



Environmental Review Form for Argonne National Laboratory

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Version:	5
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Created By:	Kaminski, Michael D.

Creator

Badge:	44103	Name:	Kaminski, Michael D.
Cost Center:	118	Division:	SSS
Job Title:	Senior Nuclear Chemical Engineer	Employee Type:	Regular Full-Time Exempt
Building:	205	Lab Extension:	2-4777

General Information

Project/Activity Title: Vehicle induced resuspension of surrogate fallout
ASO NEPA Tracking No.: _____ Type of Funding: Other funds (DHS)
B & R Code: _____ Identifying Number: SPP-2023-23072
SPP Proposal Number: 2023-23072 CRADA Proposal Number: _____
Work Project Number: _____ ANL Accounting Number: _____ (Item 3a in Field Work Proposal)
Other (explain): _____
List appropriate NEPA Owners:
Division: SSS 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

Argonne will measure the resuspension of surrogate contaminated fallout particles (non-radioactive, non-hazardous) from the ground into the air. A roadway on the Argonne campus will be chosen in consultation with Argonne safety, facility, and security personnel. Surrogate contamination in the form of fine particles will be spread on the pavement within the short test strip. Staff will drive a car at various speed over the test strip in order to stir up the fine particles so that their air concentration of the fine particles can be measured by portable monitors. We will identify a roadway on the Argonne campus that can be closed during testing that will last from hours to consecutive days and possibly weekends. A test strip will be designated for that roadway. The test strip is a short section (1-20') of the roadway on which surrogate fallout particles will be applied. A tent or sidewalls may be placed over or along the short test strip of that roadway to help contain the surrogate fallout particles and control the effects of wind. Surrogate fallout contamination in the form of fine particles will be spread on the pavement of the test strip either with a hand sifter, by a fertilizer type distributor, or by pneumatic spray. Staff will drive vehicles at various speed over the roadway and test strip in order to stir up the fine particles so that their air concentration of the fine particles can be measured by portable monitors. The roadway will be cleaned by vacuum of all material after each day of testing. The vehicle may need to be wiped down to remove particles between test runs and the vehicle may have to be washed at the termination of testing. Prior to entering the test strip, we will use sticky mats on the roadway to clean the tires and remove particles that have attached onto the tires of the vehicle. We will also include those sticky mats for the tires immediately after the car exits the test strip to remove loose particles. The particles sizes will vary between ~1 micrometer and 30 micrometers in diameter and will vary in shape from spherical to irregularly shaped. The surrogate fallout particles for tests will include one or more of the following; powdered clay (bentonite/montmorillonite, illite, kaolinite), silicon dioxide, riboflavin particles, and polymeric particles (e.g., polymethylmethacrylate, polystyrene) and will be ultimately determined based on safety and environmental compliance and regulations. The work is expected to take months to complete possibly likely over the performance period since consistent weather conditions are needed to minimize variability in the collected data. The period of performance for the first phase of this work is 24 months with the potential of a second phase lasting 24-48 more months.

Description of Affected Environment

A roadway on the Argonne campus will be chosen in consultation with Argonne safety, facility, and security personnel. The purpose of the roadway is to provide a "typical" roadway (relatively smooth and flat, free of potholes and crumbling pavement) on

which staff will drive a car at various speeds to measure the car's ability to suspend dust particles spread on the roadway. Watertown Rd is currently the best choice although other roads are still under consideration (preference given to roadways that are away from streams or waterways, can be closed off to traffic without affecting laboratory operations). We may asphalt over an existing road to improve its condition before testing. Such action will be approved by the proper Argonne authorities beforehand. We expect a fraction of the particles to be resuspended into the air and move with the wake generated by the vehicle and by the wind. We expect a fraction of the particles to be moved along the roadway away from the tire tracks and toward the shoulder and center of the roadway. Argonne roadways are in close proximity to the forest. Roadway tent or sidewalls may be used to control the release of surrogate fallout particles outside of the test area.

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"/>	Meeting between ESH and PI discussed the scope of experiments and potential waste generation, including pollution prevention and waste minimization. A project briefing included representatives from environmental protection and waste management. Pollution prevention and waste minimization measures were noted and are reflected below.
2.	Air Pollutant Emissions	<input type="radio"/>	<input checked="" type="radio"/>	Particles may become airborne during testing activities. Pollution prevention measures taken are the choice of using non-hazardous particles, limiting the particle size to 1micron or greater, minimizing the test strip length. In addition every effort will be taken to minimize release of the particles. Engineering controls may include tents or silt fencing along the roads to help contain the particles as well as shield them from being swept up by wind. Activities will be limited to days that are calm. Waste minimization will be practiced in only using the amount of particles required for the tests. Loading of particles onto the pavement is expected to be 0.0001-20 g/m ² .
3.	Noise	<input type="radio"/>	<input checked="" type="radio"/>	
4.	Chemical/Oil Storage/Use	<input type="radio"/>	<input checked="" type="radio"/>	Chemicals in the form of surrogate fallout particles will be used. Materials/particles that will be used will be non-hazardous and controlled in a manner discussed in 1,2, and 8..
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	<input type="radio"/>	<input checked="" type="radio"/>	Held meeting with Environmental Compliance officer to discuss potential impact to the environment of particle aerosols generated during experiments. Every effort will be taken to control and prevent release of particles into the environment. Administrative controls will include only conducting tests on dry calm days, during daylight hours. Engineered controls will be put in place to contain the particles and recover them at the completion of test on each day. Controls will consists of barriers such as tents, silt fencing and/or pigs along the both sides of

	2-4582 or lynch@anl.gov)			the test strip, use of HEPA vacuum to recover particles for disposal, and sticky strips and wipes to collect particles from the vehicle. Coveralls, and gloves will be used by crew when walking through or cleaning up the road.
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"/>	On May 11, 2023, the PI, the Environmental Compliance officer, the Waste Management specialist, and the ESH Coordinator to discuss the expected waste as described in this ANL-985 form. It was concluded that none of the expected waste will be a RCRA regulated waste. The Environmental Compliance officer and the ESH Coordinator met later the same day and began the process of reviewing the expected waste using a Waste Determination flow chart. Again none of the waste was determined to be RCRA regulated waste. The documentation of the determination will be filed with project files. The Waste Management specialist reviewed the waste assessment discussion and concluded "Thanks Mike, Given the process you outlined, these will also be non-RCRA, non-DOT and State of Illinois non-regulated.."
	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"/>	
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 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

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:

The project may be excluded under the following action of 10 CFR 1021, Subpart D, Appendix B: 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: Waste consideration ANL-985 [View Attachment](#)

File Description: Waste determination input Larry Thompson [View Attachment](#)

Comments

Waste determination information is attached to this NEPA.

Add Approver

Approver Name	Approver Badge	Reason	Delete
Vukovich, George	39523	super	
Pierce, Linda M.	40750	SSS ECR	
Lynch, Peter L.	46304	Env Compliance	

Notifications

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

Badge	Name	Division	Delete
39523	Vukovich, George	SSS	

ASO-CX Number

ASO-CX- 403

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>
Kaminski, Michael D.	APPROVED	2023-06-09	2023-06-09 14:07:20.0	Creator :	PRIMARY
Kaminski, Michael D.	APPROVED	2023-06-09	2023-06-09 14:07:20.0	Allows access to the form :	PRIMARY
Kaminski, Michael D.	APPROVED	2023-06-09	2023-06-09 14:07:20.0	Project Manager :	PRIMARY
Vukovich, George	APPROVED	2023-06-09	2023-06-09 15:01:19.0	super :	PRIMARY
Pierce, Linda M.	APPROVED	2023-06-09	2023-06-09 15:07:23.0	SSS ECR :	PRIMARY
Lynch, Peter L.	APPROVED	2023-06-09	2023-06-12 15:12:58.0	Env Compliance :	PRIMARY
Harris, Amy M.	APPROVED	2023-06-12	2023-06-13 06:49:19.0	NEPA Owner Approval for Argonne Environmental Review :	PRIMARY
Ptak, Jill S.	APPROVED	2023-06-13	2023-06-29 17:15:22.0	ANL NEPA Reviewer :	PRIMARY
Dunn, Michael W. for Hellman, Karen Sue	APPROVED	2023-06-29	2023-07-03 12:03:15.0	ANL-985 Review and Approval :	DELEGATE

Dunn, Michael W.	APPROVED	2023-07-03	2023-07-03 12:03:27.0	ANL-985 ANL Deputy COO Review and Approval :	PRIMARY
Joshi, Kaushik N.	APPROVED	2023-07-03	2023-07-05 12:03:26.0	ANL-985 DOE-ASO Review and Approval : The DOE approval for NEPA Categorical Exclusion for this project is tracked as ASO-CX-403.	PRIMARY
Siebach, Peter Rudolf	APPROVED	2023-07-05	2023-07-05 13:06:20.0	ANL-985 DOE NEPA Compliance Officer Review and Approval :	PRIMARY
