NEPA REVIEW
LASO-10-001

CATEGORICAL EXCLUSION

FUELS RESEARCH LAB AT TA-35-455

1. DESCRIPTION OF PROPOSED ACTION:

Los Alamos National Laboratory proposes to modify an existing laboratory for a Fuels Research Lab (455-FRL). The laboratory would be used to fabricate and characterize fuel pellets. The proposed activities would take place at the former location of the Polymers & Coating Lab (PCL) located at TA-35, Building 455, in room 104. Authorization would need to be obtained for the processing of radioactive materials in this location.

The current laboratory configuration of chilled water supply and return, gas, compressed air, and vacuum supply, electrical supply, HEPA filtration, and ventilation would be assessed and modified to suit 455-TPCL facility needs. Analytical and process equipment would be required for this facility. Glovebox considerations include delivery, modifications, accessories, and installation. Construction and modifications would occur at TA-35 in an existing building, which is a developed area where active utilities and currently used roads are readily accessible.

This laboratory space would be primarily concerned with the synthesis and analysis of ceramics, and ceramic composites (CERCER, CERMET, etc.) of uranium-based materials. These are important to nuclear fuels program research at Los Alamos. Thorium-based materials systems, irradiated metals, and other novel materials would also be investigated. LANL may desire at some point to designate the lab as an approved user facility for the processing of uranium-based material and determination of the thermophysical properties of such materials at high temperatures.

In concert with this research, capabilities would also exist for the materials preparation and analysis of irradiated samples used in the investigation of suitable cladding materials. The processing and analysis would support such programs as the U.S. Fuel Cycle Research and Development Program (FCR&D) by providing pertinent data on the thermophysical behavior of uranium-based material systems and suitable cladding.

Similar activities already occur (without the radiological component) at the Material Science Lab (MSL) in TA-03. Analysis of spent nuclear reactor fuel occurs at the Chemistry and Metallurgy Research (CMR) Facility as described in the CMR Key Facility document at 2.8.3.3 and 2.8.5.2. Fabrication of ceramic-based reactor fuels is described in the Plutonium Key Facility document.

2. PROJECT REQUIREMENTS:

Authorization would need to be obtained for the processing of radioactive materials in this location.

3. CATEGORICAL EXCLUSION BEING APPLIED:

10 CFR 1021, Subpart D, Appendix B B3.6, Siting, construction (or modification), operation, and decommissioning of facilities for indoor bench-scale research projects and conventional laboratory operations (for example, preparation of chemical standards and sample analysis); small-scale research and development projects; and small-scale pilot projects (generally less than two years) conducted to verify a

concept before demonstration actions. Construction (or modification) will be within or contiguous to an already developed area (where active utilities and currently used roads are readily accessible).

3. REGULATORY REQUIREMENTS IN 10 CFR 1021.410 (B):

1. The proposed action fits within a class of actions that is listed in Appendix B to Subpart D.

   For classes of actions listed in Appendix B, the following conditions are integral elements; i.e., to fit within a class, the proposal must not:

   a. Threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health, including DOE and/or Executive Orders;

   b. Require siting, construction, or major expansion of waste storage, disposal, recovery, or treatment facilities, but may include such categorically excluded facilities;

   c. 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; or

   d. Adversely affect environmentally sensitive resources (including but not limited to those listed in paragraph B. (4)).

2. There are no extraordinary circumstances related to the proposal that may affect the significance of the environmental effects of the proposal; and

3. The proposal is not "connected" to other actions with potentially significant impacts, is not related to other proposed actions with cumulatively significant impacts, and is not precluded by 40 CFR 1506.1 or 10 CFR 1021.211.

4. NEPA COMPLIANCE OFFICER CLASSIFICATION/DETERMINATION:

This proposal is covered by a NEPA categorical exclusion in accordance with Appendix B to Subpart D of 10 CFR 1021, and meets the requirements of 10 CFR 1021.410 (B) listed above.

If changes are made to the scope of action so that it is no longer bounded by the action described in this memo, or it is changed to encompass other actions, NEPA requirements for the action will need to be reassessed at that time and further analysis may be required.

Signature: George J. Rael **Date:** June 2, 2010

George Rael, LASO NEPA Compliance Officer