PMC-ND
(1.08.09.13)

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

RECIPIENT: NREL **STATE:** CA

PROJECT TITLE: Design an Integrated Solids Handling System to Maximize Syngas Process Reliability; NREL Tracking No. 19-011a

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
	DE-AC36-08GO28308	NREL-19-011a	GO28308

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.
DOE/EA-1968 (NREL STM)	SITEWIDE ENVIRONMENTAL ASSESSMENT, U.S. DOE NATIONAL RENEWABLE ENERGY LABORATORY, SOUTH TABLE MOUNTAIN CAMPUS, GOLDEN, COLORADO

Rationale for determination:

The U.S. Department of Energy's (DOE) National Renewable Energy Laboratory (NREL) proposes to partner with Wonderful Renewable Energy (WRE) and Idaho National Laboratory (INL) to develop a general method for designing preprocessing, handling, and feeding systems for biomass feedstocks.

The purpose of the proposed project is to design a conveyance and feeder system that would deliver almond and pistachio shells and wood byproducts to a syngas furnace for electricity production. The project consists of three main tasks: (1) determine parameters for feedstock handling and preprocessing; (2) design and build a conveyance and feeding system; and (3) a demonstration action, wherein the biomass conveyance and feeder system would be integrated into a syngas furnace to produce syngas at the WRE plant in Lost Hills, California. This NEPA review is limited to the first two tasks, as the data collected from them would inform the parameters of the demonstration action. The NEPA review of the demonstration task will occur when the design and overall footprint of the feeder system, conveyance system, and syngas furnace are known.

Research activities at INL, located in Idaho Falls, Idaho, would identify blending and pretreatment processes for the pistachio and almond waste, including optimal flow rate, particle size, and sizing steps. Pretreatment of the almond and pistachio waste feedstock would involve water, steam, or pressure; chemical treatment would not be required. All experiments would be bench-scale work.

NREL, located in Golden, Colorado, would perform process modeling, gram-scale gasification tests (bench-scale testing involving oxygen and/or steam), and characterization actions to assess the compositional and fuel attributes of the materials. Experiments would involve preprocessing of the feedstock, which would be limited to physical alteration, such as milling. NREL would also provide project management and technical assistance for the proposed

project.

NREL, INL, and WRE would enter into a subcontract with Jenike & Johanson (J&J), located in San Luis Obispo, California, to design and build a conveyance and feeding system. J&J would use the data collected by NREL and INL to conduct bulk material flowability tests of the almond and pistachio waste products, which would be at bench-scale. The results of these tests would determine an optimal preprocessing strategy and feeding system design to bring the feedstocks into a commercial syngas furnace. J&J would build the conveyance and feeding system for testing, and would develop a process-flow diagram to scale-up the system for the demonstration action.

Project activities analyzed in this NEPA review would not affect cultural resources, threatened or endangered species, wetlands, floodplains, or prime farmlands and no permits would be required. The proposed project would not involve ground disturbance. All research activities would occur indoors, in existing laboratories and facilities that perform such work. No new equipment or infrastructure would be needed to support the experiments. No change in the use, mission, or operation of existing facilities would result from the proposed project.

Research activities at NREL and INL would involve small-scale experiments and would not produce large quantities of waste. Waste materials would include excess feedstock and would be disposed of in accordance with established waste handling protocols. J&J would generate metal and plastic wastes and feedstock wastes from bulk flow testing and development of the conveyance system. All waste would recycled or disposed of in accordance to local requirements.

Individuals could be exposed to noise, dust, and other physical hazards during the course of this project. Existing corporate health and safety policies and procedures would be followed, including employee training, proper protective equipment, engineering controls, and monitoring. Additional policies and procedures would be implemented as necessary if new health and safety risks are identified.

NEPA PROVISION

DOE has made a conditional NEPA determination.

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

Task 1, Determine parameters for feedstock handling and preprocessing
Task 2, Design and build a conveyance and feeding system

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

Task 3, Demonstration

Include the following condition in the financial assisstance agreement:

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.

Notes:

NREL
Nicole Serio, 2/7/2019

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: Kristin Kerwin Date: 2/11/2019

NEPA Compliance Officer

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: _____ Date: _____

Field Office Manager