

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



RECIPIENT: CalPortland company

STATE: CA

PROJECT TITLE: Recycling of waste concrete materials from landfills, followed by processing (separation of aggregate from paste). The separated paste will be exposed to cement manufacturing CO2 emissions, where CO2 will be mineralized into value-added material that can

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
0002997	DE-EE0011222	GFO-0011222-001	GO11222

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.)
B1.31 Installation or relocation of machinery and equipment	Installation or relocation and operation of machinery and equipment (including, but not limited to, laboratory equipment, electronic hardware, manufacturing machinery, maintenance equipment, and health and safety equipment), provided that uses of the installed or relocated items are consistent with the general missions of the receiving structure. Covered actions include modifications to an existing building, within or contiguous to a previously disturbed or developed area, that are necessary for equipment installation and relocation. Such modifications would not appreciably increase the footprint or height of the existing building or have the potential to cause significant changes to the type and magnitude of environmental impacts.
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 CalPortland Company (CalPortland) for the design, development, installation and laboratory testing to investigate the feasibility of converting waste concrete materials into value-added cementitious materials.

Project design and planning efforts, X-ray diffraction, X-ray fluorescence, thermogravimetric analysis coupled with Fourier transform infrared spectroscopy, as well as mortar and concrete testing would occur at CalPortland's Crestmore Center of Technical Excellence (CTE) in Jurupa Valley, California. Outdoor crushing and separation unit construction and testing as well as the creation and testing of an indoor carbon dioxide site would occur at CalPortland's Mojave Cement Plant (MCP) in Mojave, California.

Award efforts during Budget Period (BP) 1 would include project management, laboratory proof of concept, site and feedstock selection, engineering design and stakeholder engagement. Budget Period 2 would focus on stakeholder engagement, crushing and separation unit site preparation and installation. Budget Period 3 would involve pilot unit operation and optimization, conducting techno-economic and life-cycle assessments, and commercialization plan and benefits plan development. While the pilot unit location is known, its commissioning requires consultation with the US Fish and Wildlife Service (USFWS) to account for potential impacts to federally listed species. Therefore, BP2, Task 6, which includes the commissioning of the outdoor facility and BP3, Tasks 7 and 8 are not included in this NEPA Determination. This NEPA Determination only applies to BP1, Tasks 1 through 4 and BP2, Task 5, which includes administrative tasks, laboratory testing in existing facilities, pilot unit site selection, hiring, permitting, engineering design and stakeholder engagement.

Hazards associated with the project-related efforts at CCTE include personnel exposure to X-rays. Personal protective equipment that would be utilized by project-related staff to address these concerns include the proper use of protective gloves, lab coats, safety glasses and respiratory protection. Project-related hazards associated with the Mojave Cement Plant include the handling and crushing of concrete. Standard operating procedures and training procedures would be followed for all project staff at both the CCTE and MCP that would handle project-related machinery. All project-related efforts at both the CCTE and MCP would adhere to existing federal, state and local environmental, health and safety measures. Additional policies and procedures would be implemented as new environmental health and safety risks are identified.

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. While consultation with the USFWS is warranted, DOE does not anticipate impacts on these resources which would be considered significant.

NEPA PROVISION

DOE has made a conditional NEPA determination.

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

- BP1: Task 1 through Task 4, including all Subtasks
- BP2: Task 5, including all Subtasks

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

- BP2: Task 6, including all Subtasks
- BP3, Task 7 and Task 8, including all Subtasks

Notes:

Industrial Efficiency & Decarbonization Office
NEPA review completed by Chris Akios, 10/28/2024

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: _____

 Electronically Signed By: **Andrew Montano**

NEPA Compliance Officer

Date: 10/30/2024

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: _____