

PMC-ND

(1.08.09.13)

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

**RECIPIENT:**American Institute of Chemical Engineers**STATE:** NY**PROJECT TITLE** Rapid Advancement in Process Intensification Deployment (RAPID)

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0001578	DE-EE0007888	GFO-0007888-BP3-BP5	GO7888

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.)

A11 Technical advice and assistance to organizations Technical advice and planning assistance to international, national, state, and local organizations.

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.

B3.15 Small-scale indoor research and development projects using nanoscale materials Siting, construction, modification, operation, and decommissioning of facilities for indoor small-scale research and development projects and small-scale pilot projects using nanoscale materials in accordance with applicable requirements (such as engineering, worker safety, procedural, and administrative regulations) necessary to ensure the containment of any hazardous materials. Construction and modification activities would be within or contiguous to a previously disturbed or developed area (where active utilities and currently used roads are readily accessible).

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide federal funding to the American Institute of Chemical Engineers for the Rapid Advancement in Process Intensification Deployment (RAPID) Institute. The Institute is a consortium established under a Cooperative Agreement with the DOE and with participation from sub-recipients of the award, large and small private companies, universities, as well as national laboratories, and non-governmental organizations. The RAPID Institute is focused on chemicals and commodity processes; natural gas upgrading;

renewable bioproducts; intensified process fundamentals; modeling and simulation; and module manufacturing, across numerous independent projects. RAPID plans to research, develop and demonstrate high-impact modular chemical process intensification solutions for U.S. Manufacturing. This project has five budget periods (BP's) with numerous NEPA determinations. Previous NEPA determinations for BP's are GFO-0007888-BP1; 3/16/2017 and GFO-0007888-BP2; 12/12/2017. NEPA determination GFO-0007888-BP2-OSU; 5/21/2018 was completed for activities occurring at the Advanced Technology and Manufacturing Institute (ATAMI) facility in Corvallis, Oregon and other Oregon State University (OSU) laboratories. The NEPA determination GFO-0007888-Task 10.6 was for Task 10.6 activities by IntraMicron, Inc. and their partners. This current NEPA determination is specific to BP3-BP5 activities listed in, "EQ-1 Table 2B for Continuation MOD0010". Since the various projects are independent of each other, once additional projects and or activities have been defined and negotiated, further NEPA review will be required.

Proposed projects and activities in BP3-BP5 are generally laboratory scale operations, which may include nanoscale materials, component design and fabrication, data analysis and modeling, or educational, managerial, and reporting activities. The location of the facilities and description of proposed activities for the prime recipient and each sub-recipient is detailed within question 2b of the completed EQ1 for the project and the uploaded files, "EQ-1 Table 2B for Continuation MOD0010". None of the activities occurring at any of the listed facilities would require any new permits, licenses or authorizations for BP3-BP5 activities. No new waste streams or effluents would be produced as a result of the proposed activities in BP3-BP5. All facilities would conduct activities consistent with current operations and would not be expanded or modified in BP3-BP5. Equipment acquisition, maintenance, upgrades, and calibration may be required in BP3-BP5 but no facilities or operational modifications are anticipated as a result. Additional entries in question 2b may be incorporated as new partners are brought into the RAPID Institute and specific sites are identified as long as these additional entries conform to the rationale and CXs applied in this NEPA Determination. Any new partners that do not fit the above will be required to submit separate EQ1s for further review.

Nanoscale materials would be used during the project. All handling of such materials would occur in-lab and all health and safety procedures would be followed at each facility. All nanoscale materials would be disposed of in accordance with local, state and federal regulations.

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 3 through 5 activities/projects listed in the "EQ-1 Table 2B for Continuation MOD0010".

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

Subtask 5.7.4 Dow Chemical
Subtask 5.7.8 - Dow Chemical
Subtask 5.7.14 - Dow Chemical
Subtask 5.8.14 - Lubrizol Corp
Subtask 5.8.16 - Lubrizol Corp
Subtask 5.8.18 - Lubrizol Corp
Subtask 8.8.11 - Apache
Subtask 9.3.16 - Shell
Subtask 9.3.17 - Shell
Subtask 10.5.8 - HTRI

Any activities or projects not currently defined within the BP3-BP5 SOPO's or additional activities/projects prior to a review by DOE to establish whether or not those additional activities/project conform to the rationale and CXs applied in this NEPA Determination.

Include the following condition in the financial assistance 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.

You are required to:

The recipient is required to consult with the DOE Project Officer and NEPA Specialist regarding any project that would result in:

- changes in function, use, or operation of existing facilities, and/or
- modifications to existing facilities, and/or
- ground disturbing or new construction activities

prior to initiating any of these activities in order to determine whether additional NEPA review is required.

Notes:

This NEPA Determination requires a tailored NEPA provision.

Advanced Manufacturing Office

Diana Heyder 12/19/18

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: _____



Casey Strickland

NEPA Compliance Officer

Date: 12/20/2018

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: _____