



Office of Environmental Management
U.S. Department of Energy
Categorical Exclusion Determination Form

Proposed Action Title: 13.8kV Substation to Power 233-H Main Supply Air Handling Unit (U)

Program or Field Office: Savannah River Site

Location(s) (City/County/State): Aiken/Aiken County/South Carolina

Proposed Action Description:

This EEC cover the Project design and Procurement of a new 13.8 kV Unit Substation to be situated near the existing 233-H Supply Fan Air Handling Unit (AHU). The new substation will require a new electrical supply circuit run from Transmission Line 3A to the new Unit Substation location. This line will be an above ground (in air) transmission line for part of the route and the design function will determine if part of the route will be underground. This Unit Substation will be sized to provide power to the 233-H Supply Fan AHU preheat and reheat coils. The Supply Fans and AHU replacement is handled under a separate project.

Rev. 1 - Updated to reflect changes made in the associated TR&C (E-TC-H-00016 R1, MT-TRI-2021-00014 R1, and M-TC-H-00111 R1). See below:

233-H utilizes a once-through ventilation system with its Main Supply Air Handling Unit located above ground on a support structure. This Main Supply Air Handling Unit rated at approximately 75,000 cfm of supply air is the only source of ventilation for the building. Also included is an exhaust fan system with an above-ground stack to discharge this air to the atmosphere. This is regarded as a push-pull system where the quantity of airflow is controlled at the Main Supply Air Fans and building pressure control is controlled by the exhaust fans. The Main Supply Fan Unit is rapidly approaching end-of-life and has been deemed as not cost effective to affect any additional repairs beyond emergency maintenance. This unit draws air directly from the outside environment through a set of pre-filters and bag filters, a pre-heat steam coil, a chilled-water cooling coil, a reheat steam coil, and a pair of 100% redundant supply fans. The steam humidifier was previously removed.

Savannah River Tritium Enterprises (SRTE) has directed Engineering to assume that the existing source of steam supply to the H Area will not be used for continued operations and that the team should plan future projects assuming a different source of energy should be utilized. The only other acceptable source of energy is electricity. Given the size of the existing Main Supply Air Handling Unit, the preliminary estimate indicates that the required thermal load at the accepted ASHRAE design winter conditions will require approximately 1.3 Megawatts of electricity for both the preheat and reheat coils operating simultaneously. The 1.3 MW value is an estimate of the required new heater power needs based on the existing Main Supply Fan AHU air flow and conversion factors converting flow to required heat input. The estimated power requirement will have to be validated by Design Engineering through a design calculation to ensure the AHU air flow is correct and the required electrical power to heat the air is accurate. In addition to heater related loads, the new substation will also need to power the supply fans, damper actuators, Honeywell controllers, temperature control valve, lighting, heat tracing (if required), instrumentation and controls and all other AHU electrical loads. Therefore, the total load is estimated at 2 MW, which includes margin. Due to the complexity and installation schedule, the electrical supply for the air handling unit (E-TC-H-00016) requires that a separate project be developed from the Main Supply Air Handling Replacement Project (M-TC-H-00111).

Categorical Exclusion(s) Applied:

B1.3 ROUTINE MAINTENANCE

For the complete DOE National Environmental Policy Act regulations regarding categorical exclusions, including the full text of each categorical exclusion, see Subpart D of [10 CFR Part 1021](#).

Regulatory Requirements in 10 CFR 1021.410(b): (See full text in regulation)

The proposal fits within a class of actions that is listed in Appendix A or B to 10 CFR Part 1021, Subpart D. To fit within the classes of actions listed in 10 CFR Part 1021, Subpart D, Appendix B, a proposal must be one that would not: (1) threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health, or similar requirements of DOE or Executive Orders; (2) require siting and construction or major expansion of waste storage, disposal, recovery, or treatment facilities (including incinerators), but the proposal may include categorically excluded waste storage, disposal, recovery, or treatment actions or facilities; (3) disturb hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum and natural gas products that preexist in the environment such that there would be uncontrolled or unpermitted releases; (4) have the potential to cause significant impacts on environmentally sensitive resources, including, but not limited to, those listed in paragraph B(4) of 10 CFR Part 1021, Subpart D, Appendix B; (5) involve genetically engineered organisms, synthetic biology, governmentally designated noxious weeds, or invasive species, unless the proposed activity would be contained or confined in a manner designed and operated to prevent unauthorized release into the environment and conducted in accordance with applicable requirements, such as those listed in paragraph B(5) of 10 CFR Part 1021, Subpart D, Appendix B.

There are no extraordinary circumstances related to the proposal that may affect the significance of the environmental effects of the proposal.

The proposal has not been segmented to meet the definition of a categorical exclusion. This proposal is not connected to other actions with potentially significant impacts (40 CFR 1508.25(a)(1)), is not related to other actions with individually insignificant but cumulatively significant impacts (40 CFR 1508.27(b)(7)), and is not precluded by 40 CFR 1506.1 or 10 CFR 1021.211 concerning limitations on actions during preparation of an environmental impact statement.

Based on my review of the proposed action, I have determined that the proposed action fits within the specified class(es) of action, the other regulatory requirements set forth above are met, and the proposed action is hereby categorically excluded from further NEPA review.

NEPA Compliance Officer:

Date Determined: 07/03/2024

Comments: EEC No: OBU-H-2021-0297 Rev No: 1