



Department of Energy

Golden Field Office
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DOE/EA-1761

**FINDING OF NO SIGNIFICANT IMPACT
AND
FLOODPLAIN STATEMENT OF FINDINGS
CLEMSON UNIVERSITY WIND TURBINE DRIVETRAIN
TEST FACILITY NORTH CHARLESTON, SOUTH CAROLINA**

AGENCY: U.S. Department of Energy, Golden Field Office

ACTION: Finding of No Significant Impact (FONSI)

SUMMARY: The U.S. Department of Energy (DOE or the Department) is proposing to provide federal funding to Clemson University (Clemson) to design, permit, and construct a Wind Turbine Drivetrain Test Facility (DTTF). The DTTF would be located at Building 69, a former warehouse and shipping facility on a brownfield site within the Charleston Naval Complex (CNC). The interior of the building would be refurbished and a portion of the building and a nearby outbuilding would be demolished. In addition, an approximately 700-foot-long rail spur would be constructed, and electrical transmission lines would be installed from the facility to a nearby new or enhanced substation. The refurbished facility would consist of two test rigs equipped with independent drive systems. Each test rig would be capable of testing drivetrains for wind turbines of up to 15-megawatts.

All discussion, analysis, and findings related to the potential impacts of construction and operation of the project, including the applicant-committed measures, are contained in the Final Environmental Assessment (EA). The Final EA is hereby incorporated by reference.

This FONSI was prepared in accordance with the *National Environmental Policy Act of 1969* (NEPA), the Council on Environmental Quality regulations for implementing NEPA, as amended, 40 CFR 1500 to 1508, and DOE NEPA regulations 10 CFR 1021.322.

ENVIRONMENTAL IMPACTS: In compliance with NEPA and the DOE NEPA implementing regulations, the EA examined the potential environmental impacts of DOE's decision to provide funding to Clemson and also examined a No-Action Alternative. Under the No-Action Alternative, DOE would not fund the proposed project and the DTTF would not be constructed or operated with Federal Funds.

The DTTF would be developed and operated in an existing building within a developed industrial complex that has an adequate transportation network and other infrastructure to support the project. The DTTF would obtain electricity from the regional grid and the only stationary source of emissions would be an emergency generator. The proposed project would employ 50 to 100 people during construction and about 20 during operations. Based on this and other information, DOE concluded that the design, permitting, and operation of the DTTF would have no impacts or minor impacts on air quality, biological resources, wetlands and other surface waters, coastal zones, land use, aesthetics, waste management, traffic, and transportation.

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Soil and groundwater at several sites on and near the proposed project site have been contaminated from past military-related industrial uses. Development of the DTTF would require removal of portions of the building foundation, paved surfaces, or other impermeable barriers, and excavations for the installation of equipment foundations, a rail spur, utilities, and landscaping. Removal of these impermeable surfaces could expose contaminated soils, which could then be resuspended by wind or leached by precipitation and subsequently contaminate stormwater or groundwater. Clemson's acceptance of the CNC property and associated Voluntary Cleanup Contract requires coordination with South Carolina Department of Health and Environmental Control and the U.S. Navy to develop and implement site- and activity-specific plans to properly handle and dispose of soil prior to beginning work. By following all related requirements and protocols, the proposed project would have a negligible impact on soil conditions and would not result in the dispersal of soil contaminants.

The project site is almost entirely paved or covered with structures; thus, stormwater runoff from the site is and will continue to be nearly equal to the amount of precipitation falling on the property. Clemson must apply for a general permit for stormwater discharges, which would require an approved stormwater pollution prevention plan detailing conditions and control of erosion and sedimentation during construction. Implementation of the plan would minimize potential impacts of the proposed project on stormwater quantity or quality.

The proposed project would require pumping of groundwater (dewatering) during foundation construction and other excavations. Clemson would prepare and implement plans in compliance with an existing *Resource Conservation and Recovery Act* permit and Voluntary Cleanup Contract for the testing, safe handling, and disposal of potentially contaminated groundwater. Based on the local and regional groundwater conditions and compliance with permitting requirements, DOE concludes that the DTTF would not impact groundwater resources.

There are no historic properties within the project site. Building 69 is southwest of the Charleston Navy Yard Historic District, which is listed in the National Register of Historic Places and consists primarily of industrial and administrative structures. Due to the nature of the proposed project, development of an industrial facility in a traditionally industrial area, DOE determined that the proposed project would have no adverse impacts on that Historic District or other historic properties or cultural resources. The South Carolina State Historic Preservation Officer and the Catawba Indian Nation Tribal Historic Preservation Officer concurred with DOE's determination.

The city of North Charleston has a higher proportion of people classified as minorities or having a low income than the population of South Carolina or the United States. However, as illustrated in the EA, Clemson's proposed project would not result in a significant adverse impact to any members of the community surrounding the proposed project site, or to anyone else. Therefore, there would be no adverse and disproportional impacts to minority or low-income populations in the North Charleston neighborhoods surrounding the CNC or elsewhere in the surrounding region.

After an initial energy demand of 13 megawatts during startup, long-term energy needs at the DTTF would be approximately 2.65 megawatts, which is very small relative to energy consumption in the region. The use of water and sewer utility systems would be very small compared with the existing capacity of those local utilities.

There is lead-based paint on large industrial racks in Building 69 and asbestos in some floor tile, floor mastic, and roofing products. The portion of the warehouse that has lead-contaminated equipment would be dismantled and the components would be appropriately recycled or disposed, and the asbestos-containing materials would be completely removed and disposed in accordance with applicable regulations. Clemson would conduct these and other construction activities in accordance with detailed safety and health plans that address the site-specific hazards. DOE concludes that the proposed project therefore would cause minimal risk to the health and safety of construction workers, facility occupants, and the surrounding community.

The two test rigs would be designed so that noise would attenuate to prevent interference between the two test cells. The closest residents, located approximately 1,000 feet to the west of the facility, would not experience an increase in noise and the small number of annual shipments of drive trains and other materials via barge or rail would have a negligible impact on the existing noise environment in the region surrounding the CNC.

DOE evaluated the cumulative impacts of past activities at the former Charleston Naval Complex, ongoing activities on and surrounding the CNC, and planned activities in that region. Many environmental impacts, such as soil and groundwater contamination, occurred on the project site and surrounding area during past activities. DOE concludes that the DTF, in conjunction with other activities considered, would have no or minimal cumulative impacts on soils, surface waters, cultural resources, or utilities. The long-term cumulative impact of development on the CNC would be positive because the DTF and other activities would contribute to growth in the economically depressed North Charleston area and would convert abandoned, contaminated properties into properly maintained facilities.

FLOODPLAIN STATEMENT OF FINDINGS: The DTF is located in a 100-year floodplain, as shown in Figure 3-1 of the EA, and DOE conducted a floodplain assessment as required by regulations at 10 CFR Part 1022, *Compliance with Floodplain and Wetland Environmental Review Requirements*. The project area was originally developed as part of a naval base in the mid 1900s and the floodplain was irretrievably altered at that time, resulting in a reduction of the beneficial aspects of the natural floodplain. The elevation on the project site varies from approximately 13 to 14.5 feet above mean sea level, which is within the 100-year flood zone. Building 69 is approximately 4 feet above grade, at a finished floor elevation of 17.83 feet above mean sea level. That floor elevation is higher than the 100-year flood wave crest elevation of 14.2 feet. The project would not alter the depth of floodwaters in the area or otherwise cause any increase of flooding of nearby properties. DOE concludes that this project would have no adverse impacts on the natural and beneficial floodplain values associated with the base floodplain, would not affect lives or property in the area, and would comply with floodplain protection regulations.

PUBLIC PARTICIPATION IN THE EA PROCESS: DOE sent scoping letters to regulatory agencies and other potentially interested agencies, organizations, and individuals, and posted the letter on the DOE Golden Reading Room internet site. The scoping letter described DOE's Proposed Action and requested assistance in identifying potential issues to be evaluated in the EA. In response to the scoping letter, DOE received eight comment letters which, along with the resultant responses, are summarized in the EA. In addition, DOE initiated consultation with the U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, South Carolina Department of Health and Environmental Control, South Carolina State Historic Preservation Officer, and the Catawba Indian Tribe. Appendix B of the EA contains a copy of the consultation letters and responses.

DOE issued the draft EA for comment on September 1, 2010, and posted it on the internet. DOE sent to interested parties announcements of the availability of the draft EA and of a 15-day public comment period. The comment period ended on September 14, 2010. DOE received two comments, both of which discussed environmental justice issues and economic impacts that could be experienced in the economically distressed neighborhoods surrounding the CNC.

DETERMINATION: Based on the information presented in the Final EA (DOE/EA 1761), DOE determined that providing funding to Clemson to design, permit, and construct a Wind Turbine DTF would not constitute a major federal action significantly affecting the quality of the human environment within the context of NEPA. Therefore, the preparation of an environmental impact statement is not required, and DOE is issuing this FONSI.

The applicant's commitment to obtain and comply with all appropriate federal, state, and local permits required for construction and operation of the test facility, and to minimize potential impacts through the implementation of best management practices and various mitigation practices detailed in the EA shall be incorporated and enforceable through DOE's financial assistance agreement.

The Final EA is available at: http://www.eere.energy.gov/golden/Reading_Room.aspx.

For questions about this FONSI, contact:

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