

## ENVIRONMENTAL EVALUATION NOTIFICATION FORM

Grantee/Contractor Laboratory: Princeton University/Princeton Plasma Physics Laboratory (PPPL)

Project/Activity Title: Generic Categorical Exclusion: Bench-Scale Research Projects and Conventional Laboratory Operations

CH NEPA Tracking No.: \_\_\_\_\_ Type of Funding N/A

B&R Code: \_\_\_\_\_ Total Estimated Cost: \$ N/A

DOE Cognizant Secretarial Officer (CSO): Marc Jones

Contractor Project Manager: \_\_\_\_\_ Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Contractor NEPA Reviewer: Dorothy M. Strauss Signature: Dorothy M.

Date: Strauss

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Date: 2025.11.26 09:59:37 -05'00'

### I. **Description of Proposed Action:**

This categorical exclusion covers bench-scale research projects and conventional laboratory operations conducted in established buildings at PPPL. Specifically, bench-scale chemical, physical, and theoretical studies, experiments, and related activities including the assembly/disassembly of experimental instrumentation and research equipment (e.g., diagnostics systems, plasma heating, control or fueling systems, shielding systems, etc.) are within the scope of the proposed actions.

**RESTRICTIONS:** This categorical exclusion would not apply to the following:

- 1) Activities that may require major building renovations
- 2) Activities that may impact historic areas, structures, or equipment
- 3) Activities that may impact cultural resources
- 4) Activities that may impact endangered species
- 5) Activities that may impact federal jurisdiction wetlands
- 6) Research activities that may generate “no path forward” waste
- 7) Research involving bio-safety levels 3 or 4 activities
- 8) Demonstration actions that would be undertaken at a scale to show whether a technology would be viable on a larger scale and suitable for commercial deployment.

### II. **Description of Affected Environment:**

PPPL is located on Princeton University’s James Forrestal Campus in Plainsboro Township, Middlesex County (central New Jersey), adjacent to the municipalities of Princeton, Kingston, East and West Windsor, and Cranbury, NJ. It occupies approximately 90.83 acres in the areas known as “C- and D-Sites.” PPPL has operated on the current site since 1959. The closest urban centers are New Brunswick, 14 miles (22.5 km) to the northeast, and Trenton, 12 miles (19 km) to the southwest. Within a 50-mile (80 km) radius are the major urban centers of New York City, Philadelphia, and Newark. Princeton University’s main campus is approximately three miles west of the site, primarily located within the borough of Princeton.

The estimated resident population within 10 miles (16 km) of PPPL is approximately 500,000. The total estimated population within a 50-mile radius (80km) of PPPL is approximately 17,735,164.

Surrounding the site are lands of preserved and undisturbed areas including upland forest, wetlands, open grassy areas, and a minor stream, Bee Brook, which flows along PPPL's eastern boundary. These areas are designated as open space in the James Forrestal Campus (JFC) site development plan.

The climate of central New Jersey is classified as mid-latitude, rainy climate with mild winters, hot summers, and no dry season. Temperatures may range from below zero to above 100 degrees Fahrenheit (°F) (-17.8° Celsius (C) to 37.8° C); extreme temperatures typically occur once every five years. Approximately half the year, from late April until mid-October, the days are freeze-free. Normally the climate is moderately humid with a total average precipitation of about 46 inches (116 cm) evenly distributed throughout the year.

III. **Potential Environmental Effects:** (Attach explanation for each "yes" response, and "no" responses if additional information is available and could be significant in the decision-making process.)

**A. Sensitive Resources: Would the proposed action result in changes and/or disturbances to any of the following resources?**

	<b><u>Yes/No</u></b>
1. Threatened/Endangered Species and/or Critical Habitats	1. No
2. Other Protected Species (e.g. Burros, Migratory Birds)	2. No
3. Wetlands	3. No
4. Archaeological/Historic Resources	4. No
5. Prime, Unique or Important Farmland	5. No
6. Non-Attainment Areas	6. No
7. Class I Air Quality Control Region	7. No
8. Special Sources of Groundwater (e.g. Sole Source Aquifer)	8. No
9. Navigable Air Space	9. No
10. Coastal Zones	10. No
11. Areas w/ Special National Designation (e.g. National Forests, Parks, Trails)	11. No
12. Floodplain	12. No

**B. Regulated Substances/Activities: Would the proposed action involve any of the following regulated substances or activities?**

	<b><u>Yes/No</u></b>
13. Clearing or Excavation (indicate if greater than 1 acre [43,560 sq. ft.]; if more than 5,000 sq. ft., a Soil Erosion / Sediment Control Permit may be required from Freehold Soil Conservation District.) <i>Note: Soil disturbance includes clearing, grading, excavation, storage, and filling. Soil erosion and sediment control permits required if <math>\geq 5,000</math> sq. ft.</i> <i>Note: Excavations expected to encounter ground water may require a permit.</i>	13. No
14. Dredge or Fill (under Clean Water Act section 404; indicate if greater than 1 acre)	14. No

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|-----|--|---------|
| 15. | Noise (in excess of regulations)   | 15. No  |
| 16. | Asbestos Removal (P-036, Asbestos Management; EWM-005, Asbestos Management Services)   | 16. Yes |
|     | <i>Some activities may involve penetration of asbestos-containing walls, asbestos tile removals, etc. These activities would require support from an asbestos-certified subcontractor. The removal would comply with state and federal regulations.</i>  |         |
| 17. | Polychlorinated Biphenyls (PCBs)   | 17. No  |
| 18. | Import, Manufacture or Processing of Toxic Substances  | 18. No  |
| 19. | Chemical Storage/Use (ESHD 5008, Section 8, Industrial Hygiene)  | 19. Yes |
|     | <i>Experiments may require storage and use of chemicals such as compressed gases, cleaning solvents, lithium, etc. All such storage and use would be conducted in accordance with products' Safety Data Sheets (SDS), approved PPPL policies, procedures, and requirements of the ES&amp;H Manual.</i> |         |
| 20. | Pesticide Use  | 20. No  |
| 21. | Hazardous, Toxic, or Criteria Pollutant Air Emissions (EWM-007, Environmental Air Permitting and Monitoring Requirements, EWM-008, Management of Stratospheric Ozone Depleting Substances, Non-Exempt Refrigerants, and Associated Equipment)  | 21. Yes |
|     | <i>Small air emissions from experiments would be limited and would be conducted in accordance with applicable state and federal regulations, applicable permits, and DOE and PPPL requirements.</i>  |         |
| 22. | Liquid Effluent (PLN-016, Environmental Monitoring Plan, Section 4 Water Plan)   | 22. Yes |
|     | <i>Small amounts of liquid effluents are possible from some experiments. All such effluents would be limited in accordance with existing PPPL procedures and relevant state and federal requirements.</i>  |         |
| 23. | Underground Injection  | 23. No  |
| 24. | Hazardous Waste (ESHD 5008, Section 7, Waste Management; EWM-001, Hazardous Waste Management)  | 24. Yes |
|     | <i>Small amounts of hazardous waste (e.g., solvent rags used for cleaning components) may be generated by some experiments and would be disposed of by the PPPL Waste Management Group in accordance with existing PPPL procedures and relevant state and federal requirements.</i>                    |         |
| 25. | Underground Storage Tanks  | 25. No  |
| 26. | Radioactive (AEA) Mixed Waste  | 26. No  |
| 27. | Radioactive Waste (ESHD 5008, Section 7, Waste Management)   | 27. Yes |
|     | <i>Small amounts of low-level radioactive waste may be generated by a few experiments, which would be handled and disposed of by the PPPL Waste Management Group in accordance with existing PPPL procedures and relevant state and federal requirements.</i>  |         |
| 28. | Radiation Exposures (ESHD 5008, Section 10, Radiation Safety)  | 28. Yes |
|     | <i>The potential may exist for small radiation exposures of workers for a few experiments. Any such exposures will be controlled in accordance with existing PPPL procedures with the support of the PPPL Health Physics Division.</i>   |         |

**C. Other Relevant Disclosures. Would the proposed action involve the following?**

(Activities would be evaluated for any permit requirement(s) and project implementation would not commence until necessary permit(s)/concurrence(s) are obtained.)

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|-----|--|----------------------|
|     |  | <b><u>Yes/No</u></b> |
| 29. | A threatened violation of ES&H regulations/permit requirements   | 29. No               |
|     | <i>The requirements of 10CFR851 (as implemented under the DOE-approved PPPL Worker Safety and Health Program) would be applied to work at PPPL under this proposed action.</i> |                      |
| 30. | Siting/Construction/Major Modification of Waste Recovery, or TSD   | 30. No               |

- Facilities
- |     |  |         |
|-----|--|---------|
| 31. | Disturbance of Pre-existing Contamination  | 31. No  |
|     | <i>Note: Excavations that encounter contaminated ground water require a permit.</i>  |         |
| 32. | New or Modified Federal/State Permits (EWM-007, Air Environmental Permitting and Monitoring Program Requirements)  | 32. Yes |
|     | <i>Some experimental activities may involve modifications to existing federal and state permit requirements (e.g., air permits), which would be accomplished by the PPPL Environmental Services Division using existing PPPL procedures.</i> |         |
| 33. | Public controversy   | 33. No  |
| 34. | Action/involvement of Another Federal Agency (e.g. license, funding, approval)   | 34. No  |
| 35. | Action of a State Agency in a State with NEPA-type law.<br>(Does the State Environmental Quality Review Act Apply?)  | 35. No  |
| 36. | Public Utilities/Services  | 36. No  |
| 37. | Depletion of a Non-Renewable Resource  | 37. No  |

IV. **Review Determination:** Is the project/activity appropriate for a determination under Sections 2.1 and 2.2 of the DOE NEPA Implementing Procedures?

**DOE-PSO NEPA Compliance Officer (NCO) Review:**

Concurrence with Proposed Class of Action Recommended

**CX**

EA

EIS

Categories:

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

For Categorical Exclusions (CXs):

For the DOE procedures regarding categorical exclusions, including the full text of each categorical exclusion, see 10 CFR 1021.102 and Appendix B to [10 CFR Part 1021](#), and also Section 5.4 (Applying one or more categorical exclusions to a proposal) and Appendices B and C of [DOE's National Environmental Policy Act Implementing Procedures](#) (June 30, 2025).

Requirements and guidance in 10 CFR 1021.102 and DOE's NEPA Implementing Procedures:  
(See full text in regulation and in Implementing Procedures)

- ☒ The proposal fits within a class of actions that is listed in Appendix B to 10 CFR Part 1021 or Appendix B and C of DOE's NEPA Implementing Procedures (June 30, 2025).

To fit within the classes of actions listed in Appendix B to 10 CFR Part 1021, or Appendix B of DOE's NEPA Implementing Procedures, a proposal must satisfy the conditions that are integral elements of the classes of actions in Appendix B of both 10 CFR Part 1021 and DOE's NEPA Implementing Procedures.

- ☒ There are no extraordinary circumstances related to the proposal that may affect the significance of the environmental effects of the proposal. DOE or an applicant may modify the

proposal to avoid reasonably foreseeable adverse significant effects such that the categorical exclusion would apply.

☒ The proposal has not been segmented to meet the definition of a categorical exclusion.

[Note: For proposals that fit within the categorical exclusions listed in Appendix C of DOE's NEPA Implementing Procedures, see DOE's notice of adoption for the subject Appendix C categorical exclusion for additional considerations. DOE notices of adoption for other agency categorical exclusions may be found on [DOE's Section 109 webpage](#).]

V. **DOE Recommendation Approval:**

PSO Staff: Tracy Estes

Signature: \_\_\_\_\_

TRACY ESTES

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Date: \_\_\_\_\_

SC GLD: Michelle R. McKown

Signature: \_\_\_\_\_

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VI. **NEPA Compliance Officer CX Determination and Approval:**

**Based on my review of information conveyed to me and in my possession (or attached) concerning the proposed action, as NEPA Compliance Officer, I have determined that the proposed action fits within the specified class of actions, the other regulatory requirements set forth above are met, and the proposed action is hereby categorically excluded from further NEPA review.**

PSO NCO: Jayashree Jayaraj

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

NCO Comments: