DOE NEPA Tracking Number

U. S. DEPARTMENT OF ENERGY, OFFICE OF SCIENCE
INTEGRATED SUPPORT CENTER—CHICAGO OFFICE

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)
ENVIRONMENTAL EVALUATION NOTIFICATION FORM

To be completed by "Applicant," i.e., organization with responsibilities for a "Federal action" involving application to DOE for a permit, license, exemption or allocation, or other similar actions. For assistance with this Form, refer to "Instructions for Preparing ISC-CH F-560, Environmental Evaluation Notification Form."

Solicitation/Award No. (if applicable):

Organization Name: Ames National Laboratory (Ames, Iowa)

Proposed Action Title: Generic CX: Operation and Maintenance of the Ames National Laboratory

Total DOE Funding/Total Funding:

I. Project Description: ***(Use explanation pages if additional space is required)***

A. Proposed Project/Action (if applicable, delineate Federally funded/Non-Federally funded portions)

The objective of the Ames Lab facility maintenance program in general, and the Ames Infrastructure Modernization (AIM) project in particular, is to support the SC mission by providing a safer and more operationally efficient campus for the employees, visitors, and guests at Ames, as well as reduce deferred maintenance costs. This effort is designed to support DOE mission-critical programs and initiatives, increase the reliability of utility infrastructure, minimize facility costs through effective and efficient operations, and modernize laboratories in Ames Laboratory's research buildings, thereby enhancing Ames Laboratory's ability to continue to deliver on SC mission across multiple program offices.

Maintenance, repairs, renovations, and upkeep will focus on these systems: plumbing, building envelope, electrical, telecommunication, and research spaces. (Continued on additional pages.)

B. Would the project proceed without Federal funding? Yes ☐ No ☑

If "yes," use explanation page.

II. Description of Affected Environment: ***(Use explanation pages if additional space is required)***

Ames National Laboratory is located on the campus of Iowa State University (ISU) in Ames, Iowa, and occupies 12 buildings owned by the US Department of Energy (DOE). The City of Ames surrounds the ISU main campus (490 acres), with a population of approximately 66,500 that includes the ISU student population of approximately 30,000. Ames is located in Story County, which has a population of approximately 97,502. The Laboratory also leases space in ISU owned buildings.

The climate in Ames is temperate continental, and is subject to wide temperature and precipitation ranges throughout the year. Mean monthly temperature varies from a low of minus 7.5 degrees Celsius (18.5°F) in January to a high of 23.8 degrees Celsius (74.8 °F) in July. Average rainfall equivalent precipitation varies from 1.8 centimeters (0.7 inches) in January to 13.7 centimeters (5.4 inches) in June.
(Continued on additional pages.)

III. Preliminary Questions:

		Yes	No
A.	Is the DOE-funded work routinely administrative or *entirely* advisory or a "paper study?"	☐	☑

If "Yes", ensure that the description in Section I reflects this and go directly to Section V.

B. Is there any potential whatsoever for: (***Provide an explanation for each "Yes" response)***

		Yes	No
1.	Work to be performed outdoors?	☑	☐
2.	Major modification of a building interior?	☐	☑
3.	Threat of violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health?	☐	☑
4.	Siting, construction or major expansion of waste treatment, storage, or disposal facilities?	☐	☑
5.	Disturbance to hazardous substances, pollutants, or contaminants preexisting in the environment?	☐	☑
6.	The presence of any environmentally-sensitive resources?	☐	☑
7.	Any potential whatsoever for high consequence impacts to human health or the environment?	☐	☑
8.	The work being connected to another existing/proposed activity that could potentially create a significant impact?	☐	☑
9.	Nearby past, present, and/or reasonably foreseeable future actions such that collectively significant impacts could result?	☐	☑
10.	Scientific or public controversy, uncertainty over potential impacts, or conflicts regarding resource usage?	☐	☑

If "No" to ALL Section III.B. questions, go directly to Section V.

IV. Potential Environmental Effects: (***Provide an explanation for each "Yes" response)***

A. Environmentally Sensitive Resources: Could the proposed action potentially result in changes and/or disturbances to any of the following resources?

		Yes	No
1.	Threatened/Endangered Species and/or Critical Habitats	☐	☑
2.	Other Protected Species (e.g., Burros, Migratory Birds, Pollinators)	☐	☑
3.	Sensitive Environments (e.g., Tundra/Coral Reefs/Rain Forests)	☐	☑
4.	Cultural or Historic Resources	☐	☑
5.	Important Farmland	☐	☑
6.	Non-Attainment Areas for Ambient Air Quality Standards	☐	☑
7.	Class I Air Quality Control Region	☐	☑
8.	Special Sources of Groundwater (e.g. Sole Source Aquifer)	☐	☑
9.	Navigable Air Space	☐	☑
10.	Coastal Zones	☐	☑
11.	Areas with Special National Designation (e.g. National Forests, Parks, Trails)	☐	☑
12.	Floodplains and/or Wetlands	☐	☑

B. Regulated Substances/Activities: Would the proposed action involve any of the following regulated Items or activities?

13.	Natural Resource Damage Assessments	☐	☑
14.	Invasive Species or Exotic Organisms	☐	☑
15.	Noxious Weeds	☐	☑
16.	Clearing or Excavation greater than one acre or Removal of Trees Governed by Local Requirement	☐	☑
17.	Dredge or Fill (under Clean Water Act, Section 404, greater than one acre)	☐	☑

B. Regulated Substances/Activities: Would the proposed action involve any of the following regulated Items or activities? (*continued*)

		Yes	No
18.	Noise (in excess of regulations)	☑	☐
19.	Asbestos Removal	☑	☐
20.	Polychlorinated biphenyls (PCBs)	☑	☐
21.	Import, Manufacture, or Processing of Toxic Substances	☐	☑
22.	Chemical Storage/Use	☑	☐
23.	Pesticide Use	☐	☑
24.	Hazardous, Toxic, or Criteria Pollutant Air Emissions	☑	☐
25.	Liquid Effluents	☐	☑
26.	Spill Prevention/Surface Water Protection	☑	☐
27.	Underground Injection	☐	☑
28.	Hazardous Waste	☑	☐
29.	Underground Storage Tanks	☐	☑
30.	Radioactive or Radioactive Mixed Waste	☑	☐
31.	Radiation Exposure	☑	☐
32.	Nanoscale Materials	☐	☑
33.	Genetically Engineered Microorganisms/Plants or Synthetic Biology	☐	☑
34.	Ozone Depleting Substances	☑	☐
35.	Greenhouse Gas Generation/Sustainability	☐	☑
36.	Off-Road Vehicles	☐	☑
37.	Biosafety Level 3-4 Laboratory	☐	☑
38.	Research on Human Subjects or other Vertebrate Animals	☐	☑
39.	Facility footprint exceeds 5,000 Square Feet	☐	☑

C. Other Relevant Information: Would the proposed action involve the following?

		Yes	No
40.	Disproportionate Nearby Presence of Minority and/or Low Income Populations	☐	☑
41.	Existing, Modified, or New Federal/State Permits	☑	☐
42.	Involvement of Another Federal Agency (e.g. license/permit, funding, approval)	☐	☑
43.	Action in a State with NEPA-type law	☐	☑
44.	Expansion of Public Utilities/Services	☐	☑
45.	Depletion of a Non-Renewable Resources	☐	☑
46.	Subject to an Existing Institutional Work Planning and Control Process	☑	☐
47.	Other Pertinent Information Which Could Impact Human Health or the Environment	☐	☑

V. Applicant certification that to the best of their knowledge all information provided on this form is accurate:

	Yes	No
Does this disclosure contain: classified, sensitive business, or other exempt information that DOE would not be obligated to disclose pursuant to the Freedom of Information Act.	☐	☑

A. Organization Official (Name and Title): Sean Whalen, Environment, Safety, and Health Director

Signature: Sean B. Whalen Digitally signed by Sean B. Whalen Date: 2023.01.23 08:48:39 -06'00' Date: _____

e-mail: sbwhale@ameslab.gov Phone: 515.294.4965

B. Optional Secondary Approval (Name and Title): _____

Signature: _____ Date: _____

e-mail: _____ Phone: _____

DOE NEPA Tracking Number

Remainder to be completed by DOE

VI. DOE Concurrence/Recommendation/Determination:

A. DOE Project Director/Program Manager or Contract/Grant Management Specialist:

	Yes	No
Has the Applicant completed this Form correctly?	☑	☐
Does an existing generic categorical exclusion apply?	☐	☑

If yes, indicate: _____

Name and Title: Joseph Nolin

Signature: Joseph Nolin Digitally signed by Joseph Nolin Date: 2023.01.23 10:02:59 -06'00' Date: _____

B. DOE NEPA Team Review (if requested):

	Yes	No
Is the class of action identified in the DOE NEPA Regulations (Appendices A-D to Subpart D (10 CFR § 1021))?	☑	☐

If yes, specify the class(es) of action: See continuation pages

Name and Title: N/A

Signature: _____ Date: _____

C. DOE Counsel (if requested):

Name and Title: N/A

Signature: _____ Date: _____

D. DOE NEPA Compliance Officer:

The preceding pages are a record of documentation required under DOE Final NEPA Regulation, 10 CFR § 1021.410.

☑ Action may be categorically excluded from further NEPA review. I have determined that the proposed action meets the requirements for Categorical Exclusion referenced above.

☐ Action requires approval by Head of the Field Organization. Recommend preparation of an Environmental Assessment.

☐ Action requires approval by Head of the Field Organization or a Secretarial Officer. Recommend preparation of an Environmental Impact Statement.

Comments/limitations if any:

NEPA Compliance Officer:

Name: _____

Signature: Peter Siebach Digitally signed by Peter Siebach Date: 2023.02.02 10:39:10 -06'00' Date: _____

Optional Additional Narrative: (add additional detail to description to Sections I and II or explanations to responses in Sections 3 and 4.

Section I.A. Proposed Project/Action: (Continued)
Although not intended to be a complete list of all actions covered by this NEPA determination, the following list of currently planned actions for the Ames Infrastructure Modernization (AIM) project provides specific examples of the kinds of activities that would be covered:

Plumbing Systems. Aging plumbing systems result in unplanned events such as sanitary sewer or major water leaks that lead to disruption of scientific operation, jeopardizing instrumentation, and presenting a safety and health risk to personnel. Replace and upgrade existing infrastructure at critical locations that are deemed inadequate and substandard. Utilizing the newest technologies and materials for replacement and repairs in selected areas minimizes the need for expensive repairs on the domestic water supply and sewer piping in the future. The scope of AIM addresses only the major, high-risk deficiencies in domestic water supply and sanitary sewer systems for mission critical buildings. Specific plans include: replace portions of the sanitary piping that exhibit signs of cracks, odor, or leaks; replace sanitary and domestic pipe insulation; install new ball valves; add water softening capabilities to hot water supply; replace de-ionized water supply and distribution pipes.

Building Envelope. Deteriorating building envelopes negatively impact the SC mission through increased operational costs, elevated risk to research equipment, and poor work environment for Ames staff. Replace and upgrade existing infrastructure at critical locations that are deemed inadequate and substandard for mission critical buildings. Remove the existing roof system if required; install new roof insulation and cover board to comply with current energy codes and Department of Energy guidelines; install new PVC vent-secured roofing system.

Electrical Systems. Lack of an adequate electrical supply and distribution, including reliability during outages, place sensitive scientific equipment at risk of damage, prevents program expansion, and limits SC continued investment in state-of-the-art equipment and instrumentation. Replace two existing standby power generators with new units that will back up the entire suite of laboratory and shop buildings; add one Uninterruptible Power System (UPS) unit per lab building to replace many smaller units spread throughout labs and other critical spaces.

Telecommunication Systems. Inadequate telecommunication systems impede program expansion and limits SC investment in state-of-the-art equipment and instrumentation. Add new Telecom Room, IT equipment, and cable pathways, including new power units, cooling units, racks, and cable trays consisting of new vertical chases, cable trays, conduit and j-hooks to allow for replacement of the existing cabling with Cat. 6A throughout the building.

Research Space. Outdated laboratory research space impacts SC mission through several outcomes, such as the inability to house state-of-the-art equipment and instrumentation; implement best safety management practices; create collaborative environments; and attract, recruit, and retain the best scientific talent. Renovate existing lab spaces and systems that are past their useful life; remove old lab benches, antiquated equipment, and inadequate support systems; add new systems in order to provide dependable and effective support for modern research operations.

Section II, (Continued) Description of Affected Environment
(Continued) The region's topography is gently rolling with a slight overall negative gradient to the southeast. Under the shallow topsoil, the soils are glacial till with a depth of approximately 19.8 meters (65 feet). This material is underlain by predominantly limestone bedrock. In the central campus area, the depth to first groundwater is approximately 3.0 meters (10 feet). Surface run-off flows into Ioway Creek, a tributary of the South Skunk River. The streams have a combined average daily flow of approximately 644 million liters (170 million gallons).
Activities are scoped to have minimal effect on the environment as the majority of work will be conducted inside buildings. Outside activities are minor and are adjacent to existing buildings in areas that have already been disturbed. Where practical, appropriate construction debris will be recycled. Hazardous and special waste, asbestos, and radioactive waste will be disposed of per Federal/State regulations and Ames Laboratory procedures to ensure proper control.

Section III. Preliminary Questions (Explanation of each "yes" answer.)
B.1. Work to be performed outdoors - yes.
B.1.a. Renovation activities to restore a functional building envelope may require work to be done outdoors (i.e., roof tops, tuckpointing, painting, etc.). Outside activities are minor and are adjacent to existing buildings and in areas that have already been disturbed.
B.1.b. A new site-wide standby generator is included in the AIM project that will replace two older emergency generators. The new generator will be located near the main electric feed from the City of Ames (42.033162, -93.648279) and will be sufficient to provide emergency power to all critical instruments and life safety equipment on site in the event of a power failure. Installation of a new standby generator includes the following considerations: i.) To satisfy NESHAPS requirements, this standby generator may require a construction permit and operating permit through the Iowa Department of Natural Resources (DNR) Air Quality Office [see also B.24, C.41]. ii.) The standby generator will include a diesel fuel tank that may require spill prevention controls and countermeasures (SPCC). The diesel fuel tank is intended to be installed inside an above-ground vault that meets SPCC requirements. [see also B.26] iii.) An annual above-ground storage tank permit may be required through the State Fire Marshal’s office to satisfy NFPA 30/30A requirements [see also C.41]. After this standby generator is fully operational, the existing emergency generator and above-ground fuel storage tank located between the Zaffarano Physics Addition and Harley Wilhelm will be removed and de-listed with the Iowa DNR.

Section IV. Potential Environmental Effects:
B.18 Noise
Most standard installation/maintenance/removal activities do not exceed decibel limits. When noise limits are expected to exceed industry limits, proper and appropriate hearing protection will be required.

B.19 Asbestos Removal
Activities may require the removal of asbestos containing materials (ACM). In addition to traditional ACM, the potential exists that electrical wiring containing asbestos insulation may be removed during the renovation project and will be managed as ACM. Current records do not indicate that ACM electrical insulation is present in the buildings, but a monitoring plan will be in place during the renovation. Asbestos Removal and disposal activities will follow the Ames Laboratory Asbestos Notification Procedure. Asbestos removal would be performed by a qualified asbestos abatement contractor (or trained Laboratory/University personnel) as set forth under 40 CFR Part 763 Appendix C to Subpart E "Asbestos Model Accreditation Plan", licensed by the Iowa Division of Labor. The 40 CFR Part 61, Subpart M (National Emission Standard for Asbestos), Section 61.145 (standard for demolition), and the Iowa Administrative Rules, Chapter 155 (Asbestos Removal and Encapsulation) would be followed.

B.20 PCBs
PCB materials will be collected and disposed of according to Federal/State regulations and Laboratory procedures. Primarily limited to light ballasts.

B.22. Chemical Storage/Use
Small amounts of paints, thinners, greases and water treatment chemicals are stored in cabinets and/or mechanical maintenance rooms. All special products, chemicals, etc. stored or used will be accompanied by MSDS sheets identifying their hazards. Any chemicals not appropriate for use at the Laboratory will not be allowed to be used.

(Continued on additional pages)

(Continued from ISC-CH F 560, NEPA Environmental Evaluation Notification Form)

B.24. Hazardous, Toxic, or Criteria Pollutant Air Emissions

The site-wide standby generator may require a construction permit and operating permit through the Iowa Department of Natural Resources Air Quality Division.

The on-site paint shop is used to repaint laboratory equipment and furniture. The spray booth is permitted per Iowa Administration Code 567 IAC Chapter 22. The spray booth is considered a minor Emissions source by the Iowa Department of Natural Resource – Air Quality Division.

B.26. Spill Prevention/Surface Water Protection

The Laboratory has established SPCC training for appropriate personnel and has an SPCC Plan 10200.037 for the facility.

The site-wide standby generator to be installed will include a diesel fuel tank that may require spill prevention controls and countermeasures (SPCC). The diesel fuel tank is intended to be installed inside an above-ground vault that meets SPCC and NFPA requirements.

B.28. Hazardous Waste

Small amounts of hazardous waste may be generated from painting and other maintenance activities. All chemical users and hazardous waste generators are required to take the Laboratory's Waste Generator Training. Hazardous waste is collected and disposed of according to Federal/State regulations and Laboratory procedures.

B.30. Radioactive Waste

Due to legacy contamination, renovation and routine maintenance activities may generate radioactive low-level waste (LLW). LLW is managed per DOE Order 435.1 and the Ames Laboratory procedures. ESH&A provides oversight during activities that could potential generate legacy LLW. Because radioactive material processing historically included beryllium, the potential exists that electrical wiring contaminated with beryllium may be removed during the renovation project and will be managed as beryllium contaminated material.

B.31. Radiation Exposures

Small amounts of low-level radioactive contamination may be encountered. Only trained personnel will be allowed to work on contaminated building components with oversight performed by Health Physics Personnel. Planned radiation exposures will follow 10 CFR 835 for workers and DOE O 458.1 for the

Public and the Environment and specifically, the principle of "As Low as reasonably Achievable" and will not exceed the Ames Laboratory's administrative limits as outlined in the Radiation Protection Program Plan, 10202.004.

B.34. Ozone Depleting Substances

Refrigerant recovery. The Laboratory's recovery equipment is registered with the EPA under #608. Recovered Freon is shipped offsite through the Laboratory's hazardous waste vendor for disposal and/or recycling.

C.41. Existing, Modified, or New Federal/State Permits

The site-wide standby generator may require a construction permit and operating permit through the Iowa Department of Natural Resources Air Quality Office to satisfy Clean Air Act requirements.

The site-wide standby generator will include a diesel fuel tank that may require an annual above-ground storage tank permit through the State Fire Marshal’s office to satisfy NFPA 30/30A requirements.

C.46. Subject to an Existing Work Planning and Control Process

Ames Laboratory has an internal work planning and control procedure to ensure that activities are planned, the associated hazards are identified, and control measures are implemented to protect personnel and the environment. Activities are reviewed at the developmental stage, upon operation and periodically thereafter using a graded approach based on the hazard category.

VI. Applicable Categories Under 10 CFR Part 1021, Appendix A to Subpart D

[B1.3, B1.4, B1.5, B1.6, B1.7, B1.8, B1.11, B1.13, B1.15, B1.16, B1.17, B1.21, B1.22, B1.23, B1.27, B1.28, B1.31, B1.32, B2.1, B2.3, B2.5, B5.1]

B1.3 Routine maintenance/custodial services for building;

B1.4 Installation/modification of air conditioning systems for existing equipment;

B1.5 Minor improvements to existing steam plants and cooling water systems, provided that the improvements would not: (1) Create new sources of water or involve new receiving waters; (2) have the potential to cause significant impacts on water withdrawals or the temperature of discharged water; or (3) increase hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum and natural gas products;

B1.6 Installation or modification of retention tanks or small basins and associated piping and pumps for existing operations to control runoff or spills;

B1.7 Acquisition, installation, operation, modification, and removal of electricity transmission equipment, communication systems, data processing equipment;

B1.8 Modifications to screened water intake and outflow structures;

B1.11 Installation of fencing, no adverse impacts on wildlife populations or migration or surface water flow;

B1.13 Construction, acquisition, and relocation of on-site pathways, small outdoor fitness areas, and short access roads and rail lines;

B1.15 Siting, construction or modification, and operation of support buildings and support structures;

B1.16 Removal of asbestos containing materials from buildings in accordance with applicable requirements;

B1.17 Removal of polychlorinated biphenyl (PCB)-containing items from buildings or other aboveground locations in accordance with applicable requirements;

B1.21 Noise abatement measures;

B1.22 Relocation of buildings to an already developed area;

B1.23 Demolition/disposal of buildings, equipment, and support structures, no adverse impact to public health or the environment;

B1.27 Disconnection of utilities;

B1.28 Minor activities that are required to place a facility in an environmentally safe condition, no proposed use for facility;

B1.31 Installation or relocation and operation of machinery and equipment;

B1.32 Adjustments to traffic flow, existing roads;

B2.1 Modifications to an existing structure, in a previously disturbed or developed area, to enhance workplace habitability;

B2.3 Installation of equipment for personnel safety and health;

B2.5 Safety and environmental improvements of facility, replacement/upgrade facility components.

B5.1 Actions to conserve energy