

SECTION A. Project Title: Upgrades to the Colorado School of Mines Neutron Imaging Beam-Line

SECTION B. Project Description

The Colorado School Mines project has three objectives:

- Upgrade CSM's Neutron Imaging Beam-Line, including the addition of several modular filters that will allow fine-tuning of the resulting neutron beam
- Provide additional neutron detection and measurement equipment to allow direct measurement of the beam's neutron flux and energy spectrum by purchasing a gamma+ neutron handheld survey meter and a neutron cart and ball detector
- Obtain the image conversion foils needed to conduct film-based neutron radiography

SECTION C. Environmental Aspects / Potential Sources of Impact

Radioactive Material Use – Moderate amounts of short-lived radioactive materials will be produced from neutron radiography. Activities will be covered under existing radiological permits and procedures.

Radioactive Waste Generation – Negligible amounts of waste are expected. Activities will be covered under existing radiological permits and procedures.

Chemical Use/Storage – Film radiography requires the use of standard darkroom chemicals.

SECTION D. Determine the Level of Environmental Review (or Documentation) and Reference(s): Identify the applicable categorical exclusion from 10 CFR 1021, Appendix B, give the appropriate justification, and the approval date.

Note: 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, including requirements of DOE orders; 2) require siting and construction or major expansion of waste storage, disposal, recovery, or treatment facilities; 3) disturb hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum and natural gas products that pre-exist in the environment such that there would be uncontrolled or unpermitted releases; 4) adversely affect environmentally sensitive resources. In addition, no extraordinary circumstances related to the proposal exist which would affect the significance of the action, and the action is not "connected" nor "related" (40 CFR 1508.25(a)(1) and (2), respectively) to other actions with potentially or cumulatively significant impacts.

References: B3.6 Siting, construction, modification, operation, and decommissioning of facilities for small-scale research and development projects; conventional laboratory operations (such as preparation of chemical standards and sample analysis); and small-scale pilot projects (generally less than 2 years) frequently conducted to verify a concept before demonstration actions, provided that construction or modification would be within or contiguous to a previously disturbed or developed area (where active utilities and currently used roads are readily accessible). Not included in this category are demonstration actions, meaning actions that are undertaken at a scale to show whether a technology would be viable on a larger scale and suitable for commercial development.

Justification: The activity consists of purchasing equipment for research purposes.

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 5/17/2012