



U.S. Department of Energy Categorical Exclusion Determination Form

Proposed Action Title: Jefferson Lab Data Center as part of the High Performance Data Facility (HPDF) Project – TJSO-SC-25-01

Program or Field Office: Thomas Jefferson Site Office

Location(s) (City/County/State): Newport News, VA

Proposed Action Description:

This project involves the construction of the Jefferson Lab Data Center (JLDC), a major feature of the U.S. Department of Energy's High Performance Data Facility (HPDF), that will house High Performance Computing (HPC) systems, data storage and retrieval equipment. The JLDC will be located north of Pauli Drive in the northern portion of the campus at the Thomas Jefferson National Accelerator Facility (TJNAF) in Newport News, Virginia. The JLDC will include a total land disturbance of 4.0-acres on previously developed land. The purpose of the project is to provide housing for the future work associated with the HPDF within the JLDC (target building footprint of 40,000-68,000-square feet). The project will also include additional cooling water and electrical power upgrades that will require the construction of two small external utility yards located immediately to the east of the JLDC building (small generator yard will be approximately 1500-sf; cooling tower yard will be approximately 8,400-sf).

Cooling towers proposed for the project will be a water-based closed loop system (potable water source provided by Newport News Water Works – municipal water treatment authority). The preferred vendor for cooling towers proposed for the project is Baltimore Aircoil cooling towers. Initial cooling towers will be designed to provide up to 5 MW of cooling capacity (to be accomplished with 1 tower at 500 tons cooling, or 2 towers at 300 tons cooling each, with additional tower as a spare). No refrigerants are used for the towers, however the towers use an onsite chemical treatment system (managed by onsite chemical treatment vendor – Coastline Ltd.).

Cooling tower chemicals used onsite include: Cooline TI-115T (Condenser Water Scale and Corrosion Inhibitor), BromMax 7.1 (Condenser Water Biocide) and CS-120 (Closed Loop Corrosion Inhibitor) which are all approved under Hampton Roads Sanitation District (HRSD) Permit No. 0117 for discharges of industrial wastewater to sanitary sewer. TJNAF has been engaged in preliminary discussions with HRSD in reference to the project and TJNAF will work closely under HRSD guidance to modify Permit No. 0117 to properly mitigate increased sanitary sewer flows generated by the project.

Generators anticipated for use with this project would be classified as "optional standby" per NEC code 702. A design alternative being evaluated for the project would not require the use of generators (could be added later as redundant power source in addition to utility power). If generators are specified into the final design of the project with applicable run times, sizing and fuel type, the project would require authorization under an approved Virginia Department of Environmental Quality (DEQ) air permit.





The following table summarizes the additional cooling and electrical power upgrades proposed for the project, as well as several other metrics related to electrical equipment anticipated for installation:

New Data Center	Current Capacity	Target Capacity	Upper Level Boundary
Power (Electrical)	22 MVA	+5.0 MVA	+20.0 MVA
Closed Loop HPC Cooling Water Capacity	0.0 MGY	TBD	TBD
HPC Cooling Towers (CT)	0	7	14
Building Cooling Towers (CT)	0	0	0
Air Cooled Heat Exchangers (Thermosyphons)	0	6	12
Tower Water Pumps	0	4	8
Cooling Water Pumps	0	4	4
Chillers	0	3	4
Condenser Water Pumps	0	4	4
Air Handling Units	0	2	2
Electrical Substations	3 substations	+1 substation	+1 substation

There would be minor impacts to the environment as the majority of work associated with the project will occur on previously developed land at the facility. Proposed impacts include land disturbance activities associated with the clearing of pine tree stands within the project footprint and the minor generation of solid waste. All waste generated from the project will be properly disposed of at a licensed solid waste disposal facility or Transport, Storage, and Disposal Facility (TSDF) as required by applicable State and Federal waste management regulations.

The project would require authorization under an approved project specific General VPDES Permit for Discharges of Stormwater from Construction Activities per the requirements of the Virginia Stormwater Management Program (VSMP) laws and regulations, and Virginia E&SC Laws (62.1-44.15:51 through 62.1-44.15:66) and Regulations (VAC25-840-10 through 9VAC25-840-110). However, applicable Best Management Practices (BMPs) will be utilized during project execution. Applicable erosion and sediment controls would be installed prior to any land disturbance and maintained per the standards and specifications described in the Virginia Department of Environmental Quality's (DEQ) *Virginia Stormwater Management Handbook*. Temporary stormwater management controls will be installed and utilized during construction activities. The installation and maintenance of permanent stormwater management controls will occur during construction activities and all long-term maintenance activities will occur for all applicable permanent structures installed for the project. Therefore, no negative impacts from any stormwater discharges and/or erosion or sedimentation to downstream storm channels are anticipated during construction.

Cultural Resources and Historic Preservation was addressed through coordination with the Virginia Department of Historic Resources (VADHR) as referenced in DOE/EA-1384 (*Proposed Improvements at the Thomas Jefferson National Accelerator Facility*). DOE was advised by the VADHR through letters received in 1992 when the facility was being constructed and again in 2006 as preparation for EA-1384 that their archives indicated no recorded architectural or archaeological within or adjacent to

the property and no adverse impacts to archaeological and historic resources would be expected from improvements at the TJNAF. An additional review of the VADHR online archives indicated that no known historic resources are present onsite.

The proposed action was screened for potential impacts to any threatened/endangered species or protected habitat that included the Northern Long-eared Bat (NLEB). Through additional coordination with the U.S. Fish and Wildlife Service (FWS) for the project, it was determined that suitable habitat for the NLEB did not exist onsite and therefore, no impacts were anticipated. There are no documented and/or observed instances of migratory birds habitat or nesting within the project footprint. However, in the event that migratory birds are observed within the project footprint during construction, TJNAF will mitigate any impacts through compliance with the requirements of the *U.S. Fish and Wildlife Service (USFWS) "Nationwide Avoidance and Minimization Measures for Birds"*.

The proposed action required the preliminary screening of potential jurisdictional wetlands located within the project footprint. Through proper due diligence efforts, the project footprint was assessed and determined to not have the presence of any jurisdictional wetlands that would require mitigating impacts, permitting or additional compliance requirements as issued from DEQ and the U.S. Army Corps of Engineers. The proposed action would not be part of an ongoing Environmental Assessment or Environmental Impact Statement. The proposed action would not be related to any extraordinary circumstances or other actions with potentially significant impacts.

Categorical Exclusion(s) Applied:

B1.7 - Electronic equipment
B1.15 - Support buildings
B1.31 - Installation or relocation of machinery and equipment

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.

☒ This proposal is not connected to other DOE actions with potentially significant impacts, is not related to other proposed DOE actions with cumulatively significant impacts.

The above description accurately describes the proposed action, which reflects the requirements of the CX cited above. Therefore, I recommend that the proposed action be categorically excluded from further NEPA review and documentation.

TJJO Federal Project Manager: KY Craft

K.Y. Craft, Jr.

Date Determined:

8/11/2025

TJJO NEPA Coordinator: Derek Favret

Derek Favret

Date Determined:

8/11/2025

JSA Environmental Compliance Representative: Scott Conley

Date Determined:

Edward Scott Conley

8/11/2025

Based on my review of the proposed action, as NEPA Compliance Officer (as authorized under DOE Policy 451.1), 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: Jayashree Jayaraj

Date Determined: