

Environmental Review Form for Argonne National Laboratory

Click on the blue question marks (?) for instructions, contacts, and additional information on specific line items.

(?) **Project/Activity Title:** Operation of 3 MeV electron Van de Graaff Accelerator (CSE059)

(?) **ASO NEPA Tracking No.** ASO-CX-258 (?) **Type of Funding:** Operation funds
B&R Code _____

(?) **Identifying number:** _____ WFO proposal # _____ CRADA proposal # _____
Work Project # _____ ANL accounting # (item 3a in Field Work Proposal) _____
Other (explain) _____

(?) **Project Manager:** George Vandegrift Signature: [Signature] Date: 12/2/09

(?) **NEPA Owner:** Roberta Riel Signature: [Signature] Date: 12/2/09

ANL NEPA Reviewer: M. A. Kamiya Signature: [Signature] Date: 12/3/2009

I. (?) Description of Proposed Action: This review covers the operation and maintenance of 3-MeV Van De Graaf electron accelerator as needed to meet program needs. The accelerator will be operated and maintained within approved and authorized limits.

II. (?) Description of Affected Environment: The 3 MeV Van de Graaff electron accelerator is an existing facility maintained and operated by the CSE Division to study radiation induced effects in solid, liquid and gaseous samples. The accelerator facility is located in Building 211, room E-046 and utilizes a closed loop cooling water system and a one pass air ventilation system. The energy of the generating electrons is low enough so that no radioactivity can be induced in common materials. There are only two exceptions: nuclei which have low enough thresholds. These two (D and Be) are administratively excluded from experiments per the Safety Assessment Document.

III. (?) Potential Environmental Effects: (Attach explanation for each "yes" response. See Instructions for Completing Environmental Review Form)

A. Complete Section A for all projects.

1. (?) Project evaluated for Pollution Prevention and Waste Minimization opportunities and details provided under items 2, 4, 6, 7, 8, 16, and 20 below, as applicable Yes No
2. (?) Air Pollutant Emissions Yes No
3. (?) Noise Yes No
4. (?) Chemical Storage/Use Yes No

Small amounts of chemicals are used in experiments (typically < 100 ml). Experimental and analytical samples are usually prepared elsewhere and are returned after irradiation. Small amounts of common solvents are used for cleaning of vacuum equipment and stored in flammable liquid cabinet.

5. (?) Pesticide Use Yes No

- 6. (?) Polychlorinated Biphenyls (PCBs) Yes ___ No X
- 7. (?) Biohazards Yes ___ No X
- 8. (?) Liquid Effluent (wastewater) Yes ___ No X
- 9. (?) Waste Management
 - a) Construction or Demolition Waste Yes ___ No X
 - b) Hazardous Waste Yes ___ No X
 - c) Radioactive Mixed Waste Yes ___ No X
 - d) Radioactive Waste Yes ___ No X
 - e) PCB or Asbestos Waste Yes ___ No X
 - f) Biological Waste Yes ___ No X
 - g) No Path to Disposal Waste Yes ___ No X
 - h) Nano-material Waste Yes ___ No x
- 10. (?) Radiation Yes X No ___

3MeV Van de Graaff accelerator can produce ionizing radiation (beta, and gamma rays) at the energy up to 3 MeV. The produced fields are contained within sufficient shielding, and interlock systems prevent any personnel being inside the shielded volume during operation.

- 11. (?) Threatened Violation of ES&H Regulations or Permit Requirements Yes ___ No X
- 12. (?) New or Modified Federal or State Permits Yes ___ No X
- 13. (?) Siting, Construction, or Major Modification of Facility to Recover, Treat, Store, or Dispose of Waste Yes ___ No X
- 14. (?) Public Controversy Yes ___ No X
- 15. (?) Historic Structures and Objects Yes ___ No X
- 16. (?) Disturbance of Pre-existing Contamination Yes ___ No X
- 17. (?) Energy Efficiency, Resource Conserving, and Sustainable Design Features Yes ___ No X

B. For projects that will occur outdoors, complete Section B as well as Section A. N/A

- 18. (?) Threatened or Endangered Species, Critical Habitats, and/or other Protected Species Yes ___ No ___
- 19. (?) Wetlands Yes ___ No ___
- 20. (?) Floodplain Yes ___ No ___
- 21. (?) Landscaping Yes ___ No ___
- 22. (?) Navigable Air Space Yes ___ No ___
- 23. (?) Clearing or Excavation Yes ___ No ___

- 24. (?) Archaeological Resources Yes ___ No ___
- 25. (?) Underground Injection Yes ___ No ___
- 26. (?) Underground Storage Tanks Yes ___ No ___
- 27. (?) Public Utilities or Services Yes ___ No ___
- 28. (?) Depletion of a Non-Renewable Resource Yes ___ No ___

C. For projects occurring outside of ANL complete Section C as well as Sections A and B. *N/A*

- 29. (?) Prime, Unique, or Locally Important Farmland Yes ___ No ___
- 30. (?) Special Sources of Groundwater (such as sole source aquifer) Yes ___ No ___
- 31. (?) Coastal Zones Yes ___ No ___
- 32. (?) Areas with Special National Designations (such as National Forests, Parks, or Trails) Yes ___ No ___
- 33. (?) Action of a State Agency in a State with NEPA-type Law Yes ___ No ___
- 34. (?) Class I Air Quality Control Region Yes ___ No ___

IV. (?) Subpart D Determination: (to be completed by DOE/ASO)

Are there any extraordinary circumstances related to the proposal that may affect the significance of the environmental effects of the proposal? Yes ___ No X

Is the project connected to other actions with potentially significant impacts or related to other proposed action with cumulatively significant impacts? Yes ___ No X

If yes, is a categorical exclusion determination precluded by 40 CFR 1506.1 or 10 CFR 1021.211? Yes ___ No ___

Can the project or activity be categorically excluded from preparation of an Environment Assessment or Environmental Impact Statement under Subpart D of the DOE NEPA Regulations? Yes X No ___

If yes, indicate the class or classes of action from Appendix A or B of Subpart D under which the project may be excluded. *B.3.10 Operation / Maintenance of particle accelerators w/ primary beam energy of less than 100 MeV.*

If no, indicate the NEPA recommendation and class(es) of action from Appendix C or D to Subpart D to Part 1021 of 10 CFR.

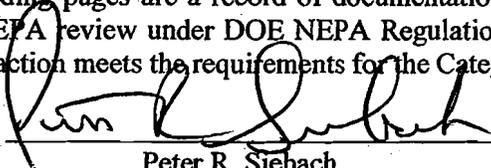
ASO NEPA Coordinator Review: Ken Chiu

Signature: *Ken Chiu*

Date: 12/15/09

ASO NCO Approval of CX Determination:

The preceding pages are a record of documentation that an action may be categorically excluded from further NEPA review under DOE NEPA Regulation 10 CFR Part 1021.400. I have determined that the proposed action meets the requirements for the Categorical Exclusion identified above.

Signature: 
Peter R. Siebach
Acting Argonne Site Office NCO

Date: 12/16/2009

ASO NCO EA or EIS Recommendation: N.A.

Class of Action: _____

Signature: _____
Peter R. Siebach
Acting Argonne Site Office NCO

Date: _____

Concurrence with EA or EIS Recommendation:

CH GLD: _____

Signature: _____

Date: _____

ASO Manager Approval of EA or EIS Recommendation:

An _____ EA _____ EIS shall be prepared for the proposed _____ and
_____ shall serve as the document manager.

Signature: _____
Ronald J. Lutha
Site Manager

Date: _____