

memorandum

DATE: October 15, 2012

REPLY TO
ATTN OF: KEC-4

SUBJECT: Environmental Clearance Memorandum

TO: Sheila Bennett
Technology Innovation Portfolio Manager, Technology Innovation – ST-3

Matt DeLong
Contract Specialist for Technology Innovation Projects – NSSP-4

Proposed Action: FY 2013 Technology Innovation Portfolio

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

Location: Portland, Oregon

Proposed by: Bonneville Power Administration (BPA)

Description of the Proposed Action: BPA proposes to fund or partially fund various federal research laboratories, universities, utilities, companies, and research institutes 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 2013 Technology Innovation Portfolio. These projects would involve computer modeling, in-home water heaters, transmission line conductor testing, battery systems, substation and transformer bushing seismic performance, demand response, aeration devices, and microwave technologies.

A review of the proposals in BPA's Fiscal Year 2013 Technology Innovation Portfolio reveals that the proposed research and projects would be located inside existing buildings or within previously disturbed areas, and all testing and laboratory operations would occur within existing operating parameters. If site-specific impacts are identified during initial information gathering and project design phases, these impacts will be addressed in a separate National Environmental Policy Act (NEPA) analysis that will be completed before a research project proceeds to the demonstration phase when such impacts could be expected to occur.

Findings: BPA has determined that the proposed action complies with Section 1021.410 and Appendix B of Subpart D 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). The proposed action does not present any extraordinary circumstances that may affect the significance of the environmental effects of the proposal. The proposal is not connected [40 C.F.R. 1508.25(a)(1)] to other actions with potentially significant impacts, has not been segmented to meet the

definition of a categorical exclusion, is not related to other proposed actions with cumulatively significant impacts [40 C.F.R. 1508.25(a)(2)], and is not precluded by 40 C.F.R. 1506.1 or 10 C.F.R. 1021.211. Moreover, the proposed action would not (i) threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health, (ii) require siting and construction or major expansion of waste storage, disposal, recovery, or treatment facilities, (iii) disturb hazardous substances, pollutants, contaminants, or Comprehensive Environmental Response, Compensation and Liability Act-excluded petroleum and natural gas products that pre-exist in the environment such that there would be uncontrolled or unpermitted releases, (iv) have the potential to cause significant impacts on environmentally sensitive resources, or (v) 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.

We therefore determine that the proposed action may be categorically excluded from further NEPA review and documentation.

/s/ Jeffrey J. Maslow
Jeffrey J. Maslow
Environmental Project Manager

Concur:

/s/ Katherine S. Pierce
Katherine S. Pierce
NEPA Compliance Officer

Date: October 15, 2012

Attachments:
Fiscal Year 2013 Technology Innovation Portfolio
Environmental Checklist for Categorical Exclusions

Fiscal Year 2013 Technology Innovation Portfolio

The projects include the following (with project number, primary sponsor, and title):

TIP23c: BPA – Field Trial of Aluminum Conductor Composite Core (ACCC) Carbon-Fiber Core and Aluminum Conductor Steel Supported HS285 Ultra-High Strength Conductors

TIP258: Oregon State University – Development of a state-of-the-art computational framework and platform for the optimal control of multi-reservoir systems under uncertainty

TIP259: Deltares – Short-Term Hydropower Production and Marketing Optimization

TIP260: Powin Energy – A Modular and Dispatchable Battery Storage System

TIP261: Washington State University – Determining and Improving the Energy Intensity of Microwave Sterilization & Pasteurization Technologies

TIP262: Pacific Northwest National Laboratory – Demonstration of Second-Generation Prototype Ducted GE "Brillion" Hybrid Water Heater in the PNNL Lab Homes

TIP263: Electric Power Research Institute – Development of Next-Generation Heat Pump Water Heater Technology

TIP264: PowerWorld Corporation – Modeling Geomagnetically Induced Current for Evaluation and Mitigation

TIP265: Cornell University – Computationally Efficient, Flexible, Short-Term Hydropower Optimization and Uncertainty Analysis for the BPA System

TIP266: Eugene Water & Electric Board – Metropolitan Wastewater Management Commission Demand Response Pilot

TIP267: City of Port Angeles (WA) – Heat Pump Water Heater Demand Response Application

TIP268: University of Illinois at Urbana-Champaign – Verification and Validation of Transient Stability Models and Results

TIP269: Quanta Technology – Voltage Management: VIP Approach

TIP270: City of Port Angeles (WA) – Demand Response Demonstration Market

TIP271: National Renewable Energy Laboratory – A Revolutionary Cold-Climate Heat Pump Water Heater

TIP272: Electric Power Research Institute – Membership for Energy Efficiency

TIP274: BPA – Development and Demonstration of Applications for BPA and FCRPS Compliance with Modeling Standards and Performance Monitoring

TIP275: Hitachi America – New Remedial Action Scheme (RAS) Research Work to Avoid Cascading Caused by Intermittent Output of Renewable Energy Resources

TIP277: Ecofys U.S. – Data Centers as Demand Response Resources

TIP278: BPA – Transformer Bushing Performance

TIP279: PowerWorld Corporation – Implementation of a Full-Topology, Robust, and Generalized State Estimator

TIP281: BPA – Impacts Due to Dynamic Transfers

TIP282: BPA – Transmission Power Flow Controls for Bulk Grid Optimization

TIP283: BPA – Impact of Power Electronic Loads on the Grid Stability

TIP284: Electric Power Research Institute – Flexible Operation of Hydropower Assets

TIP285: Primus Power Corporation – Energy Storage: Multifaceted tool for demand management

TIP286: CUNY Energy Institute, City University of New York – Energy Storage as a Demand Response Asset at Industrial Facilities and at Critical Points on the Transmission Network to Increase and Decrease Load on Demand

TIP287: National Renewable Energy Laboratory – Reducing Technology Evaluation Costs Through a Technology Portal

TIP288: National Renewable Energy Laboratory – Disruptive Methodology for Robust Semi-Virtual Pilot Projects

TIP289: Sandia National Laboratories – Wide Area Damping Control Proof-of-Concept Demonstration

TIP290: Queen’s University (Canada) – Modeling High Impact Low Frequency Geomagnetic Disturbances Using Magnetic Field Data from Solar-orbiting Spacecraft

TIP291: BPA – Substation Seismic Performance

TIP292: Washington State University – Advanced Heat Pump Water Heater Research

Environmental Checklist for Categorical Exclusions

Name of Proposed Project: FY 2013 Technology Innovation Portfolio

Work Order #: 00003863

This project does **not** have the potential to cause significant impacts on the following environmentally sensitive resources. See 10 CFR 1021, Subpart D, Appendix B for complete descriptions of the resources. This checklist is to be used as a summary – further discussion may be included in the Categorical Exclusion Memorandum.

<u>Environmental Resources</u>	<u>No Potential for Significance</u>	<u>No Potential, with Conditions (describe)</u>
1. Historic Properties and Cultural Resources	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. T & E Species, or their habitat(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Floodplains or wetlands	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. Areas of special designation	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5. Health & safety	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6. Prime or unique farmlands	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. Special sources of water	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. Other (describe)	<input type="checkbox"/>	<input type="checkbox"/>

Signed: /s/ Jeffrey J. Maslow

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