

PMC-ND
(1.08.09.13)

**U.S. DEPARTMENT OF ENERGY
OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY
NEPA DETERMINATION**



RECIPIENT: [NREL](#)

STATE: CO

PROJECT TITLE: [NREL-20-023 100 Gbps Connection - Flatirons Campus](#)

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
	DE-AC36-08GO28308	NREL-20-023	GO28308

Based on my review of the information concerning the proposed action, as NEPA Compliance Officer (authorized under DOE Policy 451.1), I have made the following determination:

CX, EA, EIS APPENDIX AND NUMBER:

Description:

[DOE/EA 1914 \(NREL NWTC\)](#) Final Site-Wide Environmental Assessment of the Department of Energy's National Wind Technology Center at the National Renewable Energy Laboratory

Rationale for determination:

Activities for this project occurring on DOE-owned property would be covered under DOE EA 1914, and activities for this project occurring on private property would be covered under CX B4.7.

B4.7 FIBER OPTIC CABLE Adding fiber optic cables to transmission facilities or burying fiber optic cable in existing powerline or pipeline rights-of-way. Covered actions may include associated vaults and pulling and tensioning sites outside of rights-of-way in nearby previously disturbed or developed areas.

The U.S. Department of Energy's (DOE) National Renewable Energy Laboratory (NREL) proposes to support the completion of a 100 Gbps-rated fiber optic connection between the Flatirons Campus (FC) and the South Table Mountain Campus (STM). Networking and research equipment would be installed at FC Building 251 and at the STM Research Support Facility (RSF) and Energy Systems Integration Facility (ESIF). The purpose of the proposed project is to provide NREL with reliable, fast data communication with projects offsite and for closed-loop experiments that connect research equipment at FC to remote equipment at STM and other outside entities.

The scope of the proposed project includes the purchase, installation and commissioning of equipment and software (RTDS and Opal RT) to provide Hardware-in-the-Loop data collection and processing capabilities. These materials would be purchased directly by NREL and installed and commissioned by NREL research staff at two FC locations as well as the STEM ESIF. Onsite activities are considered by DOE to be connected actions to the installation and maintenance of the new section of fiber optic line offsite.

A large portion of the fiber optic line between FC and STM already exists. The proposed project would involve the installation of a new section of fiber optic line between the Xcel Energy NREL substation approximately 1 mile southwest of the FC, and an existing Colorado Department of Transportation (CDOT)/ Bi-State Optical Network (BiSON) fiber optic line located on the west side of Highway 93. Installing this line would complete the connection between FC Bldg. 251 and STM, as there is an existing fiber optic line between Bldg. 251 and the Xcel switchyard (owned by DOE).

A network contractor, Front Range GigaPop (FRGP)/BiSON, would provide the enhanced service connection through an existing internet services agreement with NREL which would be updated to reflect the new level of service. FRGP/BiSON would install, own, and maintain the new section of fiber optic line and associated optical equipment in Bldg. 251 and RSF, and integrate it into their existing network. FRGP would obtain the necessary access rights for the new section of line from Xcel Energy and CDOT. FRGP would subcontract the installation work through the Zayo Group.

The materials and equipment installed on-site as part of the proposed project would become permanent infrastructure. Fiber optic line would be installed outdoors. All other equipment would be installed indoors. Installation would start as early as November 2020 with fiber optic line and equipment installation anticipated to be completed in June 2021 and NREL-owned equipment installation anticipated to be completed by December 2021.

Project equipment and infrastructure that would be installed at each location include:

- FC Bldg. 251: Fiber optic termination equipment; RTDS and Opal RT
- FC 5 MW Dynamometer facility: RTDS and Opal RT
- RSF (STM Campus): Fiber optic termination equipment.
- ESIF (STM Campus): RTDS and Opal RT
- Area adjacent to Xcel NREL substation along Highway (Hwy) 93: Fiber optic connections from pole 14 at the switchyard to the existing fiber optic line on the west side of Hwy 93: 245 ft. from pole 14 to the east side of Hwy 93; 340 ft. along the east side of Hwy 93; 75 ft. under Hwy 93 to the CDOT/BiSON tie-in point.

Approximately 585' of directional boring would be required to install the fiber optic connections (cable and conduit). Four approximately 2 ft. x 3 ft. "handholes" (access boxes) would be installed at each junction and turn in the line. The project would be located entirely within an area of previous disturbance, and erosion control measures would be used and maintained during and after the project period as needed. All ground disturbing activities would be conducted in accordance with existing NREL policies and procedures that guide such work.

Project activities would not affect cultural resources, threatened or endangered species, wetlands, floodplains, or prime farmlands. A migratory bird nesting survey shall be completed if project activities involving ground disturbance occur between March 15 and September 15. If nests or eggs are found, the area would be cordoned off with a proper buffer until nestlings fledge.

Air emissions resulting from ground disturbing activities and equipment operation would be de minimis. Excess materials from excavation and small amounts of non-hazardous construction waste would be reused, recycled, or disposed of in accordance with applicable regulations and NREL policy and procedures.

Individuals working on this project could potentially be exposed to physical hazards. Existing corporate health and safety policies and procedures would be followed including employee training, proper protective equipment, engineering controls, and monitoring. All work at NREL is conducted in accordance with established written procedures or authorized in a Safe Work Permit.

Based on the review of the proposed project, DOE has determined that this project is an activity to enhance research, which was analyzed in Section 2.1.1 "Increasing and Enhancing Research and Support Capabilities" of the 2014 Final Site-Wide Environmental Assessment of the NREL NWTC (DOE/EA-1914). DOE has determined that the onsite activities are bound by the environmental impact analysis contained in this EA and its respective FONSI, and no further NEPA review is required.

The offsite activities are covered under B4.7

NEPA PROVISION

DOE has made a final NEPA determination.

Include the following condition in the financial assistance agreement:

A migratory bird nesting survey shall be completed if project activities involving ground disturbance occur between March 15 and September 15. If nests or eggs are found, the area would be cordoned off with a proper buffer until nestlings fledge.

Notes:

NREL
Whitney Doss Donoghue, 10/29/2020

FOR CATEGORICAL EXCLUSION DETERMINATIONS

The proposed action (or the part of the proposal defined in the Rationale above) 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 proposed action that may affect the significance of the environmental effects of the proposal.

The proposed action 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.

The proposed action is categorically excluded from further NEPA review.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____

 Electronically Signed By: Lisa Jorgensen
NEPA Compliance Officer

Date: 10/29/2020

FIELD OFFICE MANAGER DETERMINATION

- Field Office Manager review not required
- Field Office Manager review required

BASED ON MY REVIEW I CONCUR WITH THE DETERMINATION OF THE NCO :

Field Office Manager's Signature: _____

Field Office Manager

Date: _____