# Categorical Exclusion Determination

Bonneville Power Administration
Department of Energy

**Proposed Action:** Fiscal Year 2016 Technology Innovation Portfolio

**Project Manager:** Sheila Adel, Technology Innovation Portfolio Manager – ST-3

**Location:** Portland, Oregon

**Categorical Exclusion Applied (from Subpart D, 10 C.F.R. Part 1021):** B5.1 Actions to conserve energy or water; B3.6 Small-scale research and development, laboratory operations, and pilot projects

**Description of the Proposed Action:** BPA proposes to fund or partially fund federal research laboratories, utilities, universities, companies, and a research institute to conduct research and develop pilot projects that promote energy efficiency and conservation in transmission infrastructure and power-grid operations through BPA's Fiscal Year 2016 Technology Innovation (TI) Portfolio. These projects would primarily involve energy efficiency and demand response applications, transmission equipment testing, computer modeling, and software development.

BPA also proposes to continue funding for ongoing projects that were proposed in previous portfolios. Individual projects proposed in a TI Portfolio typically span 1–3 fiscal years.

A review of BPA's Fiscal Year 2016 TI Portfolio reveals research and demonstration project proposals that would be located inside existing buildings or within previously disturbed areas. All testing and laboratory operations would occur within existing operating parameters. If site-specific impacts are identified during initial project design phases, these impacts will be addressed in a separate National Environmental Policy Act (NEPA) analysis that will be completed prior to the demonstration phase when such impacts could be expected to occur.

**Findings:** In accordance with Section 1021.410(b) of the Department of Energy's (DOE) National Environmental Policy Act (NEPA) Regulations (57 FR 15144, Apr. 24, 1992, as amended at 61 FR 36221-36243, July 9, 1996; 61 FR 64608, Dec. 6, 1996, 76 FR 63764, Nov. 14, 2011), BPA has determined that the proposed action:

(1) fits within a class of actions listed in Appendix B of 10 CFR 1021, Subpart D (see attached Environmental Checklist);
(2) does not present any extraordinary circumstances that may affect the significance of the environmental effects of the proposal; and
(3) has not been segmented to meet the definition of a categorical exclusion.

Based on these determinations, BPA finds that the proposed action is categorically excluded from further NEPA review.

*/s/ Jeffrey J. Maslow*
Jeffrey J. Maslow
Environmental Protection Specialist

Concur:

*/s/ Katherine S. Pierce* Date: *July 22, 2015*
Katherine S. Pierce
NEPA Compliance Officer

Attachment(s): Environmental Checklist
FY 2016 Technology Innovation Portfolio Project List

# Categorical Exclusion Environmental Checklist

This checklist documents environmental considerations for the proposed project and explains why the project would not have the potential to cause significant impacts on environmentally sensitive resources and would meet other integral elements of the applied categorical exclusion.

**Proposed Action:** Fiscal Year 2016 Technology Innovation Portfolio

## Project Site Description

Inside existing structures, research laboratories, and previously disturbed areas at various locations throughout the United States.

## Evaluation of Potential Impacts to Environmental Resources

| Environmental Resource Impacts | No Potential for Significance | No Potential for Significance, with Conditions |
|---|---|---|
| 1. **Historic and Cultural Resources** | ☑ | ☐ |
| Explanation: Because the portfolio contains proposals that would involve research and demonstration projects located inside existing buildings or within previously disturbed areas, there would be no potential to affect historic and cultural resources. | | |
| 2. **Geology and Soils** | ☑ | ☐ |
| Explanation: Because the portfolio contains proposals that would involve research and demonstration projects located inside existing buildings or within previously disturbed areas without new ground disturbance, there would be no effect on geology and soils. | | |
| 3. **Plants** (including federal/state special-status species) | ☑ | ☐ |
| Explanation: Because the portfolio contains proposals that would involve research and demonstration projects located inside existing buildings or within previously disturbed areas without new ground disturbance, there would be no effect on plants. | | |
| 4. **Wildlife** (including federal/state special-status species and habitats) | ☑ | ☐ |
| Explanation: Because the portfolio contains proposals that would involve research and demonstration projects located inside existing buildings or within previously disturbed areas, there would be no effect on wildlife. Therefore, the proposed projects would have no effect on federal/state special-status species and habitats. | | |

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|---|---|---|---|
| 5. | **Water Bodies, Floodplains, and Fish** (including federal/state special-status species and ESUs) | ☑ | ☐ |

Explanation:

Because the portfolio contains proposals that would involve research and demonstration projects located inside buildings or within previously disturbed areas that would not have the potential to affect waterbodies, there would be no effect on waterbodies, floodplains, and fish.

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| 6. | **Wetlands** | ☑ | ☐ |

Explanation:

Because the portfolio contains proposals that would involve research and demonstration projects located inside buildings or within previously disturbed areas that would not have the potential to affect wetlands, there would be no effect on wetlands.

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| 7. | **Groundwater and Aquifers** | ☑ | ☐ |

Explanation:

Because the portfolio contains proposals that would involve research and demonstration projects located inside buildings or within previously disturbed areas, and would not involve activities with the potential to affect groundwater or aquifers, there would be no effect on groundwater and aquifers.

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| 8. | **Land Use and Specially Designated Areas** | ☑ | ☐ |

Explanation:

Because the portfolio contains proposals that would involve research and demonstration projects located inside buildings or within previously disturbed areas, there would be no effect on land use and specially designated areas.

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| 9. | **Visual Quality** | ☑ | ☐ |

Explanation:

Because the portfolio contains proposals that would involve research and demonstration projects located inside buildings or within previously disturbed areas, there would be no effect on visual quality.

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| 10. | **Air Quality** | ☑ | ☐ |

Explanation:

Because the portfolio contains proposals that would involve research and demonstration projects located inside buildings and would not involve activities that affect air quality, there would be no effect on air quality.

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| 11. | **Noise** | ☑ | ☐ |

Explanation:

Because the portfolio contains proposals that would involve research and demonstration projects located inside buildings or within previously disturbed areas, there would be no effect on noise levels.

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| 12. | **Human Health and Safety** | ☐ | ☑ |

Explanation:

All research and demonstration activities must utilize best management practices that protect human health and safety.

## Evaluation of Other Integral Elements

The proposed project would also meet conditions that are integral elements of the categorical exclusion. The project would not:

☑ Threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health, or similar requirements of DOE or Executive Orders.

Explanation, if necessary:

☑ Require siting and construction or major expansion of waste storage, disposal, recovery, or treatment facilities (including incinerators) that are not otherwise categorically excluded.

Explanation, if necessary:

☑ 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.

Explanation, if necessary:

☑ 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 of the Department of Agriculture, the Environmental Protection Agency, and the National Institutes of Health.

Explanation, if necessary:

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## Landowner Notification, Involvement, or Coordination

Description:

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Based on the foregoing, this proposed project does not have the potential to cause significant impacts on any environmentally sensitive resources.

Signed: */s/ Jeffrey J. Maslow* Date: *July 22, 2015*
Jeffrey J. Maslow

**Fiscal Year 2016 Technology Innovation Portfolio**

The portfolio includes both new and ongoing projects during the 2016 Fiscal Year. New project proposals for the 2016 Fiscal Year are listed below with Technology Innovation Project (TIP) numbers, lead organizations, and project titles:

TIP 336: BPA - Scaled Deployment and Demonstration of Demand Response Using Water Heaters

TIP 337: National Renewable Energy Laboratory - Home Battery System for Cybersecure Predictive Energy Efficiency and Demand Response

TIP 338: Washington State University – Application of Combined Space and Water Heat Pump Systems to Existing Homes for Efficiency and Demand Response

TIP 339: BPA – Luminaire Level Lighting Control Demonstrations

TIP 340: Lawrence Berkeley National Laboratory – Smart Ventilation Controls

TIP 341: Ecotope, Inc – Wastewater Heat Pump Design and Pilot Study

TIP 342: Oregon State University - Framework for Quantification of Risk and Valuation of Flexibility in the Federal Columbia River Power System

TIP 343: Alstom - Enhancing Hydropower Reliability Through Cavitation Monitoring and Noise Condition Assessment

TIP 345: Pacific Northwest National Laboratory – Advanced Visualization for Improving State Awareness for the BPA Power System

TIP 346: Pacific Northwest National Laboratory – Cold Spray Deposition for Improved Service Life of New and Repaired Hydroelectric Turbines

TIP 347: Sandia National Laboratories – Advanced Characterization of Wind Generation Forecast Error and Computation of Dynamic Balancing Reserves

TIP 348: BPA – Measurement-Based Voltage Stability Assessment

TIP 349: BPA – Demonstrations of Applications for Baselining Power Oscillations

TIP 350: BPA – Power Plant Dynamic Performance Monitoring Center

TIP 351: BPA – Network Model Management

TIP 352: Pacific Northwest National Laboratory – Development and Demonstration of a Phasor-Driven Tool for Adaptive Stability Model Calibration

TIP 353: Rochester Institute of Technology – Improving Operator Situation Awareness by Phasor Measurement Unit Data Visualization

TIP 354: BPA – Substation Seismic Performance with Supplemental Damping Devices

TIP 355: BPA – Evaluation of Technical Approaches to Increase Dynamic Transfers

TIP 356: BPA – Improving Tools for Real-Time Study Engineers Using Node-Breaker Models

TIP 357: University of Illinois at Urbana-Champaign – Techniques and Tools for System-Level Validation of Transient Stability Models Using PMU Data

TIP 358: University of Denver – A Wearable Sensory System for Hazardous Source Locating and Exposure Level Warning

TIP 359: University of Illinois at Urbana-Champaign – Improved System Modeling for Geomagnetic Disturbance and Electromagnetic Pulse Assessments

TIP 360: Electric Power Research Institute – High-Voltage Direct Current Program