



U.S. Department of Energy Categorical Exclusion Determination Form

Submit by E-mail

Proposed Action Title: REL, Inc. - Fully and Intricately Conformable, Single-Piece, Mass-Manufacturable High-Pressure Gas Storage Tanks

Program or Field Office: Advanced Research Projects Agency - Energy

Location(s) (City/County/State): Calumet, MI; Manitowoc, WI; Houghton, MI; Surrey, BC (Canada)

Proposed Action Description:

This Determination concerns a supplemental funding award to REL, Inc. (REL). REL was originally selected for an award under ARPA-E's MOVE program to develop a high-pressure gas storage vessel with an internal open cellular structure. For the supplemental award, REL - now in conjunction with Michigan Tech University (MTU), Eck Industries (Eck), and Powertech Labs Inc. (Powertech) - will conduct pilot-scale research and development activities that build upon the original work, with a particular focus on developing new equipment and procedures for fabricating full-scale tanks with its new design.

Work/locations will be as follows: laboratory work at REL and ECK; prototype testing at Powertech; and computer modeling at MTU. All work will comply with OSHA safety standards, appropriate control technologies, waste management standards, and applicable local, state and federal regulations. Protective equipment and proper safety training will be provided for relevant work.

Categorical Exclusion(s) Applied:

B5.15 - Small-scale renewable energy research and development and pilot projects

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:

Date Determined: 02/04/2015



U.S. Department of Energy Categorical Exclusion Determination Form

Submit by E-mail

Proposed Action Title: (0672-1599) REL, Inc. - Fully and Intricately Conformable, Single-Piece, Mass Manufacturable High Pressure Gas Storage Tank

Program or Field Office: Advanced Research Projects Agency - Energy

Location(s) (City/County/State): Calumet, MI; Houghton, MI; Lake Linden, MI; Woonsocket, RI

Proposed Action Description:

Funding will support efforts to develop a compressed natural gas storage tank with an internal open cellular structure that is integrated with an exterior skin.

Proposed work will consist of: (1) design and modeling of the tank structure and materials; (2) development and testing of various materials for the internal open cellular structure of the tank; and (3) fabrication and testing of quarter-scale and full-scale tank prototypes.

Computer-based design and modeling work will be performed at Michigan Technology Institute's facility in Houghton, MI. Development of various materials for the internal structure of the tank will take place at TEAM, Inc.'s facility in Woonsocket, RI, Endres Manufacturing Innovations' facility in Houghton, MI, and REL's facility in Calumet, MI. REL will also carry out testing of internal structure materials at its facility in Calumet, MI. Tank prototypes will be tested at Titan Piping, Inc.'s facility in Lake Linden, MI.

Categorical Exclusion(s) Applied:

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

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:

Date Determined: 08/23/2012