

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



RECIPIENT: Georgia Institute of Technology

STATE: GA

PROJECT TITLE: Water Removal Prior to Evaporation in Paper Machines

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0002804	DE-EE0010859	GFO-0010859-001	GO10859

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:

A9 Information gathering, analysis, and dissemination	Information gathering (including, but not limited to, literature surveys, inventories, site visits, and audits), data analysis (including, but not limited to, computer modeling), document preparation (including, but not limited to, conceptual design, feasibility studies, and analytical energy supply and demand studies), and information dissemination (including, but not limited to, document publication and distribution, and classroom training and informational programs), but not including site characterization or environmental monitoring. (See also B3.1 of appendix B to this subpart.)
B3.6 Small-scale research and development, laboratory operations, and pilot projects	Siting, construction, modification, operation, and decommissioning of facilities for smallscale research and development projects; conventional laboratory operations (such as preparation of chemical standards and sample analysis); and small-scale pilot projects (generally less than 2 years) frequently conducted to verify a concept before demonstration actions, provided that construction or modification would be within or contiguous to a previously disturbed or developed area (where active utilities and currently used roads are readily accessible). Not included in this category are demonstration actions, meaning actions that are undertaken at a scale to show whether a technology would be viable on a larger scale and suitable for commercial deployment.

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide funding to the Georgia Institute of Technology (GIT) to research advancements in water removal efforts prior to evaporation in paper machines.

The award would be limited to intellectual and laboratory-scale activities. The proposed project would include a redesign to the mechanical dewatering process to improve removal of water prior to the evaporative drying section of paper machines. Laboratory testing, experimental evaluation of polyelectrolyte drainage aids, construction of a variable nip dynamic simulator, design of pilot scale trials, and Techno-Economic Analysis and Life Cycle Analysis would occur at GIT's research facility. The interpretation of laboratory data, consulting on scaling press felt and electrolyte addition, and design of pilot testing would occur at several project partner facilities including: Asten Johnson (Ottawa, Canada and Clinton, South Carolina), WestRock (Atlanta, Georgia), International Paper (Memphis Tennessee), and the Georgia Pacific Innovation Institute (Neenah, Wisconsin). Commercial speed tests would be completed at the Asten Johnson site using a roll-to-roll test press. The Georgia Pacific Innovation Institute would manufacture the press felts and run tissue paper test runs in Neenah, Wisconsin. Pilot studies on paper and paperboard manufacturing with modified felts and polyelectrolytes would be conducted at the State University of New York, College of Environmental Science and Forestry in Syracuse, New York.

The project would involve the use and handling of some hazardous materials, including feedstock pulp, cleaning solvents and alcohols. All hazardous material handling would occur in labs in properly ventilated hoods or with exhaust trunks. Employee training, the use of proper protective equipment, engineering controls, and monitoring would also be incorporated into the project to address safety concerns. Additional policies and procedures would be implemented as necessary if new health and safety risks are identified. Each organization and location have established hazardous material handling and disposal practices, and all hazardous materials would be managed in accordance with federal, state, and local environmental regulations.

Natural gas boilers at the College of Environmental Science and Forestry location in Syracuse, New York and the Georgia Pacific Innovation Institute in Neenah, Wisconsin are proposed to be used to produce steam or heated air for pilot drying operations that would result in an increase in airborne emissions of CO₂. These emission increases are expected to be negligible and would occur in current US Environmental Protection Agency-designated Attainment Areas.

All project work would be performed at existing, purpose-built facilities. No modifications to existing facilities, ground disturbing activities, or changes to the use, mission, or operation of existing facilities would be required. No additional permits, licenses, or authorizations would be required. DOE does not anticipate any impacts to resources of concern due to the proposed award activities.

NEPA PROVISION

DOE has made a final NEPA determination.

Notes:

Industrial Efficiency & Decarbonization Office
NEPA review completed by Chris Akios, 04/30/2024

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.

DOE has determined that work to be carried out outside of the United States, its territories and possessions is exempt from further review pursuant to Section 5.1.1 of the DOE Final Guidelines for Implementation of Executive Order 12114; "Environmental Effects Abroad of Major Federal Actions."

The proposed action is categorically excluded from further NEPA review.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:  _____ Date: 5/7/2024
NEPA Compliance Officer

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: _____ Date: _____
Field Office Manager