



## TVA Disposal Facility Assessment Phase 1 Plant Summary Shawnee Fossil Plant (SHF)

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Location:	Shawnee Fossil Plant (SHF) 7900 Metropolis Lake Road Paducah, McCracken County, KY 42086
	Latitude: 37.1607 N      Longitude: 88.7950 W
Plant Contact:	Allen Stephens Program Administrator Phone: 270-488-3133      Email: arstephe@tva.gov
Facts and Figures:	The Shawnee Fossil Plant has ten coal-fired generating units. Construction began in 1951 and was completed in 1957. The plant consumes approximately 9,600 tons of coal per day. It is located on the Ohio River near river mile 946, and is about 13 miles west of downtown Paducah, KY.
Coal Combustion Byproduct Disposal:	Approximately 600,000 tons of dry ash is collected in silos each year and hauled to an onsite dry stack disposal area (Consolidated Waste Dry Stack). Approximately 40,000 tons per year of bottom ash is wet-sluciced to the Active Ash Disposal Area No. 2. Dewatered bottom ash is reclaimed from the Active Ash Disposal Area No. 2 and stacked within the Consolidated Waste Dry Stack.
Geology and Seismicity:	The Shawnee Fossil Plant is located in western Kentucky along the south shore of the Ohio River just east (upstream) of the confluence of the river and Bayou Creek. Quaternary age alluvium, loess, and silt and sand deposits are mapped as being exposed at the surface within the vicinity of the plant. The geologic mapping indicates these materials are underlain by Quaternary age continental deposits and the Upper Cretaceous and Tertiary age Clayton and McNairy Formations. The mapping describes the alluvium as consisting of clean fine sands to sandy clays varying from about 0 to 40 feet in thickness. The loess deposits consist of eolian silty clays and clayey silts and the contact with the underlying silt and sand deposits is gradational and irregular. The silt and sand deposits contain sparse gravel and are thought to be either slack water or partly lacustrine and partly alluvial in origin. The continental deposits consist of gravel and poorly sorted fine to coarse quartz and chert sand, exhibit cemented zones, vary from clean to clayey, and are locally



micaceous. The Clayton and McNairy Formations consist of fine to medium quartz sand interbedded with black or brown clay that is commonly micaceous.

Evaluations of seismic hazards affecting western Kentucky, and thus the plant site, are dominated by events emanating from the New Madrid Seismic Zone (NMSZ) of the central Mississippi Valley. The NMSZ is the most active seismic zone east of the Rocky Mountains and the continuing seismicity of the zone is thought to be associated with the reactivation of faults within the Reelfoot Rift System. Although the majority of the events emanating from this zone are too small to be felt at the surface, this zone did produce a series of four earthquakes between December 1811 and early February 1812 each exhibiting estimated magnitudes on the order of 7.0 to 8.0.

Facilities Reviewed:      Active Ash Disposal Area No. 2  
                                 Intake Channel Dredge Cell  
                                 Consolidated Waste Dry Stack  
                                 Inactive Dredge Cell



**TVA Disposal Facility Assessment**  
**Phase 1 Coal Combustion Product Disposal**  
**Facility Summary**  
**Shawnee Fossil Plant (SHF)**  
**Active Ash Pond No. 2 (AP2)**

1. General Facility Information

Facility Status:	Active	NID Identification:	KY15014
Surface Area (inside dikes):	142.3 Acres	Maximum Height (toe to top of dike):	25 feet
Free Water Volume:	Not provided by TVA	Maximum Water Storage:	Not provided by TVA
Estimated CCB Storage:	4,712,407 CY	Dike Length:	7,600 feet
Plant Discharge to Facility:	31.8 MGD	Current Pool Elevation:	346 feet

2. Site Visit Information

Stantec Assessment Team:	Stephen Bickel, PE, Nathan Bader, PE, Stan Harris, PE, and Matt Hoy, EIT
TVA Staff Present:	Allen Stephens
Field Assessment Dates:	January 15, 2009 and February 4 - 5, 2009
Weather/Site Conditions:	Mid 30 degrees F, clear, moist ground both assessments

3. History/Description of Usage

History and Operation: Approximately 40,000 tons per year of bottom ash is wet-slurried to the Active Ash Disposal Area No. 2. Dewatered bottom ash is reclaimed from the Active Ash Disposal Area No. 2 and stacked within the Consolidated Waste Dry Stack. Outlet is through five 48-inch RCP riser pipe/weirs that discharge through five 36-inch RCP sections into an open discharge channel. Ash Pond No. 2 was initially constructed in 1971 with 14-foot tall clay dikes (Crest Elevation 340 feet). The dikes were reportedly raised 10 feet in 1979 (crest Elevation 350 feet) using an upstream method with clay material. The raised dikes were constructed over bottom ash placed within the pond as a base.



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Past Failures/Releases: Tall RCP push-together riser structure spillways are present at the pond. The riser pipes at the two southernmost spillways failed in 1984 due to a wave in the stilling pond. The wave was caused by a failure of the interior dike separating the adjacent Inactive Dredge Cell from the stilling pond. Reportedly the top 11 feet was reconnected. The limits of the release and information relative to the volume of material released is unknown.

4. Owner's Operations, Maintenance and Inspection Information

Emergency Action Plan: No EAP has been prepared for this facility.

Operations Manual: A coal combustion products operations manual is available for the Shawnee Fossil Plant covering active facilities.

TVA Maintenance: Exterior slopes mowed twice annually.

TVA Inspections: TVA Engineering performs annual dike inspections and prepares reports for repair/maintenance activities. Plant personnel recently started making daily observations and performing weekly reviews of the disposal facilities at this plant.

Problems Previously Identified During Past TVA Inspections: Seepage along toe of northeast dike, animal paths on exterior slopes, isolated trees along inner slope at various areas around pond.

5. Documents Reviewed

See attached Document Log for complete list of documents provided by TVA for review. In particular, the following provided pertinent information for the assessment of this facility:

TVA Design Drawings: Drawing numbers 10N206, 209, 271-274, 284, 10W229, 269.

TVA As-Built Drawings: None available.

TVA Construction Testing Records: None available.

TVA Annual: TVA Annual Inspection Reports 1971 to 2008.





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Bare Spots/Rutting:                      None observed.



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Width:	<b>Measured:</b> 19 feet at Section 1 22 feet at Section 3 23 feet at Section 2 (Divider Dike)
	<b>Design:</b> 16 feet for perimeter and divider dikes (from drawing 10N271)

### 6.3. Exterior Slopes

Vegetation:	Mostly grass, adequate coverage. Thick phragmites within seepage area to northeast where mowing can not be done due to soft ground conditions.
Trees:	Area is wooded below the toe of the slope but no trees were observed along the exterior slopes.
Erosion:	None observed.
Instabilities:	No evidence of instability was observed.
Uniform Appearance:	Good.
Seepage:	Yes, along toe of slope in northeast corner of pond. Several wet areas are present but no significant flow was observed. Seepage areas contain tall phragmite and cannot be mowed due to soft ground conditions.
Benches:	None observed.
Foundations, Drains, Relief Wells, Instrumentation:	No provisions for drainage/seepage control or instrumentation were observed.
Animal Burrows:	None observed.
Slope:	<b>Measured:</b> 2.7H:1V at Sections 1 and 3 <b>Design:</b> 3.0H:1V (from drawing 10N271)
Height:	<b>Measured:</b> 20 feet at Section 1 15 feet at Section 3 <b>Design:</b> 25 feet (from drawing 10N271)



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6.4. Spillway Weirs/Riser Inlets

Number:	Five (5) located in the stilling pond at the SW corner of facility.
Size, Type and Material:	48-inch RCP push-together riser sections with standard TVA steel skimmers.
Height of Riser Inlets:	31.3 Feet
Access:	All spillways accessible via single moveable floating catwalk.
Joints:	Unable to observe joints or leakage below inlet level. Reportedly, the riser pipes at the two southernmost spillways failed in 1984 due to a wave in the stilling pond. Reportedly the top 11 feet was reconnected.
Mis-Alignment:	Tilt measured at top of risers ranging from 0.03 to 0.13 ft.
Closed/Abandoned Conduits:	None reported or observed.

6.5. Outlet Pipes

Number:	Five (5)
Size, Type and Material:	36-inch RCP
Headwall:	Yes, appears to be in good shape. Slight separation between top of discharge pipe and headwall at two northernmost pipes.
Joint Separations:	Separation in last section of northernmost discharge pipe reported resulting in sinkhole on exterior slope. Slope and discharge pipe were reportedly repaired. No evidence of the previous separation was observed during this assessment.
Mis-Alignment:	Unknown, could not observe.
Closed/Abandoned Conduits:	None reported.



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7. Notable Observations and Concerns

- Two of the five tall RCP push-together riser structure spillways have failed in the past. In addition, some separation in the discharge pipes has been previously reported. In the spillway evaluation performed in 2007, some minor tilting was also measured along the tops of the riser structures.
- Seepage along northeast dike along the toe of the slope is a concern. It has been reportedly ongoing for more than 20 years and has been monitored various times a year by TVA with little or no change being reported through the years.
- Raising the dikes by using upstream construction over sluiced ash is a potential slope stability concern.
- Tall brush and phragmites are present on interior slopes and at exterior slope seepage areas where ground is soft.
- Trees are located along the inner perimeter dike slopes and on the divider dike slopes in various portions of the pond.
- Animal paths were observed in several areas along the outer dike slope.
- Separation was observed at the spillway outlets between the headwall and the two northernmost discharge pipes.
- Previous inspection reports appear adequate, but there is a trend of not all maintenance recommendations being executed.

8. Recommendations

8.1. Phase 2 Engineering and Programmatic Recommendations

- The RCP riser spillways at Ash Pond 2 may ultimately be modified or replaced, pending Stantec-TVA assessment of replacement system. Continue routine repairs and monitoring of the spillway systems until that time.
- It is recommended that the perimeter dikes for Active Ash Pond 2 undergo further geotechnical engineering study to evaluate slope stability and seepage. In addition, a hydraulic and hydrologic analyses should be performed to evaluate pond conditions.



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- It is recommended that an Operations and Maintenance Plan, and an Emergency Action Plan be developed for this facility.
- It is recommended that a program to develop as-built drawings and construction records for future maintenance and construction activities be established.

## 8.2. Maintenance Recommendations

- The seepage observed along the toe of the perimeter dike at the northeast side of Ash Pond 2 should continue to be monitored. A seepage monitoring point consisting of a collection system and weir box or similar structure should be installed.
- Remove trees from interior slopes and divider dikes of pond and repair slopes as needed following tree removal.
- Cut and maintain heavy phragmite and vegetation growth on interior slopes to permit better assessment.
- Cut tall phragmite and vegetation from seepage area to permit better assessment and observation.
- The separation observed between the headwall and the two northernmost discharge pipes should be monitored. If the separation becomes greater and begins to cause erosion at the headwall and pipe interface, repairs should be made.
- The animal paths present on the outer perimeter dike slopes of Ash Pond 2 should be monitored and repaired if erosion begins.
- Continue annual inspection program and execute recommendations.



**TVA Disposal Facility Assessment  
Phase 1 Coal Combustion Product Disposal  
Facility Summary  
Shawnee Fossil Plant (SHF)  
Consolidated Waste Dry Stack (DS)**

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1. General Facility Information

Facility Status: Active

Surface Area:	110 Acres	Maximum Height (toe to top of stack):	100 feet Existing 270 feet Proposed
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2. Site Visit Information

Stantec Assessment Team: Stephen Bickel, PE, Nathan Bader, PE, Stan Harris, PE, and Matt Hoy, EIT

TVA Staff Present: Allen Stephens

Field Assessment Dates: January 15, 2009 and February 4 - 5, 2009

Weather/Site Conditions: Mid 30 degrees F, clear, moist ground both assessments

3. History/Description of Usage

History, Operation and Stacking Plan:

Construction of the Consolidated Waste Dry Stack began in 1984. The disposal area was the original Ash Pond No. 1 for the plant, which was taken out of service following construction of the current Ash Pond No. 2. A perimeter dike for the old Ash Pond No. 1 is situated on the southwest side of the stack, but due to concerns relative to the old perimeter dike stability, the toe of the stack was offset roughly 50 to 70 feet from the perimeter dike. Currently, dry fly ash is collected in silos and hauled for placement into the stack. In addition, bottom ash is excavated and dewatered from Ash Pond No. 2 and placed within the stack. The dry stacking operation is following a stacking plan believed to be developed in 1984 (no drawings available) and updated in 2000. The existing stack is approximately 80 to 100 feet in height with the new horizontal expansion currently being constructed to the north. The ultimate height of the expansion stack will range from 80 to as much as 270 feet. The expansion will be constructed on 3H:1V slopes with benches every 50 feet in height.



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Consolidated Waste Dry Stack (DS)**

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Stacking over Dredge Cells or CCB Ponds: Previous Ash Pond No. 1 is located beneath the Consolidated Waste Dry Stack and was used as the original ash pond for the plant. This pond operated until about 1971 when construction of Ash Pond No. 2 was completed and the new pond was brought into service.

Past Failures/Releases: No failures or releases reported.

#### 4. Owner's Operations, Maintenance and Inspection Information

TVA Maintenance: Exterior slopes mowed twice annually.

TVA Inspections: TVA Engineering performs annual dike inspections which include the stack area and prepares reports for repair/maintenance activities. Plant personnel recently started making daily observations and performing weekly reviews of the disposal facilities at this plant.

Problems Previously Identified During Past TVA Inspections: Throughout the years, areas of erosion, washouts, sedimentation in drainage features, and lack of vegetative cover have been identified around various areas of the existing stack.

#### 5. Documents Reviewed

See attached Document Log for complete list of documents provided by TVA for review. In particular, the following provided pertinent information for the assessment of this facility:

TVA Design Drawings: Drawing numbers 10W220-01 through 220-52 and 10W221-1 through 221-18.

TVA As-Built Drawings: Drawings 10W221-1 through 221-18 show portions of the stack that have been completed through 2008.

TVA Construction Testing Records: None available.

TVA Annual Inspection Reports: TVA Annual Inspection Reports 1984 to 2008.

Geotechnical Data: Some geotechnical information available within the Special Waste Landfill Permit for the Horizontal Expansion prepared by FMSM (now Stantec) in 2006.



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Shawnee Fossil Plant (SHF)  
Consolidated Waste Dry Stack (DS)**

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6. Stantec Field Observations

See attached Concerns/Photo Log, Photos, and Site Plan Drawing.

6.1. Exterior Slopes and Benches

Vegetation:	Grassy vegetation established throughout majority of existing stack to the south with the exception of areas recently repaired or eroded. The newly completed areas to the north have been seeded but vegetation has not yet been established in these areas. The old Ash Pond No. 1 perimeter dike to the southwest is heavily vegetated and wooded throughout.
Trees:	The old perimeter dike, which is offset 50 feet or more to the southwest, is heavily wooded with numerous mature trees present throughout. No trees were observed along the Consolidated Waste Dry Stack.
Erosion:	Numerous areas of erosion were reported in the 2009 annual inspection report and were observed around the stack. These areas included numerous washouts and erosion rills and gullies along the slopes, benches and drainage features.
Instabilities:	Several areas of shallow sloughing and instability are present throughout the old Ash Pond No. 1 perimeter dike to the southwest.
Uniform Appearance	Good along stack, except for areas where erosion has occurred. Poor along majority of old Ash Pond No. 1 perimeter dike to the southwest, where erosion and sloughing has occurred.
Benches:	Benches along the existing closed portion of the stack area at approximate Elevation 380 feet and 405 feet. The benches are sloped toward the stack and towards down-drains at various locations around stack. Some erosion and sedimentation was observed at various locations along the benches.



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**Consolidated Waste Dry Stack (DS)**

Slope:	<p>Design: 3H:1V for dry stack slopes, 3H:1V for old perimeter dike (from drawing 10N206).</p> <p>Measured: 2.7H:1V to 3.0H:1V or flatter along dry stack at Sections 4 and 5. 1.5H:1V or flatter estimated along perimeter dike.</p>
Height:	<p>80 to 100 feet (Estimated) at existing dry stack.</p> <p>15 to 20 feet (Estimated) along old perimeter dike.</p>
Other:	None.

6.2. Perimeter Drainage Ditches and Down-Drains

Vegetation:	Some grassy vegetation in perimeter ditches and down-drains.
Rip-Rap Channel Lining:	Rip-rap observed in down-drains only, no rip-rap in perimeter ditches or benches.
Erosion:	Erosion including washouts and rills/gullies noted at various areas along selected down-drains.
Siltation in Ditches:	Some siltation present in lower perimeter ditch and entrances to down-drains.
Standing Water in Ditches or on Benches:	Standing water noted along lower perimeter ditch at base of stack.
Silted/Impeded Drainage Pipes:	Siltation at outlet drainage pipe between the Inactive Dredge Cell and the Consolidated Waste Dry Stack has resulted in impeded flow and some standing water in the ditch.
Other:	None.

7. Notable Observations and Concerns

- The area beneath the current dry stack was initially operated as the ash pond for the plant. A design for the horizontal expansion was prepared by FMSM (now Stantec) which included geotechnical explorations and slope stability analyses for the final phase of the stacking operations to the northeast. However, no analyses or exploration for the existing portion of the stack to the south were reported.



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- Numerous areas requiring maintenance activities were observed throughout the Consolidated Waste Dry Stack. The majority of the deficiencies were observed on the west side primarily above the second bench and on the bottom slope. Erosion rills were observed in several areas and along portions of the downdrains. Some siltation was also observed along the benches near several of the downdrains. Significant washouts were observed at various locations along the slopes. Since last year, several areas have been regraded, repaired, covered with soil, and seeded as recommended. The vegetation is not yet established in these areas and some minor erosion is continuing to occur. Finally, the newer areas of the stack to the northeast have only recently been completed and these slopes lack vegetation. Areas of minor erosion are present throughout this area.
- The old ash pond was located in the area currently being used for the Consolidated Waste Stack. The stack was built over the old ash pond and is set back approximately 50 feet or more from the old pond perimeter dike to the west. The slopes along the old perimeter dike are as steep as about 1.5H:1V in parts and are heavily overgrown. Some shallow sloughing and fallen trees are present throughout.
- The absence of detailed as-built drawings and construction testing records is a concern.
- Previous inspection reports appear adequate, and the majority of the recommendations for repairs to the stack were attempted. Due to the drainage conditions and erosive nature of the materials used to construct the stack and final cover, continued erosion has occurred even after the previous repairs were made. It is expected that maintenance to the stack will need to be executed each year to repair eroded areas, washouts, etc.

## 8. Recommendations

### 8.1. Phase 2 Engineering and Programmatic Recommendations

- It is recommended that the perimeter dike and exterior slopes for the original portions of the Consolidated Waste Dry Stack undergo further engineering study to evaluate slope stability. (not included in the FMSM 2006 work)
- It is recommended that an Operations and Maintenance Plan be developed for the facility.
- It is recommended that a program be established to develop as-built drawings and construction records for future maintenance and construction activities.



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Consolidated Waste Dry Stack (DS)**

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8.2. Maintenance Recommendations

- Refer to the 2009 Annual Inspection Report for repair locations and instructions for the Consolidated Waste Dry Stack. These repairs include areas of erosion, sedimentation, washouts, and areas lacking vegetation at numerous locations around the stack. The plant should continue best management practice of covering and seeding side slopes of the stack before major erosion takes place.
- Continue annual inspection program and execute recommendations.



**TVA Disposal Facility Assessment  
Phase 1 Coal Combustion Product Disposal  
Facility Summary  
Shawnee Fossil Plant (SHF)  
Inactive Dredge Cell (CDA)**

1. General Facility Information

Facility Status:	Inactive and closed.	NID Identification:	Not Available
Surface Area (inside dikes):	29 Acres	Maximum Height (toe to top of dike):	20 feet (Estimated)
Free Water Volume:	N/A - Drained and Inactive	Maximum Water Storage:	N/A - Drained and Inactive
Estimated CCB Storage:	750,000 cubic yards	Dike Length:	4,700 feet
Plant Discharge to Facility:	N/A - Inactive	Current Pool Elevation:	Currently drained.

2. Site Visit Information

Stantec Assessment Team:	Stephen Bickel, PE, Nathan Bader, PE, Stan Harris, PE, and Matt Hoy, EIT
TVA Staff Present:	Allen Stephens
Field Assessment Dates:	January 15, 2009 and February 4 - 5, 2009
Weather/Site Conditions:	Mid 30 degrees F, clear, moist ground both assessments

3. History/Description of Usage

History and Operation: The Inactive Dredge Cell is currently closed and is located northeast of the Consolidated Waste Dry Stack. This internal dredge cell was constructed around 1983 and received dredged ash from Ash Pond No. 2. Approximately 750,000 cubic yards of ash were dredged to this area until it was closed in 1984/1985. The interior dikes were constructed of ash with the only exterior dike existing along the southwest side. This dike was constructed of ash above the outer clay perimeter dike on 3H:1V slopes to elevation 365 feet. A decanting structure for this cell was located in the north side of the cell which is interior to Ash Pond No. 2. The area was closed with a soil cover.



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Inactive Dredge Cell (CDA)**

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Past Failures/Releases: The interior ash dike separating the Inactive Dredge Cell from the stilling pond for Ash Pond No. 2 failed in 1984. The failure caused a wave in the stilling pond which ultimately resulted in failure of the two southernmost spillway risers. The interior dike was repaired and flattened following the event and the cell was closed soon after.

4. Owner's Operations, Maintenance and Inspection Information

Emergency Action Plan: No EAP has been prepared for this facility.

Operations Manual: A coal combustion products operations manual is available for the Shawnee Fossil Plant covering active facilities.

TVA Maintenance: None reported.

TVA Inspections: TVA Engineering performs annual dike inspections and prepares reports for repair/maintenance activities. Plant personnel recently started making daily observations and performing weekly reviews of the disposal facilities at this plant.

Problems Previously Identified During Past TVA Inspections: None reported.

5. Documents Reviewed

See attached Document Log for complete list of documents provided by TVA for review. In particular, the following provided pertinent information for the assessment of this facility:

TVA Design Drawings: None available.

TVA As-Built Drawings: None available.

TVA Construction Testing Records: None available.

TVA Annual Inspection Reports: TVA Annual Inspection Reports 1982 to 2008.

Geotechnical Data: None available.



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6. Stantec Field Observations

See attached Concerns/Photo Log, Photos, and Site Plan Drawing.

6.1. Interior Slopes

Vegetation:	None observed (interior of closed cell is filled/graded).
Trees:	Trees present at various areas throughout interior of closed cell.
Wave Wash Protection:	N/A.
Erosion:	N/A
Instabilities:	N/A
Animal Burrows:	N/A
Freeboard:	<b>Measured:</b> N/A - Cell currently closed. <b>Design:</b> Not available.
Encroachments:	None observed.
Slope:	<b>Measured:</b> N/A -Cell is closed <b>Design:</b> Not available.

6.2. Crest

Crest Cover and Slope:	Vegetation is established throughout the majority of old crest of perimeter dike.
Erosion:	Minor erosion throughout.
Alignment:	No drawings for comparison.
Settlement/Cracking:	None observed.
Bare Spots/Rutting:	Some bare spots observed along top of closed cell.
Width:	<b>Measured:</b> N/A <b>Design:</b> Not available.



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### 6.3. Exterior Slopes

Vegetation:	The shared ash dikes along the north and west sides of the inactive dredge cell have a heavy stand of vegetation throughout the majority of the perimeter. The southern perimeter dike consists of ash with a soil cover on slopes of 3H:1V. The area has been seeded but vegetation is not yet established on this slope.
Trees:	The shared ash dike slopes are heavily wooded with mature trees throughout. Fallen trees also observed in various areas throughout. No trees were observed along the southern exterior dike.
Erosion:	Erosion was observed throughout the shared ash dike exterior slopes. The southern exterior dike has only recently been seeded and lacks vegetation with some minor erosion observed. Along the southwest corner of this dike, some erosion was observed due to runoff to the adjacent Consolidated Waste Stack outlet pipes.
Instabilities:	Scarps, fallen trees and slope instability were observed in several areas along the shared interior ash dikes along the north and west sides.
Uniform Appearance:	Exterior slopes are not uniform.
Seepage:	Cell closed and drained, no seepage was observed.
Benches:	None observed.
Foundations, Drains, Relief Wells, Instrumentation:	No provisions for drainage/seepage control, or instrumentation were observed
Animal Burrows:	None observed.
Slope:	<b>Measured:</b> 1.5H:1V to 2.0H:1V along north and west interior ash dikes (Estimated) 3.0H:1V on southern exterior dike at Section 1. <b>Design:</b> 3.0H:1V (taken from discussions in annual inspection reports).
Height:	<b>Measured:</b> 11 to 15 feet at Section 1 <b>Design:</b> To El. 365 feet



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6.4. Spillway Weirs/Riser Inlets

Number:	Unknown.
Size, Type and Material:	Temporary decanting structure used along north portion of cell.
Height of Riser Inlets:	Unknown.
Access:	Unknown.
Joints:	Unknown.
Mis-Alignment:	Unknown.
Closed/Abandoned Conduits:	Unknown.

6.5. Outlet Pipes

Number:	Unknown.
Size, Type and Material:	Unknown.
Headwall:	Unknown
Joint Separations:	None reported, unknown.
Mis-Alignment:	None reported, unknown.
Closed/Abandoned Conduits:	None reported, unknown.

7. Notable Observations and Concerns

- The shared ash dikes along the north and west sides of the inactive dredge cell have a heavy stand of vegetation and trees throughout the majority of the perimeter. Some scarps, fallen trees, and slope instability were observed in several areas along these interior dikes.
- The southern perimeter dike consists of ash with a soil cover on slopes of 3H:1V. The area has been seeded but vegetation is not yet established on this slope and some minor erosion was observed.
- Along the southwest corner of the southern perimeter dike, some erosion was observed due to runoff of the adjacent Consolidated Waste Stack outlet pipes.



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8. Recommendations

8.1. Phase 2 Engineering and Programmatic Recommendations

- Phase 2 engineering is not recommended for this closed facility at this time.

8.2. Maintenance Recommendations

- The southern perimeter dike of the Inactive Dredge Cell and the area extending to the adjacent Consolidated Waste Stack outlet pipes should be re-seeded to establish vegetation. Areas of erosion should be repaired as needed prior to seeding. The remaining perimeter dikes where sloughing, trees, and heavy vegetation was observed should continue to be monitored and repaired as needed.
- Continue annual inspection program and execute recommendations.



Drawing Mark AP-2-1 Top of RCP stacked riser spillway (Typ.).



Drawing Mark AP-2-2 Seepage along toe of northeast perimeter dike.



Drawing Mark AP-2-3 Trees along inner perimeter dike slope on north side.



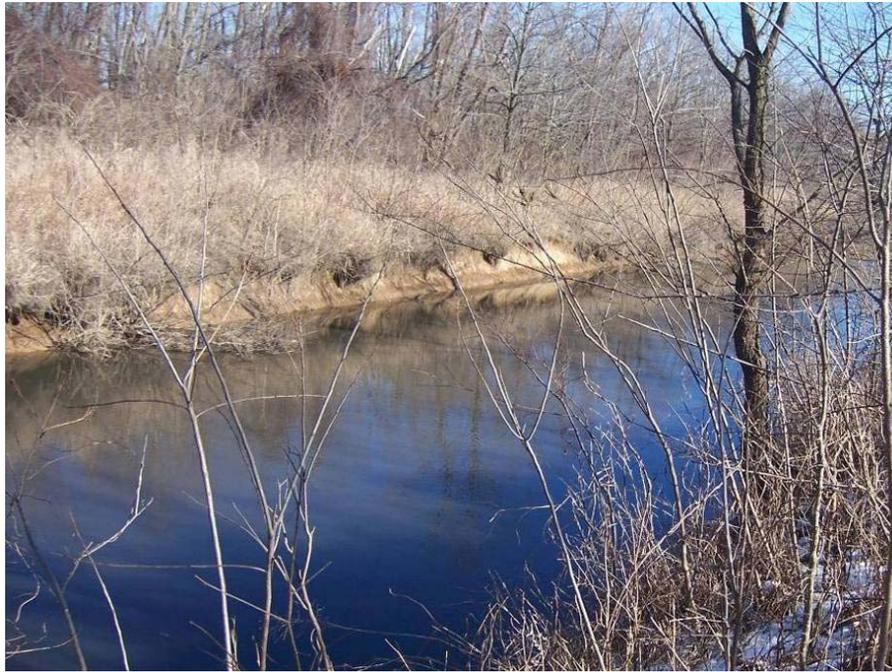
Drawing Mark AP-2-4 Smaller trees along various inner perimeter and divider dike slopes (Typ.).



Drawing Mark AP-2-5 Animal paths at various locations along exterior perimeter dike slopes (Typ.).



Drawing Mark AP-2-6 Separation of northernmost discharge pipe from headwall.



Drawing Mark AP-2-7 Discharge Channel (Typ.).



Drawing Mark AP-2-8 Heavy phragmite and vegetation on interior perimeter slope (Typ.).



**Stantec**

**TVA Disposal Facility Assessment  
Phase 1 Coal Combustion Product Disposal Facility Summary  
Shawnee Fossil Plant (SHF)  
Active Ash Pond No. 2  
Photos, Concerns/Photo Log**

<b>Concerns/Photo Log</b>		
<b>Drawing Mark</b>	<b>Comments</b>	<b>Photo/GPS ID</b>
AP-2-1	Top of RCP stacked riser spillway (Typ.).	Photo 50B
AP-2-2	Seepage along toe of northeast perimeter dike.	Photo 73B
AP-2-3	Trees along inner perimeter dike slope on north side.	Photo 78B
AP-2-4	Smaller trees along various inner perimeter and divider dike slopes (Typ.).	Photo 83B
AP-2-5	Animal paths at various locations along exterior perimeter dike slopes (Typ.).	Photo 46B
AP-2-6	Separation of northernmost discharge pipe from headwall.	Photo 12B
AP-2-7	Discharge Channel (Typ.).	Photo 45B
AP-2-8	Heavy phragmite and vegetation on interior perimeter slope (Typ.).	Photo 8B



Drawing Mark DS-1-1 Fallen trees, scarps and steep slopes along old perimeter dike southwest of stack (Typ.).



Drawing Mark DS-1-2 Toe of old perimeter dike slope along Little Bayou Creek (Typ.).



**Drawing Mark DS-1-3** Typical erosion rill along exterior slope of stack (Typ.).



**Drawing Mark DS-1-4** Sedimentation and erosion along bench at top of down-drain (Typ.).



Drawing Mark DS-1-5 Lack of vegetation in previously repaired area with some minor erosion (Typ.).



Drawing Mark DS-1-6 Scarps due to erosion along toe of slope and bench (Typ.).



Drawing Mark DS-1-7 Deep washout along second bench (Typ.).



Drawing Mark DS-1-8 Washout and erosion on south face of newly completed area with lack of vegetation (Typ.).



Drawing Mark DS-1-9 Erosion and standing water in perimeter ditch between stack and Inactive Dredge Cell (Typ.).



Stantec

TVA Disposal Facility Assessment  
Phase 1 Coal Combustion Product Disposal Facility Summary  
Shawnee Fossil Plant (SHF)  
Consolidated Waste Dry Stack  
Photos, Concerns/Photo Log

Concerns/Photo Log		
Drawing Mark	Comments	Photo/GPS ID
DS-1-1	Fallen trees, scarps and steep slopes along old perimeter dike southwest of stack (Typ.).	Photo 16B
DS-1-2	Toe of old perimeter dike slope along Little Bayou Creek (Typ.).	Photo 17B
DS-1-3	Typical erosion rill along exterior slope of stack (Typ.).	Photo 51B
DS-1-4	Sedimentation and erosion along bench at top of down-drain (Typ.).	Photo 19B
DS-1-5	Lack of vegetation in previously repaired area with some minor erosion (Typ.).	Photo 21B
DS-1-6	Scarps due to erosion along toe of slope and bench (Typ.).	Photo 28B
DS-1-7	Deep washout along second bench (Typ.).	Photo 30B
DS-1-8	Washout and erosion on south face of newly completed area with lack of vegetation (Typ.).	Photo 135B
DS-1-9	Erosion and standing water in perimeter ditch between stack and Inactive Dredge Cell (Typ.).	Photo 138B



Drawing Mark CDA-1-1    Scarps along west shared ash dike (Typ.).



Drawing Mark CDA-1-2    Lack of established vegetation on exterior south dike slope.



**Drawing Mark CDA-1-3**      **Landslide and fallen trees on north shared ash dike slope.**



**Drawing Mark CDA-1-4**      **Steep slopes along southeast exterior dike.**



Drawing Mark CDA-1-5

Erosion due to runoff along southwest corner dike near adjacent Consolidated Waste Stack outlet pipes.





**Coal Combustion Product Disposal Facility Assessment  
Phase 1 Document Review Form  
Shawnee Fossil Plant (SHF)**

Date Reviewed	Reviewed By	File Name	File Type
3/10/2009	NB	Rpt_Shawneeinsp_20090206_Draft.pdf	PDF
3/10/2009	NB	Shawnee Ash Density And Gradation Report.pdf	PDF
3/10/2009	NB	Shawnee Ash Disposal And Dike Interim Soils Report.pdf	PDF
3/10/2009	NB	Shawnee Ash Disposal Dike Raising Additional Soils Investigation.pdf	PDF
3/10/2009	NB	Shawnee Ash Disposal Dike Raising Soils Investigation.pdf	PDF
3/10/2009	NB	Shawnee Pulverized Fly Ash Permeability Tests Final Report.pdf	PDF
3/10/2009	NB	Shawnee Pulverized Fly Ash Permeability Tests Three Mixes Final Report.pdf	PDF
3/10/2009	NB	Shawnee Pulverized Fly Ash Permeability Tests.pdf	PDF
3/10/2009	NB	Shawnee Waste Stack Lateral Expansion Geotech Report.pdf	PDF
3/10/2009	NB	Shawnee Waste Stack Lateral Expansion Geotech Report2.pdf	PDF
3/10/2009	NB	Shawnee Waste Stack Phase 1A Lateral Expansion Construction Report.pdf	PDF
1/29/2009	NB	Shawnee.pdf	PDF
3/10/2009	NB	Shawnee160Mwafbcdemonstrationplantatshawneesoilinvestigation.pdf	PDF
3/10/2009	NB	Shawnee16Mwafbcdemonstrationprojectwastehandlingsystemsoilsinvestigationprogram.pdf	PDF
3/10/2009	NB	Shawneefossilplantashpond1969.pdf	PDF
3/10/2009	NB	Shawneefossilplantchemicaltreatmentpondforironenggdescriptionapril1983.pdf	PDF
3/10/2009	NB	Shawneefossilplantdrystackarea.pdf	PDF
3/10/2009	NB	Shawneefossilplantflyashdrystackareainactivepondslopestability.pdf	PDF
3/10/2009	NB	Shawneefossilplantlawreportofdrillingservicesjuly102000.pdf	PDF
3/10/2009	NB	Shawneefossilplantmactecreportofgeotechnicalinvestigationmarch102006.pdf	PDF
3/10/2009	NB	ShawneefossilplantSHF328Drystackphase1Construction.pdf	PDF
3/10/2009	NB	Shawneefossilplantsingletonlabsborrowareasabandctvacontractv75528Adecember191988.pdf	PDF
3/10/2009	NB	Shawneefossilplantspillwayanalysisjuly52007Enggdesignservicescocteamcivilengg.pdf	PDF
3/10/2009	NB	Shawneefossilplantstackerreclaimerturnkeyinstallation.pdf	PDF
3/10/2009	NB	Shawneefossilplantstantecashdisposalareaslopestabilityanalysisrtestel360And355.pdf	PDF
3/10/2009	NB	Shawneefossilplantwastedisposalpermitandashstackingplanvol1Of2December22005.pdf	PDF
3/10/2009	NB	Shawneefossilplantwastedisposalpermitandashstackingplanvol2Of2December22005.pdf	PDF
3/10/2009	NB	Shawneesteamplant160Mwafbcdemonstrationplantwastetestingsingletonlab.pdf	PDF
3/10/2009	NB	Shawneesteamplantashpondsoilandfoundationexploration.pdf	PDF
1/28/2009	NB	SHF Ash Pond Insp Fy00.pdf	PDF
1/28/2009	NB	SHF Ash Pond Insp Fy01.pdf	PDF
1/28/2009	NB	SHF Ash Pond Insp Fy02.pdf	PDF
1/28/2009	NB	SHF Ash Pond Insp Fy03.pdf	PDF
1/28/2009	NB	SHF Ash Pond Insp Fy04.pdf	PDF
1/28/2009	NB	SHF Ash Pond Insp Fy05.pdf	PDF
1/28/2009	NB	SHF Ash Pond Insp Fy06.pdf	PDF
1/28/2009	NB	SHF Ash Pond Insp Fy67.pdf	PDF
1/28/2009	NB	SHF Ash Pond Insp Fy68.pdf	PDF



**Coal Combustion Product Disposal Facility Assessment  
Phase 1 Document Review Form  
Shawnee Fossil Plant (SHF)**

Date Reviewed	Reviewed By	File Name	File Type
1/28/2009	NB	SHF Ash Pond Insp Fy69.pdf	PDF
1/28/2009	NB	SHF Ash Pond Insp Fy70.pdf	PDF
1/28/2009	NB	SHF Ash Pond Insp Fy71.pdf	PDF
1/28/2009	NB	SHF Ash Pond Insp Fy72.pdf	PDF
1/28/2009	NB	SHF Ash Pond Insp Fy73.pdf	PDF
1/28/2009	NB	SHF Ash Pond Insp Fy74.pdf	PDF
1/28/2009	NB	SHF Ash Pond Insp Fy75.pdf	PDF
1/28/2009	NB	SHF Ash Pond Insp Fy76.pdf	PDF
1/28/2009	NB	SHF Ash Pond Insp Fy77.pdf	PDF
1/28/2009	NB	SHF Ash Pond Insp Fy78.pdf	PDF
1/28/2009	NB	SHF Ash Pond Insp Fy79.pdf	PDF
1/28/2009	NB	SHF Ash Pond Insp Fy80.pdf	PDF
1/28/2009	NB	SHF Ash Pond Insp Fy81.pdf	PDF
1/28/2009	NB	SHF Ash Pond Insp Fy82.pdf	PDF
1/28/2009	NB	SHF Ash Pond Insp Fy83.pdf	PDF
1/28/2009	NB	SHF Ash Pond Insp Fy84.pdf	PDF
1/28/2009	NB	SHF Ash Pond Insp Fy85.pdf	PDF
1/28/2009	NB	SHF Ash Pond Insp Fy86.pdf	PDF
1/28/2009	NB	SHF Ash Pond Insp Fy87.pdf	PDF
1/28/2009	NB	SHF Ash Pond Insp Fy88.pdf	PDF
1/28/2009	NB	SHF Ash Pond Insp Fy91.pdf	PDF
1/28/2009	NB	SHF Ash Pond Insp Fy94.pdf	PDF
1/28/2009	NB	SHF Ash Pond Insp Fy95.pdf	PDF
1/28/2009	NB	SHF Ash Pond Insp Fy96.pdf	PDF
1/28/2009	NB	SHF Ash Pond Insp Fy97.pdf	PDF
1/28/2009	NB	SHF Ash Pond Insp Fy98.pdf	PDF
1/28/2009	NB	SHF Ash Pond Insp Fy99.pdf	PDF
1/28/2009	NB	SHF Ash Rp 2008 Final 2008 Recommendation Summary.doc	DOC
1/28/2009	NB	SHF Inspection.pdf	PDF
1/29/2009	NB	SHF Spillwayeval_March2007.pdf	PDF
1/29/2009	NB	SHF-10A240-Sht -Rev 2 Main Plant Proposed Ash Disposal Area.cal	CAL
1/29/2009	NB	SHF-10H660-1A-Sht -Rev 3 Yard-Ash Disposal Area Dredge Pond Plan & Sections.cal	CAL
1/29/2009	NB	SHF-10H660-1B-Sht -Rev 4 Yard Ash Disposal Area Dredge Pond Plan & Sections.cal	CAL
1/29/2009	NB	SHF-10H660-2A-Sht -Rev 2 Yard - Ash Disposal Area Dredge Pond Plan & Sections.cal	CAL
1/29/2009	NB	SHF-10H660-2B-Sht -Rev 2 Yard - Ash Disposal Area Dredge Pond Plan & Sections.cal	CAL
1/29/2009	NB	SHF-10H660-3A-Sht -Rev 1 Yard - Ash Disposal Area Dredge Pond Closure Plan.cal	CAL
1/29/2009	NB	SHF-10H660-3B-Sht -Rev 3 Yard Ash Disposal Area Dredge Pond Closure Sections & Details.cal	CAL
3/10/2009	NB	SHF-10Hu270-Y7-03A-Sht -Rev 2.cal	CAL



**Coal Combustion Product Disposal Facility Assessment  
Phase 1 Document Review Form  
Shawnee Fossil Plant (SHF)**

Date Reviewed	Reviewed By	File Name	File Type
3/10/2009	NB	SHF-10Hu270-Y7-04A-Sht -Rev 3.cal	CAL
3/10/2009	NB	SHF-10Hu270-Y7-04B-Sht -Rev 3.cal	CAL
1/30/2009	NB	SHF-10L215-Sht -Rev 1 Gen Grdg Coal Yd.tif	TIF
1/30/2009	NB	SHF-10L216-Sht -Rev 1 Gen Grdg Coal Yd.tif	TIF
1/30/2009	NB	SHF-10L217-Sht -Rev 3 Gen Grdg Coal Yd.tif	TIF
1/30/2009	NB	SHF-10L221-Sht -Rev 3 Gen Grading Coal Yd.cal	CAL
1/30/2009	NB	SHF-10L222-Sht -Rev 2 Gen Grading Coal Yd.cal	CAL
1/30/2009	NB	SHF-10L223-Sht -Rev 2 Gen Grading Coal Yd.cal	CAL
1/29/2009	NB	SHF-10N204-Sht -Rev 5 Main Plant Access Roads For Servicing Ash Sluice, Dikes And Car Retarder.cal	CAL
1/29/2009	NB	SHF-10N206-Sht -Rev 7 Main Plant Dike For Ash Disposal Area.cal	CAL
1/29/2009	NB	SHF-10N209-Sht -Rev 1 Main Plant Discharge Channel For Ash Disposal Area.cal	CAL
3/10/2009	NB	SHF-10N271-Sht -Rev 7.cal	CAL
1/29/2009	NB	SHF-10N271-Sht -Rev 9 Main Plant Plan Ash Disposal Area No. 2 Sheet 1.cal	CAL
1/29/2009	NB	SHF-10N272-Sht -Rev 5 Main Plant Plan Ash Disposal Area No. 2 Sheet 2.cal	CAL
1/29/2009	NB	SHF-10N273-Sht -Rev 3 Main Plant Ash Disposal Area No. 2 Sections And Details.cal	CAL
1/29/2009	NB	SHF-10N274-Sht -Rev 0 Standard Drawing Ash Disposal Spillway.cal	CAL
1/29/2009	NB	SHF-10N284-Sht -Rev 2 Main Plant Ash Disposal Areas Divider Dike & Floating Skimmer.cal	CAL
1/29/2009	NB	SHF-10N400-Sht -Rev 5 Yard Units 1-10 Concrete Ash Disposal Trench Outline & Reinf - Sh 1.cal	CAL
1/29/2009	NB	SHF-10N401-Sht -Rev 5 Yard Units 1-10 Concrete Ash Disposal Trench Outline & Reinf - Sh 2.cal	CAL
1/29/2009	NB	SHF-10N402-Sht -Rev 3 Yard Units 1 - 5 Concrete Bottom Ash Disposal Trench Sheet 1.cal	CAL
1/29/2009	NB	SHF-10N403-Sht -Rev 2 Yard Units 1-5 Concrete Bottom Ash Disposal Trench Sheet 2.cal	CAL
1/29/2009	NB	SHF-10N404-1-Sht -Rev 3 Yard Units 1-10 Ash Sluice Relocation Outline & Reinf.cal	CAL
1/29/2009	NB	SHF-10N404-2-Sht -Rev 3 Yard Units 1-10 Concrete Ash Sluice Relocation Outline & Reinf.cal	CAL
1/29/2009	NB	SHF-10N407-Sht -Rev 2 Yard Units 1-5 Concrete Ash Disposal Trench Outline & Reinf Sheet 1.cal	CAL
1/29/2009	NB	SHF-10N408-Sht -Rev 1 Yard Units 1-5 Concrete Ash Disposal Trench Outline & Reinf. Sheet 2.cal	CAL
3/10/2009	NB	SHF-10W200-1-Sht -Rev 22.cal	CAL
3/10/2009	NB	SHF-10W200-2-Sht -Rev 3.cal	CAL
1/29/2009	NB	SHF-10W202-Sht -Rev 1 Main Plant - Units 1-10 Fly Ash Collecting System Yard Adjustments.cal	CAL
1/30/2009	NB	SHF-10W212-Sht -Rev 21 Main Plant General Grading Plan Coal Yard.cal	CAL
3/10/2009	NB	SHF-10W215-1-Sht -Rev 0.cal	CAL
1/30/2009	NB	SHF-10W220-10-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Cross Sections.cal	CAL
1/30/2009	NB	SHF-10W220-11-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Cross Sections.cal	CAL
1/30/2009	NB	SHF-10W220-12-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Cross Sections.cal	CAL
1/30/2009	NB	SHF-10W220-13-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Cross Sections.cal	CAL
1/30/2009	NB	SHF-10W220-14-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Cross Sections.cal	CAL
1/30/2009	NB	SHF-10W220-15-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Cross Sections.cal	CAL
1/30/2009	NB	SHF-10W220-16-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Cross Sections.cal	CAL
1/30/2009	NB	SHF-10W220-17-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Cross Sections.cal	CAL



**Coal Combustion Product Disposal Facility Assessment  
Phase 1 Document Review Form  
Shawnee Fossil Plant (SHF)**

Date Reviewed	Reviewed By	File Name	File Type
1/30/2009	NB	SHF-10W220-18-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Cross Sections.cal	CAL
1/30/2009	NB	SHF-10W220-19-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Cross Sections.cal	CAL
1/30/2009	NB	SHF-10W220-1-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Cover Sheet.cal	CAL
1/30/2009	NB	SHF-10W220-20-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Cross Sections.cal	CAL
1/30/2009	NB	SHF-10W220-21-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Cross Sections.cal	CAL
1/30/2009	NB	SHF-10W220-22-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Cross Sections.cal	CAL
1/30/2009	NB	SHF-10W220-23-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Cross Sections.cal	CAL
1/30/2009	NB	SHF-10W220-24-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Cross Sections.cal	CAL
1/30/2009	NB	SHF-10W220-25-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Cross Sections.cal	CAL
1/30/2009	NB	SHF-10W220-26-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Cross Sections.cal	CAL
1/30/2009	NB	SHF-10W220-27-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Cross Sections.cal	CAL
1/30/2009	NB	SHF-10W220-28-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Cross Sections.cal	CAL
1/30/2009	NB	SHF-10W220-29-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Cross Sections.cal	CAL
1/30/2009	NB	SHF-10W220-2-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Existing Conditions.cal	CAL
1/30/2009	NB	SHF-10W220-30-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Cross Sections.cal	CAL
1/30/2009	NB	SHF-10W220-31-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Cross Sections.cal	CAL
1/30/2009	NB	SHF-10W220-32-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Cross Sections.cal	CAL
1/30/2009	NB	SHF-10W220-33-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Cross Sections.cal	CAL
1/30/2009	NB	SHF-10W220-34-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Cross Sections.cal	CAL
1/30/2009	NB	SHF-10W220-35-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Cross Sections.cal	CAL
1/30/2009	NB	SHF-10W220-36-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Cross Sections.cal	CAL
1/30/2009	NB	SHF-10W220-37-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Cross Sections.cal	CAL
1/30/2009	NB	SHF-10W220-38-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Cross Sections.cal	CAL
1/30/2009	NB	SHF-10W220-39-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Cross Sections.cal	CAL
1/30/2009	NB	SHF-10W220-3-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Subgradesubbaseworking Platform Plan.cal	CAL
1/30/2009	NB	SHF-10W220-40-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Cross Sections.cal	CAL
1/30/2009	NB	SHF-10W220-41-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Cross Sections.cal	CAL
1/30/2009	NB	SHF-10W220-42-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Construction Sequence-Phase 1.cal	CAL
1/30/2009	NB	SHF-10W220-43-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Construction Sequence-Phase 2.cal	CAL
1/30/2009	NB	SHF-10W220-44-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Construction Sequence-Phase 3.cal	CAL
1/30/2009	NB	SHF-10W220-45-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Construction Sequence-Phase 4.cal	CAL
1/30/2009	NB	SHF-10W220-46-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Construction Sequence-Phase 5.cal	CAL
1/30/2009	NB	SHF-10W220-47-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Construction Sequence-Phase 6.cal	CAL
1/30/2009	NB	SHF-10W220-48-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Details.cal	CAL
1/30/2009	NB	SHF-10W220-49-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Details.cal	CAL
1/30/2009	NB	SHF-10W220-4-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Waste Fill Plan.cal	CAL
1/30/2009	NB	SHF-10W220-50-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Details.cal	CAL
1/30/2009	NB	SHF-10W220-51-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Details.cal	CAL



**Coal Combustion Product Disposal Facility Assessment  
Phase 1 Document Review Form  
Shawnee Fossil Plant (SHF)**

Date Reviewed	Reviewed By	File Name	File Type
1/30/2009	NB	SHF-10W220-52-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Stability Analysis Section A-A'.cal	CAL
1/30/2009	NB	SHF-10W220-5-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Final Grade (Capped) Plan.cal	CAL
1/30/2009	NB	SHF-10W220-6-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Baseline Profile.cal	CAL
1/30/2009	NB	SHF-10W220-7-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Cross Sections.cal	CAL
1/30/2009	NB	SHF-10W220-8-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Cross Sections.cal	CAL
1/30/2009	NB	SHF-10W220-9-Sht -Rev 0 Yard Consolidated Waste Stack Disposal Area Cross Sections.cal	CAL
1/30/2009	NB	SHF-10W221-10-Sht -Rev 0 Yard Phases 1 & 2 Consolidated Waste Stack Disposal Area Ditch, Flume And Pipe Profiles.cal	CAL
1/30/2009	NB	SHF-10W221-11-Sht -Rev 0 Yard Phases 1 & 2 Consolidated Waste Stack Disposal Area Cross Sections, Sheet 1 Of 3.cal	CAL
1/30/2009	NB	SHF-10W221-12-Sht -Rev 0 Yard Phases 1 & 2 Consolidated Waste Stack Disposal Area Cross Sections, Sheet 2 Of 3.cal	CAL
1/30/2009	NB	SHF-10W221-13-Sht -Rev 0 Yard Phases 1 & 2 Consolidated Waste Stack Disposal Area Cross Sections, Sheet 3 Of 3.cal	CAL
1/30/2009	NB	SHF-10W221-14-Sht -Rev 0 Yard Phases 1 & 2 Consolidated Waste Stack Disposal Area Details, Sheet 1 Of 5.cal	CAL
1/30/2009	NB	SHF-10W221-15-Sht -Rev 0 Yard Phases 1 & 2 Consolidated Waste Stack Disposal Area Details, Sheet 2 Of 5.cal	CAL
1/30/2009	NB	SHF-10W221-16-Sht -Rev 0 Yard Phases 1 & 2 Consolidated Waste Stack Disposal Area Details, Sheet 3 Of 5.cal	CAL
1/30/2009	NB	SHF-10W221-17-Sht -Rev 0 Yard Phases 1 & 2 Consolidated Waste Stack Disposal Area Details, Sheet 4 Of 5.cal	CAL
1/30/2009	NB	SHF-10W221-18-Sht -Rev 0 Yard Phases 1 & 2 Consolidated Waste Stack Disposal Area Details, Sheet 5 Of 5.cal	CAL
1/30/2009	NB	SHF-10W221-1-Sht -Rev 0 Yard Phases 1 & 2 Consolidated Waste Stack Disposal Area Cover Sheet.cal	CAL
1/30/2009	NB	SHF-10W221-2-Sht -Rev 0 Yard Phases 1 & 2 Consolidated Waste Stack Disposal Area General Notes.cal	CAL
1/30/2009	NB	SHF-10W221-3-Sht -Rev 0 Yard Phases 1 & 2 Consolidated Waste Stack Disposal Area - Existing Conditions And Baseline Layout.cal	CAL
1/30/2009	NB	SHF-10W221-4-Sht -Rev 0 Yard Phases 1 & 2 Consolidated Waste Stack Disposal Area - Subgrade Subbaseworking Platform Plan.cal	CAL
1/30/2009	NB	SHF-10W221-5-Sht -Rev 0 Yard Phases 1 & 2 Consolidated Waste Stack Disposal Area Waste Fill Plan.cal	CAL
1/30/2009	NB	SHF-10W221-6-Sht -Rev 0 Yard Phases 1 & 2 Consolidated Waste Stack Disposal Area Final Grade Plan.cal	CAL
1/30/2009	NB	SHF-10W221-7-Sht -Rev 0 Yard Phases 1 & 2 Consolidated Waste Stack Disposal Area Sediment & Erosion Control Plan.cal	CAL
1/30/2009	NB	SHF-10W221-8-Sht -Rev 0 Yard Phases 1 & 2 Consolidated Waste Stack Disposal Area Ditch Profiles.cal	CAL
1/30/2009	NB	SHF-10W221-9-Sht -Rev 0 Yard Phases 1 & 2 Consolidated Waste Stack Disposal Area Road Profiles.cal	CAL
1/29/2009	NB	SHF-10W229-Sht -Rev 0 Main Plant Ash Disposal Area Discharge Sump.cal	CAL
1/29/2009	NB	SHF-10W230-Sht -Rev 3 Main Plant Miscellaneous Sections Coal Yard Area.cal	CAL
3/10/2009	NB	SHF-10W240-1-Sht -Rev 5.cal	CAL
3/10/2009	NB	SHF-10W248-Sht -Rev 4.cal	CAL
1/30/2009	NB	SHF-10W262-3-Sht -Rev 0 East & West Stack Cems Slab Layout.cal	CAL
1/29/2009	NB	SHF-10W269-Sht -Rev 1 Main Plant Ash Disposal Area Discharge Channel.cal	CAL
1/30/2009	NB	SHF-10W410-4-Sht -Rev 8 Yard Units 1-10 Baghouse Concrete Dry Fly Ash Piping Trench.cal	CAL
1/30/2009	NB	SHF-10W410-5-Sht -Rev 8 Yard Units 1-10 Baghouse Concrete Dry Fly Ash Piping Trench.cal	CAL
1/30/2009	NB	SHF-10W410-6-Sht -Rev 4 Baghouse Units 1-10 Concrete Conc. Supports For Ash Piping Plans And Details.cal	CAL
1/30/2009	NB	SHF-10W626-1-Sht -Rev 0 Yard Units 7-10 Facilities Location For Dry Flue Gas Desulfurization Project.cal	CAL
1/30/2009	NB	SHF-10W626-2-Sht -Rev 0 Yard Units 7-10 Facilities Location For Dry Flue Gas Desulfurization Project.cal	CAL
1/30/2009	NB	SHF-10W627-1-Sht -Rev 0 Yard Existing Facilities Stacker - Reclaimer Conveyor Project.cal	CAL
1/30/2009	NB	SHF-10W627-2-Sht -Rev 0 Yard Existing Facilities Stacker - Reclaimer Conveyor Project.cal	CAL
1/30/2009	NB	SHF-10W650-1-Sht -Rev 3 Yard Units 1-10 Dfgd, Afbc, 10 Mw Test Scrubber & Stacker - Reclaim Construction Facilities.cal	CAL



**Coal Combustion Product Disposal Facility Assessment  
Phase 1 Document Review Form  
Shawnee Fossil Plant (SHF)**

Date Reviewed	Reviewed By	File Name	File Type
1/30/2009	NB	SHF-10W650-2-Sht -Rev 2 Yard Units 1-10 Dfgd, Afb, 10 Mw Test Scrubber & Stacker Reclaim Construction Facilities.cal	CAL
1/29/2009	NB	SHF-10W660-1-Sht -Rev 0 Yard - Ash Disposal Area Superseded By 10H660-1A & 1B.cal	CAL
1/29/2009	NB	SHF-10W660-2-Sht -Rev 0 Yard - Ash Disposal Area Superseded By 10H660-2A & 2B Wooden Spillway - Skimmer.cal	CAL
3/10/2009	NB	SHF-47W5300-4-Sht -Rev 0.cal	CAL
1/28/2009	NB	Status Update On SHF Fy2008 Annual Dike Stability Inspection.pdf	PDF