

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



RECIPIENT: D3MAX, LLC

STATE: ND

PROJECT TITLE : Production of Sustainable Aviation Fuels from Corn Stover via NREL's Deacetylation and Mechanical Refining Technology (SAFFiRE)

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0002396	DE-EE0009760	GFO-0009760-001	GO9760

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 D3MAX, LLC to design a corn-to-ethanol pilot plant and supporting activities.

This award would be completed over two phases. Phase 1 would be completed over two budget periods (BPs) which would involve planning, design, analysis, and laboratory activities. Phase 2 would be completed over three BPs which would focus on final planning and design, building, and operation of the facility. Go/No-Go decisions will be made after each BP. This NEPA Determination (ND) only applies to Phase 1 (BP1 and BP2) activities, it does not apply to Phase 2 (BP3, BP4, and BP5) activities. Additional NEPA review is required for Phase 2 activities.

DOE has not previously completed any NDs for this specific award, however DOE previously completed an ND (FOA-0002396-001; A9, B3.6; 5/20/2021) for Funding Opportunity Announcement (FOA) DE-FOA-0002396. The ND for the FOA applies to initial verification activities for awards issued under the FOA, including this award (DE-EE0009760, BP1). Such activities would involve laboratory activities involving conversion, fermentation, and recovery activities using corn stover feedstock. These activities would be completed at the National Renewable Energy Laboratory (NREL) (Golden, CO). Approximately 106 kg of feedstock would be used.

BP2 involves information gathering, administrative activities, design activities, drafting a business plan, updating a life cycle assessment (LCA) and a techno-economic analysis (TEA), and implementing a Diversity, Equity, and Inclusion (DEI) plan. BP1 and BP2 activities do not include fabrication, construction, or operation of the pilot-scale facility.

All facilities are purpose-built for the type of work to be conducted in this award. Facility modifications would not be required. A genetically engineered yeast strain would be used during verification activities. Handling and disposal of genetically modified organisms (GMOs) at all facilities would be done in accordance with existing federal, state, and local laws and regulations. All organisms used for this award would fall under the lowest risk categories concerning individual and public health as described by federal agencies, Biosafety Level 1 (BSL-1) and Risk Group 1 (RG1). Approximately 3 kg of carbon dioxide would be vented during lab testing at the NREL facility. These emissions would be covered under NREL's existing air permit. Award activities would involve the handling and use of hazardous materials such as sodium bicarbonate and sodium hydroxide. All handling, storage, and disposal of hazardous materials would occur within controlled settings at NREL and would follow existing policies and procedures for such materials. Existing government and corporate health, safety, and environmental policies and procedures would be

followed at all facilities, including personnel training, proper personal protective equipment (PPE), engineering controls, monitoring, and internal assessments.

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:

[Budget Periods 1 & 2](#)

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

[Budget Periods 3, 4 & 5](#)

Notes:

[Bioenergy Technologies Office \(BETO\)](#)
[NEPA review completed by Amy Lukens, 6/6/2022.](#)

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: _____


NEPA Compliance Officer

Date: 6/7/2022

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: _____