



# U.S. Department of Energy

## Categorical Exclusion Determination Form

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Proposed Action Title:

Program or Field Office:

Location(s) (City/County/State):

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Proposed Action Description:

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Categorical Exclusion(s) Applied:

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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:



# U.S. Department of Energy

## Categorical Exclusion Determination Form

Submit by E-mail

Proposed Action Title: Performance-based Energy Resource Feedback, Optimization, and Risk Management (PERFORM) (FOA No. DE-FOA-0002171) Program

Program or Field Office: Advanced Research Projects Agency - Energy (ARPA-E)

Location(s) (City/County/State): AR; AZ; CA; IL; IN; MA; NC; NH; NJ; NM; NY; PA; WA

Proposed Action Description:

FIRST AMENDED PROGRAMMATIC NEPA DETERMINATION (See attached original Programmatic Determination, dated July 7, 2020)  
The PERFORM Program seeks to develop innovative management systems that represent the relative delivery risks of each asset, like wind farms or power plants, and balance the collective risk of all assets across the grid. If successful, the PERFORM teams will develop the tools to further optimize renewable resources into the grid, improve reliability, reduce energy imports, and further strengthen a pathway to sustainable energy independence.

The PERFORM Program is composed of 10 small-scale research and development projects that will be conducted by universities, non-profit entities, for-profit entities, and federal laboratories. This First Amended Determination adds 2 projects (Columbia University and Princeton University) to the Determination signed on July 7, 2020 (see Attachment for all 10 projects covered by this and the prior Determination). All 10 projects fit within the class of actions identified under the DOE Categorical Exclusion identified below and do not involve any extraordinary circumstances that may affect the significance of the environmental effects of the projects. This assessment was based on a review of the proposed scope of work and the potential environmental impacts of each project. All project tasks will be conducted in accordance with established safety and materials/waste management protocols and pursuant to applicable Federal, State, and Local regulatory requirements.

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: **Geoffrey Goode** Digitally signed by Geoffrey Goode  
Date: 2020.07.15 04:44:39 -05'00'

Date Determined:



# U.S. Department of Energy

## Categorical Exclusion Determination Form

Submit by E-mail

Proposed Action Title: Performance-based Energy Resource Feedback, Optimization, and Risk Management (PERFORM) (FOA No. DE-FOA-0002171) Program

Program or Field Office: Advanced Research Projects Agency - Energy (ARPA-E)

Location(s) (City/County/State): AR; CA; IL; IN; MA; NC; NH; NJ; NM; NY; PA; WA

Proposed Action Description:

The PERFORM Program seeks to develop innovative management systems that represent the relative delivery risks of each asset, like wind farms or power plants, and balance the collective risk of all assets across the grid. PERFORM teams will (1) design risk scores that communicate the delivery risk of an asset's offer, such as the reliability of electricity from a solar plant due to the weather on a given day (2) develop grid management systems that internally capture uncertainty, and (3) evaluate the system risk to meet or exceed a set baseline. This risk-driven paradigm will enable grid operators to better maintain a supply-demand balance and system reliability, even with the intermittency of renewables. If successful, the PERFORM teams will develop the tools to further optimize renewable resources into the grid, improve reliability, reduce energy imports, and further strengthen a pathway to sustainable energy independence.

The PERFORM Program is composed of 10 small-scale research and development projects that will be conducted by universities, non-profit entities, for-profit entities, and federal laboratories. This Determination covers 8 of the 10 projects (listed in Attachment A). All 8 projects fit within the class of actions identified under the DOE Categorical Exclusion identified below and do not involve any extraordinary circumstances that may affect the significance of the environmental effects of the projects. This assessment was based on a review of the proposed scope of work and the potential environmental impacts of each project. All project tasks will be conducted in accordance with established safety and materials/waste management protocols and pursuant to applicable Federal, State, and Local regulatory requirements.

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: **Geoffrey Goode** Digitally signed by Geoffrey Goode  
Date: 2020.07.08 13:32:54 -04'00'

Date Determined:

**Attachment A: Projects in the PERFORM (FOA No. DE-FOA-0002171) Program**

<b>Prime Recipient (Control No.)</b>	<b>Project Title</b>	<b>Categorical Exclusion</b>
<b>Energy and Environmental Economics, Inc. (2171-1533)</b>	Deploying E3's RESERVE Tool to Enable Advanced Operation of Clean Grids	A9
<b>Rensselaer Polytechnic Institute (2171-1535)</b>	Risk segmentation and Portfolio Analysis for Pareto Dominance in High Renewable Penetration and Storage Reserves	A9
<b>Lehigh University (2171-1548)</b>	Application of Banking Scoring and Rating for Coherent Risk Measures in Electricity Systems	A9
<b>Castalune, LLC (2171-1553)</b>	Event Correlation Analysis for Robust Renewable Grids	A9
<b>Tabors Caramanis Rudkevich, Inc. (2171-1566)</b>	Stochastic Nodal Adequacy Platform	A9
<b>Energy Trading Analytics, LLC (2171-1575)</b>	Stochastic Market Auction Redesigned Trading System (SMARTS)	A9
<b>Trustees of Boston University (2171-1585)</b>	A New Risk Assessment and Management Paradigm (NewRAMP) in Electricity Markets	A9
<b>Duke University (2171-1618)</b>	A Grid that's Risk-Aware for Clean Electricity – GRACE	A9
<b>Princeton University (2171-1603)</b>	Stochastic Models, Indices & Optimization Algorithms for Pricing	A9
<b>Columbia University (2171-1561)</b>	Risk-Aware Power System Control, Dispatch and Market Incentives	A9