



U.S. Department of Energy

Categorical Exclusion Determination Form

Proposed Action Title:

Program or Field Office:

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

Proposed Action Description:

Categorical Exclusion(s) Applied:

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:

Attachment A: Projects in the CHADWICK (FOA No. DE-FOA-0003240) Program

Prime Recipient (Control No.)	Project Title	Categorical Exclusion
Ames National Laboratory (3240-1511)	Refractory Alloys with Ductility and Strength (RADS)	A9, B3.6
ExoFusion (3240-1549)	Novel Liquid Metal Plasma Facing Component Alloys	A9, B3.6
The Johns Hopkins University (3240-1545)	Complexion Engineered Nanocrystalline Tungsten Alloy Plasma Facing Materials for Long-Pulse Tokamak Operation	A9, B3.6
Lawrence Livermore National Laboratory (3240-1503)	Design of Complex High-Performance Armor Materials	A9, B3.6,
Savannah River National Laboratory (3240-1578)	Machine Learning for Alloy Discovery Coupled with Geometric Optimization for Functionally Graded Liquid Metal First Wall	A9, B3.6
Stony Brook University (3240-1526)	Design and Development of Composited Low-Activation UHTC Materials for Very High Temperature First Wall Application	A9, B3.6
Texas A&M Engineering Experiment Station (3240-1512)	Batch-wise Improvement in Reduced Design Space using a Holistic Optimization Technique for FUSion Environments (BIRDSHOT-FUSE)	A9, B3.6
University of California at San Diego (3240-1541)	High Flux Plasma-Materials Interaction Testing for Rapid Fusion Materials Development	A9, B3.6
University of Illinois at Urbana-Champaign (3240-1548)	GRADED: Gradient composites with Radiation Amorphization-enabled Dimensional stability and Energy Dissipation	A9, B3.6
University of Illinois at Urbana-Champaign (3240-1544)	Centralized and On-Demand Radiation Transport and Techno-Economics (CORTEX) for Fusion Material Engineering	A9
University of Kentucky Research Foundation (3240-1585)	Combinatorial Modeling, Screening, and Development of Tungsten-Ceramic Composites with Gradient Microstructure for Improved Radiation-Tolerant Plasma Facing Materials	A9, B3.6, B3.15
Commonwealth Fusion Systems, Inc. (3240-1561)	Co-Optimization of an Integral, Layered Materials Solution for Compact Tokamak Vessels	A9, B3.6

Attachment A: Projects in the CHADWICK (FOA No. DE-FOA-0003240) Program

Prime Recipient (Control No.)	Project Title	Categorical Exclusion
Pacific Northwest National Laboratory (3240-1524)	Ferritic and Vanadium Alloys with Nanoparticle Strengthening for Fusion (FAVA-NSF)	A9, B3.6; B3.15