

DOE-ID NEPA CX DETERMINATION

Idaho National Laboratory

SECTION A. Project Title: Purchase, Installation and Training for a Friction Test Machine and an Impact Test Machine

SECTION B. Project Description and Purpose:

The purpose of this project is to procure, install, calibrate two energetic material sensitivity test machines then conduct on-site training and provide follow-up technical support for the machines. This equipment would be installed at Idaho Falls (IF)-682 (also identified as University Boulevard [UB]-3). Each project which produces material requiring testing with these machines will require a project specific Environmental Checklist (EC).

The Materials and Physical Security department uses energetic materials in support of the warfighter and first responders. Understanding the physical characteristics of these energetic materials is often needed.

The Safety Management Services, Inc. (SMS) Tabletop ABL Friction Test Machine would provide in-house testing to determine the energy required to initiate a sample by friction energy application. The smaller size of the test apparatus would allow it to be mounted to any stable workbench or table. The primary parts of the test apparatus include a moving anvil, stationary wheel, and swinging pendulum. Sample initiation is determined by production of smoke, fire, or an audible pop.

The SMS Impact Test Machine would provide in-house testing capability to determine energetic material response to impact energy stimulus. The machine is capable of running the Modified Bureau of Mines (MBOM), Bureau of Explosives (BOE), and Type 12 impact tests. These are the industries' core impact sensitivity tests for producing energetic material sensitivity data. Reaction of the material is determined by operator observation, detection of decomposition by a gas analyzer, or utilizing a high speed video capture system. The MBOM Impact machine produced by SMS has been adopted by both the United Nations (UN) and the Explosive Testing (ET) Users' Group. Data obtained through testing of newly developed energetic materials can be used to identify the reactivity of a material for several purposes, including identification of Department of Transportation shipping requirements.

Any fumes, gasses, or materials vented through the facility exhaust system are described Air Permit Applicability Determination (APAD) INL-12-006. The APAD would be modified to cover these test devices.

A subcontractor would provide all labor and materials, including any software, necessary to complete the installation and calibration for an ABL Friction Test Machine and a MBOM Impact Test Machine in IF-682. Subcontractor personnel would provide on-site training for operation of the machines to Idaho National Laboratory (INL) employees. The subcontractor would be discouraged from bringing any chemicals on-site. Energetic materials used during training will be provided by INL.

SECTION C. Environmental Aspects or Potential Sources of Impact:

Air Emissions

Installation, initial testing, and training activities are expected to generate minor amounts of vapors, gases, and/or particulates from energetic materials. These types of emissions are covered under Air Permit Applicability Determination (APAD) INL-12-006 which will be modified to cover these two test devices.

Generating and Managing Waste

Installation, initial testing, and training activities are expected to generate industrial waste in the form of spent packaging, scrap metal, and energetics residue. All Solid Waste will be managed by Waste Generator Services (WGS). Scrap metal and spent packaging will be recycled to the extent practicable.

Using, Reusing, and Conserving Natural Resources

All applicable waste would be diverted from disposal in the landfill when possible. Project personnel would use every opportunity to recycle, reuse, and recover materials and divert waste from the landfill when possible. The project would practice sustainable acquisition, as appropriate and practicable, by procuring construction materials that are energy efficient, water efficient, are bio-based in content, environmentally preferable, non-ozone depleting, have recycled content, and are non-toxic or less-toxic alternatives. New equipment will meet either the Energy Star or Significant New Alternatives Policy (SNAP) requirements as appropriate (see <http://www.sftool.gov/GreenProcurement>).

SECTION F. Determine Recommended Level of Environmental Review, Identify Reference(s), and State Justification: Identify the applicable categorical exclusion from 10 Code of Federal Regulation (CFR) 1021, Appendix B, give the appropriate justification, and the approval date.

For Categorical Exclusions (CXs), the proposed action must not: (1) threaten a violation of applicable statutory, regulatory, or permit requirements for environmental, safety, and health, or similar requirements of Department of Energy (DOE) or Executive Orders; (2) require siting and construction or major expansion of waste storage, disposal, recovery, or treatment or facilities; (3) disturb hazardous substances, pollutants, contaminants, or Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)-excluded petroleum and natural gas products that pre-exist in the environment such that there would be uncontrolled or unpermitted

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releases; (4) have the potential to cause significant impacts on environmentally sensitive resources (see 10 CFR 1021). In addition, no extraordinary circumstances related to the proposal exist that would affect the significance of the action. In addition, the action is not "connected" to other action actions (40 CFR 1508.25(a)(1) and is not related to other actions with individually insignificant but cumulatively significant impacts (40 CFR 1608.27(b)(7)).

References: National Environmental Policy Act (NEPA) Implementing Procedures, Final Rule, 10 CFR 1021, Appendix B to Subpart D, Categorical Exclusion B1.31 "Installation or relocation of machinery and equipment."

Justification: The proposed activities are consistent with CX B1.31 "Installation or relocation and operation of machinery and equipment (including, but not limited to, laboratory equipment, electronic hardware, manufacturing machinery, maintenance equipment, and health and safety equipment), provided that uses of the installed or relocated items are consistent with the general missions of the receiving structure. Covered actions include modifications to an existing building, within or contiguous to a previously disturbed or developed area, that are necessary for equipment installation and relocation. Such modifications would not appreciably increase the footprint or height of the existing building or have the potential to cause significant changes to the type and magnitude of environmental impacts."

Is the project funded by the American Recovery and Reinvestment Act of 2009 (Recovery Act) Yes No

Approved by Jack Depperschmidt, DOE-ID NEPA Compliance Officer on: 9/9/2015