

**DOE-ID NEPA CX DETERMINATION  
IDAHO NATIONAL LABORATORY**

**SECTION A. Project Title:** Hex Block Shipment Project

**SECTION B. Project Description.**

This project involves the shipment of two irradiated stainless steel hex blocks presently located at the Idaho National Laboratory (INL) Materials and Fuels Complex (MFC) to a Westinghouse facility located in Pittsburgh, Pennsylvania to support Research and Development (R&D) activities. This R&D work will be performed by a private contractor and will involve the use of ultrasonic equipment to determine the extent of swelling in irradiated structural stainless steel. Thick sections of irradiated stainless steel (as contained in the hex blocks) are needed to verify operation of the ultrasonic measuring equipment when applied to the internals of a power water reactor (PWR). Information from the analysis will be of great value to light water reactor life extension programs and results from the analysis will be shared with the INL. Upon completion of the R&D work, the hex blocks will be returned to the INL.

The project will be divided into two parts (Phase I and Phase II). It is proposed under Phase I of this project that Hex Blocks #3 and #5, from reflector subassembly U-9807 be sent to the Westinghouse facility located in Pittsburgh, Pennsylvania, for ultrasonic, density and destructive testing, as necessary. The work is being coordinated through three different groups, Radiation Effects Consulting LLC, Nuclear Fuel Industries (NFI) and Westinghouse Nuclear. The contracting body for this work will be Westinghouse Nuclear. First, this EC covers the preparation and effort needed to load these blocks in a Westinghouse supplied shielded Department of Transportation (DOT) compliant 7A container and ready the container for shipment. Work will include inspections, procedure development and loading activities. Westinghouse will be responsible for all costs associated with shipping the empty 7A container to the INL and then shipping the loaded container back to the Westinghouse-Pittsburgh facility.

Phase II will require the return of Hex Blocks #3 and #5 to the INL. Westinghouse is responsible for returning Hex Blocks #3 and #5 back to the MFC Hot Fuel Examination Facility (HFEF) no later than October 31, 2012. Westinghouse is responsible for all costs associated with returning the Hex Blocks #3 and #5 to HFEF, including but not limited to material preparation, packaging, licensing/permitting/regulatory requirements, insurance, scheduling, transportation, and unloading the materials in the hot cell. Westinghouse responsibilities will be met and the material considered returned once the material has been unloaded from the transportation container, the container has been returned to the transportation trailer, and the trailer removed from MFC. Details of Phase II will be defined in an amended or separate work for others (WFO) agreement. Work performed under Phase II must be completed by October 31, 2012. Receipt of the hex blocks at MFC and unloading operations at HFEF are covered under this EC.

**SECTION C. Environmental Aspects / Potential Sources of Impact:**

**Generating and Managing Waste:** This project is limited to loading/unloading a Westinghouse provided DOT Type 7A compliant container with two hex blocks for shipment to and/or receipt from a Westinghouse hot cell facility in Pittsburgh, PA. Loading/unloading the container in HFEF will generate industrial and low level radioactive waste. The amount of waste generated is expected to be less than one cubic foot.

**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: 10 CFR Part 1021, Appendix B to Subpart D, B3.6

Justification: This project involves the shipment and analysis (using ultrasonic equipment) of two irradiated stainless steel hex blocks to determine the extent of swelling in irradiated structural stainless steel. This work is appropriately covered under CX category B3.6 "small-scale research and development projects; and small-scale pilot projects ..."

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: 1/25/2011