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FINDING OF NO SIGNIFICANT IMPACT
TENNESSEE VALLEY AUTHORITY

POWER PURCHASE AGREEEMENT - HORUS KENTUCKY 1 SOLAR PROJECT SIMPSON COUNTY, KENTUCKY AND SUMNER COUNTY, TENNESSEE

The Tennessee Valley Authority (TVA) proposes to enter into a 15-year Power Purchase Agreement (PPA) with Horus Kentucky 1, LLC, the facility-specific entity affiliated with Horus Renewables Corporation (Horus Renewables), to purchase the proposed power generated by a proposed solar photovoltaic (PV) facility in Simpson County, Kentucky. The proposed solar facility, known as "Horus Kentucky 1 Solar Project" (Project), would have to alternating current (AC) generating capacity of 69.3-megawatts (MW). The proposed solar facility would be constructed and operated by Horus Renewables, and transmission line upgrades and access road improvements would be constructed and operated by TVA.

The Horus Kentucky 1 Solar Project would be occupied with multiple parallel rows of solar photovoltaic panels on single-axis tracking structures, associated racking, direct current (DC) to AC inverters, and project substation transformer which would connect to TVA's existing L5402, 161-kilovolt (kV) transmission line, which would transmit power to the TVA network. The transmission upgrade component is proposed to occur along approximately 20.96 miles of existing TVA Transmission Lines L5402 and L5775, as well as proposed access road improvements along both transmission lines.

TVA produces or obtains electricity from a diverse portfolio of energy sources, including solar, hydroelectric, wind, biomass, fossil fuel, and nuclear. The 2011 TVA Integrated Resource Plan (IRP) established the goal of increasing its renewable energy generating capacity by 1,500 to 2,500 MW by 2020. The IRP identified the various resources that TVA intends to use to meet the energy needs of the TVA region over the 20-year planning period while achieving TVA's objectives to deliver reliable, low-cost, and cleaner energy and to reduce environmental impacts. TVA's 2015 IRP reinforced the continued expansion of renewable energy generating capacity, including the addition of between 175 and 800 MW (AC) of solar capacity by 2023. In June 2019, TVA released the final 2019 IRP and the associated Environmental Impact Statement (EIS). This updated IRP provides further direction on how TVA will deliver clean, reliable and affordable energy in the Tennessee Valley over the next 20 years, and the associated EIS describes the natural, cultural and socioeconomic impacts associated with the IRP. The 2019 IRP recommends solar expansion and anticipates growth in all scenarios analyzed, with most scenarios anticipating 5,000-8,000 MW and one anticipating up to 14,000 MW by 2038. In 2019, customer demand prompted TVA to release a Request for Proposal (RFP) for renewable energy resources (2019 Renewable RFP). The PPAs that resulted from this RFP (including the Horus Kentucky Solar PPA) will help TVA meet immediate needs for additional renewable generating capacity in response to customer demands and fulfill the renewable energy goals established in the 2019 IRP. Therefore, the Proposed Action would provide cost-effective renewable energy consistent with the IRP and TVA goals. The Proposed Action would directly help TVA meet this need for additional solar capacity under its IRP. In addition, the construction and operation of the Project Site has the potential to minimize the cost of electricity within the area and reduce air emissions due to the lack of fossil fuels used to generate electricity.

Alternatives

The subject EA evaluates two alternatives: The No Action Alternative and the Proposed Action Alternative. Under the No Action Alternative, TVA would not purchase the power generated by the Project under the 15-year PPA with Horus Kentucky 1, LLC (i.e., TVA would not be involved with the Project), and Horus Kentucky 1, LLC would not construct or operate the Horus Kentucky 1 Solar Project. The existing conditions (such as land use, water resources, biological resources, visual resources, cultural resources, and socioeconomics) in the Project Area would remain unchanged. TVA would continue to rely on other sources of generation described in the 2019 IRP to ensure an adequate energy supply and to meet its goals for increased renewable energy and low greenhouse gas-emitting generation.

Under the Proposed Action Alternative, Horus Kentucky 1, LLC would construct and operate a 69.3-MW AC solar power facility in Simpson County, Kentucky. The energy generated by the Project would be sold to TVA in accordance with the terms of the PPA. The Project would be constructed on approximately 550 acres of privately-owned rural agricultural land which is comprised of four currently farmed tracts of land located less than five miles southeast of Franklin, Simpson County, within the Commonwealth of Kentucky. The Project Site is currently bound to the north by Interstate-65 (I-65) and Old County Farm Road; to the east by Tyree Chapel Road and Hendricks Road; to the south by Tyree Chapel Road; and to the west by railroad tracks. The Project Site would be occupied with multiple parallel rows of solar PV panels (total of 163,632 PV panels) on single-axis tracking structures, associated racking, 22 DC to AC inverters, and a project substation transformer. The Project would connect to the existing TVA transmission network by providing a new 161-kV tap point on the existing Franklin-Portland (L5402) 161-kV line that traverses the Project Site at its central-southeast corner, which would transmit power to the TVA network. Approximately 500 acres of the 550 acres would be occupied by PV panels, and the remaining approximate 50 acres would be occupied by ancillary equipment and infrastructure to support the Project or would remain undeveloped. The PV panels would be mounted on motor-operated axis tracker structures, which are commonly referred to as single-axis trackers. These single-axis trackers are designed to pivot the panels along their north-south axes to follow the path of the sun across the sky from the east to west direction. The tracker assemblies would be constructed in parallel north-south rows using steel piles installed at an average height of 7.5 feet off ground to the top of the panel at a 55-degree full-tilt, with a resting angle to be set to 0 degrees. The perimeter of the Project Site would be enclosed with security fencing.

In order to support the operations of Horus Kentucky 1 Solar Project, structural upgrades to approximately 20.96 miles of existing transmission lines (L5402 and L5775) connecting to the Project would also be required. The Proposed Transmission Line Upgrades would encompass both structure replacements and upgrades along the edge of the existing right-of-way (ROW) and the height change of structures are proposed to be no greater than 7-10 feet in height from the existing infrastructure. All upgrade work would occur at existing TVA substations and on existing TVA transmission lines within existing ROW. No new property or easement rights would be needed. Transmission Line L5402 is approximately 10.94 miles in length that originates at the Project Site in Franklin, Kentucky, runs south and terminates in Portland, Tennessee. Transmission Line L5775 is approximately 10.03 miles in length that originates at Wilson, Tennessee, runs northeast and terminates in Gallatin, Tennessee. This work is being completed since the current conductor size cannot support the load required for these transmission line sections and the conductor must be replaced and upgraded. TVA's Proposed Action would result in the need for additional access roads associated with the Project Transmission Line Upgrades. Access roads are typically about 12 to 16 feet wide and are surfaced with dirt, mulch,

or gravel. Additional access roads would be needed to allow vehicular access to each structure and other points along the ROW. Typically, new permanent or temporary access roads used for transmission lines are located on the ROW whenever possible and are designed and located to avoid severe slope conditions and to minimize impacts to environmental resources. After the work is completed, the ROW would be revegetated using native, low-growing plant species in appropriate areas. Areas such as pasture, agricultural fields, or lawns would be returned to their former condition.

Construction activities would take approximately 12 months to complete using a crew of ranging from a minimum of 50 workers to a peak of 300 workers. The park construction period is expected to last approximately four months. Construction activity would occur between the hours of 7:00 a.m. and 8:00 p.m., Monday through Saturday, with the exception of holidays. Additional hours after dark could be necessary to make up schedule deficiencies or to complete critical construction activities. Night-time construction, if deemed necessary, would require lighting in some areas of the Project Site. Any additional night-time lighting would be downward-facing and timer and/or motion-activated to minimize impacts to wildlife and any surrounding sensitive receptors including nearby households. Construction of the Project Site would require site preparation to including surveying and staking, removal of vegetation, light grading and clearing, installation of a perimeter security fence, installation of sedimentation basins, and preparation of construction laydown areas. Following site preparation, solar arrays would be assembled and constructed which would include driving steel pikes for the tracker support structures, installation of the solar panels, and electrical connections and testing and verification of the facility's functionality.

Operations of the Horus Kentucky Solar Facility would require routine maintenances such as periodic motor replacement, inverter air filter replacement, fence repair, vegetation control, array inspection, repairs, and maintenance. The Project would implement traditional mechanized landscaping using lawnmowers, string trimmers, etc. Traditional trimming and mowing would be performed periodically to maintain the vegetation at a height ranging from 6 inches to 2 feet. Selective use of herbicides may also be employed around structures to help control weeds. Products used would be limited to post-emergent herbicides and would be applied by a professional contractor. While some minor disturbance could occur to soils with traditional landscaping practices, no major physical disturbance would occur as a result of facility operation. Moving parts of the facility would be restricted to the east-to-west tracking motion of the solar modules, which typically amounts to a movement of less than 1-degree angle every few minutes which makes this movement barely perceptible. The solar modules would start to backtrack west to east in a similar slow motion to minimize shading in the late afternoon. At sunset, the solar modules would track to a flat stow position. Otherwise, the solar modules would simply collect solar energy and transmit it to the TVA power grid.

The TVA-preferred alternative for fulfilling its purpose and need is the Proposed Action Alternative. The Proposed Action Alternative would generate renewable energy for TVA and its customers with only minor direct and indirect environmental impacts due to the implementation of BMPs and minimization and mitigation efforts. The Project would also result in some beneficial effects. Implementation of the Project would help TVA meet renewable energy goals and future energy demands on the TVA system.

Impacts Assessment

The potential impacts of the Proposed Action Alternative are described in the subject EA. Based on the analyses in the EA, TVA concludes that the implementation of the Proposed

Action would have minor, or no, impacts to land use, geology, soils and prime farmland, groundwater, surface water, floodplains, wetlands, vegetation, wildlife, threatened and endangered species, cultural resources, visual resources, noise, transportation, air quality, public health and safety, socioeconomics, and environmental justice. Approximately 500 acres (90 percent) of the 550-acre Project Site would be cleared and/or graded for the solar facility. These changes would cause minor adverse impacts to geology and soils due to slight, localized increases in erosion and sedimentation. Conversion of agricultural land to solar generation is consistent with Simpson County's zoning regulations. Minor direct adverse impacts as land use on the Project Site would change from agricultural to industrial. Project construction would not result in a long-term adverse direct impact. The surrounding area is largely agricultural, undeveloped, and residential, which would not change. Once stabilized and Project is operational, impacts on soils would be offset by the beneficial effects to soil health with the use of native and non-invasive vegetation.

Construction activities would cause short-term impacts to air quality, utilities, and visual resources and temporary increases in noise and traffic. Impacts to air quality are anticipated due to short-term, minor increases in vehicle emissions and fugitive dust suspension. With the implementation of federal and state requirements and BMPs, impacts to waste management and public and occupational health and safety during the life of the Project would be minor to negligible.

Horus Kentucky 1, LLC would maximize the use of agricultural land to the greatest extent practicable, thus not requiring tree clearing, avoiding direct impacts to summer roosting habitat for listed bat species. The development of the Project Site incorporates the karst avoidance areas based on the results of the field survey and subsurface exploration. Therefore, identified karst features and caves that could offer hibernacula for tricolored bat would be avoided for the construction of the Project Site. In addition, a 50-foot buffer would be maintained from the identified caves, karst features, streams, and wetlands to avoid any direct impacts to these features. Danger trees that are or have the potential to be an immediate hazard to the safety and reliability of TVA's transmission line system would be removed during winter months, November through March. Danger trees are located off the ROW that, under maximum sag and blowout conditions, would strike a transmission line structure or come within an unsafe distance of a transmission line if it were to fall toward the line. For most transmission lines, this distance is generally 10 feet. Removal of any potential danger trees in association with transmission line maintenance was included in the actions addressed in TVA's programmatic consultation with the U.S. Fish and Wildlife Service on routine actions and federally listed bats in accordance with Endangered Species Act Section 7(a)(2), completed April 2018. For those activities with potential to affect bats TVA committed to implement specific conservation measures. Relevant conservation measures to this project are identified in the bat strategy form and must be reviewed and implemented as part of the approved project. With the use of identified Conservation Measures and BMPs, proposed actions would not significantly impact gray bat, Indiana bat, northern long-eared bat, and tricolored bat.

Potential impacts to wetlands would be minimized as the Project Site layout was designed to specifically avoid jurisdictional aquatic features, permanent waterbodies, and other sensitive biological areas. Therefore, the Proposed Action would be consistent with the requirements of Executive Orders 11988 (Floodplain Management) and 11990 (Protection of Wetlands). However, due to location and easement constraints, complete avoidance of impacts to jurisdictional water features and wetlands along the Project Transmission Line Upgrades may not be practicable. Per the wetland delineation conducted, eight wetlands, 35 streams, and 12 ponds were identified along the 100-foot wide survey corridor within the Project Transmission

Line Upgrades and Access Road Improvements that would be directly affected by the Project. These impacts would be subject to the conditions of the United States Army Corps of Engineers Section 404, Kentucky Energy and Environment Cabinet, and the Tennessee Department of Environment and Conservation Aquatic Resource Alteration permits described in the EA.

The Project would have no adverse effects on any cultural resources listed or determined eligible for listing in the National Register of Historic Places (NRHP). Due to TVA's Avoidance Agreements for known NRHP-eligible and NHRP-listed sites, no impacts on archaeological resources would be anticipated. The Project would avoid the archaeological site 15Si61and Kitchens Cemetery, located on the Project Site, by establishing a 250-foot buffer in compliance with the Franklin-Simpson County Zoning Board of Kentucky and coordination with the Kentucky Heritage Council and Kentucky Office of State Archaeology (the Kentucky State Historic Preservation Office).

Construction of the proposed facility could have short-term beneficial economic impacts due to the purchase of materials, equipment, and services and a temporary increase in employment, income, and population. Operations would result in positive, long-term impacts to economics, employment, and population in Simpson County and the local region as a result of permanent job creation and increase in the local tax base. While minority and low-income populations are prominent in the vicinity of the solar facility, the overall Project impacts would primarily occur during the 12-month construction period and would be minor, and off-site adverse impacts would be negligible. As such, no disproportionately high or adverse direct or indirect impacts on minority or low-income populations due to human health or environmental effects are expected to result from the Proposed Action. In addition, the Project would have minor beneficial impacts to employment and income levels in the local region that could provide additional opportunities to nearby environmental justice populations.

Public and Intergovernmental Review

In March 2020, Horus Kentucky 1, LLC held a public town hall meeting announcing the Horus Kentucky 1 Solar Project within Simpson County, Kentucky. The shared details included the Project acreage, the Project's electrical output, an overview of tasks necessary to implement the Project, the potential economic benefits of the Project to the local community, and other topics of concern. Public input on the Project has also been obtained throughout the ongoing Simpson County Conditional Use Permit approval process, as well as the Certificate to Construct a Merchant Electric Generating Facility issued by the Kentucky State Board on Electric Generation and Transmission Siting, which is a division within the Kentucky Public Service Commission. TVA notified government agencies, interested federally recognized Native American Tribes, elected officials, and other stakeholders that the draft EA was available for review and comment for a 30-day period. An electronic version of the document was posted on the TVA website where comments could be submitted online. Public notices have been published in local newspapers soliciting comments from other agencies, the general public, and any interested organizations.

During the 30-day public review and comment period of the draft EA, a total of 3 comments were received from the general public and interested agencies and organizations. Some of the comments warranted changes in the Final EA; any revisions are referenced by the Final EA section in the comment responses included in the appendices of the Final EA. Federally recognized Native American tribes were consulted concerning the proposed undertaking and did not object to TVA's recommendation to proceed with the Proposed Action. Further, implementation of the Proposed Action would be consistent with Executive Order (EO) 11988 (Floodplains Management) and EO 11990 (Protection of Wetlands).

Mitigation

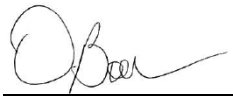
TVA would implement operating permit requirements and the routine BMPs and mitigation measures described in Section 2.3 of the EA to avoid or reduce minor adverse environmental effects from the construction of the solar facility, project substation, upgrades to existing transmission lines, and access road improvements. To address adverse impacts associated with the Proposed Action, Horus Kentucky 1, LLC would implement minimization and mitigation measures in relation to potentially affected resources, including such measures required by permits as described in detail in the EA. To reduce noise impacts, construction would primarily occur during daylight hours. Horus Kentucky 1, LLC would implement a variety of plans and programs to ensure public and occupational health and safety and proper handling of any chemicals or hazardous materials stored and utilized on site. Horus Kentucky 1, LLC would comply with the terms of the site-specific Storm Water Pollution Prevention Plan coordinated with the Kentucky Energy and Environment Cabinet and implement other routine BMPs, such as non-mechanical tree removal within surface water buffers, placement of silt fence and sediment traps along buffer edges, and proper vehicle maintenance to reduce the potential for adverse impacts to groundwater. Silt fencing would also be installed around areas cleared of vegetation, and efforts would be made to balance soil cut-and-fill quantities to help alleviate the transportation of soils and sediments off-site during construction.

A 250-foot avoidance buffer surrounding archaeological site 15Si61 and Kitchens Cemetery would be established, and vegetative screening would be planted surrounding the Project to minimize visual impacts to nearby residential properties. If substantial traffic congestion occurs during construction Horus Kentucky 1, LLC would minimize these effects by implementing staggered work shifts and posting a flag person during heavy commute periods.

Following grading, the Project Site would be revegetated with native and/or noninvasive vegetation to reintroduce wildlife habitat, limit the spread of invasive species, and further support on-site soils. Project personnel would be instructed on wildlife resource protection measures to further minimize impacts to biological resources. To minimize long-term Project effects to land use and visual resources, anti-reflective photovoltaic panels would be installed, and vegetative screening would be planted if and where required by Simpson County.

Conclusion and Findings

Based on the findings listed above and the analyses in the EA, TVA concludes that the Proposed Action Alternative of the construction and operation of the solar generating facility and TVA's purchase of the electric output pursuant to the PPA with Horus Kentucky 1, LLC would not be a major federal action significantly affecting the environment. Accordingly, an environmental impact statement is not required.



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Date Signed