

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



RECIPIENT: Bridgestone Americas Tire Operation

STATE: OH

PROJECT TITLE : A process to produce substantially decarbonized 1,3-Butadiene

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0002997	DE-EE0011206	GFO-0011206-001	GO11206

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 Bridgestone Americas Tire Operation (Bridgestone) to demonstrate efficient pilot scale production of butadiene with reduced greenhouse gas (GHG) emissions to support a business case for commercialization.

Project efforts to design, install and operate a 3 kilogram/hour pilot process that would convert ethanol to butadiene would occur at Bridgestone's Polymer Engineering Pilot Center site located in Akron, Ohio. Techno-economic analysis and life cycle analysis would be performed at the Pacific Northwest National Laboratory (PNNL) in Richland, Washington.

The project would involve the use and handling of various hazardous materials, including monomers, catalysts and solvents, which are flammable and health hazards at the Bridgestone facility. All such handling would occur in a laboratory setting and through various storage and process vessels. All hazardous materials would be managed in accordance with federal, state, and local environmental regulations. The Bridgestone site is a Process Safety Management-regulated facility and conducts activities and procedures such as process hazard analyses, management of change and pre-startup safety reviews. Existing corporate health and safety policies and procedures would be followed at this site, including employee training, proper protective equipment availability, engineering controls, monitoring, and internal assessments. Additional policies and procedures would be implemented as necessary as new health and safety risks are identified. No work involving hazardous materials would occur at the PNNL.

Solvent and chemical usage at the Bridgestone site would be expected to increase with the implementation of this project. It is estimated that a mixture of ethanol, acetaldehyde, hydrogen, ethylene, diethyl ether, ethyl acetate, 1-3 butadiene, 1-butene, trans-crotonaldehyde, vinyl ethyl ether, nonane and dimethylformamide emissions would be generated by the project at a rate of 3,700 pounds/year. However, at least 98% of the process emissions are currently directed to destruction via flare and it is expected that equipment and emissions associated with this project would be the same as current, baseline conditions. Pacific Northwest National Laboratory would not generate any emissions.

It is expected that project efforts at the Bridgestone facility would likely require the modification of the existing air permit or a new operating permit for air as well as an updated registration for our solid waste generator status. It is expected that the project would also need to be registered and/or a license would need to be obtained from the US

Bureau of Alcohol, Tobacco and Firearms due to the amount of ethanol that would be processed. Any and all permits required for the execution of the project at the above-referenced locations would be the responsibility of the recipient.

Under Tasks 1 through 2 and 5 through 7, there would be no ground disturbing activities, no physical modification to and no change in the use, mission, or operation of existing facilities. Tasks 3 and 4 of this project are not yet fully defined and therefore excluded from this NEPA Determination. DOE would complete an additional NEPA review for Tasks 3 and 4 when sufficient information is available to conduct a meaningful review.

DOE has considered the scale, duration, and nature of proposed activities to determine potential impacts on resources, including those of an ecological, historical, cultural, and socioeconomic nature. DOE does not anticipate impacts on these resources which would be considered significant or require DOE to consult with other agencies or stakeholders.

Any work proposed to be conducted at a federal facility may be subject to additional NEPA review by the cognizant federal official and must meet the applicable health and safety requirements of the facility.

NEPA PROVISION

DOE has made a conditional NEPA determination.

The NEPA Determination applies to the following Topic Areas, Budget Periods, and/or tasks:

This NEPA determination applies to the following topic areas, budget periods and/or tasks:

- Tasks 1 and 2
- Tasks 5 through 7

The NEPA Determination does not apply to the following Topic Area, Budget Periods, and/or tasks:

The ND does not apply to the following topic area, budget periods, and/or tasks:

- Tasks 3 and 4

Include the following condition in the financial assistance agreement:

Any and all permits required for the execution of the project at the above-referenced locations would be the responsibility of the recipient and must be attained before the permit-pertinent work can commence. The recipient is required to contact the Project Officer, identified in Block 15 of the Assistance Agreement before proceeding with the permit-pertinent efforts. The recipient must receive notification of approval from the DOE. If the recipient moves forward with activities that are not authorized for federal funding by the DOE Contracting Officer in advance of acquisition of any required permits, the recipient is doing so at risk of not receiving federal funding and such costs may not be recognized as allowable cost share.

Notes:

Industrial Efficiency & Decarbonization Office

This NEPA Determination requires a legal review of the tailored provision.

NEPA review completed by Chris Akios, 06/21/2024

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.

A portion of the proposed action is categorically excluded from further NEPA review. The NEPA Provision identifies Topic Areas, Budget Periods, tasks, and/or subtasks that are subject to additional NEPA review.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:  _____ Date: 6/21/2024
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