



**Environmental Review Form for Argonne
National Laboratory**

Form:	ANL-985
Version:	5
Your Form ID:	ANL-985-1117
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Date:	5/2/2018 5:59:46 PM
Created By:	Elam, Jeffrey W.

Creator

Badge:	54529	Name:	Elam, Jeffrey W.
Cost Center:	114	Division:	AMD
Job Title:	Senior Chemist/Group Leader	Employee Type:	Regular Full-Time Exempt
Building:	362	Lab Extension:	2-3520

General Information

Project/Activity Title: Oleo Sponge Commercialization
ASO NEPA Tracking No.: Type of Funding: SPP
B & R Code: Identifying Number: P-18101
SPP Proposal Number: P-18101 CRADA Proposal Number:
Work Project Number: ANL Accounting Number: (Item 3a in Field Work Proposal)
Other (explain): SPP paperwork in process
List appropriate NEPA Owners:
Division: ES 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

Oleo Sponge is a reusable absorbent invented and patented at Argonne for cleaning oil from water based on low-cost materials and processing. Oleo Sponge is manufactured by chemically treating polyurethane foam so that it rapidly and selectively absorbs oil from water. The product can be wrung out to recover the oil, and immediately used again. Oleo Sponge has applications spanning a range of energy industries including petrochemical (cleaning oil spills from oceans or inland waters), hydrofracturing (hydrocarbon removal and recovery from fracking water), and biofuels (separations of fuel products from complex mixtures). In each case, Oleo Sponge can reduce cost and increase efficiency of energy production. Although absorbent products exist for cleaning oil from the water's surface, Oleo Sponge is the only technology we are aware of for cleaning up sub-surface oil droplets suspended in the water column. This Strategic Partnership Project will develop scalable manufacturing of Oleo Sponge in partnership with Oleo Industries, LLC, a start-up founded to commercialize Oleo Sponge. The manufacturing steps include vapor-phase infiltration and chemical grafting of nanoscale coatings, both of which could be performed using continuous processing such as roll-to-roll. Low-cost, scalable manufacturing will allow Oleo Sponge to be produced commercially at high volume.

Description of Affected Environment

This project will include bench scale research in Bldg. 362 and scale-up in Bldg. 369. ANL employees will visit one or more sites of petrochemical oil contamination. These sites have not yet been selected, but can be harbors, streams, or natural oil seeps in coastal waters. One possible location is a natural oil seep off of Santa Barbara, CA. Oleo sponge pads will be deployed to adsorb surface or sub-surface oil. The pads will be pressed in a roller to recover the oil for quantification and analysis. The NEPA for the other organizations and waterways is the responsibility of the host facility, and that we will be following the host facilities ESH protocols in addition to Argonne's.

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"/>	see below
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 checked="" type="radio"/>	<input type="radio"/>	Petrochemical oil (e.g. motor oil or crude oil) recovered in this project must be stored prior to analysis and disposed of at the conclusion of the project. The maximum amount that we expect to collect during bench scale activities is 1 gallon; during Scale-Up is 50 gallons; and Field work activities is 10 gallons per site.
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"/>	This project include bench scale research in Bldg. 362 and, scale-up in Bldg. 369 ,and field testing. ANL employees will visit one or more sites of petrochemical oil contamination. These sites have not yet been selected, but can be harbors, streams, or natural oil seeps in coastal waters. One possible location is a natural oil seep off of Santa Barbara, CA. The max amount you expect to collect during bench scale activities is 1 gallon; during Scale-Up is 50 gallons; and Field work activities is 10 gallons per site. All materials would be managed and handled in accordance with federal, state and local environmental regulations. At Argonne, all RCRA hazardous waste will be accumulated in a Satellite Accumulation Area by personnel qualified y Argonne -specific training. Requisitions for transfer of accumulated hazardous waste to a central on-site facility will be completed by Argonne-certified personnel. For the work conducted

at Argonne National Laboratory At Argonne, 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 will be completed by Argonne-certified personnel. The research personnel will conform to the requirements in LMS-PROC-103. All on-site handling, storage, and disposal will be performed in accordance with the RCRA Part 3 permit issued by the IEPA. The accumulated hazardous waste will be disposed in accordance with Argonne's Part B permit, and in accordance with the requirement in LMS-PROC-103.

			<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 type="radio"/>	<input checked="" type="radio"/>	
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 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"/>	
	Navigable Air				

22.	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 checked="" type="radio"/>	<input type="radio"/>	Oil cleanup activity may be performed in coastal zones. For instance, at a natural oil seep located ~1 mile off the coast of Santa Barbara, CA
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 NEPA-type Law	<input type="radio"/>	<input checked="" type="radio"/>	
34.	Class I Air Quality Control Region	<input type="radio"/>	<input checked="" type="radio"/>	

Categorical Exclusion

Other (Use field below to enter other categorical exclusion)

For the work to be conducted at Argonne National Laboratory -Argonne National Laboratory has an established NEPA review process that has been reviewed and approved by the Argonne DOE Site Office. This work falls under Argonne's Categorical exclusion for Indoor Bench-Scale Research Projects and Conventional Laboratory Operations ASO-CX-325. Argonne is required to complete their NEPA forms based on their NEPA Review process (See attached Argonne NEPA Documents). No new permits, modifications , etc. are required for the Argonne work

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?



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 Oleo Sponge Commercialization (including bench scale research, scale-up and field testing) can be excluded under the following categories of Appendix D, 1- CFR Part 1021: B 3.15 Small-scale indoor research and development projects using nano-scale materials, and B 3.11 Outdoor tests and experiments on materials and equipment components.

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: SOW [View Attachment](#)

Comments

Add Approver

Approver Name	Approver Badge	Reason	Delete
Harris, Amy M.	49490	AMD ESH coordinator	

Notifications

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

Badge	Name	Division	Delete
232518	Willig, Ryne T.	HSE	
49490	Harris, Amy M.	HSE	

ASO-CX Number

ASO-CX- 356

Comments:

This ERF CX is tracked as ASO-CX-356.

Approval

Approver	Action	Date Routed	Action Date	Approval Reason / Comments	Approval Type
Elam, Jeffrey W.	APPROVED	2018-05-08	2018-05-08 14:57:29.0	Creator :	PRIMARY
Elam, Jeffrey W.	APPROVED	2018-05-08	2018-05-08 14:57:29.0	Allows access to the form :	PRIMARY
Elam, Jeffrey W.	APPROVED	2018-05-08	2018-05-08 14:57:29.0	Project Manager :	PRIMARY
Harris, Amy M.	APPROVED	2018-05-08	2018-05-09 06:52:59.0	AMD ESH coordinator :	PRIMARY
Brocker, William A.	APPROVED	2018-05-09	2018-05-09 08:31:39.0	NEPA Owner Approval for Argonne Environmental Review :	PRIMARY
Ptak, Jill S.	APPROVED	2018-05-09	2018-05-22 14:01:00.0	ANL NEPA Reviewer :	PRIMARY
Hellman, Karen B.	APPROVED	2018-05-22	2018-05-22 14:07:29.0	ANL-985 Review and Approval :	PRIMARY
Stine, Gail Y.	APPROVED	2018-05-22	2018-05-24 10:28:14.0	ANL-985 Review and Approval :	PRIMARY
Lee, Alice J. for Kearns, Paul	APPROVED	2018-05-24	2018-05-24	ANL-985 ANL COO Review and	DELEGATE

K.			13:42:29.0	Approval :	
Joshi, Kaushik N.	APPROVED	2018-05-24	2018-06-04 15:58:04.0	ANL-985 DOE-ASO Review and Approval : This ERF CX is tracked as:ASO-CX-356	PRIMARY
Siebach, Peter R.	APPROVED	2018-06-04	2018-06-04 16:11:58.0	ANL-985 DOE NEPA Compliance Officer Review and Approval : In 9b, the reference should be to the RCRA Part "B" permit	PRIMARY
