SITE: TVA Kingston
BREAK: 10.11
OTHER:

**UNITED STATES**
**ENVIRONMENTAL PROTECTION AGENCY**
**REGION 4**

| | |
|---|---|
| **IN THE MATTER OF** | **Administrative Order and Agreement on Consent** |
| **TVA Kingston Fossil Fuel Plant Release Site Roane County, Tennessee** | **U.S. EPA Region 4 and Tennessee Valley Authority** |
| **Tennessee Valley Authority, Respondent.** | **Docket No.: CERCLA-04-2009-3766 Proceeding Under Sections 104(a), 106(a), and 107 of the Comprehensive Environmental Response, Compensation, and Liability Act, as amended** |

## ADMINISTRATIVE ORDER AND AGREEMENT ON CONSENT

## I. PURPOSE

WHEREAS, on December 22, 2008, approximately 5.4 million cubic yards of ash material were released into the environment from the Tennessee Valley Authority (TVA) Kingston Fossil Fuel Plant in Roane County, Tennessee; and

WHEREAS, TVA undertook immediate response actions and worked in close coordination with the United States Environmental Protection Agency (EPA), the Tennessee Department of Environment and Conservation (TDEC), and other agencies to provide for the safety of area residents, to contain released ash and minimize its downstream migration, and to monitor and assess air and water quality; and

WHEREAS, on January 12, 2009, TDEC issued a Commissioner's Order to TVA requiring, among other things, the comprehensive assessment, cleanup and restoration of areas impacted by the release; and

WHEREAS, on February 4, 2009, EPA, pursuant to Executive Order 12088, and TDEC issued a joint letter to TVA wherein TVA was directed to provide all plans, reports, work proposals and other submittals being provided to TDEC, to EPA as well for review and approval by the agencies; and

10644930

WHEREAS, TVA is, and has been, responding to the release of ash from an impoundment at the TVA Kingston Fossil Fuel Plant in Roane County, Tennessee, pursuant to the January 12, 2009, Commissioner's Order, and the February 4, 2009, letter, with the oversight of TDEC and EPA and under its authorities, including that delegated by Executive Order No. 12580; and

WHEREAS, TVA is committed to cleaning up the release, protecting the health and safety of the public and workers, protecting and restoring environmentally sensitive areas, and keeping the public and stakeholders informed and involved in the formulation of response activities; and

WHEREAS, TVA recognizes EPA's specialized expertise in responding to large-scale releases; and

WHEREAS, TVA, EPA, and TDEC desire to work cooperatively in all aspects of the cleanup; and

WHEREAS, TVA and EPA agree that in order to ensure that the environmental impacts associated with the release are thoroughly assessed and that appropriate response actions are taken as necessary to protect public health, welfare or the environment, and to ensure that the response actions satisfy all federal as well as state environmental requirements, it is advisable and beneficial for TVA and EPA to enter into this Administrative Order and Agreement on Consent (Order, or Order and Agreement) providing for cooperative implementation of the response actions at the Site pursuant to their authorities under the Comprehensive Environment Response, Compensation, and Liability Act (CERCLA), as amended, and the National Contingency Plan (NCP);

NOW, THEREFORE, EPA hereby orders and TVA agrees as follows:

## II. JURISDICTION

1. This Order is issued by EPA pursuant to the authority vested in the President of the United States by Sections 106(a) and 107 of CERCLA, 42 U.S.C. §§ 9606(a) and 9607, and delegated to the Administrator of EPA by Executive Order 12580, 52 Fed. Reg. 2923 (Jan. 23, 1987), and within EPA further delegated to the Regional Administrators by EPA Delegation Nos. 14-14-A and 14-14-B, and re-delegated to the Region 4 Superfund Division Director by Regional Delegations 14-14-A and 14-14-B.

2. This Order and Agreement is entered into by TVA pursuant to the authority vested in the President of the United States by Section 104(a) of CERCLA, 42 U.S.C. § 9604(a), and delegated to TVA by Executive Order 12580, 52 Fed Reg. 2923 (Jan. 23, 1987), and pursuant to the authority of the Tennessee Valley Authority Act of 1933, as amended, 16 U.S.C. §§ 831-831ee (2006).

3. This Order pertains to the release of ash from the TVA Kingston Fossil Fuel Plant located in Roane County, Tennessee, to the surrounding environment, including

portions of the Watts Bar Reservoir. This Order requires TVA, and TVA agrees, to conduct response actions, described herein, to abate any imminent and substantial endangerment to public health, welfare or the environment that may be presented by the actual or threatened release of hazardous substances, pollutants or contaminants and to otherwise address the impacts of the release at or from the Site in accordance with CERCLA and the NCP.

4. EPA has notified the State of Tennessee of this action pursuant to Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).

5. EPA and TVA agree that this Order and Agreement has been negotiated in good faith and that the actions undertaken by TVA in accordance with this Order do not constitute an admission of any liability. TVA retains the right to controvert in any proceedings, other than a proceeding solely to enforce this Order, the validity of any of the Findings of Fact or Conclusions of Law and Determinations in Sections V and VI of this Order. TVA agrees to comply with and be bound by the terms of this Order, and further agrees in any proceeding solely to implement or enforce this Order that it will not contest the validity of this Order, its terms, or the jurisdiction of EPA to issue it.

## III. PARTIES BOUND

6. This Order applies to and is binding upon EPA and upon TVA and TVA's directors, officers, employees, agents, successor agencies or departments, and assigns. Any transfer of the assets or real property of the United States in TVA's custody and control shall not alter TVA's responsibilities under this Order.

7. TVA shall ensure that its employees, contractors, subcontractors and representatives receive a copy of this Order and comply with this Order. TVA shall be responsible for any noncompliance with this Order.

## IV. DEFINITIONS

8. Unless otherwise expressly provided herein, terms used in this Order which are defined in CERCLA, or in regulations promulgated under CERCLA, shall have the meaning assigned to them in CERCLA or in such regulations. Whenever terms listed below are used in this Order, the following definitions shall apply:

a. "CERCLA" shall mean the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. §§ 9601 et seq.

b. "Corrective Action Plan" or "CAP" shall mean the Corrective Action Plan, as required by the TDEC Commissioner's Order.

c. "Day" shall mean a calendar day unless expressly stated to be a working day.

d. "Department" or "TDEC" shall mean the Tennessee Department of Environment and Conservation.

e. "Effective Date" shall be the effective date of this Order, as provided in Section XXXIX herein.

f. "EPA" shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States.

g. "Future Response Costs" shall mean all direct and indirect costs incurred at or in connection with the Site after the Effective Date of this Order, that are not inconsistent with the NCP, that EPA incurs in reviewing or developing plans, reports and other items pursuant to this Order, verifying the Work, providing technical assistance, or otherwise implementing, overseeing, or enforcing this Order, including, but not limited to, payroll costs, contractor costs, travel costs, and laboratory costs.

h. "Interest" shall mean interest at the rate specified for interest on investments of the EPA Hazardous Substance Superfund established by 26 U.S.C. § 9507, compounded annually on October 1 of each year, in accordance with 42 U.S.C. § 9607(a). The applicable rate of interest shall be the rate in effect at the time the interest accrues. The rate of interest is subject to change on October 1 of each year.

i. "National Contingency Plan" or "NCP" shall mean the National Oil and Hazardous Substances Pollution Contingency Plan promulgated pursuant to 42 U.S.C. § 9605, codified at 40 C.F.R. Part 300, and any amendments thereto.

j. "NPDES Permit" shall mean the National Pollutant Discharge Elimination System Permit (#TN0005452), originally issued by EPA to TVA on April 30, 1976, and most recently re-issued by TDEC on September 1, 2003.

k. "Order" or "Order and Agreement" shall mean this document and all documents incorporated by reference, or to be incorporated by reference, into this document. All such documents are integral and enforceable parts of this Order.

l. "Paragraph" shall mean a portion of this Order identified by an Arabic numeral or a lower case letter.

m. "Parties" shall mean EPA and TVA.

n. "Past Response Costs" shall mean all costs incurred by EPA at or in connection with the Site between December 22, 2008, and the Effective Date hereof, that are not inconsistent with the NCP.

o. "RCRA" shall mean the Solid Waste Disposal Act, as amended, 42 U.S.C. § 6901, et seq. (also known as the Resource Conservation and Recovery Act).

p. "Section" shall mean a portion of this Order identified by a Roman numeral.

q. "Site" shall mean those areas of the TVA Kingston Fossil Fuel Plant, located in Roane County, Tennessee, 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.

r. "State" shall mean the State of Tennessee.

s. "TVA" shall mean the Tennessee Valley Authority, and its officers, directors, employees, successors, assigns, contractors, agents and representatives, and any successor departments or agencies of the United States.

t. "Waste Material" shall mean: 1) any "hazardous substance" under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); 2) any pollutant or contaminant under Section 101(33) of CERCLA, 42 U.S.C. § 9601(33); and 3) any "solid waste" under Section 1004(27) of RCRA, 42 U.S.C. § 6903(27), related to the December 22, 2008, release of ash at and from the Site, or generated in connection with response actions related thereto.

u. "Work" shall mean all activities TVA is required to perform under this Order.

## V. EPA'S FINDINGS OF FACT

9. TVA operates the Kingston Fossil Fuel Plant located in Roane County, Tennessee, near the confluence of the Emory and Clinch Rivers. The plant was originally built in the early 1950s to provide power for the Department of Energy's facility in Oak Ridge, Tennessee. In approximately 1958, the plant began use of a 244-acre wet settling pond for containment of the ash that remains after coal is burned. This settling pond covered the area where the current settling pond, stilling pond and landfill cells 1, 2, 3 and 4 now reside.

10. On June 29, 1999, TVA submitted an application to TDEC for a Class II landfill permit for the disposal of ash waste from the operation of the Kingston Fossil Fuel Plant. TDEC issued TVA the requested Class II landfill permit on September 26, 2000.

11. On September 1, 2003, TDEC issued TVA its most recent NPDES permit for the Kingston Fossil Fuel Plant. The permit authorizes discharge of water from the ash settling pond to the plant intake channel (the intake draws water from the Emory River) and discharge of cooling water to the Clinch River downstream from the mouth of the Emory River. The permit requires that a certain amount of free water volume be maintained in the settling pond to provide adequate treatment prior to discharge. This requirement necessitates periodic dredging of the ash settling pond. The NPDES permit further includes a general requirement that TVA properly operate and maintain all facilities and systems for collection and treatment, and expressly prohibits overflows of

wastes to land or water from any portion of the collection, transmission, or treatment system other than through permitted outfalls.

12. On December 22, 2008, containment structures surrounding portions of the Class II landfill failed resulting in a release of approximately 5.4 million cubic yards of wet ash which flowed into area waters, including the Emory River, adjacent tributaries and sloughs, and adjoining shorelines. The Emory River is a navigable-in-fact water of the United States. 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. The Tennessee River is the source of drinking water for the City of Kingston, Tennessee, and the Watts Bar Reservoir is used by several municipalities as a source of drinking water.

13. EPA Region 4 was notified of the incident on December 22, 2008, and an EPA On-Scene Coordinator (OSC) mobilized to the Site that same day for the emergency phase of the cleanup, pursuant to Executive Order 12580. The OSC worked within the Unified Command/Incident Command to coordinate the response as required by the NCP. Subsequently, on January 10, 2009, EPA, in coordination with the Unified Command, declared the emergency phase of the cleanup complete, transferred the lead federal agency role to TVA in accordance with Executive Order 12580, and demobilized from the Site.

14. On January 12, 2009, TDEC issued TVA the Commissioner's Order which directed TVA to undertake numerous response activities at the Site including, but not limited to:

a. implement measures to prevent the movement of contaminated materials and minimize further down-stream migration of contaminated sediments;

b. fully cooperate and support TDEC's review of all TVA fly ash impoundments located in the State;

c. submit all existing studies, reports and memoranda that are potentially relevant to explaining or analyzing the cause of the catastrophic failure of the containment structures;

d. fully cooperate and provide support for TDEC's initial assessment of the impact of the ash release on all waters of the State;

e. prepare and submit a Corrective Action Plan (CAP) within 45 days after receipt of the Commissioner's Order, to include:

i. a plan for the assessment of soil, surface water and groundwater; remediation of impacted media; and restoration of all natural resources damaged as a result of the release;

ii. a plan for monitoring the air and water in the area during the cleanup process;

iii. a plan to ensure that public and private water supplies are protected and that alternative water supplies are provided if contamination is detected;

iv. a plan for addressing both the short-term and long-term management of fly ash at the Site, including remediation and stabilization of the failed ash waste cells, proper management of the recovered ash, and a revised closure plan for the Class II ash disposal facility; and

v. a plan to address any health or safety hazards posed by the ash to workers and the public.

15. On January 21, 2009, TVA submitted written notification to the Tennessee Emergency Response Commission, pursuant to which TVA reported a discharge of 5.4 million cubic yards of ash containing the following constituents: arsenic, beryllium, chromium, copper, lead, mercury, nickel, zinc, antimony, cadmium, silver, selenium, thallium, and vanadium oxide.

16. On February 4, 2009, EPA, pursuant to Executive Order 12088, and TDEC issued a letter to TVA in which EPA provided notice to TVA that EPA considers the release to be an unpermitted discharge of a pollutant in contravention of the Clean Water Act. The letter directed that TVA provide all plans, reports, work proposals and other submittals being provided to TDEC, to EPA as well for agency review and approval. Subject to the reservations contained in Section XXX, by complying with this Order, TVA will be deemed by EPA to have addressed the unpermitted discharge.

17. Pursuant to the Commissioner's Order, on March 2, 2009, TVA submitted a draft CAP to EPA and TDEC for agency review and approval.

18. Since the release, EPA, the State and TVA have conducted extensive sampling of air, water, sediment, and ash material. Sampling results have revealed levels of arsenic in the ash material that exceed Region 4's residential removal action level of 39 mg/kg. In addition, shortly after the release, arsenic was detected in surface water samples at concentrations in excess of the Tennessee Water Quality Criteria (TWQC) for Domestic Water Supply and in excess of the human health aquatic organism consumption criteria. In the days immediately following the release, arsenic, as well as numerous other contaminants, including cadmium, chromium, copper, lead, mercury, nickel, selenium, and zinc, were also detected in surface water at concentrations which exceeded the National Recommended Ambient Water Quality Criteria (AWQC) for protection of aquatic life (based on both the Chronic Continuous Criterion and the Chronic Maximum Criterion). Other than one thallium exceedance in the raw water collected from the river at the intake of the Kingston public water supply system the day after the release, no contaminants have been detected above the Maximum Contaminant Levels (MCLs) in either the raw intake waters or finished water supplies of the Kingston, Cumberland, or Rockwood public water supply systems.

19. EPA has classified arsenic as a known human carcinogen; and long-term exposure of aquatic organisms to high levels of metals like arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, and zinc may cause decreases in survival,

growth, or reproduction to those aquatic organisms. The levels of these metals detected in the most recent air and surface water sampling events do not indicate an immediate threat to human health or the environment from those metals. However, if the ash material is not properly managed and remediated, the direct impact of the ash material currently in the water on the riverine ecosystem, further suspension of the ash and its constituents within affected waters, and potential exposure from ash on the ground could present unacceptable impacts to human health and/or the environment.

## VI. EPA'S CONCLUSIONS OF LAW AND DETERMINATIONS

20. Based on the Findings of Fact set forth above and the Administrative Record supporting this Order, EPA has determined that:

a. The TVA Kingston Fossil Fuel Site is a "facility" as defined by Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).

b. Ash at the Site contains constituents such as arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium and zinc which are "hazardous substances" as defined by Section 101(14) of CERCLA, 42 U.S.C. § 9601(14). Coal ash is not regulated as a hazardous waste under RCRA.

c. TVA is a "person" as defined by Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).

d. TVA is an Executive agency and instrumentality of the United States and as such is charged with fulfilling the obligations of the owner/operator under CERCLA at this facility. TVA is liable under Section 107(a) of CERCLA as an "operator" of the facility as defined by Section 101(20) of CERCLA, 42 U.S.C. § 9601(20), and within the meaning of Section 107(a)(1) of CERCLA, 42 U.S.C. § 9607(a)(1).

e. The conditions described in the Findings of Fact above constitute an actual or threatened "release" of hazardous substances from the facility as defined by Section 101(22) of CERCLA, 42 U.S.C. § 9601(22).

f. The actual or threatened release of hazardous substances from the Site may present an imminent and substantial endangerment to the public health, welfare, or the environment within the meaning of Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).

g. The response actions required by this Order are necessary to protect the public health, welfare, or the environment and, if carried out in compliance with the terms of this Order, will be consistent with the NCP, as provided in 40 C.F.R. § 300.700(c)(3)(ii).

## VII. ORDER

21. Based upon the foregoing Findings of Fact, Conclusions of Law and Determinations, and the Administrative Record for this Site, it is hereby Ordered and

Agreed that TVA shall comply with the following provisions, including but not limited to all documents incorporated by reference into this Order, and all schedules and deadlines in this Order, developed pursuant to this Order, or incorporated by reference into this Order.

## VIII. DESIGNATION OF PROJECT COORDINATOR, ON-SCENE COORDINATOR, AND REMEDIAL PROJECT MANAGER

22. TVA hereby designates Michael Scott as its Project Coordinator who shall be responsible for administration of all TVA's actions required by this Order. To the greatest extent possible, the Project Coordinator shall be present on Site or readily available during Site work. When the Project Coordinator is not able to be present on Site or readily available he/she may, upon notification to the OSC and RPM, designate another qualified TVA employee to temporarily act in the position of Project Coordinator. Receipt by TVA's Project Coordinator of any written notice or communication from EPA relating to this Order shall constitute receipt by TVA.

23. TVA shall perform the response actions itself or retain a contractor(s) to perform the actions. TVA shall notify EPA of the identity and assigned tasks of each of its contractors performing Work under this Order upon their selection and contract award. TVA shall provide copies of this Order to all contractors performing any Work called for by this Order. TVA shall be responsible for ensuring that its contractors comply with the terms and conditions of this Order. Any contractor that will be performing tasks for which the following guidance has applicability, must demonstrate compliance with ANSI/ASOC E4-1994, "Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs," (American National Standard, January 5, 1995), by submitting a copy of the proposed contractor's Quality Management Plan (QMP). The QMP should be prepared in accordance with "EPA Requirements for Quality Management Plans (QA/R-2)," (EPA/240/B-01-002, March 2001) or equivalent documentation as determined by EPA.

24. EPA has designated Leo Francendese of the Region 4 Emergency Response and Removal Branch as its On-Scene Coordinator (OSC) for purposes of the time-critical removal actions to be conducted under this Order and Craig Zeller of the Remedial and Site Evaluation Branch as its Remedial Project Manager (RPM) for all other response actions to be conducted under this Order.

25. EPA and TVA shall have the right to change their respective designated Project Coordinator and OSC/RPM. The Parties shall notify each other ten (10) days before such a change is made.

## IX. WORK TO BE PERFORMED

26. **Statement of Objectives** - The Parties acknowledge that, in order to expeditiously and efficiently prioritize and perform necessary response actions at the Site, it is important to have agreed upon **short-term**, **mid-term** and **longer-term strategic**

**objectives**. The Parties therefore agree that the **short-term strategic objectives** for the Site are to:

a. prevent the coal ash release from negatively impacting public health and the environment;
b. contain and remove coal ash from the Emory River and the area east of Dike 2 as appropriate to restore flow and minimize further downstream migration of the ash material; and
c. ensure that coal ash material recovered during these efforts is properly managed pending ultimate disposal decisions or, to the extent required by limited storage capacity, properly disposed.

The **mid-term strategic objectives** for the Site are to:

a. remove any remaining coal ash from the Emory River and the area east of Dike 2, as well as the coal ash from embayments and tributaries west of Dike 2, to the maximum extent practicable, as determined by EPA in consultation with TDEC and TVA, pending further Site assessment;
b. remove the coal ash from impacted surface soils to the maximum extent practicable, as determined by EPA in consultation with TDEC and TVA, pending further Site assessment;
c. restore area waters impacted by the coal ash release in accordance with the required jurisdictional assessment; and
d. ensure proper disposal of all coal ash material recovered during these efforts.

The **longer-term objectives** for the Site are to:

a. perform a comprehensive Site assessment to determine what actions may be necessary to address any residual contamination remaining after previous cleanup activities;
b. implement any such actions; and
c. ensure the proper disposal of all ash material recovered during these efforts.

Response actions necessary to achieve short-term strategic Site objectives shall generally be identified as time-critical removal actions. Activities necessary to achieve mid-term strategic Site objectives shall generally be identified as non-time-critical removal actions. Activities necessary to achieve longer-term strategic Site objectives shall generally be identified as remedial actions. The specific actions to be taken to achieve these goals, and the schedules for those actions, shall be governed by the work plans developed and approved pursuant to the remaining paragraphs in this Section. The Parties recognize that, to the extent appropriate, time-critical response actions in furtherance of the short-term Site objectives and non-time-critical response actions in furtherance of the mid-term Site objectives will be carried out simultaneously.

27. EPA acknowledges that TVA has already done considerable work to further the short-term strategic Site objectives set forth in Paragraph 26, above, including extensive work on air, surface water and drinking water monitoring; ash containment;

dust suppression; and initial dredging activities. Portions of that work have been conducted under the TDEC Commissioner's Order and TVA authorities and in accordance with work plans approved by TDEC and EPA pursuant to that Order and EPA's February 4, 2009, letter. It is the intent of the Parties that work done and data generated prior to the Effective Date of this Order be retained and utilized to the maximum extent feasible during implementation of the Work required by this Order and, further, that the issuance of this Order not result in any unnecessary delay in the ongoing cleanup efforts. TVA shall continue to proceed with ongoing response work pursuant to the following deliverables, which have previously been approved by EPA and/or TDEC:

a. Kingston Fossil Plant (KIF) Interim Drainage and Controls Plan (approved April 3, 2009)
b. Phase 1 Emory River Dredging Plan (approved March 19, 2009)
c. KIF Fly Ash Pond Incident Environmental Sampling Plan (February 2009)
d. Request for Authorization to use Polymers to Enhance Treatment of Dredge Return Water (approved March 23, 2009)
e. Request for Use of Wick Drains in Ash Processing Area (February 20, 2009)
f. Long Term Cenosphere Recovery Plan (March 2009)
g. Ash Processing Area Construction and Operation Plan (approved March 19, 2009)

Each of the foregoing work plans is incorporated by reference into this Order and is enforceable under this Order. Each of these plans shall be subject to revision upon direction by EPA, at which time the plan(s) shall be subject to the approval provisions in Section X, hereto.

28. **Time-Critical Removal Action Memoranda and Work Plans** - Within fourteen (14) days of the Effective Date of this Order, TVA shall submit an Action Memorandum for the time-critical removal action. Upon approval of the Action Memorandum by EPA, TVA shall submit, in accordance with the schedule below, the following plans, which may incorporate by reference, or otherwise build upon, plans previously submitted for TDEC and/or EPA review, along with any other work plans necessary to implement the actions selected in the Action Memorandum:

Within five (5) days of Action Memorandum approval, TVA shall submit the following:

a. Site Storm Water Management Plan
b. Site Dust Control and Air Monitoring Plan
c. Schedule for development of a Structural Integrity Evaluation, Recommendations and Maintenance Plan for Existing Site Dikes/Berms being used to contain spilled ash
d. Schedule for development of a Dredging/Excavation Plan for East of Dike 2 (including Ash Processing Areas)

Within fifteen (15) days of Action Memorandum approval, TVA shall submit the following:

e. Off-Site Ash Disposal Options Analysis
f. Financial Expenditure Report (to be updated quarterly)
g. Schedule for development of any other work plans necessary to implement the actions selected in the Action Memorandum.

Within forty-five (45) days of Action Memorandum approval, TVA shall submit the following:

h. Information/Data Management Plan
i. Surface Water Monitoring Plan for the Emory, Clinch and Tennessee Rivers

The approved Action Memorandum may be amended, subject to review and approval by EPA, should circumstances so warrant.

29. TVA shall publish a notice of the availability of the Administrative Record for the selected time-critical removal action(s), including the approved Action Memorandum and any approved work plans, within fourteen (14) days of the approval by EPA of the Action Memorandum. TVA shall update the Administrative Record when additional work plans are approved and if and when any amendments are made to the Action Memorandum. TVA shall provide a public comment period of not less than thirty (30) days beginning at the time the initial Administrative Record file is made available to the public, and upon any updates to the Administrative Record. The public comment period shall not delay initiation of selected time-critical removal actions. A written response to significant comments submitted during the public comment period shall be prepared by TVA and submitted to EPA for review and comment. TVA's final response to comments shall be included in the Administrative Record.

30. **Non-Time-Critical Removal Action EE/CAs, Action Memoranda and Work Plans** - Within ninety (90) days after the effective date of this Order, TVA shall submit to EPA for approval a draft Work Plan for performing one or more Engineering Evaluation/Cost Analyses (EE/CAs) for non-time-critical removal actions to be taken at the Site. TVA shall conduct the EE/CA(s) consistent with 40 C.F.R. § 300.415(b)(4) of the NCP, and in accordance with OSWER Directive 9360.0-32, Guidance on Conducting Non-Time Critical Removal Actions Under CERCLA (EPA/540-R-93-057, August 1993). The EE/CA Work Plan shall be developed in conjunction with a Sampling and Analysis Plan, and Health and Safety Plan. A detailed schedule for completion of each major work item in the EE/CA process shall also be included in the EE/CA Work Plan.

The EE/CA Work Plan shall include a comprehensive description of the work to be performed in developing the EE/CA, including the media to be investigated (e.g. air, ground water, surface water, surface and subsurface soils, and sediments), and the methodologies for human health and ecological risk assessments. The EE/CA Work Plan shall also include the Jurisdictional Assessment described in Section XII, Paragraph 34(b), below. The EE/CA investigations, human health/ecological risk assessments, and identified non-time-critical removal actions shall address:

- Coal ash not yet removed from the Emory River and the area east of Dike 2;
- Coal ash in the embayments and tributaries west of Dike 2;
- Coal ash on upland areas and surface soils;
- Restoration of area waters impacted by the coal ash release per the Jurisdictional Assessment; and
- Proper disposal of all coal ash material recovered during these efforts.

Following completion of the work in the approved EE/CA Work Plan, TVA shall submit the draft EE/CA Report for EPA's review and approval. Upon issuance of a final EE/CA, as approved by EPA, TVA shall make the EE/CA and the Administrative Record supporting the EE/CA available for public comment in accordance with 40 C.F.R. § 300.415(n), and shall comply with the Administrative Record requirements of 40 C.F.R. § 300.820. Within thirty (30) days of the close of the public comment period on the EE/CA, TVA shall submit for EPA review and approval an Action Memorandum which responds to public comments and describes the selected response actions. Within sixty (60) days of EPA's approval of the Action Memorandum, TVA shall submit to EPA for review and approval a Non-Time-Critical Removal Work Plan for the selected response actions.

Upon approval, TVA shall implement the Non-Time-Critical Removal Work Plan in accordance with the schedule provided therein. Both the Action Memorandum and the Non-Time-Critical Removal Work Plan shall be added to the Administrative Record and an additional public comment period of not less than thirty (30) days shall be provided. This comment period shall not delay initiation of the selected non-time-critical removal actions. A written response to significant comments submitted during the public comment period shall be prepared by TVA and submitted to EPA for review and comment. TVA's final response to comments shall be included in the Administrative Record.

31. **Other Response Actions** – Within thirty (30) days of the receipt of EPA's approval of the Final OSC Report for the Non-Time-Critical Removal Action described in Paragraph 41, below, TVA shall submit to EPA for review and approval, a Remedial Site Work Plan (RSWP) to address the longer-term strategic Site objectives set forth in Paragraph 26, above, including the performance of a preliminary assessment as required by 42 U.S.C. § 9620(d)(1). Upon EPA approval of the RSWP, TVA shall perform the preliminary assessment and submit to EPA for review and approval a preliminary assessment report which documents whether additional assessment or remedial work is necessary to address any residual contamination remaining at the Site. To the extent that the report, as approved by EPA, indicates that additional Site response action is required, TVA shall revise the RSWP to include a plan and schedule for selecting and conducting such work. Such work shall be governed by the terms of this Order and Agreement on Consent, and shall be performed in accordance with CERCLA and the NCP, including all public participation and Administrative Record requirements.

## X. EPA APPROVAL OF PLANS AND OTHER SUBMISSIONS

32. a) After review of any plan, report or other item which is required to be submitted for approval pursuant to this Order, EPA, after consultation with TDEC, shall: (i) approve, in whole or in part, the submission; (ii) approve the submission upon specified conditions; (iii) disapprove, in whole or in part, the submission, directing that TVA modify the submission; or (iv) any combination of the above.

b) In the event of approval or approval upon conditions, pursuant to Paragraph 32(a)(i) or (ii), TVA shall proceed to take any action required by the plan, report, or other item, as approved by EPA, subject only to its right to invoke the Dispute Resolution procedures set forth in Section XXVI (Dispute Resolution) with respect to the conditions established by EPA.

c) Upon receipt of a notice of disapproval pursuant to Paragraph 32(a)(iii), TVA shall, within fourteen (14) days, or such other time as agreed by EPA and TVA, correct the deficiencies and resubmit the plan, report, or other item for approval. Any stipulated penalties applicable to the submission, as provided in Section XXVIII, shall accrue during the 14-day period, or otherwise specified period, but shall not be assessed unless the resubmission is disapproved due to a material defect as provided in Paragraph 32(f).

d) Notwithstanding the receipt of a notice of disapproval pursuant to Paragraph 32(a)(iii), TVA shall proceed, at the direction of EPA, to take any action required by any non-deficient portion of the submission. Implementation of any non-deficient portion of a submission shall not relieve TVA of any liability for stipulated penalties under Section XXVIII (Stipulated Penalties).

e) In the event that a resubmitted plan, report or other item, or portion thereof, is disapproved by EPA, EPA may again require TVA to correct the deficiencies, in accordance with the preceding paragraphs.

f) If upon resubmission, a plan, report, or item is disapproved by EPA due to a material defect, TVA shall be deemed to have failed to submit such plan, report, or item timely and adequately unless TVA invokes the dispute resolution procedures set forth in Section XXVI (Dispute Resolution) and EPA's action is not confirmed pursuant to that Section. The provisions of Section XXVI (Dispute Resolution) and Section XXVIII (Stipulated Penalties) shall govern the implementation of the Work and accrual and payment of any stipulated penalties during Dispute Resolution. If EPA's disapproval is confirmed, stipulated penalties shall accrue for such violation from the date of EPA's initial disapproval. A material defect shall be any element of a submitted plan, report, or item that goes to the fundamental purpose for the plan, report, or item and does not include style or format.

g) All plans, reports, and other items required to be submitted to EPA under this Order shall, upon approval by EPA, be incorporated by reference into and become enforceable under this Order. In the event EPA approves a portion of a plan, report, or

other item required to be submitted to EPA under this Order, the approved portion shall be incorporated into and become enforceable under this Order.

## XI. STRUCTURAL INTEGRITY ASSESSMENTS OF OTHER TVA FACILITIES

33. TVA is currently conducting 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. EPA is also undertaking its own national assessment of coal ash impoundments throughout the nation. TVA agrees to promptly provide any findings, reports, or other documentation produced as a result of its internal assessments to EPA. TVA has provided EPA its assessment methodologies and agrees to work with EPA with the goal of making the TVA and EPA assessment methodologies consistent. Upon EPA's request, TVA shall make available appropriate TVA personnel and contractors, to work with EPA personnel and contractors, in refining their respective assessment methodologies. EPA will review any reports submitted under this Paragraph and advise TVA if additional structural assessment work is warranted. EPA may conduct its own independent structural integrity assessments of TVA facilities and TVA agrees to cooperate with such effort. Nothing in this Paragraph shall require TVA to delay its ongoing or planned assessments nor shall Sections XXVIII or XXV apply to activities under this Paragraph.

## XII. COMPLIANCE WITH OTHER LAWS

34. a) All Work performed under this Order shall be performed in a manner consistent with the National Contingency Plan, including, but not limited to, the public participation requirements of 40 C.F.R. § 300.415. All removal actions undertaken pursuant to this Order, shall, to the maximum extent practicable considering the exigencies of the situation, attain applicable or relevant and appropriate requirements (ARARs) under federal environmental or state environmental or facility siting laws. All remedial activities undertaken pursuant to this Order shall attain ARARs unless a waiver has been approved by EPA pursuant to 40 C.F.R. § 300.430(f)(1)(ii)(C).

b) Although restoration of area waters impacted by the coal ash release has been identified as a mid-term strategic Site objective and a part of the non-time-critical removal actions under this Order, TVA agrees that such restoration will be considered as remedial activity for purposes of complying with ARARs. Therefore, ARARs pertaining to such restoration shall be attained unless a waiver has been approved by EPA. In particular, TVA agrees that it will so 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. In order to identify the full extent of response activities necessary to meet this ARAR, TVA shall conduct a jurisdictional assessment of the Site, to the extent not previously evaluated, which will identify all waters of the United States impacted by the release. Such assessment shall be performed by an independent environmental management professional or other expert deemed qualified by EPA. The assessment shall include mapping and physical inspection of affected banks, streambeds and

adjoining shorelines of all impacted areas. As part of the 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. Based on the results of this assessment, TVA shall propose, as a part of the EE/CA process outlined in Paragraph 30, above, final cleanup criteria which 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 as approved by EPA in consultation with TDEC.

## XIII. HEALTH AND SAFETY PLAN

35. Within fourteen (14) days after the Effective Date of this Order, TVA shall submit for EPA review and approval, a plan that ensures the protection of the public health and safety during performance of on-Site Work under this Order. This plan shall be prepared in accordance with EPA's Standard Operating Safety Guide (PUB 9285.1-03, PB 92-963414, June 1992). In addition, the plan shall be consistent with Occupational Safety and Health Administration (OSHA) provisions for response action worker safety and health found in 29 C.F.R. Part 1910. TVA shall incorporate all changes to the plan recommended by EPA, and implement the plan during the pendency of the response actions. The Plan shall also include contingency planning.

## XIV. QUALITY ASSURANCE AND SAMPLING

36. a) All sampling and analyses performed pursuant to this Order shall conform with EPA guidance regarding sampling, quality assurance/quality control (QA/QC), data validation, and chain of custody procedures. TVA shall ensure that the laboratories used to perform the analyses participate in a QA/QC program that complies with the appropriate EPA guidance. TVA shall follow "Quality Assurance/Quality Control Guidance for Removal Activities: Sampling QA/QC Plan and Data Validation Procedures" (OSWER Directive Number 9360.4-01, April 1, 1990), as guidance for QA/QC and sampling. TVA shall only use laboratories that 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" (American National Standard, January 5, 1995), and "EPA Requirements for Quality Management Plans (QA/R-2) (EPA/240/B-01/002, March 2001)," or equivalent documentation as determined by EPA. EPA may consider laboratories accredited under the National Environmental Laboratory Accreditation Program (NELAP) as meeting the Quality System requirements.

b) As a part of EPA's oversight of QA/QC and data validation, EPA may request, and TVA shall then require, that any laboratory TVA is using analyze samples submitted

by EPA for QA monitoring. TVA shall provide to EPA the QA/QC procedures followed by all sampling teams and laboratories performing data collection and/or analysis.

c) Upon request by EPA, TVA shall allow EPA or its authorized representatives to take split and/or duplicate samples. EPA shall have the right to take any additional samples that EPA deems necessary. Upon request, EPA shall allow TVA to take split or duplicate samples of any samples it takes as part of its oversight of TVA's implementation of the Work.

## XV. POST-REMOVAL SITE CONTROL

37. In accordance with the EPA-approved schedule, TVA shall submit a proposal for post-removal site control consistent with Section 300.415(l) of the NCP and OSWER Directive No. 9360.2-.02. Upon EPA approval, TVA shall implement such controls and shall provide EPA with documentation of all post-removal site control arrangements.

## XVI. REPORTING

38. TVA shall submit written progress reports to EPA and TDEC on a weekly basis for all time-critical response actions and on a monthly basis for all non-time-critical response actions undertaken pursuant to this Order until termination of the Order, unless the EPA OSC or RPM and TDEC agree in writing that reports can be less frequent. These reports shall describe all significant developments during the preceding period, including the actions performed and any problems encountered, analytical data received during the reporting period, and the developments anticipated during the next reporting period, including a schedule of work to be performed, anticipated problems, and planned resolutions of past or anticipated problems. During the removal phases of the cleanup, these reports (i.e., Pollution Reports/Situation Reports) shall conform to EPA's Guidance for Preparing POLREPs/SITREPs, OSWER Directive No. 9360.3-03 (Dec. 2007). At the conclusion of all time-critical removal actions, and at the conclusion of all non-time-critical removal actions, TVA shall submit Final Pollution Reports in accordance with the POLREP/SITREP Guidance. At the time they are submitted to EPA and TDEC, TVA shall make all progress reports available to the public by placing them in the local Site Repository and on the established TVA Kingston release website.

39. TVA shall utilize SCRIBE or SCRIBE.Net, as well as ArcMap 9.3, for data management and reporting purposes.

40. During the pendency of this Order, TVA and any successor(s) in title shall, at least thirty (30) days prior to the conveyance of any interest in real property at the Site, give written notice of this Order to the transferee and written notice to EPA and the State of the proposed conveyance, including the name and address of the transferee. The party conveying such an interest shall require that the transferee comply with Section XXII of this Order (Site Access).

41. Final OSC Reports. Within sixty (60) days after completion of all time-critical removal actions, and, again, within sixty (60) days after the completion of all non-time-critical removal actions required under this Order, TVA shall submit for EPA review and approval final reports summarizing the actions taken to comply with this Order. The final reports shall conform, at a minimum, with the requirements set forth in Section 300.165 of the NCP entitled "OSC Reports" and EPA's "Superfund Removal Procedures: Removal Response Reporting," OSWER Directive No. 9360.3-03, June 1, 1994. The final OSC reports shall include a listing of quantities and types of materials addressed, a discussion of response and disposal options considered for those materials, a listing of the ultimate destinations of those materials, and a presentation of the analytical results of all sampling and analyses performed. The final OSC reports shall also include the following certification signed by a person who supervised or directed the preparation of the reports:

> Under penalty of law, I certify that to the best of my knowledge, after appropriate inquiries of all relevant persons involved in the preparation of the report, the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

## XVII. OFF-SITE SHIPMENTS AND OTHER DISPOSAL OF WASTE MATERIAL

42. TVA shall, prior to any off-Site shipment of Waste Material from the Site to an out-of-state waste management facility, provide written notification of such shipment of Waste Material to the appropriate state environmental official in the receiving facility's state and to the EPA OSC/RPM. However, this notification requirement shall not apply to any off-Site shipments when the total volume of all such shipments will not exceed ten (10) cubic yards.

43. TVA shall include in the written notification the following information: 1) the name and location of the facility to which the Waste Material is to be shipped; 2) the type and quantity of the Waste Material to be shipped; 3) the expected schedule for the shipment of the Waste Material; and 4) the method of transportation. TVA shall notify the state in which the planned receiving facility is located of major changes in the shipment plan, such as a decision to ship the Waste Material to another facility within the same state, or to a facility in another state.

44. The identity of the receiving facility and state will be determined by TVA. TVA shall provide the information required by Paragraphs 42 and 43 as soon as practicable before the Waste Material is actually shipped.

45. 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. 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. EPA may disapprove such disposal if it is not so satisfied. Prior to any off-Site shipment, TVA shall obtain EPA's determination that the proposed receiving facility is operating in compliance with the requirements of 40 C.F.R. § 300.440, as well as appropriate health and safety standards.

## XVIII. PERMITS

46. TVA shall be responsible for obtaining all required Federal, State and local permits which are necessary for the performance of all Work under this Order.

47. The Parties recognize that under Sections 121(d) and 121(e)(1) of CERCLA, 42 U.S.C. §§ 9621(d) and 9621(e)(1), and the NCP, portions of the response actions called for by this Order that are conducted entirely on-Site, where such response actions are selected and carried out in accordance with CERCLA, are exempt from the procedural requirement to obtain Federal, State, or local permits. Subject to Paragraph 34 above, all on-Site response actions must, however, comply with all the applicable or relevant and appropriate Federal and State standards, requirements, criteria, or limitations, which would have been included in any such permit unless justification exists for a waiver and EPA, in consultation with TDEC, approves such a waiver.

## XIX. EMERGENCY RESPONSE AND NOTIFICATION OF RELEASES

48. In the event of any action or occurrence during performance of the Work which causes or threatens a release of Waste Material from the Site that constitutes an emergency situation or may present an immediate threat to public health or welfare or the environment, TVA shall immediately take all appropriate action. TVA shall take these actions in accordance with all applicable provisions of this Order, including, but not limited to, the Health and Safety Plan, in order to prevent, abate or minimize such release or endangerment caused or threatened by the release. TVA shall also immediately notify the EPA OSC/RPM as appropriate, or, in the event of his unavailability, the Regional Duty Officer at 404-562-8700, of the incident or Site conditions. In the event that TVA fails to take appropriate response action as required by this Paragraph, and EPA takes such action instead, TVA shall reimburse EPA all costs of the response action not inconsistent with the NCP pursuant to Section XXV (Reimbursement of Costs).

49. In addition, in the event of any new release of a hazardous substance from the Site above applicable reportable quantities, TVA shall immediately notify the OSC/RPM as appropriate, the Regional Duty Officer at 404-562-8700, and the National Response Center at (800) 424-8802. TVA shall submit a written report to EPA within seven (7) days after each release, setting forth the events that occurred and the measures taken or to be taken to mitigate any release or endangerment caused or threatened by the release and to prevent the reoccurrence of such a release. This reporting requirement is in addition

to, and not in lieu of, reporting under Section 103(c) of CERCLA, 42 U.S.C. § 9603(c), and Section 304 of the Emergency Planning and Community Right-To-Know Act of 1986, 42 U.S.C. § 11004, et seq., as applicable.

## XX. AUTHORITY OF EPA ON-SCENE COORDINATOR/REMEDIAL PROJECT MANAGER

50. EPA and TVA agree that EPA's OSC and/or RPM, shall be responsible for overseeing TVA's implementation of this Order, in consultation with TDEC and TVA's Project Coordinator. TVA and EPA further agree that the EPA OSC and/or RPM, in consultation with TDEC and the TVA Project Coordinator, shall have the authority to halt any Work required under this Order, or to conduct or direct other response action at the Site in an emergency or under circumstances that may present an immediate threat to public health, welfare or the environment. Absence of the EPA OSC or RPM from the Site shall not be cause for stoppage of work unless specifically directed by the EPA OSC or RPM after consultation with TDEC and the TVA Project Coordinator.

## XXI. PUBLIC REVIEW OF ADMINISTRATIVE RECORD

51. Upon issuance of this Order, the Administrative Record supporting the issuance of this Order, as well as the Order itself, shall be made available for public comment for a period of thirty (30) days. The Administrative Record will be available for public review during normal business hours at the U.S. EPA Region 4 Records Center, 61 Forsyth Street, SW, 11th Floor, Atlanta, Georgia 30303, and the local Site Repository that is established under the Order. Within thirty (30) days following close of the public comment period, EPA shall provide a written response to significant comments that were received. The public comment period shall not delay the initiation of the Work required by this Order. However, EPA may seek modifications to this Order if public comments received during the comment period disclose facts or considerations which indicate that this Order is inappropriate, improper, or inadequate.

52. Upon selection or proposal of response activities pursuant to this Order, an Administrative Record(s) for such response activities will be established and made available for public review and comment in accordance with Paragraphs 29, 30 and 31, above.

## XXII. SITE ACCESS

53. TVA shall use its best efforts to provide and/or obtain access to all areas to which access is necessary to implement this Order. Such access shall be provided to EPA and TDEC as well as their employees, contractors, agents, consultants, designees and representatives. Access provided and/or obtained by TVA shall permit these individuals to move freely on-Site and at appropriate off-Site areas in order to conduct actions which EPA, in consultation with TDEC, determines to be necessary.

54. Where action under this Order is to be performed in areas owned by or in possession of someone other than the United States, TVA shall use its best efforts to obtain all necessary access agreements in a timely fashion. TVA shall immediately notify EPA and TDEC if, after using its best efforts, it is unable to obtain such agreements. TVA shall describe in writing its efforts to obtain access. EPA or TDEC may then assist TVA in gaining access, to the extent necessary, to effectuate the response actions described herein, using such means as EPA or TDEC deems appropriate. TVA shall reimburse EPA and/or TDEC for all reasonable costs and attorneys' fees, if any, incurred by them in obtaining such access.

## XXIII. ACCESS TO INFORMATION

55. TVA shall provide to EPA, upon request, copies of all documents and information within its possession or control or that of its contractors or agents relating to activities at the Site or to the implementation of this Order, including, but not limited to, sampling, analysis, chain of custody records, manifests, trucking logs, receipts, reports, sample traffic routing, correspondence, or other documents or information related to the Work. TVA shall also make available to EPA at reasonable times, for purposes of investigation, information gathering, or testimony, their employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work.

56. TVA may assert business confidentiality claims covering part or all of the documents or information submitted to EPA under this Order to the extent permitted by and in accordance with Section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7), and 40 C.F.R. § 2.203(b). Documents or information determined to be confidential by EPA will be afforded the protection specified in 40 C.F.R. Part 2, Subpart B. If no claim of confidentiality accompanies documents or information when they are submitted to EPA, or if EPA has notified TVA that the documents or information are not confidential under the standards of Section 104(e)(7) of CERCLA or 40 C.F.R. Part 2, Subpart B, the public may be given access to such documents or information without further notice to TVA.

57. TVA may assert that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If TVA asserts such a privilege in lieu of providing documents, it shall provide EPA with the following: 1) the title of the document, record, or information; 2) the date of the document, record, or information; 3) the name and title of the author of the document, record, or information; 4) the name and title of each addressee and recipient; 5) a description of the contents of the document, record, or information; and 6) the privilege asserted by TVA. However, no documents, reports or other information created or generated pursuant to the requirements of this Order shall be withheld on the grounds that they are privileged.

58. No claim of confidentiality shall be made with respect to any data, including, but not limited to, all sampling, analytical, monitoring, hydrogeologic, scientific,

chemical, or engineering data, or any other documents or information evidencing conditions at or around the Site.

## XXIV. RECORD RETENTION, DOCUMENTATION, AVAILABILTY OF INFORMATION

59. TVA shall preserve all documents and information relating to the Work performed under this Order, or relating to the release of fly ash from the Kingston Fossil Fuel Plant, in accordance with federal law and TVA's established document retention policies, but in no event shall such records be preserved for less than ten (10) years. At the end of this document retention period, and thirty (30) days before any document or information is destroyed, TVA shall notify EPA that such documents and information are available to EPA for inspection and, upon request, shall provide the originals or copies of such documents and information to EPA to the extent that they are not subject to any privilege. In addition, TVA shall provide documents and information retained under this Paragraph at any time before expiration of its document retention timeframe at the written request of EPA to the extent that they are not subject to any privilege. TVA shall also instruct its contractors and agents to preserve all documents, records, and information of whatever kind, nature or description relating to performance of the Work.

## XXV. REIMBURSEMENT OF COSTS

60. Payment of Past Response Costs. TVA shall pay, within thirty (30) days after TVA's receipt from EPA of a demand for payment, EPA's Past Response Costs. EPA's Past Costs demand will include a SCORPIOS Report, which summarizes direct and indirect costs incurred by EPA and its contractors.

a) Payment shall be made by Electronic Funds Transfer and directed to the Federal Reserve Bank of New York as follows: Federal Reserve Bank of New York, ABA=021030004, Account =68010727, SWIFT address = FRNYUS33, 33 Liberty Street, New York, New York 10045, Field Tag 4200 of the Fedwire message should read "D68010727 Environmental Protection Agency," and shall be accompanied by a statement identifying the name and address of TVA, the Site name, the EPA Region, Site/Spill ID Number A4XP, and the EPA docket number for this action.

b) At the time of payment, TVA shall send notice that such payment has been made to EPA individuals identified in Section XL (Notices and Submissions), with a copy to:

Paula Painter
Environmental Protection Specialist
U.S. Environmental Protection Agency, Region 4
61 Forsyth St., SW
Atlanta, Georgia 30303

and

EPA Cincinnati Finance Office
26 Martin Luther King Dr.
Cincinnati, Ohio 45268

c) The total amount to be paid by TVA pursuant to this Paragraph shall be deposited in the TVA Kingston Fossil Fuel Plant Release Site Special Account within the EPA Hazardous Substance Superfund to be retained and used to conduct or finance response actions at or in connection with the Site, or to be transferred by EPA to the EPA Hazardous Substance Superfund.

61. Payment of Future Response Costs. TVA shall pay EPA all Future Response Costs not inconsistent with the NCP. On a periodic basis, EPA will send TVA a bill requiring payment that includes a SCORPIOS Report, which includes direct and indirect costs incurred by EPA and its contractors. TVA shall make all payments within thirty (30) days of receipt of each bill requiring payment, except as otherwise provided in Paragraph 63 of this Order.

a) Payment shall be made by Electronic Funds Transfer and directed to the Federal Reserve Bank of New York as follows: Federal Reserve Bank of New York, ABA=021030004, Account =68010727, SWIFT address = FRNYUS33, 33 Liberty Street, New York, New York 10045, Field Tag 4200 of the Fedwire message should read "D68010727 Environmental Protection Agency," and shall be accompanied by a statement identifying the name and address of TVA, the Site name, the EPA Region, Site/Spill ID Number A4XP, and the EPA docket number for this action.

b) At the time of payment, TVA shall send notice that such payment has been made to the EPA individuals identified in Section XL (Notices and Submissions), with a copy to:

Paula Painter
Environmental Protection Specialist
U.S. Environmental Protection Agency, Region 4
61 Forsyth St., SW
Atlanta, Georgia 30303

and

EPA Cincinnati Finance Office
26 Martin Luther King Dr.
Cincinnati, Ohio 45268

c) The total amount to be paid by TVA pursuant to this Paragraph shall be deposited in the TVA Kingston Fossil Fuel Plant Release Site Special Account within the EPA Hazardous Substance Superfund to be retained and used to conduct or finance

response actions at or in connection with the Site, or to be transferred by EPA to the EPA Hazardous Substance Superfund.

62. In the event that payment for Past Response Costs or Future Response Costs is not made within thirty (30) days of TVA's receipt of a bill, TVA shall pay Interest on the unpaid balance. The Interest on Past Response Costs and Future Response Costs shall begin to accrue on the date of the bill and shall continue to accrue until the date of payment. Payments of Interest made under this Paragraph shall be in addition to such other remedies or sanctions available to EPA by virtue of TVA's failure to make timely payments under this Section, including but not limited to, payment of stipulated penalties pursuant to Section XXVIII.

63. TVA may dispute all or part of a bill for Past Response Costs or Future Response Costs submitted under this Order, if TVA alleges that EPA has made an accounting error, or if TVA alleges that a cost item is inconsistent with the NCP. Upon request, EPA will make available to TVA detailed documentation of any costs it has billed. If any dispute over costs is resolved before payment is due, the amount due will be adjusted as necessary. If the dispute is not resolved before payment is due, TVA shall pay the full amount of the uncontested costs to EPA as specified in Paragraphs 60 or 61 on or before the due date. Within the same time period, TVA shall pay the full amount of the contested costs into an interest-bearing escrow account. TVA shall simultaneously transmit a copy of both payments to the EPA person(s) identified in Section XL (Notices and Submissions) and in Paragraphs 60(b) and 61(b) above. TVA shall ensure that the prevailing party in the dispute shall receive the amount upon which they prevailed from the escrow funds plus interest within fifteen (15) days after the dispute is resolved.

## XXVI. DISPUTE RESOLUTION

64. If a dispute arises under this Order, the procedures of this Section (Dispute Resolution) shall apply. The Parties, in consultation with TDEC, shall make reasonable efforts to informally resolve disputes at the OSC/RPM/Project Coordinator level.

65. If TVA objects to any EPA action or determination, including any EPA disapproval, modification, or other decision taken pursuant to this Order, TVA shall notify EPA in writing of its objections, and the basis thereof, within fifteen (15) days of such action. Such notice shall set forth the specific points of the dispute, the position which TVA asserts should be adopted as consistent with the requirements of this Order, the basis for TVA's position, and any matters which it considers necessary for EPA's determination. For purposes of this Order, EPA actions, orders or determinations will include those actions taken by or on behalf of EPA or any of its employees, agents or designees.

66. EPA and TVA shall have an additional fifteen (15) calendar days from receipt by EPA of the notification of objection (Negotiation Period), during which time representatives of EPA and TVA may confer in person or by telephone to resolve any disagreement. If an agreement is reached during the Negotiation Period, the resolution

shall be in writing, signed by an authorized representative of both Parties. Such agreement shall be incorporated into and become an enforceable part of this Order. The Negotiation Period may be extended at the sole discretion of EPA, although such extensions shall not be unreasonably withheld. EPA's decision regarding an extension of the Negotiation Period shall not constitute an EPA action subject to dispute resolution.

67. If the Parties are unable to reach an agreement within the Negotiation Period, the dispute shall be elevated to the Superfund Division Director of EPA Region 4 and the Senior Vice President of TVA's Office of Environment and Research. The Superfund Division Director and TVA's Senior Vice President shall have an additional five (5) days to resolve the dispute and issue a written decision signed by both Parties. If the Superfund Division Director and TVA's Senior Vice President cannot reach a mutual agreement within the five-day period, the Superfund Division Director will issue a written decision on the dispute to TVA that provides the basis for his or her decision. This decision shall be incorporated into and become an enforceable part of this Order. TVA's obligations under this Order shall not be tolled by submission of any objections for dispute resolution under this Section.

68. Following resolution of the dispute, as provided by this Section, TVA shall fulfill the requirement that was the subject of the dispute in accordance with the agreement reached or in accordance with EPA's decision, whichever occurs.

## XXVII. FORCE MAJEURE

69. TVA agrees to perform all requirements under this Order within the time limits established in any EPA-approved schedule or work plan unless the performance is delayed by a force majeure for which an extension of the schedule shall be provided. For purposes of this Order, force majeure is defined 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. For purposes of this Order, force majeure includes, but is not limited to: Acts of God; fire; war; insurrection; civil disturbance; adverse weather conditions that could not have been reasonably anticipated; restraint by court order or order of public authority; or inability to obtain, after exercise of reasonable diligence, any necessary authorizations, approvals, permits or licenses due to action or inaction of any governmental agency or authority other than TVA. Force majeure does not include financial inability to complete the Work or increased cost of performance.

70. If any event occurs or has occurred that may delay the performance of any obligation under this Order, whether or not caused by a force majeure event, TVA shall verbally notify EPA within forty-eight (48) hours after TVA becomes or should have become aware that the event might cause a delay. Within five (5) days thereafter, TVA shall provide to EPA in writing an explanation of the event causing the delay or anticipated delay; the anticipated length of delay, including necessary demobilization and re-mobilization; the measures taken or to be taken to minimize the delay; the timetable

for implementation of the measures; TVA's rationale for attributing such delay to a force majeure event if it intends to assert such a claim; and a statement as to whether, in TVA's opinion, such event may cause or contribute to an endangerment to public health, welfare, or the environment. TVA shall take all reasonable measures to avoid and minimize the delay. Failure to comply with the notice provision of this Paragraph shall waive any claim of force majeure by TVA unless forgiven by EPA in its sole discretion.

71. If EPA determines that the delay in performance of a requirement under this Order is or was attributable to a force majeure event, the time period for performance of that requirement shall be extended as deemed necessary by EPA. Such an extension shall not alter TVA's obligation to perform or complete other tasks required by the Order which are not directly affected by the force majeure event.

## XXVIII. STIPULATED PENALTIES

72. EPA may assess stipulated penalties against TVA for violations of this Order in the amounts set forth below, unless excused under Section XXVII (Force Majeure). Compliance by TVA shall include completion of the activities under this Order in accordance with all applicable requirements of law, this Order, and the time schedules and work plans established and approved under this Order.

73. Stipulated Penalty Amounts – Work. For each day TVA is in violation of an established schedule for the Work, EPA may assess a stipulated penalty for each violation up to the identified amounts shown below:

| Penalty Per Violation Per Day | Period of Noncompliance |
|---|---|
| $1,500.00 | 1st through 14th day |
| $2,500.00 | 15th through 30th day |
| $5,000.00 | 31st day and beyond |

74. Stipulated Penalty Amounts – Work Plans and Reports. For each day TVA fails to submit timely or adequate work plans, reports, or other written documents pursuant to this Order, EPA may assess a stipulated penalty for each violation up to the identified amounts shown below:

| Penalty Per Violation Per Day | Period of Noncompliance |
|---|---|
| $500.00 | 1st through 14th day |
| $1000.00 | 15th through 30th day |
| $2000.00 | 31st day and beyond |

In no event shall this Paragraph give rise to a stipulated penalty in excess of the amount set forth in Section 109 of CERCLA, 42 U.S.C. § 9609.

75. Stipulated penalties under this Section shall begin to accrue on the day after performance is due or the day a violation occurs, whichever is applicable, and shall continue to accrue until performance is satisfactorily completed or until the violation

ceases. However, stipulated penalties shall not accrue with respect to an issue subject to the Dispute Resolution provisions hereof, during the period, if any, after the conclusion of the Negotiation Period until the date that EPA issues a final decision regarding such dispute. Nothing herein shall prevent the simultaneous accrual of separate penalties for separate violations of this Order.

76. Stipulated penalties accruing under this Section shall become due and payable to EPA within thirty (30) days after TVA's receipt from EPA of a demand for payment of the penalties. Nothing in this Section is intended to create a debt or payment obligation to EPA unless EPA issues a written demand to TVA. All payments to EPA under this section shall be made by Electronic Funds Transfer as described in Section XXV. Stipulated penalties accruing during any dispute resolution period need not be paid until fifteen (15) days after the dispute is resolved by agreement, or by receipt of EPA's final decision. Only those penalties determined in the agreement or decision to be owing shall be due.

77. The payment of penalties shall not alter in any way TVA's obligations to complete performance of the Work required under this Order. Notwithstanding any other provision of this Section, EPA may, in its unreviewable discretion, waive any portion of stipulated penalties that have accrued pursuant to this Order. In exercising this discretion, EPA recognizes that TVA is an executive federal agency and instrumentality and that it conducts its activities on a not-for-profit basis in accordance with the TVA Act.

## XXIX. COVENANT NOT TO TAKE ADMINISTRATIVE ACTION BY EPA

78. Upon issuance of a Notice of Completion by EPA as set forth in Section XXXVIII, EPA covenants not to take administrative action against TVA pursuant to Section 106 and 107(a) of CERLCA, 42 U.S.C. §§ 9606 and 9607(a) for the Work, Past Response Costs and Future Response Costs. This covenant is conditioned upon the complete and satisfactory performance by TVA of its obligations under this Order.

## XXX. RESERVATION OF RIGHTS BY EPA

79. Nothing herein shall limit the available power and authority of EPA to take, direct, or order all actions necessary to protect public health, welfare or the environment or to prevent, abate, or minimize an actual or threatened release of hazardous substances, pollutants or contaminants, or hazardous or solid waste on, at, or from the Site.

80. The Covenant Not To Take Administrative Action set forth in Section XXIX does not pertain to any matters other than those expressly identified therein. EPA reserves, and this Order is without prejudice to, all rights against TVA with respect to all other matters, including, but not limited to:

a. claims based on a failure by TVA to meet a requirement of this Order;

b. liability for costs not included within the definition of Past and Future Response Costs;

c. liability for penalties other than for noncompliance with this Order;

d. liability for performance of response actions other than the Work specifically performed under this Order;

e. criminal liability;

f. liability for damages for injury to, destruction of, or loss of natural resources, and for the cost of any natural resource damages assessments; and

g. liability arising from the past, present, or future disposal, release or threat of a release of hazardous substances, pollutants or contaminants outside of the Site.

## XXXI. COVENANT NOT TO SUE BY TVA

81. TVA agrees not to assert any claims or causes of action against EPA, or its agents, contractors or employees, with respect to the Work, Past Response Costs, or Future Response Costs, or any other terms of this Order, including, but not limited to, any direct or indirect claim from or against EPA based on 42 U.S.C. §§ 9606(b)(2), 9607, 9611, 9612 or 9613, or any other provision of law, or any claims arising out of response activities at the Site. This does not prevent TVA from invoking Dispute Resolution pursuant to this Order.

82. Nothing in this Order shall be deemed to constitute approval or preauthorization of a claim within the meaning of 42 U.S.C. § 9611, or 40 C.F.R. § 300.700(d).

## XXXII. OTHER CLAIMS

83. By issuance of this Order, EPA assumes no liability for injuries or damages to persons or property resulting from any acts or omissions of TVA. EPA shall not be deemed a party to any contract entered into by TVA or its directors, officers, employees, agents, successors, representatives, assigns, contractors, or consultants in carrying out actions pursuant to this Order. TVA shall bear its own litigation costs and attorneys' fees.

84. Except as expressly provided in Section XXIX (Covenant Not to Take Administrative Action by EPA), nothing in this Order constitutes a satisfaction of, or release by EPA from, any claim or cause of action against TVA or any person not a party to this Order, for any liability such person may have under CERCLA, the Clean Water Act, RCRA, other statutes, or the common law.

85. In any subsequent proceeding initiated by EPA for injunctive or other appropriate relief relating to the Site, TVA shall not assert, and may not maintain, any defense or claim based upon the principles of waiver, res judicata, collateral estoppel, issue preclusion, claim-splitting, or other defenses based upon any contention that the claims raised by EPA in the subsequent proceeding were or should have been raised in the present matter.

86. No action or decision by EPA or TVA pursuant to this Order shall give rise to any right to judicial review, except as set forth in Section 113(h) of CERCLA, 42 U.S.C. § 9613(h).

## XXXIII. CONTRIBUTION

87. The Parties agree that TVA is entitled, as of the Effective Date, to protection from contribution actions or claims as provided by 42 U.S.C. §§ 9613(f)(2) and 9622, for "matters addressed" in this Order. For purposes of this Paragraph, the "matters addressed" in this Order are the Work, Past Response Costs and Future Response Costs. Nothing in this Order precludes EPA or TVA from asserting any claims, causes of action, or demands against any persons not parties to this Order for indemnification, contribution, or cost recovery.

## XXXIV. INDEMNIFICATION

88. TVA shall indemnify, save and hold harmless EPA, its officials, agents, employees, contractors, subcontractors and representatives from any and all claims or causes of action arising from, or on account of, negligent acts of TVA, its officers, directors, employees, agents, contractors or subcontractors in carrying out actions pursuant to this Order. In addition, TVA agrees to pay EPA all costs incurred by EPA, including but not limited to attorneys' fees and other expenses, arising from or on account of claims made against EPA based on negligent acts of TVA, its officers, directors, employees, agents, contractors, subcontractors and any persons acting on behalf of or under their control, in carrying out activities pursuant to this Order. EPA shall not be held out as a party to any contract entered into by or on behalf of TVA in carrying out activities under this Order. Neither TVA nor any of its contractors shall be considered an agent of EPA nor shall EPA or any of its contractors be considered an agent of TVA.

89. EPA shall give TVA notice of any claim for which EPA plans to seek indemnification pursuant to this Section and shall consult with TVA prior to settling such claim.

90. TVA waives all claims against EPA for damages or reimbursement or for set-off of any payments made or to be made to EPA, arising from or on account of any contract, agreement, or arrangement between TVA and any person for performance of Work on or relating to the Site, including, but not limited to, claims on account of construction delays. In addition, TVA shall indemnify and hold harmless EPA with respect to any claims for damages or reimbursement arising from or on account of any

contract, agreement, or arrangement between TVA and any person for performance of Work on or relating to the Site, including, but not limited to, claims on account of construction delays.

## XXXV. MODIFICATIONS

91. The EPA OSC or RPM, may, after notification to and consultation with TDEC and TVA, require modifications to any plan or schedule under this Order in writing or by oral direction. If EPA's OSC or RPM makes an oral modification, it shall be memorialized in writing within three (3) days thereafter; provided, however, that the effective date of the modification shall be the date of EPA's oral direction. Any other requirements of this Order may be modified in writing by mutual agreement of the Parties.

92. If TVA seeks permission to deviate from any approved plan or schedule, it shall submit a written request to EPA, and provide a copy to TDEC. TVA may not proceed with the requested deviation until receiving oral or written approval from EPA. TVA's written request for modification shall specify: (1) the proposed modification; (2) the basis for the modification; and (3) any related schedule or deadline that would be affected if the modification were granted.

93. No informal advice, guidance, suggestions, or comment by EPA regarding reports, plans, specifications, schedules or any other writing submitted by TVA shall relieve TVA of its obligation to obtain any formal approval as may be required by this Order, and to comply with all requirements of this Order, unless it is formally modified.

## XXXVI. ADDITIONAL ACTIONS

94. EPA may, after notification to and consultation with TDEC and TVA, determine that additional actions, not included in an approved plan, are necessary to protect public health, welfare, or the environment at the Site in connection with the December 22, 2008, ash release. Unless otherwise stated by EPA, within thirty (30) days of receipt of notice from EPA that additional actions are necessary to protect public health, welfare, or the environment, TVA shall submit for approval by EPA, a work plan for the additional Work. Upon approval of the plan by EPA, TVA shall implement the plan for additional Work in accordance with the provisions and schedule contained therein. This Paragraph does not diminish or alter the EPA OSC's or RPM's authority to make oral modifications to any plan or schedule pursuant to Section XXXV (Modifications).

## XXXVII. COMMUNITY RELATIONS

95. TVA agrees to comply with all applicable laws and regulations, including CERLCA and the NCP, as well as all EPA policy and guidance, concerning community relations programs and public participation requirements, including, but not limited to, 40 C.F.R. §§ 300.415(n), 300.430(c) and 300.155.

96. TVA has developed and is implementing a community outreach plan. This plan responds to the need for an interactive relationship with interested community elements regarding environmental response activities being conducted by TVA at the Site. Within ninety (90) days of the Effective Date of this Order, TVA shall submit a Community Involvement Plan that specifically addresses the requirements of §§ 300.415(n) and 300.430(c) of the NCP to EPA for review and approval and shall provide a copy of the plan to TDEC. Pending EPA approval of the plan, TVA shall continue its community outreach efforts. Any proposed revision or amendment to TVA's Community Involvement Plan shall also be submitted to EPA for review and approval, and a copy of the revision or amendment shall be provided to TDEC.

97. Before issuance of any proposed press release regarding the selection or implementation of removal or remedial actions at the Site, TVA shall advise and consult with the EPA OSC/RPM and TDEC regarding the contents thereof.

98. In addition to any other relevant provisions of this Order, TVA agrees that Work conducted under this Order and any subsequent proposed response actions arising out of this Order shall comply with all the Administrative Record and public participation requirements of CERCLA, including Sections 113(k) and 117, 42 U.S.C. §§ 9613(k) and 9617, the NCP, and all applicable guidance.

99. TVA shall establish and maintain an Administrative Record File(s) at or near the Kingston Plant, in accordance with CERCLA Section 113(k), 42 U.S.C. § 9613(k), Subpart I of the NCP, and applicable EPA guidance. Within five (5) business days of the Effective Date of this Order, TVA shall establish a Site Repository at or near the Site and notify EPA of its location. The Site Repository developed by TVA shall be periodically updated and a copy of the Index to the Administrative Record File(s) will be provided to EPA. TVA will provide to EPA on request any document in the local Site Repository.

100. Within thirty (30) days of a request by EPA, TVA shall provide EPA with a Technical Assistance Plan (TAP) 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 as identified in Paragraph 26 above. If EPA disapproves of or requires revisions to the TAP, in whole or in part, other than with respect to the amount of funding to be provided, TVA shall amend and submit to EPA a revised TAP that is responsive to EPA's comments within fifteen (15) days of receiving EPA's comments.

## XXXVIII. NOTICE OF COMPLETION

101. Following completion of all Work performed under this Order, TVA shall prepare and submit to EPA and TDEC a Completion Report to show that all required response actions have been completed. The information provided therein shall document compliance with the requirements of this Order and provide a consolidated record of all

response activities at the Site. In order for a Site to be eligible for completion, the following criteria must be met:

a) Response Objectives specified have been met, and all cleanup actions and other measures identified have been successfully implemented;

b) The Site is protective of human health and the environment;

c) Land use controls are in place as appropriate; and

d) The only remaining activities, if any, at the Site are long-term management activities (which may include long-term monitoring).

Information provided for response action completion shall be signed by TVA's signatory authority or designee, certifying that response activities have been completed in full satisfaction of the requirements of this Order and Agreement.

When EPA determines, after EPA's review of the Completion Report, that all Work has been fully performed in accordance with this Order, all monies owing pursuant to Sections XXV and XXVIII (if any) have been paid, and the Site meets the criteria for completion set forth in this Section, EPA will provide a written Notice of Completion to TVA. Upon issuance of the Notice of Completion by EPA, this Order shall terminate except for the continuing obligations set forth under Sections XV, XXIV, XXIX, XXX, XXXI, XXXIII, XXXIV, and long-term management activities identified in subparagraph "d" above.

## XXXIX. EFFECTIVE DATE

102. The Effective Date of this Order shall be the date on which it is signed by EPA. EPA shall provide TVA electronically a fully executed copy of this Order and Agreement in pdf. format as soon as possible after it has been signed by EPA and shall promptly mail to TVA a fully executed copy of the Order and Agreement.

## XL. NOTICES AND SUBMISSIONS

103. Whenever, under the terms of this Order, written notice is required to be given or a report or other document is required to be sent by one Party to another, its shall be directed to the individuals at the addresses specified below, unless those individuals or their successors give notice of a change to the other Party in writing.

As to EPA:

Mr. Leo Francendese
U.S. EPA, Region 4
61 Forsyth Street, SW

Atlanta, Georgia 30303
francendese.leo@epa.gov

Mr. Craig Zeller
U.S. EPA, Region 4
61 Forsyth St., SW
Atlanta, Georgia 30303
zeller.craig@epa.gov

As to TVA:

Anda Ray
Senior Vice President, Office of Environment and Research
Tennessee Valley Authority
400 West Summit Hill Drive
WT 11
Knoxville, Tennessee 37902-1401

**IT IS SO ORDERED AND AGREED:**

DATE: 5/11/2009

BY: _____
A. Stanley Meiburg
Acting Regional Administrator
Region 4
U.S. Environmental Protection Agency

DATE: 5/6/09

BY: _____
Tom Kilgore
Chief Executive Officer
Tennessee Valley Authority