



National Environmental Policy Act (NEPA) Determination

Categorical Exclusion

Recipient: The Dow Chemical Company (Dow)

State: Texas

Project Title: Novel CO₂ Utilization: Making EC and DMC for Electric Vehicle Batteries – Phase 1

Funding Opportunity Announcement Number: DE-FOA-0002936

Award Number: DE-CD0000083

OCED NEPA Control Number: OCED-000083-001-CX

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:

CATEGORICAL EXCLUSION APPENDIX, NUMBER, AND 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.)

Rationale for Determination:

DOE's Office of Clean Energy Demonstrations (OCED) is proposing to provide funding to The Dow Chemical Company (Dow) in support of their project to utilize captured byproduct CO₂ from a world-scale Ethylene Oxide (EO) plant at Dow Freeport site. A portion of the CO₂ will be used to make Ethylene Carbonate (EC) and Dimethyl Carbonate (DMC), critical components of electrolyte solutions needed to domestically produce lithium-ion batteries for the U.S. electric vehicle (EV) market.

At this time, DOE is proposing to provide funding in support of Dow's Phase 1 planning and design activities only; those activities are described below. The activities completed in Phase 1 would inform additional DOE NEPA review and a go/no-go decision prior to authorizing federal funding in support of subsequent project phases.

Dow Phase 1 activities would include the following actions:

- Design and Engineering:

- Receive Carbonates Technology Package from licensor
 - Complete process technology risk assessment
- NEPA/Permitting:
 - Kickoff NEPA process and develop initial permit list
 - Submit EH&S permit applications required for construction
- LCA:
 - Validate LCA baseline and projected carbon reduction
- Procurement Planning:
 - Obtain budget quotes & dimensional data for long-lead / critical equipment
 - Complete the procurement plan including purchase of long-lead equipment critical to the project timeline. Long lead equipment would be housed within existing facility and would not require new storage or laydown areas.
- Construction Planning:
 - Complete preliminary construction plan
 - Complete regional labor study
- Operational Planning:
 - Complete preliminary operation staffing plan
- Financial and Commercial Planning:
 - Update financial model and projections
 - Update total project cost estimate
- Community Benefits:
 - Map key stakeholders, needs, and assess equitable impacts
 - Investment in expanding water infrastructure; investment would be limited to work required prior to construction or ground-disturbing activities
 - Finalize CBP plan including partner / public engagement

DOE does not anticipate adverse impacts to sensitive resources as a result of the proposed activities.

Consultations (Section 106 NHPA, Section 7 ESA, etc.): All cultural resource identification activities (e.g., archaeological, historic above ground, historic visual assessments) must be completed in accordance with applicable guidelines and standards provided by the State Historic Preservation Office (SHPO) or Tribal Historic Preservation Office (THPO) and the Secretary of the Interior's Identification Standards. Coordination with DOE is required to establish an Area of Potential Effects (APE) and scope of effort (i.e., research design) prior to cultural resource field investigations. DOE will initiate Section 106 consultation prior to cultural resource field investigations in order to support coordination with SHPO/THPO, Tribes, and other Section 106 consulting parties.

☒ 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 1501.9(e)(1)), is not related to other actions with individually insignificant but cumulatively significant impacts (40 CFR 1508.1(g)(3)) 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.

☐ A portion of the proposed action is categorically excluded from further NEPA review.

Notes: This categorical exclusion applies to those activities listed above for information gathering, analysis and dissemination. Any changes to the project activities or location are subject to additional NEPA review by DOE and are not authorized for federal funding unless and until the Contracting Officer provides written authorization on those additions or modifications.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

OCED NEPA Compliance Officer Signature:

Date: