



**Environmental Review Form for Argonne
National Laboratory**

Form: ANL-985
Version: 4
Your Form ID: ANL-985-830
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Created By: Woodford, John B.

Creator

Badge:	51790	Name:	Woodford, John B.
Cost Center:	115	Division:	NE
Job Title:	Manager, ESH/QA Operations	Employee Type:	Regular Full-Time Exempt
Building:	208	Lab Extension:	2-0910

General Information

Project/Activity Title: Water NSTF Facility Operation
 ASO NEPA Tracking No.: _____ Type of Funding: _____
 B & R Code: RC0417000 Identifying Number: NE17-002
 SPP Proposal Number: _____ CRADA Proposal Number: _____
 Work Project Number: _____ ANL Accounting Number: _____ (Item 3a in Field Work Proposal)
 Other (explain): _____
 List appropriate NEPA Owners:
 Division: NE NEPA Owner: _____

Cost Code

Task: Center: Project: Activity:

Description of Proposed Action

Under support of the Department of Energy (DOE) Office of Advanced Reactor Technologies (ART), a program was established at Argonne National Laboratory (Argonne) to develop technologies to improve the reliability and safety of new reactor designs. Focused passively safe decay heat removal, the Natural convection Shutdown heat removal Test Facility (NSTF) has since evolved to become one of the larger experimental testing programs in the Nuclear Engineering (NE) division at Argonne. The NSTF program will soon commence the transition to convert the facility to water-based cooling. Scaling, design, and preparation activities were completed in the previous years, and have been documented in reports released as part of the NSTF program. Assembly and checkout activities for the water design are staged to commence by early 2017. The overall assembly of the water NSTF will reflect a ½ axial scale and 12.5° sector slice of the full scale AREVA passive cooling concept. A summary is tabulated below. √ Riser tubes: 1.5√ Schedule 160, 5.91√ (150-mm) pitch, 316L stainless √ Heat transfer panels: 5/16√ plates, 4.01√ (102-mm) width, full penetration weld to risers, 1080 carbon steel √ Test section: Eight (x8) riser tubes and nine (x9) heat transfer panels, fabricated into banks of two (x2) riser tubes and three (x3) fins, joined to form single section √ Network geometry: 4.0√ Schedule 40, 316L stainless √ Water storage tank: 1,126 gallons, H/D = 2.0. The working fluid is high-purity (18.2 MΩ) water.

Description of Affected Environment

The facility is being constructed in the Bldg. 308 High Bay.

Potential Environmental Effects

- Attach explanation for each "yes" response near bottom of form.
- **See Instructions for Completing Environmental Review Form.**

Section A (Complete For All Projects)		Yes	No	Explanation
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	<input checked="" type="radio"/>	<input type="radio"/>	Heated areas are insulated to protect workers and minimize the amount of power used to maintain temperature.

2.	Air Pollutant Emissions	<input type="radio"/>	<input checked="" type="radio"/>	
3.	Noise	<input type="radio"/>	<input checked="" type="radio"/>	
4.	Chemical/Oil Storage/Use	<input type="radio"/>	<input checked="" type="radio"/>	
5.	Pesticide Use	<input type="radio"/>	<input checked="" type="radio"/>	
6.	Toxic Substances Control Act (TSCA) Substances			
6a.	Polychlorinated Biphenyls (PCBs)	<input type="radio"/>	<input checked="" type="radio"/>	
6b.	Asbestos or Asbestos Containing Materials	<input type="radio"/>	<input checked="" type="radio"/>	
6c.	Other TSCA Regulated Substances	<input type="radio"/>	<input checked="" type="radio"/>	
6d.	Import or Export of Chemical Substances	<input type="radio"/>	<input checked="" type="radio"/>	
7.	Biohazards	<input type="radio"/>	<input checked="" type="radio"/>	
8.	Effluent/Wastewater (If yes, see question #12 and contact Peter Lynch (FMS-SEP) at 2-4582 or lynch@anl.gov)	<input checked="" type="radio"/>	<input type="radio"/>	Per discussion with P. Lynch, on completion of the tests, the water (at least 1,126 gallons) will be disposed of in a laboratory or sanitary sewer.
9.	Waste Management			
9a.	Construction or Demolition Waste	<input type="radio"/>	<input checked="" type="radio"/>	
9b.	Hazardous Waste	<input type="radio"/>	<input checked="" type="radio"/>	
9c.	Radioactive Mixed Waste	<input type="radio"/>	<input checked="" type="radio"/>	
9d.	Radioactive Waste	<input type="radio"/>	<input checked="" type="radio"/>	
9e.	Asbestos Waste	<input type="radio"/>	<input checked="" type="radio"/>	
9f.	Biological Waste	<input type="radio"/>	<input checked="" type="radio"/>	
9g.	No Path to Disposal Waste	<input type="radio"/>	<input checked="" type="radio"/>	
9h.	Nano-material Waste	<input type="radio"/>	<input checked="" type="radio"/>	
10.	Radiation	<input checked="" type="radio"/>	<input type="radio"/>	A density gauge sensor will be used to monitor system performance. The sensor contains a 10 mCi Cs-137 source, which has an unshielded dose rate exceeding the threshold for a Radioactive Materials Area.
11.	Threatened Violation of ES&H Regulations or Permit Requirement	<input type="radio"/>	<input checked="" type="radio"/>	
12.	New or Modified Federal or State Permits	<input type="radio"/>	<input checked="" type="radio"/>	
13.	Siting, Construction, or Major Modification of Facility to Recover, Treat, Store, or Dispose of Waste	<input type="radio"/>	<input checked="" type="radio"/>	
14.	Public Controversy	<input type="radio"/>	<input checked="" type="radio"/>	
15.	Historic Structures and Objects	<input type="radio"/>	<input checked="" type="radio"/>	
16.	Disturbance of Pre-existing Contamination	<input type="radio"/>	<input checked="" type="radio"/>	
17.	Energy Efficiency, Resource Conserving, and Sustainable Design Features	<input checked="" type="radio"/>	<input type="radio"/>	As noted above, facility is insulated for personnel protection, which also reduces the power consumption during tests.
Section B (For Projects that Occur Outdoors)		Yes	No	
18.	Threatened or Endangered Species, Critical Habitats, and/or other Protected Species	<input type="radio"/>	<input type="radio"/>	
19.	Wetlands	<input type="radio"/>	<input type="radio"/>	
20.	Floodplain	<input type="radio"/>	<input type="radio"/>	
21.	Landscaping	<input type="radio"/>	<input type="radio"/>	
22.	Navigable Air Space	<input type="radio"/>	<input type="radio"/>	
23.	Clearing or Excavation	<input type="radio"/>	<input type="radio"/>	
24.	Archaeological Resources	<input type="radio"/>	<input type="radio"/>	
25.	Underground Injection	<input type="radio"/>	<input type="radio"/>	
26.	Underground Storage Tanks	<input type="radio"/>	<input type="radio"/>	
27.	Public Utilities or Services	<input type="radio"/>	<input type="radio"/>	
28.	Depletion of a Non-Renewable Resource	<input type="radio"/>	<input type="radio"/>	

Section C (For Projects Outside of ANL)		Yes	No
29.	Prime, Unique, or Locally Important Farmland	<input type="radio"/>	<input type="radio"/>
30.	Special Sources of Groundwater (such as sole source aquifer)	<input type="radio"/>	<input type="radio"/>
31.	Coastal Zones	<input type="radio"/>	<input type="radio"/>
32.	Areas with Special National Designations (such as National Forests, Parks, or Trails)	<input type="radio"/>	<input type="radio"/>
33.	Action of a State Agency in a State with NEPA-type Law	<input type="radio"/>	<input type="radio"/>
34.	Class I Air Quality Control Region	<input type="radio"/>	<input type="radio"/>

Categorical Exclusion

ANL NEPA Reviewer Use Only

- My approval is the final approval necessary
- This form requires additional approval from DOE

To be Completed by DOE/ASO

Section D	Yes	No
Are there any extraordinary circumstances related to the proposal that may affect the significance of the environmental effects of the proposal?	<input type="radio"/>	<input checked="" type="radio"/>
Is the project connected to other actions with potentially significant impacts or related to other proposed action with cumulatively significant impacts?	<input type="radio"/>	<input checked="" type="radio"/>
If yes, is a categorical exclusion determination precluded by 40 CFR 1506.1 or 10 CFR 1021.211?	<input type="radio"/>	<input type="radio"/>
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?	<input checked="" type="radio"/>	<input type="radio"/>
If yes, indicate the class or classes of action from Appendix A or B of Subpart D under which the project may be excluded: DOE approves this ERF under the following category of 10 CFR, Part 1021, Subpart D, Appendix B: B 3.6 Small-scale research and development, laboratory operations, and pilot projects.		
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.		

Attachments

File Description: Facility Description [View Attachment](#)

Comments

Laboratory sewer wastewater disposal is preferred. Sanitary sewer wastewater disposal is an option, only if laboratory sewer wastewater disposal is impractical.

Add Approver

Approver Name	Approver Badge	Reason	Delete
Riel, Roberta T.	30889	Division NEPA Owner (unlisted)	<input type="checkbox"/>

Notifications

The approval notification email will be copied to the people listed below.

Badge	Name	Division	Delete
			<input type="checkbox"/>

ASO-CX Number

ASO-CX- 339

Comments:

DOE ASO and DOE Chicago track this ERF approval as ASO-CX-339.

Approval

<u>Approver</u>	<u>Action</u>	<u>Date Routed</u>	<u>Action Date</u>	<u>Approval Reason / Comments</u>	<u>Approval Type</u>
Woodford, John B.	APPROVED	2017-02-01	2017-02-01 14:08:09.0	Creator :	PRIMARY
Woodford, John B.	APPROVED	2017-02-01	2017-02-01 14:08:09.0	Project Manager :	PRIMARY
Riel, Roberta T.	APPROVED	2017-02-01	2017-02-01 14:20:34.0	Division NEPA Owner (unlisted) :	PRIMARY
Brocker, William A.	APPROVED	2017-02-01	2017-02-02 09:01:07.0	NEPA Owner Approval for Argonne Environmental Review :	PRIMARY
Ptak, Jill S.	APPROVED	2017-02-02	2017-02-08 13:57:41.0	ANL NEPA Reviewer :	PRIMARY
Hellman, Karen B.	APPROVED	2017-02-08	2017-02-13 11:24:28.0	ANL-985 Review and Approval :	PRIMARY
Lynch, Peter L.	APPROVED	2017-02-13	2017-02-16 08:44:12.0	Added: :	PRIMARY
Stine, Gail Y.	APPROVED	2017-02-16	2017-02-16 09:04:22.0	ANL-985 Review and Approval :	PRIMARY
Lee, Alice J. for Kearns, Paul K.	APPROVED	2017-02-16	2017-02-16 13:28:28.0	ANL-985 ANL COO Review and Approval :	DELEGATE
Joshi, Kaushik N.	APPROVED	2017-02-16	2017-03-02 13:24:16.0	ANL-985 DOE-ASO Review and Approval : ASO-CX-339	PRIMARY
Siebach, Peter R.	APPROVED	2017-03-02	2017-03-07 14:20:06.0	ANL-985 DOE NEPA Compliance Officer Review and Approval :	PRIMARY
