

FINDING OF NO SIGNIFICANT IMPACT
TENNESSEE VALLEY AUTHORITY
JOHNSONVILLE FOSSIL PLANT ASH DISPOSAL SITE EXPANSION
BENTON, HOUSTON, AND HUMPHREYS COUNTIES, TENNESSEE

Johnsonville Fossil Plant (JOF) is an important component of TVA's generating fleet and annually provides approximately 550 million kilowatt-hours of baseload energy. The JOF plant site has no room for the future storage of ash it produces and in recent years JOF has been disposing of ash at Bivens Industrial Park (BIP), located west of the plant near Camden. Trans-Ash Incorporated operates this disposal site, and the present Phase 1 disposal area is full. Trans-Ash proposes to expand the disposal area by constructing a Phase 2 ashfill to receive JOF ash. To mitigate the impacts to a wetland from the Phase 2 expansion, TVA proposes to develop a wetland mitigation area on TVA property in Houston County. The potential impacts of the construction and operation of the Phase 2 ashfill, and of the wetland mitigation, are the subject of a supplemental environmental assessment (EA) prepared by TVA and incorporated by reference.

The supplemental EA considered two alternatives in detail, No Action and the Proposed Action. Under the No Action Alternative, the proposed expansion of the existing ashfill would not occur. Coal ash created during power generation at JOF would accumulate onsite at the ash pond or the island. Within one year, coal ash storage onsite at JOF would fill, and JOF would have to cease operating. The No Action Alternative does not meet TVA's need to continue operation of the JOF facility to meet demand for baseload energy. Under the No Action Alternative, the existing Phase 1 ashfill would be capped and closed. Phase 1 of the ashfill at BIP was evaluated in an EA prepared by TVA in 2002.

TVA's Proposed (and preferred) Action Alternative is to expand the ashfill at BIP by 20.6 acres to accommodate approximately 2.2 million cubic yards of additional coal ash from JOF. A 22.6-acre tract of TVA land in Houston County would also be developed as wetland mitigation. The Proposed Action Alternative would allow JOF to continue to generate electricity and would allow the continued development of the BIP.

Impacts Assessment

As determined from scoping, TVA evaluated potential impacts to the following resource and issue areas: groundwater, surface water, solid waste, threatened and endangered species, terrestrial animals, wetlands, aquatic ecology, managed areas, socioeconomics, visual resources, floodplains and flood risk, and cultural properties.

Under the No Action Alternative, impacts associated with the Proposed Action Alternative would not occur at the BIP site or the 22-acre wetland mitigation tract. However, insignificant short-term increases of coal ash constituents in groundwater, all within permit limits, would be likely until the Phase 1 ashfill is capped with a flexible membrane liner (FML) or equivalent. Upon final closure, coal ash constituents in groundwater are anticipated to decrease to background levels over time.

Under the Action Alternative, effects from coal ash disposal at the Phase 2 ashfill would be insignificant to air quality, solid waste disposal, visual resources, cultural resources, aquatic

ecology, state-listed threatened and species, transportation, socioeconomics, land use, noise, recreation, and floodplains. There would be no impacts on federally listed endangered or threatened species. Generation of minor, insignificant amounts of fugitive dust during transport of coal ash from JOF and placement in Phase 2 would be reduced to a minimum by the use of best management practices. With implementation of the commitments and mitigation measures listed below, impacts to terrestrial resources, groundwater, and surface water would be insignificant.

Expanding the ashfill would result in the loss of about three acres of low-quality wetlands at BIP. As mitigation (described below), TVA would create about 17.8 acres of wetlands on a 22.6-acre tract of TVA land along the White Oak Creek embayment of Kentucky Reservoir in Houston County. This would result in long-term beneficial impacts to wildlife and wetland resources

Public and Intergovernmental Review

The U.S. Army Corps of Engineers issued Public Notice number 08-70 announcing the proposed expansion of the BIP ashfill. The public comment period began October 23, 2008, and ended November 22, 2008. Tennessee Wildlife Resources Agency, U.S. Fish and Wildlife Service, and Tennessee Historical Commission all commented on the notice. The Tennessee Department of Environment and Conservation (TDEC) issued a Public Notice of the draft Class II Solid Waste Landfill permit for the proposed expansion of the BIP ashfill on March 12, 2009. The public comment period ended April 27, 2009. TDEC also held a public hearing at the Benton County Courthouse on April 2, 2009, as part of the public comment period for the Solid Waste permit for the proposed expansion.

Mitigation

Under the Proposed Action Alternative, the following environmental commitments and mitigative measures would be implemented to ensure that environmental impacts are insignificant. All commitments and mitigation measures listed in the 2002 EA for Phase 1 will remain in effect.

- The geosynthetic clay bottom liner of Phase 1 will be tied in and sealed to the Phase 2 FML (or equivalent) bottom liner prior to stacking in the Phase 2 area. In addition, an ash leachate collection system will be constructed along the eastern margin of the ashfill to capture lateral drainage accumulating above the bottom liner of the expanded ashfill. The collection system will be discontinued following closure of Phase 2.
- At the BIP site, an FML (or equivalent) having a hydraulic conductivity of 1.0×10^{-13} centimeters per second (cm/sec) or less will be used for the bottom liner of Phase 2 and the liner will be installed with a minimum 3-foot geologic buffer above the estimated seasonal high water table.
- The closure cap for Phases 1 and 2 will consist of an FML (or equivalent) overlain by a minimum of two feet of soil cover. The FML will have a hydraulic conductivity of 1.0×10^{-13} cm/sec or less.
- Samples of raw ash leachate will be collected from the leachate collection pipe, upstream of Treatment Basin 1 and any other treatment unit or process. The raw ash leachate will be sampled on the same frequency as the routine groundwater monitoring, concurrent with that sampling. The constituents analyzed and their associated analytical methods would replicate the constituents and methods presented in Table 2-2 of the Final Groundwater Monitoring Plan in Appendix F of the supplemental EA. Sampling of

raw ash leachate would continue until the data set is determined by TVA groundwater specialists to adequately characterize the leachate.

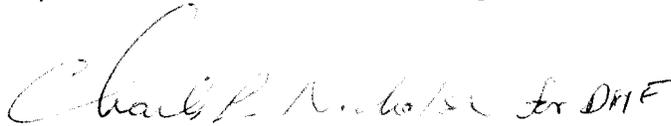
- During active filling and after closure of the BIP Phase 2 ashfill, TVA will receive and review the report of routine storm water monitoring required by the Stormwater permit held by Trans-Ash. In the event that data exhibited increasing trends in concentrations of a constituent of concern that indicated a potential for exceedence of permit limits or significant negative impact to surface water quality, then measures would be taken to halt or reverse the trend. Two potential effective measures include partially covering the top of Phase 2 with an FML during active filling to reduce flow through the ashfill, and intercepting the groundwater flow and pumping it out for treatment if necessary.
- Selenium will be added to the BIP groundwater monitoring program. It will be collected on the same frequency as the routine groundwater monitoring, concurrent with that sampling, and analyzed with the same methodology.
- The routine groundwater monitoring reports will be submitted concurrently to TVA's ash management organization and groundwater specialists for evaluation of information.
- TVA will continue long-term maintenance of the Phase 1 mitigation site for the state-listed endangered plant, hairy umbrella sedge. TVA botanists will survey for the sedge at both the Phase 2 expansion site and the Phase 1 mitigation site during the 2009 growing season (June through September). If the survey reveals low population numbers or restriction of the plant to a small area at the Phase 1 mitigation site, then seed or transplants from areas to be covered with ash will be used to enhance the Phase 1 mitigation site populations.
- TVA will mitigate the loss of 2.39 acres of wetlands from build-out of BIP Phase 2 by creating 17.8 acres of wetlands at the wetlands mitigation tract in Houston County. The required acreage for the proposed action is 12.88 acres, leaving approximately 4.9 acres of wetlands available for future TVA wetland mitigation needs. The wetlands so created on this tract of land will be managed and maintained by TVA in perpetuity. The as-built boundary polygon of the wetland will be updated in the mitigation agreement and TVA databases to reflect the actual boundary.
- In order to avoid potential adverse effects to archeological site 40HS77 located at the WMT, a 30-meter (98.4-foot) buffer will encircle the site and extend out from its boundaries so that the site is not affected by the wetland mitigation project. The buffer's outer boundary will be delineated by high-visibility barrier fencing (e.g., 4- x 100-foot rolls, orange) on metal fence posts. The location of the barrier will be determined by the reporting archaeologist under contract with TVA, and the barrier will be maintained until construction activities are completed and the area is stabilized.

Conclusion and Findings

No cultural resources were identified on the site of the proposed Phase 2 ashfill. One archaeological site was identified at the WMT as being potentially eligible for the National Register of Historic Places; however, a physical barrier will surround this site to protect it from disturbance. This fulfills requirements under Section 106 of the National Historic Preservation Act. No federally endangered or threatened species occur would be affected and requirements under Section 7 of the Endangered Species Act have been fulfilled.

The BIP site is located outside of the 100-year floodplain. Therefore, no construction activity would occur within the 100-year floodplain, which would be consistent with Executive Order (EO) 11988. Development of the wetland mitigation tract would involve activities within the 100-year floodplain and would, therefore, be subject to compliance with EO 11988. Consistent with EO 11988, TVA considers creation of the mitigation wetlands to be a functionally dependent use of the floodplain. The creation of a wetland will result in a positive but insignificant impact to natural and beneficial floodplain values. The creation of the wetland will result in the loss of approximately 8.2 acre-feet of flood control storage. The amount of displaced flood control storage has been minimized while achieving the project objective. Therefore, the project would comply with the TVA Flood Control Storage Loss Guideline.

Based on the analyses in the supplemental EA , TVA has concluded that implementation of the preferred action alternative - expanding the existing ashfill at BIP and creating the wetlands mitigation area - would not be major federal actions significantly affecting the environment. Accordingly, an environmental impact statement is not required. This determination is dependent on adherence to the mitigation measures described above.

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| Daniel H. Ferry, Senior Manager Environmental Services and Programs Office of Environment and Research Tennessee Valley Authority | Date Signed |