



Environmental Review Form for Argonne National Laboratory

Form: ANL-985
Version: 5
Your Form ID: ANL-985-1805
Form Status: Approved
Date: 9/23/2022 2:02:23 PM
Created By: McGhee, Ian Riley

Creator
Badge: 272547 Name: McGhee, Ian Riley
Cost Center: 331 Division: WSE
Job Title: ESH Multi-Functional 2 Employee Type: Regular Full-Time Exempt
Building: 362 Lab Extension: 2-2324

General Information

Project/Activity Title: Electrodialysis Pilot Plant Operations
ASO NEPA Tracking No.: Type of Funding:
B & R Code: Identifying Number: CRADA-2020-20211
SPP Proposal Number: CRADA Proposal Number: 2020-20211
Work Project Number: ANL Accounting Number: (Item 3a in Field Work Proposal)
Other (explain):
List appropriate NEPA Owners:
Division: AMD NEPA Owner:

Financial Plans

To select a Financial Plan, click the magnifying glass icon to open a search window.
Cost Center: Project: Phase: Task:

Description of Proposed Action

A lithium hydroxide electro dialysis pilot plant would be placed inside of the existing spill berm in the 369 HIBAY or in 370 W158 in a purchased and compatible spill berm. Over the duration of operations, the plant would produce lithium hydroxide (LiOH) from Lithium Chloride (LiCl). Overall batches of material would be limited to 600 gallons of feed (LiCl) and would produce 200 gallons of LiOH and 200 gallons of 2-molar Hydrochloric Acid (HCl). The air emissions of the plant (hydrogen, airborne lithium hydroxide, etc.) would be captured primarily by a direct-connection explosion-proof ventilation system ducted to outside at the roofline of the building 369 HIBAY or building 370 HIBAY. Nitrogen gas would be used to inert several tanks on the pilot plant, and compressed air or nitrogen would actuate valves in the plant.

Description of Affected Environment

Work would be done indoors at building 369 or building 370 on Argonne's Lemont, Illinois campus. Waste from experiments would be disposed via appropriate channels as defined in the work control documents and per Argonne procedures and requirements. Emissions would be ducted outside of the building. Product batches would be analyzed for quality before being shipped as samples, handled as hazardous waste (corrosive), or used again in processes (recycled).

Potential Environmental Effects

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

Table with 4 columns: Section A (Complete For All Projects), Yes, No, Explanation. Row 1: Project evaluated for Pollution Prevention and Waste Minimization opportunities and See responses below. All work will be conducted in compliance with Argonne guidelines

1.	details provided under items 2, 4, 6, 7, 8, 16, and 20 below, as applicable	<input checked="" type="radio"/>	<input type="radio"/>	and regulations.
2.	Air Pollutant Emissions	<input checked="" type="radio"/>	<input type="radio"/>	Pilot plant emissions, including Hydrogen, airborne lithium hydroxide, etc. would be ducted to the explosion-proof ventilation in the 369 or 370 HIBAY that ducts above the roof line. Environmental Compliance has evaluated the project in regards to regulated air emissions and has determined that no permitting will be required for this work.
3.	Noise	<input type="radio"/>	<input checked="" type="radio"/>	
4.	Chemical/Oil Storage/Use	<input checked="" type="radio"/>	<input type="radio"/>	Only the minimum amount of chemicals needed for the project would be used and stored in original or compatible containers. Secondary containment would be used for all materials during transport and storing. Potential spills would be contained inside of the existing spill berm. This procedure would be walked through with water to find and address any friction in the path that could lead to spillage or injury.
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 (HSE) at 2-4582 or lynch@anl.gov)	<input type="radio"/>	<input checked="" type="radio"/>	
9.	Waste Management			
9a.	Construction or Demolition Waste	<input type="radio"/>	<input checked="" type="radio"/>	
9b.	Hazardous Waste	<input checked="" type="radio"/>	<input type="radio"/>	For the work conducted at Argonne National Laboratory, all RCRA hazardous waste will be accumulated (in a Satellite Accumulation Area) by personnel qualified by Argonne-specific training. Requisitions for transfer of accumulated hazardous waste to a central on-site facility would be completed by Argonne-certified personnel. The research personnel would conform to the requirements in LMS-PROC-103. All on-site handling, storage, and disposal would be performed in accordance with the RCRA Part B permit issued by the IEPA. The accumulated hazardous waste would be disposed in accordance with Argonne's Part B permit, and in accordance with the requirement in LMS-PROC-103.
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 type="radio"/>	<input checked="" type="radio"/>	
	Threatened Violation of			

11.	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 type="radio"/>	<input checked="" type="radio"/>	
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 checked="" type="radio"/>	
19.	Wetlands	<input type="radio"/>	<input checked="" type="radio"/>	
20.	Floodplain	<input type="radio"/>	<input checked="" type="radio"/>	
21.	Landscaping	<input type="radio"/>	<input checked="" type="radio"/>	
22.	Navigable Air Space	<input type="radio"/>	<input checked="" type="radio"/>	
23.	Clearing or Excavation	<input type="radio"/>	<input checked="" type="radio"/>	
24.	Archaeological Resources	<input type="radio"/>	<input checked="" type="radio"/>	
25.	Underground Injection	<input type="radio"/>	<input checked="" type="radio"/>	
26.	Underground Storage Tanks	<input type="radio"/>	<input checked="" type="radio"/>	
27.	Public Utilities or Services	<input type="radio"/>	<input checked="" type="radio"/>	
28.	Depletion of a Non-Renewable Resource	<input type="radio"/>	<input checked="" type="radio"/>	
Section C (For Projects Outside of ANL)		Yes	No	
29.	Prime, Unique, or Locally Important Farmland	<input type="radio"/>	<input checked="" type="radio"/>	
30.	Special Sources of Groundwater (such as sole source aquifer)	<input type="radio"/>	<input checked="" type="radio"/>	
31.	Coastal Zones	<input type="radio"/>	<input checked="" type="radio"/>	
32.	Areas with Special National Designations (such as National Forests, Parks, or Trails)	<input type="radio"/>	<input checked="" type="radio"/>	
33.	Action of a State Agency in a State with	<input type="radio"/>	<input checked="" type="radio"/>	

	NEPA-type Law		
34.	Class I Air Quality Control Region	<input type="radio"/>	<input checked="" 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: This project can be excluded under the following category of Appendix B of 10 CFR 1021, Subpart D: 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:

Comments

Add Approver

Approver Name	Approver Badge	Reason	Delete
Spangenberg, Jeffrey S.	51141	Group Leader	
Lipson, Albert L.	218136	PI	
Willig, Ryne T.	232518	AMD Safety	
Lynch, Peter L.	46304	Environmental Compliance	
Pfeiffer, Mark Albert	232188	Environmental Compliance	
Krumdick, Gregory K.	41078	Owning DD	
Thompson, Lawrence S.	97495	NWM	
Harris, Amy M.	49490	AET NEPA Owner	

Notifications

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

Badge	Name	Division	Delete

ASO-CX Number

ASO-CX- 397

Comments:

Approval

<u>Approver</u>	<u>Action</u>	<u>Date Routed</u>	<u>Action Date</u>	<u>Approval Reason / Comments</u>	<u>Approval Type</u>
McGhee, Ian Riley	APPROVED	2022-10-05	2022-10-05 10:43:29.0	Creator :	PRIMARY
McGhee, Ian Riley	APPROVED	2022-10-05	2022-10-05 10:43:29.0	Project Manager :	PRIMARY
Krumdick, Gregory K.	APPROVED	2022-10-05	2022-10-07 12:55:15.0	Owning DD :	PRIMARY
Lynch, Peter L.	APPROVED	2022-10-05	2022-10-07 14:20:14.0	Environmental Compliance :	PRIMARY
Harris, Amy M.	APPROVED	2022-10-05	2022-10-05 13:38:38.0	AET NEPA Owner :	PRIMARY
Spangenberg, Jeffrey S.	APPROVED	2022-10-05	2022-10-06 09:54:19.0	Group Leader :	PRIMARY
Thompson, Lawrence S.	APPROVED	2022-10-05	2022-10-06 08:59:24.0	NWM :	PRIMARY
Lipson, Albert L.	APPROVED	2022-10-05	2022-10-05 11:09:29.0	PI :	PRIMARY
Willig, Ryne T.	APPROVED	2022-10-05	2022-10-05 11:00:25.0	AMD Safety :	PRIMARY
Pfeiffer, Mark Albert	APPROVED	2022-10-05	2022-10-05 11:06:53.0	Environmental Compliance :	PRIMARY
Harris, Amy M.	APPROVED	2022-10-05	2022-10-05 13:38:38.0	NEPA Owner Approval for Argonne Environmental Review :	PRIMARY
Ptak, Jill S.	APPROVED	2022-10-07	2022-10-11 15:57:46.0	ANL NEPA Reviewer :	PRIMARY
Hellman, Karen B.	APPROVED	2022-10-11	2022-10-11 16:15:01.0	ANL-985 Review and Approval :	PRIMARY
Dunn, Michael W.	APPROVED	2022-10-11	2022-10-14 13:18:32.0	ANL-985 ANL Deputy COO Review and Approval :	PRIMARY
Joshi, Kaushik N.	APPROVED	2022-10-14	2022-10-14 15:51:45.0	ANL-985 DOE-ASO Review and Approval : This DOE ERF CX approval is tracked as ASO-CX-397.	PRIMARY
Siebach, Peter Rudolf	APPROVED	2022-10-14	2022-10-17 10:51:18.0	ANL-985 DOE NEPA Compliance Officer Review and Approval :	PRIMARY
