



U.S. Department of Energy

Categorical Exclusion Determination Form

Submit by E-mail

Proposed Action Title: Rio Tinto Services, Inc. -- Assessment of the CO2 Mineralization Properties of Mineral Formations

Program or Field Office: Advanced Research Projects Agency - Energy

Location(s) (City/County/State): Salt Lake City, UT; Houston, TX; Tamarack, MN; Richland, WA; New York, NY

Proposed Action Description:

Funding will support the project team's small-scale research and development of technologies based on the characterization, absorption properties, and modeling of certain mineral formations to sequester carbon dioxide (CO₂). Specifically, the project team will (1) drill a borehole and conduct site characterization of water and geology, (2) conduct in-hole testing, (3) determine long-term viability of CO₂ sequestration process on site, and (4) apply data collected from in-hole testing to develop a well-system design for larger-scale application and sequestration potential. If successful, this project will result in directly reducing CO₂ in the atmosphere through long-term sub-surface storage.

Project activities will be conducted at existing facilities at Rio Tinto Services, Inc. (Salt Lake City, UT), Advantek Waste Management Solutions (Houston, TX), Talon Metals (Tamarack, MN), Pacific Northwest National Laboratory (Richland, WA), and Columbia University (New York, NY) designed for the applicable activities. Project tasks will be conducted in accordance with established safety and materials/waste management protocols and pursuant to applicable Federal, State, and local regulatory requirements. Rio Tinto has not obtained all necessary permits and approvals applicable to proposed actions and is prohibited from commencing project work at Milestone 2.1 and subsequent milestones until those permits are obtained. Per the terms of the award, a permits certification and, if necessary, an amended NEPA Determination, are required prior to the conduct of applicable project work.

Categorical Exclusion(s) Applied:

A9 - Information gathering, analysis, and dissemination

B3.6 - Small-scale research and development, laboratory operations, and pilot projects

B3.1 - Site characterization and environmental monitoring

For the complete DOE National Environmental Policy Act regulations regarding categorical exclusions, including the full text of each categorical exclusion, see Subpart D of [10 CFR Part 1021](#).

Regulatory Requirements in 10 CFR 1021.410(b): (See full text in regulation)

The proposal 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 proposal that may affect the significance of the environmental effects of the proposal.

The proposal 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.

Based on my review of the proposed action, as NEPA Compliance Officer (as authorized under DOE Order 451.1B), I have determined that the proposed action fits within the specified class(es) of action, the other regulatory requirements set forth above are met, and the proposed action is hereby categorically excluded from further NEPA review.

NEPA Compliance Officer:

Approved via email

Date Determined: 09/28/2022

(This form will be locked for editing upon signature)