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**: Indoor Bench-Scale Research Projects and Conventional Laboratory Operations

(?)**ASO NEPA Tracking No**. ASO-CX-265 (?)**Type of Funding**: DOE, WFO, or CRADA
Replaces AAO-CX-160 B&R Code _____

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

(?)**Project Manager**: n/a Signature: n/a Date: _____

(?)**NEPA Owner**: D. Haugen Signature: David G Haugen Date: 3/30/2010

(?)**NEPA Owner**: G. Dyrkacz Signature: Greg Dyrkacz Date: 3/30/2010

(?)**NEPA Owner**: R. Riel Signature: Roberta Riel Date: 3/30/2010

ANL NEPA Reviewer: *M. A. Kamiya* Signature: M. A. Kamiya Date: 3/30/2010

I. (?)Description of Proposed Action:

All proposed actions will be indoor bench-scale research projects and conventional laboratory operations conducted in existing buildings at Argonne. Specifically, bench-scale chemical, biological, and physical studies, experiments and related activities including the assembly/ disassembly of experimental instrumentation and research equipment are within the scope of the proposed actions. However, construction work including the installation of utilities and minor modifications in existing laboratory spaces needed to prepare for bench-scale research must be documented through a Site-Wide Installation/Maintenance Activity Categorical Exclusion determination.

This categorical exclusion determination does not apply to the following activities:

- Research activities that take place in areas or laboratories of historical significance unless these activities are excluded by the Argonne Cultural Resources Management Plan with the Illinois Historical Preservation Agency. See the guidance on historically significant buildings and exclusions in number 15.
- Research activities that require major building renovations or additions.
- Research activities that require either: for nuclear facilities, a new or revised Documented Safety Analysis(es), or for accelerator facilities a new or revised Safety Assessment Document(s).
- Biosafety level (BSL) work. For coverage of BSL work please refer to ASO-CX-229 for the requirements.
- Research activities that generate "No Path Forward" wastes.
- Research activities that emit a radioactive emission not included in the Argonne Title V permit.
- Research activities that require new or modified regulatory permits.

- Pilot-scale or production activities to verify a concept or demonstrate a process.
- Any research experiment, measurement, or test that would use more than five gallons of liquid chemicals or five pounds of solid chemicals. See the storage requirement for acutely hazardous waste in Section III, Chemical Use and Waste Management.
- Management of petroleum or non-petroleum products such as motor oil or vegetable oil equal to or greater than 30 gallons.
- Construction of new emissions sources that are not bench-scale R&D or that involves radioactive emissions.

II. (?)**Description of Affected Environment:**
All proposed activities will be conducted indoors in existing bench-scale laboratory spaces.

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 describe the opportunities and activities in items 2, 4, 6, 7, 8, 16, and 20 below, as applicable. Yes X No ____

2. (?)Air Pollutant Emissions Yes X No ____
Some bench-scale research activities may emit low levels of hazardous air pollutants or criteria pollutants but are considered an insignificant activity under the Argonne Title V permit. Radionuclides can be used if they are currently permitted for use.

3. (?)Noise Yes X No ____
None of the proposed research activities will increase outdoor noise levels over background. Experimental equipment assembly work allowed under this categorical exclusion may generate intermittent noise levels that would require ear protection.

4. (?)Chemical Storage/Use Yes X No ____
The proposed activities may involve the use and storage of chemicals. The amount of chemicals used in a single experiment, measurement, or test will be limited to five gallons of hazardous liquid and five pounds of hazardous solid. The production, acquisition, storage, or use of chemicals will follow the requirements outlined in applicable LMS procedures. This includes following the import/export requirements under the TSCA procedures. The proposed activities may involve the use and storage of nanomaterials. Low and Medium category nanomaterials are allowed as part of this CX. The High and Very High categories must be approved by ESQ-IH in accordance with LMS PROC-83, ANL-820 and the applicable Work Planning and Control processes. Any change in the project requires a review of the NEPA documentation. If project scope changes are identified, new NEPA documentation is required.

5. (?)Pesticide Use Yes X No ____
The proposed activities may involve the use of pesticides for research. The material will follow the applicable LMS procedures of use, storage and disposal. Application of pesticides is covered under the Miscellaneous Routine Custodial Activities (ARG-CX-121).

6. (?) Polychlorinated Biphenyls (PCBs) Yes X No ___
Any PCBs associated with the proposed activities will be limited to use of analytical standards and work with laboratory scale quantities of PCB-contaminated materials. PCB material and PCB contaminated items such as instruments and equipment will be transported, labeled, stored, and disposed in accordance with the requirements outlined in applicable LMS procedures.

7. (?) Biohazards Yes ___ No X

8. (?)Liquid Effluent (wastewater) Yes X No ___
The proposed activities may generate liquid effluent but only in areas for which there are proper drainage connections to ANL wastewater treatment systems. Potential radioactive and non-radioactive chemical laboratory process wastewater will be accumulated, managed, and documented in accordance with the requirements outlined in applicable LMS procedures.

9. (?)Waste Management

a) Construction or Demolition Waste Yes ___ No X

b) Hazardous Waste Yes X No ___
The proposed activities may involve generation of hazardous waste. The waste will be accumulated, managed, and documented in accordance with the requirements outlined in applicable LMS procedures for the proper labeling, storage, inspection, and handling of waste. Acutely Hazardous Waste storage is limited to 1 quart in a Satellite Accumulation Area. Generators will consult with Waste Management personnel for storage of acutely hazardous waste and before the generation of unusual or difficult waste streams. Personnel who generate waste and those who prepare waste requisitions are required to complete the chemical waste generator training in accordance with the requirements outlined in applicable LMS procedures.

c) Radioactive Mixed Waste Yes X No ___
The proposed activities may involve generation of radioactive mixed waste. The waste will be accumulated, managed, and documented in accordance with the requirements outlined in applicable LMS procedures. Contact the Waste Management personnel before the waste is generated. Personnel who generate waste and those who prepare waste requisitions are required to complete the chemical waste generator and radioactive waste generator training in accordance with the requirements outlined in applicable LMS procedures.

d) Radioactive Waste Yes X No ___
The proposed activities may involve generation of radioactive waste. The waste will be accumulated, managed, and documented in accordance with the requirements outlined in applicable LMS procedures. Generators will consult with Waste Management personnel before the generation of unusual or difficult waste

streams. Personnel who generate waste and those who prepare waste requisitions are required to complete the required radioactive waste generator training in accordance with the requirements outlined in applicable LMS procedures.

e) PCB or Asbestos Waste — Yes X No ____
The proposed activities may involve generation of PCB or asbestos waste. The waste will be accumulated, managed, and documented in accordance with the requirements outlined in applicable LMS procedures. Generators will consult with Waste Management Industrial Hygiene personnel before the generation of these waste streams. Personnel who generate waste and those who prepare waste requisitions are required to complete the chemical waste generator training in accordance with the requirements outlined in applicable LMS procedures.

f) Biological Waste — Yes X No ____
The proposed activities may generate biological waste. The waste will be accumulated, managed, and documented in accordance with the requirements outlined in applicable LMS procedures. Generators will consult with Waste Management personnel before the generation of this waste. Personnel who generate waste and those who prepare waste requisitions are required to complete the chemical waste generator training in accordance with the requirements outlined in applicable LMS procedures.

g) No Path to Disposal Waste — Yes ____ No X

h) Nano-material Waste — Yes X No ____
The proposed activities may generate nanomaterial waste. The waste will be accumulated, managed, and documented in accordance with the requirements outlined in WASTE-3.3 (Hazardous Wastes – Disposal Procedures) which describes how to plan and handle project waste, and WASTE-5.4 (Special Guidelines – Management and Packaging of Engineered Nanomaterials for Disposition); and the successor LMS laboratory-wide documents with equivalent content. Personnel who generate waste and those who prepare waste requisitions are required to complete the required nanomaterial orientation training in accordance with the requirements outlined in applicable LMS procedures.

10. (?)Radiation — Yes X No ____
The proposed activities may involve use of radioactive materials or radiation-generating devices. Radiological protection will be provided in accordance with LMS procedures ESH-5.1 to ESH-5.27 (ionizing radiation) and ESH-6.1 to ESH-6.3 (non-ionizing radiation), and their respective successors. Planned radiation exposures will follow the principle of "As Low as Reasonably Achievable" and will not exceed the Argonne administrative limits.

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
These factors will be considered in the planning stage of the proposed research activities. — Yes X No ____

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. B3.6 Siting/operations of facilities for indoor bench-scale research projects and conventional laboratory operations.

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: [signature] Date: 3/30/10

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: [signature] Date: 4/5/10

Peter R. Siebach
Acting Argonne Site Office NCO

ASO NCO EA or EIS Recommendation: ~~N/A~~

Class of Action: ~~_____~~

Signature: ~~_____~~ Date: ~~_____~~

~~Peter R. Siebach~~
~~Acting Argonne Site Office NCO~~

Concurrence with EA or EIS Recommendation: N.A.

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: _____ Date: _____

Dr. Joanna M. Livengood
Acting Manager