

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



RECIPIENT: [Bluestem Biosciences, Inc.](#)

STATE: [NE](#)

PROJECT TITLE: [Biomanufacturing Process for Butyl Acrylate Production](#)

Notice of Funding Opportunity Number
[DE-FOA-0003219](#)

Procurement Instrument Number
[EE0011814](#)

NEPA Control Number
[GFO-0011814-001](#)

CID Number

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:

[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 federal funding to \[Bluestem Biosciences, Inc.\]\(#\) \(Bluestem\) to develop and test a novel advanced manufacturing process utilizing biobased feedstocks to produce butyl acrylate.](#)

[The proposed award activities would include data analysis, modeling, design, techno-economic analysis, laboratory research, and kilo-scale continuous operation testing. \[Bluestem \\(Omaha, NE\\)\]\(#\) would provide oversight and direction. \[Michigan State University \\(MSU; Midland, MI; Lansing, MI\\)\]\(#\) would ferment 3-hydroxypropionic acid \(3-HP\) from corn-derived feed, isolate various grades of 3-HP for testing, convert isolated 3-HP into acrylic acid, and convert the intermediate acrylic acid into butyl acrylate through esterification.](#)

[All project activities would be completed in existing, purpose-built facilities. These facilities already carry out similar development, testing, and prototyping activities. All activities would be carried out at the laboratory bench-scale and no modifications would be made to facilities for testing.](#)

[Potential hazards would include the use and handling of potentially hazardous materials, including equipment, acids, and genetically modified yeast. All such handling would occur in-lab. Existing corporate health and safety policies and procedures would be followed, including employee training, proper protective equipment, monitoring, and internal assessments.](#)

[MSU routinely works with genetically modified organisms, and is a USDA-approved site operating under PPQ 526 regulations. All such activities would continue to be conducted in strict accordance with the institute's established policies and governing regulatory protocols as required to maintain PPQ 526 compliant status.](#)

[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.](#)

NEPA PROVISION

DOE has made a final NEPA determination.

Notes:

FOR CATEGORICAL EXCLUSION DETERMINATIONS

The proposal fits within a class of actions that is listed in Appendix B to 10 CFR Part 1021 or Appendix B and C of DOE's NEPA Implementing Procedures (June 30, 2025). To fit within the classes of actions listed in Appendix B to 10CFR Part 1021, or Appendix B of DOE's NEPA Implementing Procedures, a proposal must satisfy the conditions that are integral elements of the classes of actions in Appendix B of both 10 CFR Part 1021 and DOE's NEPA Implementing Procedures.

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.

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: **Kristin Kerwin**

NEPA Compliance Officer

Date: 6/1/2026

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: _____