



## Department of Energy

Argonne Site Office  
9800 South Cass Avenue  
Argonne, Illinois 60439

JUL 05 2013

Dr. Eric Isaacs  
Director, Argonne National Laboratory  
President, UChicago Argonne, LLC  
9700 South Cass Avenue  
Argonne, IL 60439

Dear Dr. Isaacs:

SUBJECT: NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) DETERMINATION FOR  
ARGONNE NATIONAL LABORATORY (ARGONNE)

The Argonne Site Office (ASO) has approved the following as a categorical exclusion (CX) under the category of B 1.15: Siting/construction/operation of support buildings and structures within or contiguous to an already developed area:

- 200 Area Chilled Water System Expansion (ASO-CX-296)

Therefore, no further NEPA review is required. However, if any modification or an expansion of the scope is made to the above project, additional NEPA review will be necessary.

Soil erosion should be controlled to prevent spoils from entering the known wetlands and 100-year flood plains. No archaeologically significant materials were found in the previous investigation. However, further coordination with the Illinois State Historic Preservation Officer will be required for concurrence.

Enclosed please find a copy of the approved Environmental Review Form (ERF) for this project. If you have any questions, please contact my Kaushik Joshi of my staff at (630) 252-4226.

Sincerely,

A handwritten signature in cursive script that reads "Joanna M. Livengood".

Joanna M. Livengood  
Manager

Enclosure:  
As Stated

cc: J. Stauber, ANL, w/encl.  
M. Finder, ANL, w/encl.  
J. Sims, ANL, w/encl.  
S. Heston, ASO, w/encl.  
K. Burnett, ASO, w/encl.  
K. Joshi, ASO, w/encl.  
M. McKown, SC-CH, 201, w/encl.  
P. Siebach, SC-CH, 201, w/encl.

## Environmental Review Form for Argonne National Laboratory

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

**Project/Activity Title:** 200 Area Chilled Water System Expansion

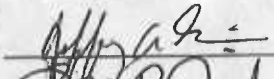
**ASO NEPA Tracking No.** ASO CX-296 **Type of Funding:** IGPP

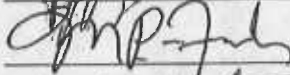
**B&R Code** \_\_\_\_\_

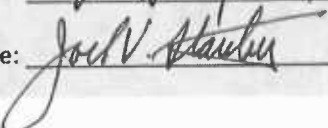
**Identifying number:** OPS #01312 **WFO proposal #** \_\_\_\_\_ **CRADA proposal #** \_\_\_\_\_

**Work Project #** 08153 **ANL accounting # (item 3a in Field Work Proposal)** \_\_\_\_\_

**Other (explain) NEPA Log #** 1611

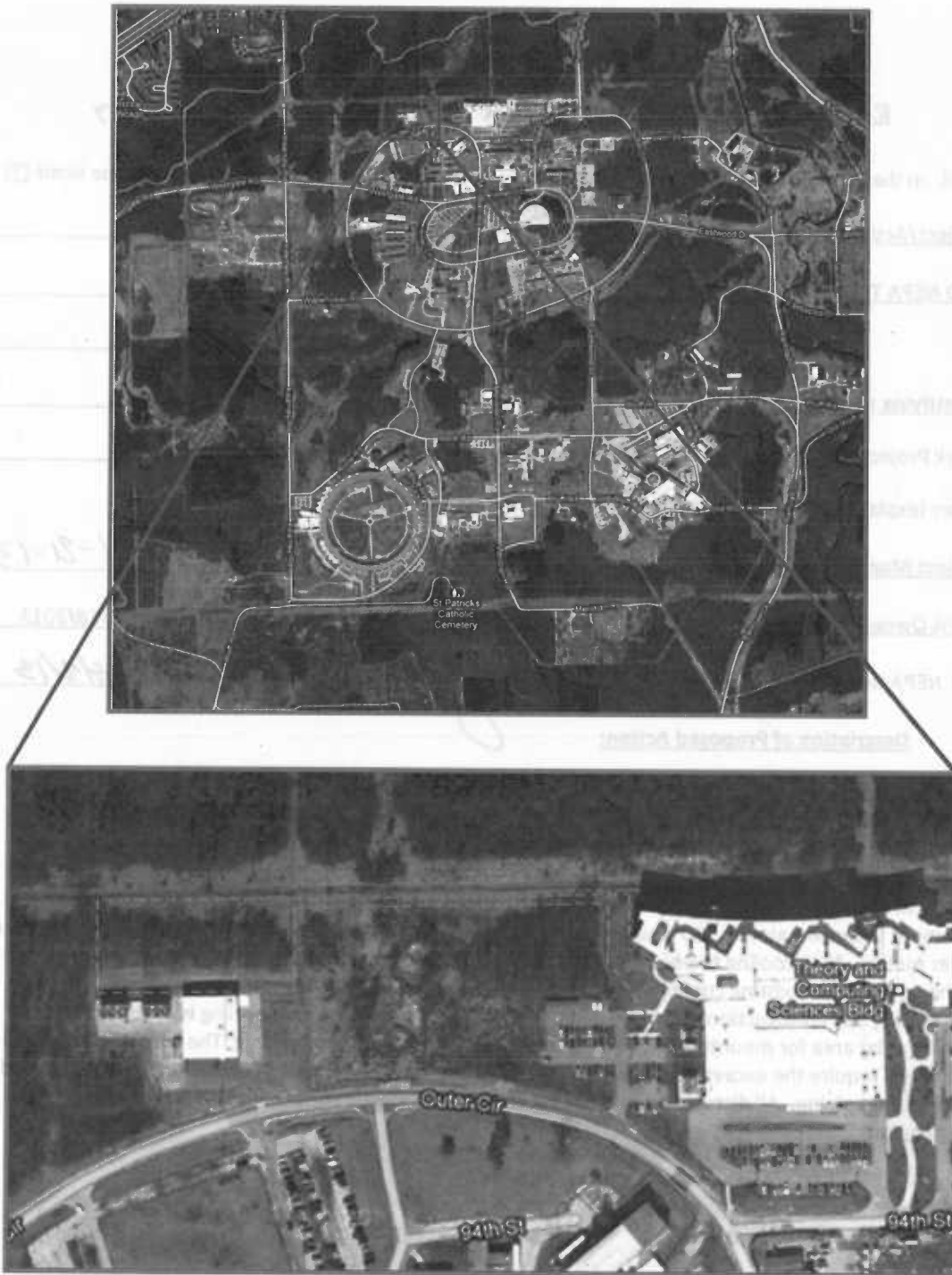
**Project Manager:** Jeff Sims **Signature:**  **Date:** 1-21-13

**NEPA Owner:** M. Finder **Signature:**  **Date:** 1/18/2013

**ANL NEPA Reviewer:** Joel Stauber **Signature:**  **Date:** 4/2/13

### I. Description of Proposed Action:

The 200 Area Chilled Water System Expansion is an infrastructure upgrade intended to bring more power and cooling capabilities to the entire 200 area which houses Argonne's new "Energy Quad" and the Argonne Leadership Computing Facility (ALCF). The project includes a new 5,000 square foot building expansion to the existing Bldg 528 Chilled Water Plant (CWP). The expansion will be located to the north of the existing plant and will match the current precast and CMU construction. A partial basement (approximately 1,500 square feet) will be provided for condenser water piping and condenser water pumps. New cooling tower infrastructure (basins and piping infrastructure) will also be provided to the north of the existing cooling tower enclosure. The existing site was partially disturbed with the original Bldg 528 construction, however additional tree cutting and ground leveling is expected to provide a flat area for mounting the cooling towers and expanding the building. The construction of the facility will require the excavation and removal of soil and clay, placement of concrete foundations, and underground piping. All disturbed areas not receiving an improved surface would be reconstructed using topsoil, grass seed and mulch.



**Figure 1. Project Location for 200 Area Chilled Water Expansion**

**The red lines indicate the location of the Chilled Water Plant Expansion project which includes the small grove of trees to be removed and recycled. Underground piping will be installed between the CWP and TCS on the north side of the wetlands.**

**All activities of this project will stop at the property lines of TCS; connections will be completed through a separate TCS lead program.**

**II. Description of Affected Environment:**

The work at the existing CWP will include construction in both previously disturbed and undisturbed areas. A small grove of trees will be removed and recycled. Storm water management techniques will be employed to ensure no sensitive environmental areas (e.g. wetlands to the east of project site) will be impacted by the construction of the facility.

**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 Yes  No   
opportunities and details provided under items 2, 4, 6, 7, 8, 16, and 20 below, as applicable

Top soils and clay removed from the site will be disposed of off site by the contractor. The project will follow FEMP standards for new facility construction.

2. Air Pollutant Emissions Yes  No

Minor emissions from cars, light-duty vehicles, and larger earth moving equipment will occur during construction. No emissions are expected from this building that will require special permitting.

3. Noise Yes  No

During construction of the new facility, standard construction noises from excavation, cranes, earth moving and other equipment will occur. General noise levels will be well below 85 dba. Any noises above the OSHA standards would require the workers to wear the appropriate personal protective equipment. Standard operation of construction equipment at this site would not disrupt activities of adjacent buildings.

4. Chemical Storage/Use Yes  No

During the construction of the facility, standard construction chemicals and materials requiring MSDS sheets will be stored and used. The materials would be stored in proper containers and protected from spillage per the erosion control plan. During facility operations water treatment chemicals will be used. Chemical storage, handling and emergency procedures will be in accordance with approved plans and approaches proven effective through years of operation at the Bldg 371 central chilled water plant and in effect currently at Bldg 528.

5. Pesticide Use Yes  No

6. Polychlorinated Biphenyls (PCBs) Yes  No

The project is not expected to have contact with any PCB containing parts. However, during design these items will be verified.

7. Biohazards Yes  No
8. Liquid Effluent (wastewater) Yes  No

The result of the construction activities would generate some storm water effluent. Any storm water discharges during construction would be filtered prior to discharge. The concrete washout from the trucks would be collected and recycled at the existing 800 Area recycling station or in temporary washout areas per the erosion control plan. The facility currently discharges approximately 11,000 gallons per day to the lab plant system. This project will increase that discharge to approximately 32,000 gallons per day. Additionally, floor drains in the building will discharge minimal amounts of waste water to the laboratory sewer. No process water shall be discharged to a non-treated system. Storm water from the site shall be managed through the Argonne erosion and stormwater controls protocol. Due to the location of this facility, all storm water shall be discharged onto grass areas and allowed to absorb into the surface. Grass, bio-swailes or detention areas shall be part of the discharge path from the roof of the building and parking lot. A foundation drain sump pump would discharge clean ground water into either the bio-swailes or other grass areas on the site.

9. Waste Management

- a) Construction or Demolition Waste Yes  No

Standard construction debris from construction will occur. Excess concrete, mortar, asphalt, bricks, blocks, clean gravel and earth will be recycled either on site or off site. Other construction debris will be collected and segregated at the job site such as wood, metals, paper, plastic, etc. per HPSB Guiding Principles.

- b) Hazardous Waste Yes  No

During design, these items will be verified.

- c) Radioactive Mixed Waste Yes  No

- d) Radioactive Waste Yes  No

- e) PCB or Asbestos Waste Yes  No

This is modification of new construction (built in 2010). No asbestos materials are present.

- f) Biological Waste Yes  No

g) No Path to Disposal Waste Yes \_\_\_\_\_ No X

h) Nano-material Waste Yes \_\_\_\_\_ No X

10. Radiation Yes \_\_\_\_\_ No X

11. Threatened Violation of ES&H Regulations or Permit Requirements Yes \_\_\_\_\_ No X

During design ES&H representatives will be reviewing the project to identify potential violations of regulations or required permits. At this time, the project has not identified violations of ESH regulations or permit requirements. At most, a review and modification to the sites total lab water discharge permit may be required due to the increase associated with cooling tower blow down operations.

12. New or Modified Federal or State Permits Yes \_\_\_\_\_ No X

It is expected the total blow down volume to the lab water system will increase to approximately 32,000 gallons per day. This quantity will be evaluated against current permits to ensure this does not exceed limits or if new permit applications are required.

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 X No \_\_\_\_\_

Materials used for the general construction of the facility will meet the minimum standards identified in the FEMP criteria. High efficiency chillers and cooling towers will be specified in the equipment specifications.

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

18. Threatened or Endangered Species, Critical Habitats, and/or other Protected Species Yes \_\_\_\_\_ No X

19. Wetlands Yes X No \_\_\_\_\_

A wetland delineation was conducted in 2009 for the construction of the existing CWP to outline the wetlands and appropriate buffer zones required for the facility. Based on this

information the majority of the proposed site location is a significant distance from known wetlands and 100-year flood plains. The underground piping between the Chilled Water Plant and the TCS building will run directly north of the wetlands. Extra precautions will be taken to implement erosion control to prevent spoils from entering the wetlands.

20. Floodplain Yes \_\_\_\_\_ No X

21. Landscaping Yes X No \_\_\_\_\_

All disturbed areas not receiving an improved surface would be reconstructed using topsoil, native species/grasses seed mix and mulch.

22. Navigable Air Space Yes \_\_\_\_\_ No X

23. Clearing or Excavation Yes X No \_\_\_\_\_

Old growth trees (greater than 6" in diameter) will be cleared as part of this expansion, however most of the footprint is on a previously disturbed gravel lot. All trees removed will be coordinated with FMS Grounds and opportunities for recycling as mulch on the Argonne site will be investigated. There are approximately 25 trees greater than 6" in diameter that will be removed as part of this excavation.

24. Archaeological Resources Yes X No \_\_\_\_\_

The main location of the proposed site has been previously investigated and found not to contain archaeologically significant materials. Most of this action was addressed in Section 106 Archaeology Guidance for construction of the original chiller plant. However, due to the location of the proposed chilled water piping that will run between Buildings 240 and 528, additional SHPO approval is necessary. Please coordinate with NEPA Reviewer for SHPO concurrence.

25. Underground Injection Yes \_\_\_\_\_ No X

26. Underground Storage Tanks Yes \_\_\_\_\_ No X

27. Public Utilities or Services Yes \_\_\_\_\_ No X

28. Depletion of a Non-Renewable Resource Yes \_\_\_\_\_ No X

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

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

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

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  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 1.15 Siting, construction or modification and operation of support buildings and support structures.

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:** Kaushik Joshi

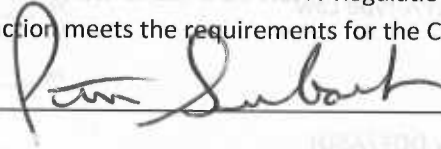
Signature: Kaushik Joshi

Date: 7-2-2013



**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:  Date: 7/2/13

Peter R. Siebach  
Acting Argonne Site Office NCO

**ASO NCO EA or EIS Recommendation:**

Class of Action: \_\_\_\_\_

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

Peter R. Siebach  
Acting Argonne Site Office NCO

**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: \_\_\_\_\_

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

Dr. Joanna M .Livengood  
Manager

January 2012