by EPA/TVA must be made available to the public and subject to public commentary. Additionally, we demand a full environmental impact statement (EIS) covering the full scope of actions and activities leading up to the current situation, as well as all current and proposed actions relating to the EPA/TVA ash disaster, including a comprehensive assessment of all natural resources (including but limited to air, surface/ground water) and human/biological impacts.

Comment 53: Failure to provide public hearings: We demand public hearings under CERCLA/SUPERFUND; EPA and TVA must provide a reasonable opportunity for submission of written and oral comments and an opportunity for a public meeting at or near the facility at issue regarding the proposed plan and regarding any proposed findings under section 9621(d)(4). The President or the State shall keep a transcript of the meeting and make such transcript available to the public. The notice and analysis shall include sufficient information as may be necessary to provide a reasonable explanation of the proposed plan and alternative proposals considered. Additionally, notice of the final remedial action plan adopted shall be published and the plan shall be made available to the public before commencement of any remedial action. Such final plan shall be accompanied by a discussion of any significant changes (and the reasons for such changes) in the proposed plan and a response to each of the significant comments, criticisms, and new data submitted in written or oral presentation. EPA and TVA have thus far provided for comment periods of inadequate length. We demand that the comment period be extended to allow for a reasonable opportunity for submission of written and oral comments by the affected and interested public. All notices of comment periods and public hearings must be published in publically-available newspapers and media outlets, with evidence of such published media put on file and made available to public scrutiny. All data collected and data collection procedures by EPA/TVA must be made available to the public and subject to public commentary

Comment 54: **Under part VIII, “Designation of Project Coordinator, On-scene coordinator, and remedial project manager”, #22,** the TVA designee as project coordinator must be present at all public meetings/hearings. EPA designees as on-site coordinators and remedial project managers must be present at all public meetings/hearings. EPA and TVA must provide a reasonable opportunity for submission of written and oral comments and an opportunity for public meetings/hearings at or near the facility at issue regarding proposals under section 9621(d)(4). The President or the State shall keep a transcript of the meeting and make such transcript available to the public. The notice and analysis shall include sufficient information as may be necessary

to provide a reasonable explanation of the proposed plan and alternative proposals considered. All notices of comment periods and public hearings must be published in publically-available newspapers and media outlets, with evidence of such published media put on file and made available to public scrutiny. All data collected and data collection procedures by EPA/TVA must be made available to the public and subject to public commentary.

**EPA’s Response to Comments 49 to 54:** The designation in Paragraphs 26 and 27 of the AOC of short, mid, and longer-term objectives is meant to facilitate the Work performed under the AOC and prioritize it in terms of the most critical response actions (i.e., minimization of downstream migration of the coal ash). Second, the CERCLA process has two main cleanup options – removal or remedial. Removal actions can be emergencies, which require a response within hours, time-critical removal actions, which have a planning period of less than six months, and non-time-critical removal actions, which have a planning period of at least six months. See 40 C.F.R. § 300.415. The \$2 million, 12-month statutory limitation only applies to fund-lead removal actions (meaning, actions that are funded by the Hazardous Substance Superfund). See 40 C.F.R. § 300.415(b)(5).

CERCLA Section 9621(d)(4) addresses applicable or relevant and appropriate requirements (ARARs) during the remedial process. In addition, although a preliminary assessment, the first step in the remedial process, will be performed at the completion of the non-time-critical removal action, the bulk of the work required under the AOC will be through the removal process. As such, there will not be a “proposed plan” outlining remedial alternatives; rather, the main document that will propose alternatives for cleanup is the Engineering Evaluation/Cost Analysis (EE/CA). As noted above in EPA’s Response to Comments 12 and 19, the EE/CA will be made available for public comment. In addition, EPA intends to hold quarterly meetings, as well as meetings at critical decision points. All public meetings will be advertised by public notice in local newspapers and on EPA’s websites, informing the community of the date, time, and location of such meetings. EPA is currently posting site documents on its website at [www.epakingstontva.com](http://www.epakingstontva.com). There is no requirement in the NCP that transcripts of public meetings be provided in the removal context. Please refer to EPA’s Response to Comments 16 and 17 regarding the requested extension to the public comment period. Although the AOC does not require that the TVA Project Coordinator or the EPA On-Scene Coordinator or Remedial Project Manager be present at all public meetings, these individuals (or a designated representative) make every effort to attend such meetings.

This commenter has requested that a “full environmental impact statement (EIS)” be performed at the Site. An EIS is a part of the National Environmental Policy Act (NEPA) process. It is the government’s position that NEPA, as a matter of law, does not apply to CERCLA cleanups. The main basis for this position is the inherent conflict between the two statutes concerning the timing of judicial review of agency actions. However, TVA would be free to incorporate NEPA values into the CERCLA process where feasible and appropriate.



With respect to this commenter's concern regarding the deadlines proposed in Paragraph 28 of the AOC, these deadlines apply to the time-critical removal action and are intended to keep the cleanup moving on an aggressive schedule.

**Comment 55:** Under part IX, “Work to be performed”, #29, EPA/TVA must, effective immediately, make available the complete exhaustive administrative record for all past, present, and future actions either ongoing or under consideration.

**EPA's Response to Comment 55:** Paragraph 29 of the AOC requires that TVA establish an Administrative Record (AR) for the selected time-critical removal action. TVA has already established this AR and it is available at TVA's website (<http://www.tva.gov/kingston/index.html>). Pursuant to Paragraph 30, the AR supporting the EE/CA will also be made available for public comment on TVA's website. Thus, the AOC already provides for the ARs supporting the ongoing and future actions to be made available to the public. In addition, the AR supporting the issuance of the AOC was previously made available to the public on EPA's websites at <http://www.epa.gov/region4/kingston/index.html> and [www.epakingstontva.com](http://www.epakingstontva.com).

**Comment 56: Purpose I.** The EPA order should say “Coal Fly and Bottom Ash” instead of ash material.

**EPA’s Response to Comment 56:** This comment refers to a “whereas” clause contained in Section I (Purpose) of the AOC. The statement referencing ash material is intended solely as background. In addition, the use of “ash material” was intended to be broad such that it would encompass all possible names for the released material, as it is referred to as fly ash, bottom ash, coal combustion waste, etc. The operative term governing the cleanup under the AOC is “Waste Material,” which is defined in Section IV (Definitions) of the AOC.

Comment 57: Purpose I. TVA did not work to contain the coal fly ash because they were and still are tracking it all over Roane County on their work vehicles.

**EPA’s Response to Comment 57:** This comment refers to a “whereas” clause contained in Section I (Purpose) of the AOC. The statement is provided solely as background with the purpose of acknowledging TVA’s response actions in the immediate aftermath of the release. Please refer to EPA’s Response to Comment 32 regarding current efforts to control migration from work trucks.

**Comment 58: Jurisdiction Section 3.** The ash has migrated into the Little Emory, Clinch, and Tennessee Rivers. I would also ask that EPA include the entire Tennessee River and accompanying watersheds unless you can demonstrate that no coal fly ash or accompanying heavy metal and heavy metalloid byproducts are not present in the Tennessee River.

**EPA's Response to Comment 58:** As part of the EE/CA process, a comprehensive fly ash and sediment sampling program will be conducted to determine coal ash distribution in the impacted waterways. River bathymetry (depth) surveys and ash thickness

measurements in the Emory and Tennessee Rivers are being conducted during hydraulic dredging work under the time-critical removal action. EPA is also working with the U.S. Army Corps of Engineers Engineering Research and Development Center (ERDC) to run a quantitative two-dimensional sediment fate and transport model, known as Adaptive Hydraulics. This model uses system bathymetry, grain size distribution, and river flow data to predict the transport characteristics and deposition of coal ash in the system. The established model domain for Adaptive Hydraulics stretches from the Little Emory River down into the Tennessee River.

Comment 59: **Section 5.** TVA is being held liable for this release.

**EPA's Response to Comment 59:** EPA believes that this commenter is referring to Paragraph 5 of the AOC which states that "the actions undertaken by TVA in accordance with this Order do not constitute an admission of any liability." This sentence is model language that is contained in every EPA order for removal or remedial work. It has no bearing on TVA's obligation to perform the cleanup under the terms of the AOC.

Comment 60: **Definitions IV.**

- a. K. Order shall include statements and promises made by EPA officials during meetings concerning the TVA Coal Ash Disaster.

**EPA's Response to Comment 60.a:** The definition of "Order" contained in the AOC is the definition contained in all of EPA's orders and settlement agreements and is model language. The definition cannot be revised to include oral statements or promises made by EPA officials.

- b. M. Parties shall include TDEC, TN Department of Health, ATSDR, all contractors, subcontractors, and representatives of TVA, impacted community members, and individuals and groups with a vested interest or who have legal standing under the law

**EPA's Response to Comment 60.b:** "Parties" as defined in the AOC shall only include the actual parties and signatories to the AOC who have responsibilities under the AOC. The AOC cannot bind non-parties.

- c. Q. Site shall mean anyplace that coal ash has migrated to or been transported to since Dec 22, 2008. This includes the Little Emory River, Emory River, Clinch River, Tennessee River, Watts Bar Lake, and all downstream waterways along the Tennessee River. This also includes road ways including Swan Pond Rd, Swan Pond Circle Rd, Hassler Mill Rd, Quarry Road, Hwy 70, Interstate 40, and numerous restaurants in Kingston, Harriman, Midtown, and Rockwood. The site shall also include individual homes that have had coal fly ash tracked into them by TVA employees, TVA contractors, and downwind and downriver residents. Leo Francendese stated that EPA would clean up all of the coal fly ash.

**EPA's Response to Comment 60.c:** See EPA's Response to Comment 41. The AOC defines "Site" to include those areas of the TVA Kingston Fossil Fuel Plant where "Waste Material" from the December 22, 2008, release has been deposited, stored, disposed of, or placed, or has migrated or otherwise come to be located. "Waste Material" includes all wastes related to the December 22<sup>nd</sup> release or generated in connection with response actions related thereto. Thus, Site is defined broadly and is intended to cover all areas where hazardous substances from the release have come to be located, including adjacent waterways.

Comment 61: **Under part IV, "Definitions", letter "a"** this document should be modified in the following way to provide clarity and remove doubt that CERCLA and SUPERFUND are separate: "CERCLA" shall mean the comprehensive environmental response, compensation, and liability act of 1980, as amended, also known commonly and interchangeably as "SUPERFUND". CERCLA and SUPERFUND are the same legal framework, and as such are different names for the same legal framework. HENCEFORTH, CERCLA and SUPERFUND shall be known as the combined term, "CERCLA/SUPERFUND".

**EPA's Response to Comment 61:** EPA acknowledges that the acronym "CERCLA" and the term "Superfund" are often used interchangeably, but respectfully declines to modify the AOC as the commenter requests as it would not affect the substance of the AOC. The definition of "CERCLA" contained in the AOC is the definition contained in all of EPA's orders and settlement agreements and is model language. EPA believes that the document and definitions, as written, make clear that CERCLA refers to the statute found at 42 U.S.C. § 9601 *et seq.* The Superfund program is the program established within EPA which implements CERCLA.

Comment 62: **EPA's Findings of Fact (V.9)** What date did the plant start generating electricity? What year was TVA's Kingston Plant built?

**EPA's Response to Comment 62:** Construction of the Kingston Plant began in 1951 and operations began in 1955. Please refer to TVA's website at <http://www.tva.gov/sites/kingston.htm> for additional background information on the Kingston Fossil Plant.

Comment 63: **EPA's Findings of Fact (V.10).** What permits did TVA have for the ash containment area before June 29, 1999? What were all of the variances that TDEC gave to TVA for the ash containment areas?

**EPA's Response to Comment 63:** Prior to 1999, the only permit TVA had for the ash containment area was NPDES Permit No. TN0005452, originally issued to TVA by EPA on April 30, 1976. With respect to this commenter's question regarding variances granted by TDEC to TVA for the ash containment area, EPA directs this commenter directly to TDEC.

Comment 64: EPA's Findings of Fact (V.11). TVA had a discharge from the ash containment area that paralleled Swan Pond Rd and entered the Emory River near the intersection of Swan Pond Rd and Swan Pond Circle Rd.

**EPA's Response to Comment 64:** EPA believes that the AOC, as written, accurately describes the release at issue.

Comment 65: Findings of Fact (V.12). At the time of the coal ash release on Dec 22, 2008 TVA did not own a large portion of land which the ash migrated out onto. TVA began purchasing the land soon after the disaster. You should name all of the municipalities that receive drinking water from the Tennessee River and Watts Bar Reservoir.

Comment 66: Under part V, "EPA's findings of fact, #12, this document states that "The release also extended to approximately 300 acres of land outside of the ash storage area, *almost all of which was owned by the United States and in TVA's custody and control*. This statement is patently false, and this statement by EPA/TVA either is ignorant of or willingly ignores the fact that, at the time of the TVA ash pond failure, much of the despoiled, ash-covered land affected was PRIVATELY OWNED and was only bought by TVA as part of settlement proceedings immediately after the disaster, including many properties along Swan Pond road in Harriman, Tennessee. Property ownership and transfer records reflect this. This statement needs to be revised to state the actual percentage and/or distribution of land possession/ownership as the time of the TVA ash pond failure/disaster. Additionally, statement #12 states that the Tennessee River and Watts Bar Reservoir are municipal water sources for the City of Kingston, TN and 'several municipalities'. This statement needs to be revised in order to reflect and specifically enumerate the actual scope and number of downstream users, private and municipal, including but not limited to agricultural, municipal (such as the City of Chattanooga), and residential users. This list should be thorough and complete, in order to avoid minimizing the scope of those affected by the TVA ash pond failure/disaster.

**EPA's Response to Comments 65 and 66:** Paragraph 12 of the AOC is included for background information only. It is not intended to be a comprehensive summary or factual recitation on property ownership. However, TVA has informed EPA that it owned 97% of the referenced 300 acres prior to the December 22, 2008, release.

In terms of a comprehensive list of municipalities that receive drinking water from the Tennessee River and Watts Bar Reservoir, or all downstream users, EPA believes that listing all such municipalities and users is beyond the scope of the AOC. In the days immediately following the release, sampling was performed at the Kingston, Cumberland, and Rockwood water treatment facilities to ensure that drinking water had not been affected by the release. EPA does not believe that the impacts of the spill extend beyond these drinking water intakes; however, evaluation will continue under the EE/CA.

Comment 67: EPA's Findings of Fact (V.13). EPA should not have given lead agency status to TVA because TVA admits that they don't know what they are doing with this cleanup. EPA should be the lead agency.

**EPA's Response to Comment 67:** The delegation of lead agency status was not "given" to TVA by EPA. Rather, response authority under CERCLA Section 104(a) is governed by Executive Order 12580. Pursuant to Section 2(e)(1) of Executive Order 12580, response authority under Section 104(a) of CERCLA is delegated to the heads of Executive departments and agencies for removal actions, other than emergencies, where "either the release is on or the sole source of the release is from any facility or vessel under the jurisdiction, custody or control of those departments and agencies. . . ."

Note that for purposes of the Work to be Performed under the AOC, TVA is performing all response actions, subject to review and approval by EPA.

Comment 68: EPA's Findings of Fact (V.14.iii). Coal Fly Ash from TVA's disaster was found in the water supply of Kingston TN and TVA did not do anything to help provide an alternative water supply when this contamination occurred.

**EPA's Response to Comment 68:** Based on the potable water (water being produced at the water treatment plants) sampling results performed by EPA in the aftermath of the release, EPA did not find contamination above maximum contaminant levels (MCLs) in any drinking water supply (Kingston, Rockwood, or Cumberland). As such, the provision of alternative water supplies was not necessary or required. Please see EPA's Response to Comment 31 for additional information regarding sampling results. In the immediate aftermath of the release, samples of untreated water collected from the Emory River were found to contain elevated concentrations of metals, believed to be present because of suspended coal ash in the water column. Subsequent sampling events found decreasing amounts of suspended ash in the water, and showed metals concentrations below drinking water limits, demonstrating that as the ash settles out, water quality improves.

Comment 69: Under part V, "EPA's findings of fact", #14, EPA/TVA failed to specifically plan for an assessment of the human/biological impacts of the TVA ash pond failure/disaster. EPA/TVA must specifically promogulate [sic] a plan for an assessment of the human/biological impacts of the TVA ash pond failure/disaster, including, but not limited to blood, urine, and fecal biological assessments. The plan(s) adopted should be published and the plan shall be made available to the public. Such plan shall be accompanied by a discussion of any significant changes (and the reasons for such changes) in the proposed plan and a response to each of the significant comments, criticisms, and new data submitted in written or oral presentation. All notices of comment periods and public hearings must be published in publically-available newspapers and media outlets, with evidence of such published media put on file and made available to public scrutiny. All data collected and data collection procedures by EPA/TVA must be made available to the public and subject to public commentary.

**EPA's Response to Comment 69:** EPA notes that this comment is regarding Paragraph 14 of the AOC, which is contained in EPA's Findings of Fact and discusses the requirements of the TDEC Commissioner's Order. With respect to this commenter's concern regarding human/biological impacts of the release, the EE/CA Work Plan will comprehensively and quantitatively assess the potential hazards to human health posed by the coal ash. Risks to both current and potential future receptors will be evaluated. In addition, a comprehensive ecological risk assessment will be conducted in accordance with applicable Superfund guidance. The EE/CA will include a risk analysis that will be based on analytical data collected from the coal ash, surface water, sediment, and fish tissue. EPA plans to have public meetings on a quarterly basis and at critical decision points in the EE/CA process. EPA is also committed to working with the Roane County CAG to properly address any questions and/or concerns the public may have regarding the direction and conclusions of the EE/CA. EPA plans to have a public meeting when the EE/CA Work Plan is available for public review, which is anticipated to be in mid- to late- September 2009. The EE/CA Work Plan will also be subject to public comment. Meetings will be advertised by public notice in local newspapers and on EPA's websites, informing the community of the date, time, and location of such meetings.

In addition, EPA advises the commenter that Oak Ridge Associated Universities (ORAU), in conjunction with Vanderbilt University Medical Center toxicology experts, are currently conducting free medical screenings for Kingston/Roane County residents affected by the December 22, 2008, release. A link to the ORAU Kingston Project is available at [www.epakingston.tva.com](http://www.epakingston.tva.com). The Tennessee Department of Health is also preparing a Public Health Assessment regarding the release, with assistance and review from the Agency for Toxic Substances and Disease Registry (ATSDR). For additional information regarding this Public Health Assessment, refer to <http://health.state.tn.us/coalashspill.htm>.

**Comment 70: Findings of Fact (V.15).** This is an incomplete list of heavy metals and metalloids contained the coal fly ash. Why did TVA submit an incomplete list? This shows that TVA should not be the lead agency because they can't report the facts as they stand. One month after the disaster then TVA should have known exactly what was in the coal fly ash.

**Comment 71: Under part V, "EPA's findings of fact", #15,** EPA/TVA should list ash "constituents" by the more specific definition of "elements, which after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunctions in reproduction) or physical deformations, in such organisms or their offspring" (CERCLA/SUPERFUND 101(33)). Additionally, EPA/TVA's list of "elements, which after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions

(including malfunctions in reproduction) or physical deformations, in such organisms or their offspring” fails to list the following elements/compounds: PAHs and radioactive elements, Al, Ba, Fe, Mn, Nitrate/Nitrite, SO<sub>4</sub>, Ca, Mg, Na, K, Cl, and Bicarbonate. These “elements, which after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunctions in reproduction) or physical deformations, in such organisms or their offspring” need to be added to the list of materials released in the TVA ash pond failure/disaster.

**EPA Response to Comments 70 and 71:** These two comments refer to Paragraph 15 of the AOC which contains a factual statement regarding the report that TVA submitted to the Tennessee Emergency Response Commission on January 21, 2009. This reporting occurred prior to the EPA/TVA AOC; as such, these comments are outside the scope of the EPA AOC. See also EPA’s Response to Comments 73 and 74.

Comment 72: **Under part V, “EPA’s findings of fact”, #18,** EPA/TVA have not made available to the public monitoring plan(s), accompanied by a discussion and a response of the significant comments, criticisms, and new data submitted in written or oral presentation. Monitoring plan(s) must be accompanied by a discussion and a response of the significant comments, criticisms, and new data submitted in written or oral presentation as per “Superfund Amendments and Reauthorization Act of 1986”, sec. 117, 99<sup>th</sup> Congress, 2<sup>nd</sup> Session, Report 99-962: All notices of comment periods and public hearings must be published in publically-available newspapers and media outlets, with evidence of such published media put on file and made available to public scrutiny. All data collected and data collection procedures by EPA/TVA must be made available to the public and subject to public commentary. EPA/TVA’s sampling methodologies have been flawed in several key ways, including water monitors installed in sub-optimal locations in the Emory and Tennessee Rivers, insufficient and sub-optimally located air monitors, and most importantly in disallowing third-party testing and inclusion of third-party data in EPA/TVA reports. Additionally, EPA/TVA failed to specifically plan for an assessment of the human/biological impacts of the TVA ash pond failure/disaster. EPA/TVA must specifically promogulate [sic] a plan for an assessment of the human/biological impacts of the TVA ash pond failure/disaster, including, but not limited to blood, urine, and fecal biological assessments over the life of cleanup/remediation operations. Such testing must include “elements, which after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunctions in reproduction) or physical deformations, in such organisms or their offspring” including, but not limited to hazardous substances under US 101(14) 42 USC 9601(14)(either simply present or in elevated levels) as well as (in the interest of providing an exhaustive list) “elements, which after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any organism, either directly from the environment or indirectly by

ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunctions in reproduction) or physical deformations, in such organisms or their offspring” including, but not limited to, PAHs and radioactive elements, As, Be, Cr, Cu, Pb, Hg, Ni, Al, Ba, Fe, Mn, Nitrate/Nitrite, Sb, Cd, Ag, Se, Tl, vanadium oxide, SO<sub>4</sub>, Ca, Mg, Na, K, Cl, and Bicarbonate, over the life of cleanup/remediation operations. Such testing should include third-party testing and inclusion of third-party data in EPA/TVA reports. All data collected and data collection procedures by EPA/TVA must be made available to the public and subject to public commentary.

Additionally, there is evidence that heavy rains in the Tennessee Valley have washed large amounts of coal ash from the spill site and sent it flowing down the Emory River, potentially affecting millions of downstream residents. There are also concerns that hot, dry summer weather will make it difficult or impossible to control airborne coal ash dust with current or proposed dust control measures, constituting a serious respiratory hazard to local communities and ecosystems.

**EPA’s Response to Comment 72:** This comment refers to Paragraph 18 of the AOC, which is provided for background factual information and which details sampling efforts in the immediate aftermath of the release. All of these sampling results are available for public review at the following websites: (1) [www.epa.gov/region4/kingston/index.html](http://www.epa.gov/region4/kingston/index.html); (2) [www.epakingstontva.com](http://www.epakingstontva.com); (3) [www.tva.gov/kingston/index/htm](http://www.tva.gov/kingston/index/htm); and (4) <http://www.state.tn.us/environment/kingston/index.shtml>. In terms of ongoing monitoring, the AOC allows TVA to proceed with sampling in accordance with its “KIF Fly Ash Pond Incident Environmental Sampling Plan” (approved February 2009), and requires the submittal of both a “Site Dust Control and Air Monitoring Plan” and a “Surface Water Monitoring Plan for the Emory, Clinch and Tennessee Rivers” (Paragraphs 27-28). These work plans will detail the specific requirements for monitoring the various media and will be made available for public comment by TVA after EPA approval. All work plans shall be posted on TVA’s website and EPA’s website at [www.epakingstontva.com](http://www.epakingstontva.com).

With respect to third party testing, EPA has set forth stringent Quality Assurance and Sampling requirements in Paragraph 36 of the AOC. As such, data which does not comply with these requirements cannot serve as the basis for any response action decisions under the AOC. See also EPA’s Response to Comment 39.a.

EPA appreciates this commenter’s concern with respect to the potential migration of ash downstream, as well as the possibility of fugitive dust emissions. Note that one of the short-term objectives of the time-critical removal action (currently underway) is the minimization of further downstream migration of ash material. See AOC Paragraph 26. As such, the current dredging activities are designed to expedite removal of coal ash from east of Dike 2. In addition, please refer to EPA’s Response to Comment 32 regarding site dust control and dust suppression methods currently in place.



Comment 73: EPA's Conclusions of Law and Determinations (VI.20.B). List all of the heavy metals and metalloids in the coal fly ash.

Comment 74: Under part VI, "EPA's Conclusions of law and determinations", #20, "b", EPA/TVA must add the following "elements, which after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunctions in reproduction) or physical deformations, in such organisms or their offspring" to the list of "constituents": Be, Al, Ba, Fe, Mn, Nitrate/Nitrite, Sb, Ag, Tl, vanadium oxide, SO<sub>4</sub>, Ca, Mg, Na, K, Cl, and Bicarbonate. EPA/TVA should refer to these "constituents" by the technical definition under CERCLA/SUPERFUND 101(33): (either singly or in elevated quantities) "elements, which after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunctions in reproduction) or physical deformations, in such organisms or their offspring"

**EPA's Response to Comments 73 and 74:** Paragraph 20(b) of the AOC is provided to demonstrate that there has been a release of "hazardous substances" as defined under CERCLA, which is a jurisdictional prerequisite to taking a response action under Sections 104 or 106 of CERCLA. As such, EPA listed several constituents of coal ash that are "hazardous substances" under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14). This list was not intended to be a comprehensive list, but was to include sufficient information for issuance or implementation of the Order. For additional information regarding coal ash, please refer to [http://www.tva.gov/kingston/faq.htm#fly\\_ash](http://www.tva.gov/kingston/faq.htm#fly_ash). No further description is required in this Paragraph of the AOC. Comment 74 refers to the definition of "pollutant or contaminant," which provides an independent basis for response authority under CERCLA in the absence of hazardous substances. 42 U.S.C. § 9601(33).

Comment 75: EPA's Conclusions of Law and Determinations (VI.20.C). TVA is not a person it is a government agency. It would be like saying Congress is a person or the Department of Defense is a person. You are blurring the lines between government and corporations. There are specific people that will be held responsible within TVA and they can not [sic] hide behind "TVA's supposed personhood".

**EPA's Response to Comment 75:** EPA acknowledges TVA's status as a governmental corporation. However, Section 101(21) of CERCLA defines "person" to include "an individual, firm, corporation, association, partnership, consortium, joint venture, commercial entity, United States Government, State municipality, commission, political subdivision of a State, or any interstate body." 42 U.S.C. § 9601(21). Thus, TVA is a person for purposes of CERCLA.

**Comment 76: Work to be Performed IX. Longer-term Strategic Objectives (27).**

TVA has not done a considerable amount of work towards achieving the short term goals. For the most part the disaster site looks very similar to the way that it looked 6 months ago.

**EPA's Response to Comment 76:** Since execution of the AOC, removal of coal ash from the Emory River has accelerated by more than ten-fold under the time-critical phase of the cleanup, and work plans are being developed to arrive at an Engineering Evaluation/Cost Analysis (EE/CA) that will guide assessment, further cleanup, and restoration work to take place during the non-time-critical phase of the cleanup. Thus, work is well underway and will continue to proceed pursuant to an aggressive schedule.

**Comment 77: Environmental Justice and Public Participation.** Derrick Williams, with the Georgia Environmental Protection Division's solid waste program, has stated that a landfill in Taylor County near Mauk, Ga known as Veolia landfill (known locally as 'Trash Mountain'), will receive ash from the EPA/TVA Kingston ash disaster site, which could be problematic for storing such hazardous waste because it is a groundwater recharge area.

The Alabama Department of Environmental Management's chief of solid waste, Phillip Davis, has stated that a municipal waste landfill in Perry County in west central Alabama also will receive ash shipments, likely being, according to Alabama state records, the only permitted solid waste facility in Perry County, the Perry County Associates Arrowhead Landfill near Uniontown. The decision to move toxic ash to these particular locations raises environmental justice concerns because of the social vulnerability of the communities targeted. Located in western Georgia's Piedmont, Taylor County is an agricultural area where almost 41% of the population is African-American and more than 24% of residents live in poverty, according to census data.

Alabama's Perry County is 69% African-American with more than 32% of its residents living in poverty, making it one of the poorest counties in the state. Solid waste landfills tend to be located disproportionately in communities of color and low-wealth communities. For example, as reported in "Race, Wealth, and Solid Waste Facilities in North Carolina" *Environ Health Perspectives*, 2007 September; 115(9): 1344–1350, PMID: PMC1964896 by Jennifer M. Norton, Steve Wing, Hester J. Lipscomb, Jay S. Kaufman, Stephen W. Marshall, and Altha J. Cravey, the odds of a solid waste facility were 2.8 times greater for communities with where 50% or more residents are people of color compared to those where less than 10% of residents are people of color. It also found that communities with lower housing values were more likely to have landfills. The EPA's Office of Environmental Justice defines "environmental justice" as:

"Environmental Justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. EPA has this goal for all communities and persons across this Nation. It will be achieved when everyone enjoys the same degree of

protection from environmental and health hazards and equal access to the decision-making process to have a healthy environment in which to live, learn, and work.”

The communities receiving toxic coal ash from EPA/TVA have been denied any chance for meaningful involvement in that decision since neither the TVA -- a federally-owned corporation -- nor regulatory authorities such as EPA provided an opportunity for public comment. This constitutes a violation and/or subversion of law under CERCLA/SUPERFUND. EPA/TVA must hold **immediate public hearings** under CERCLA/SUPERFUND; EPA and TVA must provide a reasonable opportunity for submission of written and oral comments and an opportunity for a public meeting at or near the facility/facilities at issue regarding the proposed ash removal/storage plan and regarding any proposed findings under section 9621(d)(4). The President or the State shall keep a transcript of the meeting(s) and make such transcript available to the public. The notice and analysis shall include sufficient information as may be necessary to provide a reasonable explanation of the proposed plan and alternative proposals considered. Additionally, notice of action shall be published and the plan shall be made available to the public before commencement of any remedial action. Such a plan shall be accompanied by a discussion of any significant changes (and the reasons for such changes) in the proposed plan and a response to each of the significant comments, criticisms, and new data submitted in written or oral presentation. All notices of comment periods and public hearings must be published in publically-available newspapers and media outlets, with evidence of such published media put on file and made available to public scrutiny. We also request a full environmental impact statement (EIS) in regards to the removal, transport and storage of ash from the Kingston site.

EPA/TVA must immediately implement surface/ground water monitoring, air monitoring, and human/biological monitoring at all ash storage sites as well as delineate and notify all potentially affected downstream water users (agricultural, municipal, residential). EPA/TVA must immediately publish and/or make available the administrative record for all removal/transport/storage actions thus far, without waiting for approval.

Effective immediately, Designated Federal Officer Charles Lee, Associate Director, Office of Environmental Justice, U.S. Environmental Protection Agency, should be notified of violations by EPA/TVA of CERCLA/SUPERFUND, as bound by the requirements of the Federal Advisory Committee Act (FACA) of October 16, 1972, the Federal Advisory Committee Act (FACA), 5 U.S.C. App. § 9 (c), and executive order 12898, in order to focus the attention of federal agencies on the human health and environmental conditions in minority and low-income communities with the goal of achieving environmental justice and fostering non-discrimination in programs that substantially affect human health or the environment. This should include activating NEJAC and NEJAC Subcommittees Air and Water, Enforcement, Health and Research, Public Participation and Accountability, and Waste and Facility Siting.

**EPA's Response to Comment 77:** As part of the AOC, TVA was ordered by EPA to conduct an analysis of possible disposal options. EPA required that landfills considered for off-site disposal of coal ash include the use of a landfill liner, a system to collect any liquid (leachate) that may run off the landfill, groundwater monitoring, financial assurance, and provisions for long-term maintenance. In addition, any facility receiving Waste Material during a cleanup action under CERCLA must meet the requirements of CERCLA's Off-Site Rule, 40 C.F.R. § 300.440. The TVA Options Analysis also evaluated loading/unloading and transportation options.

Requests for Proposals for companies to manage the loading, transportation, and permanent disposal of the ash were issued in February 2009. A total of 32 companies responded. An analysis of the proposals included a review of the experience of the companies, their methodologies for loading, containment processes, the quantities of ash that could be removed/disposed of, CERCLA requirements for the disposal site, cost, and schedule. Consideration was also given to the companies' performance during the ash loading test in early May 2009. Several landfills in Alabama, Georgia, Pennsylvania and Tennessee were evaluated as part of the Options Analysis. EPA agreed with the TVA selection of the Perry County Arrowhead Landfill near Uniontown, Alabama, based upon a number of reasons, including:

- 1) The Arrowhead Landfill is a municipal solid waste landfill that is in compliance with all applicable federal and state environmental regulations and thus satisfies the CERCLA Off-Site Rule;
- 2) The Arrowhead Landfill is permitted by the Alabama Department of Environmental Management (ADEM) to accept waste materials such as coal ash;
- 3) The Arrowhead Landfill meets and exceeds all technical requirements specified in the EPA/TVA AOC in that it is constructed with a compacted clay composite liner, a polyethylene liner, a leachate collection system, a protective cover, a 100-foot buffer that surrounds the property, and regular groundwater monitoring. In addition, the thickness and extremely low permeability of the Selma Chalk Group geologic formation beneath the Arrowhead Landfill provide for natural protection of groundwater;
- 4) The Arrowhead Landfill has the capacity to accommodate the volume of coal ash anticipated to be disposed of in the landfill and prevailed in a competitive bidding process; and
- 5) Norfolk Southern has a direct rail line from the TVA facility to the Arrowhead Landfill. The benefits of rail transport greatly outweighed those of truck transport, including reducing potential vehicle accidents, greater fuel efficiency of rail cars versus trucks, and avoiding burdens on local traffic and roads.

The Arrowhead Landfill was authorized to accept waste from the State of Tennessee prior to the December 22, 2008, coal ash release following approval of the Perry County Commission on December 9, 2008. The landfill has the resources to safely manage large

quantities of waste and is prepared to add additional personnel to assist in the management of the ash from the TVA facility. Current employees of the landfill are experienced in handling waste materials. New employees will receive health and safety training and job-specific training appropriate to their assigned jobs. Workers who will be responsible for unloading and cleaning out railcars will receive specialized health and safety training, including Hazardous Waste Operations and Emergency Response (HAZWOPER) training to enable them to perform their jobs in a safe and efficient manner.

As a result, there are no current plans to ship coal ash from the removal action to Veolia Landfill near Mauk, Georgia, although such landfill was considered as an option in the Off-Site Options Analysis.

Prior to EPA approving TVA's selection of the Arrowhead Landfill as the preferred disposal location during the time-critical removal action, TVA conducted a thorough review to ensure that the selected facility is operating in compliance with solid waste regulations and that potential risks to the community, especially any vulnerable populations, were addressed. TVA and EPA met with six local elected officials, including county commissioners, a Mayor, and a City Council member, to discuss the use of the landfill. All of the officials strongly supported the disposal of the ash material in the landfill. Additionally, EPA management, including the Director of the Superfund Division at Region 4, met with a number of community members in June 2009 to hear public concerns and answer questions regarding the use of the Arrowhead Landfill as a disposal site. EPA and ADEM inspectors also visited the landfill to ensure compliance with applicable regulations. EPA and ADEM will conduct ongoing monitoring of the landfill to ensure that it is operated properly and that people are protected. EPA will work with local officials to provide additional opportunities to engage local stakeholders as the disposal continues.

Though it was necessary for the disposal of the coal ash to begin quickly and properly, the public is invited to comment while the work is ongoing. For longer-term response actions, including the removal and disposal of the remaining 2.4 million cubic yards of coal ash from other tributaries and surface areas from TVA's Kingston Site that are not addressed by the Options Analysis, the public will have an opportunity to review and comment on proposed actions before decisions are made.

Upon EPA approval of the Options Analysis selecting Arrowhead Landfill, EPA issued a press release and placed information on its website that included the full Options Analysis, and a Frequently Asked Questions sheet regarding the decision. See <http://www.epa.gov/region4/kingston/TVAPerryCountyFAQ.pdf>.

With respect to this commenter's concern regarding environmental justice issues, EPA established the Office of Environmental Justice in 1992. This office serves as lead on the Interagency Working Group established pursuant to Executive Order 12898, and also serves to integrate environmental justice into the Agency's programs, policies, and activities. Additional information regarding the Agency's environmental justice

programs and policies can be found at  
<http://www.epa.gov/compliance/resources/faqs/ej/index.html#faq1>.

EPA and TVA considered environmental justice issues in making a decision under the Options Analysis and consulted with the Office of Environmental Justice regarding these issues. Additionally, the Arrowhead Landfill is not a “new” landfill created specifically for the TVA coal ash. Rather, it is an existing landfill, fully compliant with all ADEM regulatory requirements, which are based on RCRA’s Subtitle D regulations. The Subtitle D regulations were designed to prevent ground and surface water contamination, to prevent air pollution caused by landfill gas emissions, to prevent the attraction of rodents, flies, and other disease vectors, and to minimize odors. To the extent that the permittee complies with its permit, and ADEM enforces any violations, the regulatory framework should ensure that the operation of the landfill will not adversely affect public health or the environment.

The National Environmental Justice Advisory Council (NEJAC) was established on September 30, 1993, in accordance with the requirements of the Federal Advisory Committee Act (FACA). The NEJAC provides independent advice and recommendations to the Administrator of EPA on issues related to environmental justice. The NEJAC’s efforts include evaluation of a broad range of environmentally-related strategic, scientific, technological, regulatory, and economic issues related to environmental justice. NEJAC meetings are open to the public and include a designated public comment period. You may provide comments during the next public NEJAC meeting, or you may send them directly to Victoria Robinson, the Designated Federal Officer, at [robinson.victoria@epa.gov](mailto:robinson.victoria@epa.gov). Information regarding upcoming and prior NEJAC meetings can be found at <http://www.epa.gov/compliance/environmentaljustice/nejac/meetings.html>.



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

REGION 4  
ATLANTA FEDERAL CENTER  
61 FORSYTH STREET  
ATLANTA, GEORGIA 30303-8960

June 19, 2009

[REDACTED]

Dear [REDACTED]:

Thank you for your May 14, 2009, letter concerning the TVA Kingston Fossil Fuel Plant Release Site (Site) located in Roane County, Tennessee. Your letter requests that the Environmental Protection Agency (EPA) evaluate the Kingston Site in accordance with the Hazard Ranking System (HRS) as set forth under the National Contingency Plan (NCP), 40 C.F.R. Part 300.

We understand your concerns about the impacts of such a large spill and the need to assure that those impacts are fully and completely addressed in a manner that ensures meaningful public participation. We share those concerns and are committed to applying whatever Agency resources and expertise are necessary to make sure the cleanup is comprehensive. We also recognize the common perception that large-scale cleanups of this kind are often handled through the process of HRS ranking, listing on the National Priorities List (NPL), and remedial action under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

The HRS and NPL process is one method for evaluating and cleaning up contaminated sites under CERCLA for sites of the magnitude of the Kingston spill. From EPA's perspective, the NPL listing process normally is used for sites where there will be a long-term component of the cleanup, such as ground water remediation, that will involve more technical analysis to evaluate and more time to implement.

In this case, EPA has entered into an Administrative Order and Agreement on Consent (AOC) with TVA which relies on CERCLA's removal authority to expeditiously begin addressing and mitigating the impacts of the spill. EPA believes, based on a review of available information to date on site conditions and spill impacts, that a removal action is the appropriate way to proceed with cleanup of the Kingston spill at this time. We believe that proceeding with this removal action is in the interest of protecting human health and the environment.

The May 11, 2009, AOC requires TVA to conduct a comprehensive Site cleanup using the CERCLA removal process. Under the AOC, the short-term goal of removing coal ash from the Emory River to alleviate flooding and downstream migration of ash will be addressed through a time-critical removal, while the longer-term goals of removing ash from the river's embayments and impacted land areas, and full restoration of areas impacted by the spill, will be

addressed through the non-time-critical removal process. As part of the non-time-critical removal, TVA is required to perform an Engineering Evaluation/Cost Analysis (EE/CA), which is very similar in substance to the Remedial Investigation/Feasibility Study (RI/FS) used to determine the cleanup approach under the NPL remedial process. We expect that the two removal phases outlined in the AOC will result in an expedited cleanup of ash and area waters affected by the spill.

We are aware of concerns that removal actions may not provide the same degree of public participation as remedial actions. In this case, for both the time-critical and non-time-critical components of the Kingston cleanup, EPA has built significant opportunities for public comment into the process under the AOC, some of which go beyond those normally provided in the removal context. For example, we are taking comments on the AOC itself, as well as taking comments on the time-critical removal as it proceeds. In addition, for the non-time-critical portion of the removal, the EE/CA process provides very much the same notice and comment opportunities on the proposed removal cleanup approaches as are provided during the RI/FS process for proposed remedial actions.

TVA is also required by the AOC to conduct a Preliminary Assessment (PA) at the end of removal activities. Based on the results of the PA, EPA will determine whether further investigatory work, and, potentially, NPL listing, is appropriate to address any residual contamination that may remain after the removal work is complete. In addition to the AOC requirement, EPA retains its authority to proceed with an HRS evaluation and possible NPL listing at any time should the Agency determine, for any reason, that such action is warranted.

Given the nature of the cleanup and the enhanced public participation that is being provided under the AOC, EPA believes that the removal approach is the appropriate one at this time for the Kingston spill site. Again, EPA is currently accepting comments on the AOC itself. We encourage and welcome any comments you might have.

We appreciate your desire to protect and preserve the environment and hope you find this information helpful. If we may be of further assistance, please contact Stephanie Brown at 404/562-8450.

Sincerely,

A handwritten signature in black ink, appearing to read 'A. Stanley Meiburg'.

A. Stanley Meiburg  
Acting Regional Administrator