



# U.S. Department of Energy Categorical Exclusion Determination Form

Submit by E-mail

Proposed Action Title: Newton Energy Group, LLC - Coordinated Operation of Electric and Natural Gas Supply Networks: Optimization Processes and Market Design

Program or Field Office: Advanced Research Projects Agency - Energy

Location(s) (City/County/State): Boston, MA; Los Alamos, NM; Seattle, WA

Proposed Action Description:

Funding will support the project team's small-scale, research and development activities to develop scalable mathematical models and optimization algorithms for optimization of the operation of natural gas pipeline networks on the time-scales of electric power systems operations. If successful, these models and algorithms could enable co-optimized operation of natural gas and electric infrastructures and markets, thereby promoting efficiency in natural gas delivery and use.

The proposed project activities under this award are limited exclusively to intellectual, academic, or analytical activities. The project team will not conduct physical experiments, prototype fabrication, demonstration projects, or similar activities under this award.

Categorical Exclusion(s) Applied:

A9 - Information gathering, analysis, and dissemination

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:

(This form will be locked for editing upon signature)

Date Determined: 03/03/2016





**PROJECT ENVIRONMENTAL REVIEW  
MEMORANDUM TO THE RECORD**

**Lead Organization:** Newton Energy Group, LLC.

**Project Title:** Coordinated Operation of Electric and  
Natural Gas Supply Networks:  
Optimization Processes and Market  
Design

**Date:** March 3, 2016

<p><b>Approved:</b> </p> <p>William J. Bierbower ARPA-E NEPA Compliance Officer</p> <p><b>Concurred:</b> </p> <p>Dr. Timothy Heidel ARPA-E Program Director</p>
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**INSTRUCTIONS:** Please complete Sections I - V of this memorandum form. Please complete all relevant fields. Where a particular field is irrelevant to the project under review, please indicate "N/A" in the field.

**SECTION I. PROJECT INFORMATION**

**Funding Opportunity Announcement (if any):** DE-FOA-0001261: Open Funding Opportunity Announcement 2015 (OPEN 2015)

**Lead Organization:** Newton Energy Group, LLC.

**Other Participants (Subrecipients, Contractors, etc.):** Los Alamos National Laboratory; Polaris Systems Optimization; Boston University; AIMMS

**Locations of Work (City, State):** Boston, MA; Los Alamos, NM; Seattle, WA

- b. Use, handling, storage, transport, or disposal of genetically engineered organisms recombinant DNA.  Yes  No
- c. Use, handling, storage, transport, or disposal of nanoscale materials  Yes  No
- d. Use, handling, storage, transport, or disposal of solid wastes  Yes  No
- e. Emissions into the ambient air  Yes  No
- f. Release of pollutants/contaminants into water resources  Yes  No
- g. Substantial noise pollution  Yes  No
- h. Adverse community-based environmental impacts  Yes  No

Comments: None

**C. INTEGRAL ELEMENTS ANALYSIS (Appendix B Categorical Exclusions Only)**

The proposed project will:

- a. Threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health or similar requirements of DOE or Executive Orders.  Yes  No
- b. Require siting/construction or major expansion of waste storage, disposal, recovery, or treatment facilities.  Yes  No
- c. Disturb hazardous substances, pollutants, contaminants, or petroleum/natural gas products that preexisted in the environment, resulting in an uncontrolled/unpermitted release.  Yes  No
- d. Have potential to cause significant impacts on environmentally sensitive resources.

It is recommended that the following condition be included in the award:

No NEPA-related condition need be included in the award.

**SECTION V. RECOMMENDATION FOR CATEGORICAL EXCLUSION**

The activities to be conducted under this project fit within the class of activities identified under the Department of Energy Categorical Exclusion(s) identified above.

The review has not identified any extraordinary circumstances related to the specific project that may affect the significance of the environmental effects of the project.

It is recommended that no further review under NEPA is required; however, any changes to the project may require further review.

Please find attached the selectee's completed and signed NEPA Questionnaire.