

**FINDING OF NO SIGNIFICANT IMPACT**  
**TENNESSEE VALLEY AUTHORITY**  
WACKER CHEMIE POLY 11 REQUEST FOR  
TENNESSEE VALLEY AUTHORITY LAND USE AND SECTION 26a APPROVALS AND  
UNITED STATES ARMY CORPS OF ENGINEERS SECTION 404 APPROVAL  
BRADLEY COUNTY, TENNESSEE  
SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

In September 2010, the Tennessee Valley Authority (TVA) completed an environmental assessment (EA) and issued a finding of no significant impact (FONSI) relating to a request by Wacker Chemie AG (i.e., Wacker) for land use and approvals under Section 26a of the TVA Act. These requests were in conjunction with a planned Wacker facility in Bradley County, Tennessee, to manufacture polycrystalline silicon products for photovoltaic and solar energy uses. The planned manufacturing facility will use large amounts of electric power. Power supply needs were not finalized when the EA and FONSI were prepared, and the provision of electric power for the plant was not addressed in the previous environmental review. Thus, a supplemental environmental assessment (SEA) was prepared to address the potential environmental effects of providing power to the Wacker facility. The SEA is incorporated by reference.

In order to provide Wacker with adequate power having a high degree of reliability, TVA proposes to supply direct-serve power to the plant. To this end, TVA would undertake the following actions:

- Construct a new 500-kilovolt (kV) substation adjacent to the Wacker plant site.
- Construct a 2.3-mile-long 500-kV loop transmission line from the TVA Watts Bar-Sequoyah #2 500-kV Transmission Line to the proposed 500-kV substation.
- Supply power to a new Wacker 161-kV substation by connecting two Wacker 161-kV transmission lines to the proposed 500-kV substation.
- Upgrade portions of the local TVA power system (i.e., replace the 500-kV relays and other equipment at TVA's Sequoyah, Watts Bar, and Volunteer 500-kV substations, install overhead ground wire on the Watts Bar-Sequoyah #2 500-kV Transmission Line, and update the System Operations Center to reflect the status of the new power facilities).

**Alternatives**

Two feasible alternatives, the No Action Alternative and the Action Alternative, were considered in the SEA. Under the No Action Alternative, TVA would not provide power to the Wacker facility. Without an adequate and reliable supply of electric power, Wacker could not operate the proposed facility effectively and could opt to locate these facilities elsewhere. Under the Action Alternative, TVA would implement the proposed actions listed above.

## Impacts Assessment

The proposed 500-kV transmission line would cross seven water bodies, including the 700-foot-wide South Mouse Creek embayment. An additional five crossings are associated with access roads. Because appropriate best management practices (BMPs) and streamside management zones (SMZs) would be implemented, potential effects to aquatic life under the Action Alternative would be minor and insignificant.

Approximately 0.01 acre of a small wetland would be converted from a forested wetland to a scrub-shrub wetland habitat by construction and maintenance of the proposed 500-kV transmission line. This conversion would not affect the function of the remaining portion (0.05 acre) of this wetland. Thus, direct, indirect, and cumulative effects to wetlands resulting from the proposed action would be minor and insignificant.

Construction of the support structures for the proposed 500-kV transmission line is not expected to cause changes in flood elevations or flow-carrying capacity of the streams being crossed. Potential effects to floodplain function resulting from necessary fill by Wacker on portions of its 723-acre Wacker site, including the proposed substation site, were addressed in the 2010 EA. TVA does not propose any additional fill at the proposed 500-kV substation because its elevation will be above the 100-year flood elevation when the parcel is transferred to TVA.

Adoption of the Action Alternative would not significantly affect the vegetation or vegetative characteristics of the region. Herbaceous plant communities would recover from disturbances from transmission line construction within approximately one year. Project implementation is not expected to significantly increase the abundance of invasive terrestrial plants.

The clearing of approximately 61 acres of forest habitat along the proposed transmission line route would increase forest edge habitat and increase fragmentation of these terrestrial habitats. However, this conversion would be regionally insignificant due to the high amount of habitat fragmentation already present in the area.

The only federally listed fish species known to occur in the affected watershed is the snail darter. No suitable habitat for this species was found in the streams crossed by the proposed transmission line. For this reason and because BMPs and SMZs would be implemented during construction and maintenance, no impacts would occur to the snail darter.

Seven federally listed as endangered mussel species have been reported to occur in the Tennessee River in the vicinity of the project. Construction of the proposed 500-kV transmission line and substation would have no effect to these species because of the intervening distance. Installation of overhead ground wire on the Watts Bar-Sequoyah #2 500-kV Transmission Line would involve crossing the Tennessee River, but the work would not affect surface waters of the river or local aquatic life, including these federally listed as endangered mussels.

No federally listed plants would be affected by the proposed project because neither individual plants nor habitat capable of supporting federally listed species occurs in the project area. State-listed plant species would not be affected significantly because most of the project area is heavily disturbed and is unsuitable for most rare plants. No federally or state-listed terrestrial animal species are known to occur within 3 miles of the project site, and no listed terrestrial species were detected during field inspections. Thus, implementing the proposed action would not affect any threatened or endangered terrestrial animal species.

A portion of the northern route of the Trail of Tears National Historic Trail (site 40BY166) lies within the archaeological area of potential effect. The proposed project would have a visual effect to 40BY166, but that effect would not be adverse. Site 40BY166 has become a paved county road and has experienced adjacent utilities development. The viewshed of 40BY166 has been compromised by modern industrial development, interstate highway development, and the presence of the Watts Bar-Sequoyah # 2 500-kV Transmission Line. TVA has determined that no historic properties would be adversely affected by implementing the Action Alternative.

There would be a minor and insignificant visual change in the landscape as a result of transmission line and substation construction. The proposed improvements at the Sequoyah, Watts Bar, and Volunteer 500-kV substations and the addition of optical ground wire to the existing 40-mile Watts Bar-Sequoyah #2 500-kV Transmission Line would cause temporary changes in local visual character for the duration of construction.

A portion of the South Mouse Creek unit of the Chickamauga Wildlife Management Area is located near the proposed 500-kV substation site, but the project is not expected to affect this resource. Johnson Bottoms TVA Habitat Protection Area, which is located along the Hiwassee River shoreline approximately 1.2 miles from the project, would not be affected because of the intervening distance. The Trail of Tears National Historic Trail, which is administered by the National Park Service, is undefined in this area, and no physical traces of the original Trail of Tears exist. The route of the original trail is approximated by Lower River Road, and the formerly rural character of the road has been altered by recent industrial development in the area. Thus, implementation of the proposed actions would not cause any significant additional effects to the Trail of Tears National Historic Trail.

### **Mitigation**

The mitigation measures and permit conditions listed in the 2010 EA remain valid. No special or nonroutine mitigation measures are necessary to avoid or reduce the potential for adverse environmental effects with respect to the provision of power to the Wacker facility.

### **Public and Intergovernmental Review**

TVA consulted with the National Park Service in the matter of effects to the Trail of Tears National Historic Trail and with the Tennessee Historical Commission regarding potential effects to historic properties. TVA also consulted with the following federally recognized Indian tribes: Absentee Shawnee Tribe of Oklahoma, Alabama-Coushatta Tribe of Texas, Alabama-Quassarte Tribal Town, Cherokee Nation, The Chickasaw Nation, Eastern Band of Cherokee Indians, Eastern Shawnee Tribe of Oklahoma, Kialegee Tribal Town, Muscogee (Creek) Nation of Oklahoma, Seminole Nation of Oklahoma, Seminole Tribe of Florida, Shawnee Tribe, Thlopthlocco Tribal Town, and United Keetoowah Band of Cherokee Indians in Oklahoma.

### **Conclusion and Findings**

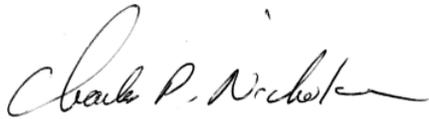
Implementing the proposed action would not affect any species federally listed as threatened or endangered. Likewise, no critical habitat for any federally listed species would be affected. TVA has determined that no historic properties would be adversely affected by implementing the Action Alternative. Thus, requirements under Section 7 of the Endangered Species Act and Section 106 of the National Historic Preservation Act, respectively, are satisfied.

Construction of an overhead transmission line and related support structures is considered a repetitive action in the 100-year floodplain. Construction of the support structures is not expected to increase flood hazards from either changes in flood elevations or flow-carrying

capacity. TVA evaluated alternative locations for the proposed 500-kV substation and determined that there was no practicable alternative to siting it in the 100-year floodplain. Thus, the proposed actions are consistent with Executive Order 11988 (Floodplain Management).

Implementing the Action Alternative would affect less than 0.01 acre of wetlands. TVA has avoided potential wetland impacts to the extent practicable. Thus, the proposed action is consistent with the requirements of Executive Order 11990 (Protection of Wetlands).

TVA has reexamined the 2010 EA and determined that the findings in that document remain relevant and valid. Further, TVA has assessed the potential environmental effects of the proposed actions listed above. Based on the findings in the SEA, TVA has concluded that the provision of direct-serve power to the Wacker facility and the necessary related upgrades to the TVA power system would not result in significant adverse impacts to the environment. The proposed actions are not a major federal action significantly affecting the quality of the human environment. Accordingly, an environmental impact statement is not required.

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July 21, 2011

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Susan J. Kelly, Senior Manager  
Federal Determinations  
Environmental Permits and Compliance  
Tennessee Valley Authority

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Date Signed