

U. S. DEPARTMENT OF ENERGY
OFFICE OF SCIENCE -- CHICAGO OFFICE

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)
ENVIRONMENTAL EVALUATION NOTIFICATION FORM

To be completed by "financial assistance award" organization receiving Federal funding. For assistance (including a point of contact), see "Instructions for Preparing SC-CH F-560, Environmental Evaluation Notification Form".

Solicitation/Award No. (if applicable): N/A

Organization Name: New Brunswick Laboratory (NBL)

Title of Proposed Project/Research: GENERIC CATEGORICAL EXCLUSION (CX) FOR THE NBL: Indoor Bench Scale Research Projects and Conventional Laboratory Operations

Total DOE Funding/Total Project Funding: _____

I. Project Description (use additional pages as necessary):

A. Proposed Project/Action (delineate Federally funded/Non-Federally funded portions)

The New Brunswick Laboratory (NBL) is a government-owned and operated analytical laboratory which serves as the nation's certifying authority for nuclear reference materials. NBL is also a Center of Excellence in the measurement science of nuclear materials. All activities within NBL are conventional analytical chemistry operations and some chemistry method development activities. No industrial processes take place. Specific activities performed include analyses of uranium and plutonium via bench-top wet chemistry and mass spectrometry, supplying expert personnel to assist as independent Federal technical staff on audits and inspections in support of multiple program sponsors, and serving as an independent 'referee' lab to evaluate/resolve inventory or shipper-receiver differences in nuclear material quantities.

NBL prepares (and/or oversees the preparation of), certifies and distributes nuclear reference materials traceable to nationally or internationally accepted reference bases. These materials are used worldwide to calibrate measurement instruments or methods, as quality assurance materials on production lines, or for proficiency testing and qualification of laboratory methods. NBL currently provides more than 50 Certified Reference Materials (CRMs), which are used by safeguards authorities, universities, governmental facilities, production facilities, and agencies throughout the world.

The following material types are currently offered, typically in small (<1g) quantities: uranyl nitrate solutions, uranium oxide pellets and powders (UO₂, UO₃, and U₃O₈), uranium metal, uranium hexafluoride, plutonium sulfate, plutonium nitrate and plutonium metal, and thorium oxide.

This categorical exclusion determination does not apply to the following activities: Research activities that require major building renovations or which might impact historic structures or equipment; Bio-hazard work classified as bio-safety level 2 or above; Research activities that generate "No Path Forward" waste; Pilot scale or production activities to verify a concept or demonstrates a process; Research activates that require new or modified regulatory permit; and Pilot scale or production activities to verify a concept or demonstrates a process.

B. Would the project proceed without Federal funding?

If "yes", describe the impact to the scope:

II. Description of Affected Environment:

All proposed activities will be conducted indoors in existing certified bench scale laboratory spaces and will have a minimal impact, if any, to the environment. NBL has an Environmental Management System (EMS) which serves to minimize the impact to the environment from NBL operations and to continually improve environmental stewardship. Hazardous, radioactive and mixed wastes will be disposed of per Federal/State regulations and in accordance with the Argonne National Laboratory (ANL) Waste Handling Procedures Manual, ANL procedures, the NBL Environment, Safety and Health (ESH) Manual, and NBL procedures.

III. Preliminary Questions:

- | | | |
|---|--------------------------|-------------------------------------|
| | Yes | No |
| A. <u>Is the DOE-funded work <i>entirely</i> a "paper study"?</u> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

If "Yes", ensure that the description in Section I reflects this and go directly to Section V.

- | | | |
|---|-------------------------------------|--------------------------|
| B. <u>Will the work to be performed take place <i>entirely</i> in existing buildings?</u> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|-------------------------------------|--------------------------|

And NOT:

- | | | |
|--|-------------------------------------|--------------------------|
| 1. Threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Require the siting, construction or major expansion of waste treatment, storage, or disposal facilities? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Disturb hazardous substances, pollutants, or contaminants preexisting in the environment? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 4. Adversely affect environmentally-sensitive resources identified in Section IV.A.? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 5. Be connected to another existing/proposed activity that could potentially create a cumulatively significant impact? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 6. Have an inherent <i>possibility</i> for high consequence impacts to human health or the environment (e.g., Bio-safety Level 3-4 laboratories, activities involving high levels of radiation)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

If "Yes" to Question III.B. and ALL six subsequent questions, ensure the descriptions in Sections I and II reflect this and go directly to Section V.

IV. Potential Environmental Effects:

Attach/insert an explanation for each "Yes" response.

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

- | | | |
|--|--------------------------|-------------------------------------|
| | Yes | No |
| 1. Threatened/Endangered Species and/or Critical Habitats | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Other Protected Species (e.g., Burros, Migratory Birds) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. Sensitive Environments (e.g., Tundra/Coral Reefs/Rain Forests) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 4. Archaeological/Historic Resources | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5. Important Farmland | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 6. Non-Attainment Areas for Ambient Air Quality Standards | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 7. Class I Air Quality Control Region | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 8. Special Sources of Groundwater (e.g. Sole Source Aquifer) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 9. Navigable Air Space | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 10. Coastal Zones | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 11. Areas with Special National Designation (e.g. National Forests, Parks, Trails) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 12. Floodplains and Wetlands | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

- B. Regulated Substances/Activities: Will the proposed action involve any of the following regulated items or activities?

- | | | |
|---|--------------------------|-------------------------------------|
| | Yes | No |
| 13. Natural Resource Damage Assessments | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 14. Exotic Organisms | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 15. Noxious Weeds | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 16. Clearing or Excavation (indicate if greater than one acre) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 17. Dredge or Fill (under Clean Water Act, Section 404, indicate if greater than ten acres) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

B. Regulated Substances/Activities: Will the proposed action involve any of the following regulated Items or activities? (continued)

		Yes	No
18.	Noise (in excess of regulations)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
19.	Asbestos Removal	<input type="checkbox"/>	<input checked="" type="checkbox"/>
20.	PCB's	<input type="checkbox"/>	<input checked="" type="checkbox"/>
21.	Import, Manufacture, or Processing of Toxic Substances	<input type="checkbox"/>	<input checked="" type="checkbox"/>
22.	Chemical Storage/Use The proposed activities may involve the use and storage of chemicals. Chemicals are typically small quantities (less than or equal to 1 liter). All chemicals are handled according to the NBL Chemical Hygiene Plan. In the event that chemicals are stored and/or used in quantities greater than or equal to those listed in 40 CFR Parts 355 and 372 will be identified as part of the Laboratory's Environment, Safety and Health (ES&H) Review process prior to the start of the activity.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
23.	Pesticide Use	<input type="checkbox"/>	<input checked="" type="checkbox"/>
24.	Hazardous, Toxic, or Criteria Pollutant Air Emissions Some bench scale laboratory operations may emit low levels of hazardous air pollutants (e.g. radionuclide air emissions) or criteria pollutants as defined by the Clean Air Act. Given the limited quantities of materials used in bench scale laboratory operations, emissions will not have a significant impact on the environment. NBL operations involving radionuclide air emissions must go through the Laboratory's ES&H Review process prior to their start. ANL is the permittee for the Title 5 (Clean Air Act Permit Program) Permit No. 043802AAA. As part of the ANL site, NBL is covered under the permit. As required by the permit, annually NBL prepares a radionuclide emissions report and a permit compliance certification.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
25.	Liquid Effluents The proposed activities that generate liquid effluent are subject to the ES&H Review process prior to their start. The NBL ESH Manual and procedures prohibit the disposal of hazardous materials and chemicals in any drains. No water shall be released to any storm water sewer system. ANL is the permittee for the National Permit Discharge Elimination System (NPDES) Permit No. IL0034592. As part of the ANL site, NBL is covered under the permit.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
26.	Underground Injection	<input type="checkbox"/>	<input checked="" type="checkbox"/>
27.	Hazardous Waste The proposed activities will generate small quantities of hazardous waste. Waste streams are identified as part of the ES&H review process prior to waste generation. Waste will be accumulated, managed, and documented in accordance with the ANL Waste Handling Procedures Manual, ANL procedures, the NBL ESH Manual and NBL procedures. ANL, as having hazardous waste treatment, storage and disposal (TSD) activities, is the permittee for the Resource Conservation and Recovery Act (RCRA) Permit No. IL3 890 008 946. NBL is not a TSD and thus does not have a RCRA permit. NBL generates and stores hazardous waste in accordance with 40 CFR Parts 260-262.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
28.	Underground Storage Tanks	<input type="checkbox"/>	<input checked="" type="checkbox"/>
29.	Radioactive Mixed Waste The proposed activities will generate small quantities of radioactive mixed waste. Waste streams are identified as part of the ES&H review process prior to the generation of waste. Waste will be accumulated, managed, and documented in accordance with 40 CFR Parts 260-262, DOE O 435.1, the ANL Waste Handling Procedures Manual, ANL procedures, the NBL ESH Manual and NBL procedures. NBL characterizes the waste and submits waste requisitions to ANL. After ANL approves the waste requisitions, the waste is removed from NBL by ANL. ANL ships the waste for disposal in accordance with 40 CFR Parts 100-185.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
30.	Radioactive Waste The proposed activities will generate radioactive waste. Waste streams are identified as part of the ES&H review process prior to waste generation. Waste will be packaged, characterized and documented in accordance with DOE O 435.1, the ANL Waste Handling Procedures Manual, ANL procedures, the NBL ESH Manual,	<input checked="" type="checkbox"/>	<input type="checkbox"/>

and NBL procedures. NBL characterizes the waste and submits waste requisitions to ANL. After ANL approves the waste requisitions, the waste is removed from NBL by ANL. ANL ships the waste for disposal in accordance with 40 CFR Parts 100-185. All NBL waste generators are required to take Radioactive Waste Generator training.

- | | | | |
|-----|--|-------------------------------------|-------------------------------------|
| 31. | Radiation Exposure
The proposed activities may involve use of radioactive materials or radiation-generating devices. Radiological protection will be provided according to the NBL Radiation Protection Plan and NBL procedures. Planned radiation exposures will follow the principle of "As Low As Reasonably Achievable" and will not exceed the NBL administrative limits. Radiation hazards are identified as part of the ES&H Review process. | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 32. | Surface Water Protection | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 33. | Pollution Prevention Act
NBL is committed to pollution prevention through its Environmental Policy and the EMS. Sustainable acquisition and material recycling is used when it is feasible or practical to do so. | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 34. | Ozone Depleting Substances | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 35. | Off-Road Vehicles | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 36. | Bio-safety Level 3-4 Laboratory | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

C. Other Relevant Information: Will the proposed action involve the following?

- | | Yes | No |
|---|-------------------------------------|-------------------------------------|
| 37. Potential Violation of Environment, Safety, or Health Regulations/Permits | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 38. Siting/Construction/Major Modification of Waste Recovery, or Waste Treatment, Storage, or Disposal Facilities | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 39. Disturbance of Pre-existing Contamination | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 40. New or Modified Federal/State Permits | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 41. Public Controversy | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 42. Environmental Justice | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 43. Action/Involvement of Another Federal Agency (e.g. license, funding, approval) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 44. Action of a State Agency in a State with NEPA-type law. (Does the State Environmental Quality Review Act apply?) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 45. Public Utilities/Services | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 46. Depletion of a Non-Renewable Resource | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 47. Extraordinary Circumstances | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 48. Connected Actions | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 49. Exclusively Bench-top Research
All laboratory operations are non-production activities. Activities are small scale (bench-top) and are carried out in an NBL laboratory setting in an existing building. | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 50. Only a Laboratory Setting
Activities will be conducted in an existing NBL laboratory. No new facilities/buildings will be built for a single project. | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

V. Financial Assistance Award Organization Concurrence:

A. Organization Official (Name and Title): N/A

Signature: _____ Date: _____

e-mail: _____ Phone: _____

B. Optional Concurrence (Name and Title): N/A

Signature: _____ Date: _____

e-mail: _____ Phone: _____

Remainder to be completed by SC-CH

VI. SC-CH Concurrence/Recommendation/Determination:

A. SC-CH Office of Acquisition and Assistance or Office of Safety, Technical & Infrastructure Services:

Project Director or Contract Specialist (Name and Title): Heidi Williams, Environmental Protection Specialist

Signature: *Heidi Williams* Date: 6/8/12

B. SC-CH NEPA Team Review:

Is the project/activity appropriate for a determination or a recommendation to the Head of the Field Organization by the NEPA Compliance Officer (NCO) under Subpart D of the DOE NEPA Regulations?

Yes No

Specific class(es) of action from Appendices A-D to Subpart D (10 CFR 1021): CX Category B3.6

Name and Title: _____

Signature: _____ Date: _____

C. SC-CH Counsel (if necessary):

Name and Title: Michelle R. McKown

Signature: *Michelle R. McKown* Date: 6/8/12

D. SC-CH NEPA Compliance Officer:

The preceding pages are a record of documentation required under DOE Final NEPA Regulation, 10 CFR 1021.400.

- Action may be categorically excluded from further NEPA review. I have determined that the proposed Action meets the requirements for Categorical Exclusion referenced above.
- Action requires approval by Head of the Field Organization. Recommend preparation of an Environmental Assessment.
- Action requires approval by Head of the Field Organization or a Secretarial Officer. Recommend preparation of an Environmental Impact Statement.

Comments/Limitations if necessary:

Signature: *Peter R. Siebach* Date: 6/8/12
Peter R. Siebach
SC-CH NEPA Compliance Officer