

**FINDING OF NO SIGNIFICANT IMPACT**  
**TENNESSEE VALLEY AUTHORITY**  
WACKER CHEMIE POLY 11  
REQUEST FOR TENNESSEE VALLEY AUTHORITY LAND USE  
AND SECTION 26a APPROVAL  
BRADLEY COUNTY, TENNESSEE

**Proposed Action and Need**

Wacker Chemie (applicant) is planning to construct and operate a facility that would manufacture hyperpure polycrystalline (polysilicon), the prime component used to make solar panels and semiconductors, in Bradley County, Charleston, Tennessee. Tennessee Valley Authority (TVA) received a TVA land use and Section 26a approval request from the applicant for planned construction activities adjacent to South Mouse Creek Mile 1.5 (right bank), Hiwassee River Mile 15.6 (left bank), including 1.67 acres of TVA fee-owned land. The planned facility would provide short-term construction work for about 500 laborers, and facility operations would provide about 500 long-term jobs.

Site preparation for the planned manufacturing facility would result in the modification of 273 acres of the applicant's 564-acre property and would displace approximately 4 million cubic yards of fill material, resulting in unavoidable impacts to 4.1 acres of wetlands, 3,377 linear feet of streams, and 6.8 acres of agricultural ponds. Impacts to streams, wetlands, and floodplains resulting from construction and operation of the planned manufacturing facility would be mitigated by the applicant through on-site mitigation activities for wetland and stream impacts, along with off-site stream mitigation planned in the nearby city of Cleveland, Tennessee.

Furthermore, the planned facility construction would result in fill placement in wetlands, streams, and floodplains on TVA property. Wacker's proposed actions subject to TVA land use and Section 26a approval include fill placement below the 715-foot mean sea level (msl), encapsulation of a perennial stream, creation of four storm water discharges, on-site and off-site mitigation activities, and vegetation management on TVA land.

TVA has retained landrights and jurisdiction over the area within its flowage easement in the project area (elevation 715 feet to 685.44 feet above msl). The applicant is requesting land use in the form of term easements and or deed modifications for the following actions: fill placement of 0.272 acre at elevation 685.44 feet above msl, storm water sheet flow impacts on 0.01 acre, placement of 11.25 acres of fill material between elevations 694.1 feet to 685.44 feet above msl, and cut and fill for four hydraulic connectivity points associated with planned wetland mitigation areas.

The following proposed actions require approval under Section 26a: the placement of 62.2 acres of fill material within elevation 715 feet and 698.6 feet above msl and 15.5 acres of fill material within the 500-year floodplain (elevations between 698.6 feet and 694.1 feet above msl). In addition, planned stream encapsulation, creation of four storm water outfalls, and on-site and off-site stream mitigation activities would require Section 26a approval.

The planned manufacturing facility complex would include an administrative office building and several other structures for support processes and warehousing. The facility complex would include distillation and cooling towers, scrubbers, a maintenance shop, equipment cleaning facility, two substations, a switchyard, and parking areas, among other features.

The potential effects of the proposed land use and permitting actions, as well as the resulting construction and operation of Wacker's manufacturing facility, have been evaluated in an environmental assessment (EA) prepared by TVA in cooperation with the United States Army Corps of Engineers (USACE). This EA is incorporated by reference.

### **Alternatives**

In accordance with the National Environmental Policy Act (NEPA), TVA developed and evaluated two alternatives for the proposed actions in the attached EA. These were the No Action Alternative and the proposed Action Alternative.

Under the No Action Alternative, TVA would not grant land use and Section 26a approvals for the applicant's proposed construction and mitigation activities. Consequently, the applicant would not construct the proposed facility at this time. Environmental conditions in the project area would not change, and anticipated socioeconomic benefits would not occur in the region. Additionally, long-term benefits to South Mouse Creek and Fillauer Branch would be forfeited. Adoption of this alternative would not meet the applicant's project objectives to build the new manufacturing facility in Bradley County, Tennessee.

Under the Action Alternative, TVA would issue land use and Section 26a approvals for the applicant's proposal that would result in impacts to wetlands, streams, and floodplains. Impacts to these resources resulting from construction of the planned manufacturing facility would be mitigated by the applicant through on-site mitigation activities for wetland and stream impacts, along with off-site stream mitigation. The applicant would be responsible for the design, construction, and vegetation restoration, and for all mitigation activities, including monitoring. The planned mitigation activities are included as part of the Action Alternative.

### **Impacts Assessment**

The EA concludes that the Action Alternative would not affect prime or unique farmland, parks, or natural areas. Similarly, no modification to recreational opportunities, navigation, or Wild and Scenic Rivers would be involved. Undertaking the proposed action would not result in major changes in visual resources, transportation, air quality, noise, or groundwater.

Most of the project site is disturbed herbaceous vegetation, and no uncommon or high-quality terrestrial plant communities occur on the site. Although a varied community of terrestrial animals use the mixture of habitats on the project site, the effects on wildlife from the habitat loss would be insignificant, as similar habitats occur in abundance within the surrounding landscape.

No federally listed or state-listed plant or terrestrial animal species or their appropriate habitats occur within the project area, and none of the state-listed or federally listed aquatic animal species known from the Hiwassee River drainage are known to occur in streams that lie in the study area. No federally or state-listed aquatic species are present in areas that would be affected by on-site stream and wetland mitigation, and no impacts to listed species or aquatic communities are anticipated as a result of this off-site mitigation project because habitat to

support listed species does not occur within the mitigation areas. Furthermore, impacts to federally listed or state-listed species potentially present in the Hiwassee River and South Mouse Creek embayment would not be adversely affected by the facility's storm water or process water discharges because the discharge flows would be minor and the amount of elements in the process water would be negligible.

All site work would be completed in accordance with the Erosion Protection and Sediment Control measures, as described in the applicant's Storm Water Pollution Prevention Plan, and potential adverse impacts to water quality would be minor. Because appropriate protective measures would be followed to protect water quality and in-stream habitat, no adverse effects to water quality and local aquatic life or their habitats are anticipated.

Phase 1 archaeological surveys identified two previously recorded sites and three previously unrecorded archaeological sites within the archaeological area of potential effects (APE). During the archaeological surveys, previously recorded sites were revisited, and TVA found both sites ineligible for listing in the National Register of Historic Places (NRHP) due to lack of intact deposits/integrity and low research potential. TVA found the three previously unrecorded archaeological sites ineligible for listing in the NRHP due to lack of intact deposits/integrity and low research potential.

An architectural survey of the visual APE resulted in the identification of no previously unrecorded architectural resources and two previously recorded architectural resources (BY27 and BY488). A portion of the Trail of Tears also is within the visual APE. The NRHP-eligibility assessment of structure BY27 (Wright/Bryant House) was addressed by Weaver and Associates and the University of Tennessee's survey results. Both consultants recommend Structure BY27 ineligible for inclusion in the NRHP due to modern exterior and interior alterations that had compromised the architectural integrity of the house. After further consultation with the SHPO, TVA and the SHPO agreed to treat Structure BY27 as eligible for inclusion in the NRHP as the structure was found to have retained some important architectural features. The Section 26a Permit will include conditions to preserve these features.

Impacts associated with facility construction and a portion of the planned mitigation activities would impact the floodplain and wetlands. Based on the engineering and environmental evaluations, TVA has determined in accordance with Executive Order (EO) 11988, Floodplain Management, and EO 11990, Protection of Wetlands, that there is no practicable alternative to the proposed construction in the floodplain and wetland areas.

The approval of the proposal would have beneficial impacts to water quality, aquatic ecology, floodplains, wetlands, and socioeconomics in the area. The planned on-site shoreline improvements to South Mouse Creek would have positive effects on water quality and would benefit aquatic life and wildlife in the area, especially those foraging in reservoir-influenced portions of the creek. The increase in species' diversity and habitat complexity associated with the planned wetland mitigation activities would offset the minor loss of 4.1 acres of low-quality wetlands and would increase the overall wetland acreage and quality within the project region. There would be an increase of about 71.5 acre-feet of flood control storage as a result of the creation of these wetland areas, and the off-site stream improvement project would likely result in enhanced natural floodplain values. The proposal complies with the TVA Flood Control Storage Loss Guideline.

The creation of 500 short-term construction jobs would result in a minor improvement to the socioeconomics of the area; however, impacts would be temporary and would diminish upon completion of facility construction. The new manufacturing facility would result in positive direct and indirect effects through the addition of 500 technical jobs in the region, and these jobs would, in turn, increase income and spending in the county and the region. There would likely be beneficial cumulative effects in the region due to the creation of jobs and anticipated tax revenues, but the impacts are not expected to be significant to the area.

### **Mitigation and Permit Conditions**

TVA is to ensure that the following conditions recommended by the State Historic Preservation Officer (SHPO) be included as formal conditions of the Section 26a Permit and that the tasks described in these conditions are implemented by Wacker Chemie within the allocated time frames. If these conditions are not met, the 26a Permit would be revoked.

- **Condition One:**  
The applicant shall not alter the exterior of Historic Architectural Property BY27 (Wright/Bryant House) in any manner for five years except as necessary to comply with American Disabilities Act (ADA) and other applicable laws, and to repair damage to the building, and then only with the development of a design plan and in-kind materials. A design plan shall comply with the Secretary of the Interior's Standards for Rehabilitation (see Attachment K) and will be submitted to TVA and the SHPO for approval before beginning any alterations. Alterations to the interior of the structure (other than removal of load bearing walls) may be completed without consultation if the alterations will have no effect to the exterior of the historic property.
- **Condition Two:**  
Within three calendar months of the issuance of the TVA 26a permit, the applicant shall submit a Vegetative Screening Plan (designed by a landscape architect) to TVA and the SHPO for review and approval. The Plan would screen the southern boundary of the planned facility from the view of BY27, and would involve planting (including replanting and maintenance as needed) a visual screen of mature native plant species along the southern boundary of the facility and infrastructure site for approximately 700 feet (a 60 degree viewshed from BY27). When implemented, the effect of this vegetative screening would be sufficient to obscure the view of the planned manufacturing facility from BY27.
- **Condition Three:**  
Within three calendar months of the issuance of the TVA 26a permit, the applicant shall submit a Vegetative Screening Plan to be implemented along the northern boundary of BY27 to TVA and the SHPO for review and approval. The Plan would be designed by a Historic Landscape Architect to complement the existing landscape setting of BY27 (including replanting and maintenance as needed).

Implementation of the planned stream and wetland mitigation measures previously described in the EA will adequately minimize other potential environmental effects associated with the construction and operation of the proposed manufacturing facility. No further nonroutine environmental commitments or mitigation measures have been identified by TVA and USACE to reduce potential environmental effects. However, to ensure that the proposed development

does not adversely impact floodplains and flood control, TVA will include the following standard conditions in the 26a approval and any land transfer agreement(s):

- For purposes of shoreline bank stabilization, all stabilization materials shall be constructed or placed, on average, no more than 2 feet from the existing shoreline at normal summer pool elevation.
- The applicant shall grant TVA flowage easement rights along the created wetland areas consistent with those existing along the current shoreline in this area.
- Any future facilities or equipment subject to flood damage is to be located above elevation 698.6 feet msl.
- Any future development proposed within the limits of the 100-year floodplain, elevation 694.1 feet above msl, shall be consistent with the requirements of EO 11988.
- All future development shall be consistent with the requirements of the TVA Flood Control Storage Loss Guideline.

### **Public and Intergovernmental Review**

The applicant's proposed action was the subject of Joint Public Notice (JPN) 10-14 issued by USACE and TVA (see Attachment G of the EA) to advertise the proposed activities. The public comment period was from July 14, 2010, to August 14, 2010. One written comment was received in response to the JPN from the United States Fish and Wildlife Service (USFWS) concerning potential impacts to the federally listed as threatened snail darter (*Percina tanasi*) that could result from process wastewater discharged into the Hiwassee River (see Attachment H of the EA). While the USFWS stated that the requirements of Section 7 of the Endangered Species Act (ESA) had been fulfilled, it recommended that resource agencies be allowed to review any future plans for the proposed intakes or outfalls by the USACE under Section 404 of the Clean Water Act or by TVA under Section 26a of the TVA Act. TVA will coordinate such future proposals with the USFWS.

Tennessee Department of Environment and Conservation (TDEC) issued Public Notice NRS 10.110 to inform interested parties of Wacker's request for a Section 401 Water Quality Certification approval (see Attachment G of the EA). The public notice was dated June 25, 2010, and the notice expired July 24, 2010. TDEC held a public hearing July 29, 2010, to receive comments or objections regarding the application for Section 401 Water Quality Certification by Wacker. Two written comments were received during the TDEC public notice comment period, and no comments or objections to the permit request were presented at the public hearing.

TVA has consulted with the Tennessee SHPO under Section 106 of the National Historic Preservation Act. In a letter dated September 23, 2010, the SHPO concurred that TVA's proposed undertaking to approve land use and Section 26a requests will not adversely affect any historic property eligible for listing in the NRHP, including the Wright/Bryant House, as long as the permit conditions previously described are met. TVA has also consulted with the following federally recognized Indian tribes regarding properties within the proposed project's APE that may be of religious and cultural significance to the tribes: Cherokee Nation, Eastern Band of Cherokee Indians, United Keetoowah Band of Cherokee Indians in Oklahoma, the Chickasaw Nation, Muscogee (Creek) Nation of Oklahoma, Alabama-Coushatta Tribe of Texas, Alabama-Quassarte Tribal Town, Kialegee Tribal Town, Thlopthlocco Tribal Town, Seminole

Tribe of Florida, Absentee Shawnee Tribe of Oklahoma, Eastern Shawnee Tribe of Oklahoma, and the Shawnee Tribe of Oklahoma (see Attachment H of the EA).

### **Conclusion and Findings**

Adoption and implementation of the proposed action would cause no effects to any federally listed terrestrial or aquatic species or to their habitats. The proposed actions comply with Section 7 of the ESA, as determined by TVA in consultation with the USFWS. Based on the condition of implementation of permit conditions, the proposed undertaking would not adversely affect any historic properties eligible or currently listed in the NRHP. By the SHPO's concurrence with this "no adverse effect" finding, conditioned upon implementation of the permit conditions, TVA's obligations under Section 106 of the National Historic Preservation Act have been satisfied. Implementation of the Action Alternative would be consistent with EO 11990 and EO 11988. Based on the engineering and environmental evaluations, in accordance with EO 11990 and EO 11988, TVA has determined that there is no practicable alternative to the proposed construction in wetlands and floodplains.

Based on the findings of the EA, TVA has concluded that the approval of the applicant's land use and Section 26a request would not result in significant adverse impacts to the environment. The proposed action is not a major federal action significantly affecting the quality of the environment. Accordingly, an environmental impact statement is not required.



September 29, 2010

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

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Date Signed