FINDING OF NO SIGNIFICANT IMPACT FOR CONSTRUCTION AND OPERATION OF A PHYSICAL SCIENCES FACILITY AT THE PACIFIC NORTHWEST NATIONAL LABORATORY, RICHLAND, WASHINGTON (DOE/EA-1562)

U.S. DEPARTMENT OF ENERGY
OFFICE OF SCIENCE, PACIFIC NORTHWEST SITE OFFICE

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OFFICE OF SCIENCE, PACIFIC NORTHWEST SITE OFFICE

AGENCY: U.S. Department of Energy

ACTION: Finding of No Significant Impact

SUMMARY: The U.S. Department of Energy (DOE) has prepared an Environmental Assessment (EA), DOE/EA-1562, to assess environmental impacts associated with construction and operation of a proposed Physical Sciences Facility (PSF) complex on DOE property located in Benton County, north of Richland, Washington. That facility would replace a number of existing research laboratories in the Hanford Site 300 Area that are currently occupied by Pacific Northwest National Laboratory (PNNL) and that are scheduled for removal as part of the Hanford Site cleanup.

Based on the analyses of environmental impacts in the final EA and consideration of public comments received on the draft EA, DOE has determined that the proposed action is not a major federal action significantly affecting the quality of the human environment within the meaning of the *National Environmental Policy Act of 1969* (NEPA), 42 U.S.C. 4321, et seq. Therefore, the preparation of an Environmental Impact Statement is not required.

PROPOSED ACTION: The DOE Office of Science (DOE-SC) plans to construct and operate the PSF using funding provided by DOE-SC, the DOE National Nuclear Security Administration, and the Department of Homeland Security. The PSF construction site consists of approximately 20 hectares (50 acres) within a vacant 38-hectare (103-acre) parcel of land, located north of the Richland, Washington, city limits. The property is bounded by Stevens Drive on the west, Horn Rapids Road on the south, and George Washington Way to the north and east. DOE also plans to maintain additional property to the north and east of the proposed construction site as an undeveloped buffer area for the proposed facilities. If DOE eventually requires restriction of public access to the entire buffer area, it would be necessary to close George Washington Way north of Horn Rapids Road, as well as the bike path that runs parallel to George Washington Way north of Horn Rapids Road. The combined construction site and buffer area would include about 130 hectares (320 acres), extending from Stevens Drive on the west to the Columbia River on the east, and from Horn Rapids Road on the south to a line running east-west approximately 1,100 meters (3,500 feet) north of Horn Rapids Road.

Physical Sciences Facility. The PSF is planned as a modular facility to be constructed in phases over a period of up to 20 years. The fully completed facility would house a number of research capabilities that utilize radiological materials, including materials science and technology, radiation detection, ultra-trace detection technology, subsurface science, certification and dosimetry, shielded operations, and chemistry and processing. Additional support functions, such as a central utility plant, maintenance and fabrication support, and a waste management area, may be constructed within, or adjacent to, the PSF. If all of those

research capabilities are ultimately relocated, the PSF could occupy approximately 31,000 square meters (332,000 square feet) and house about 480 scientific and support staff. A paved surface area, designated a "Radiation Detection Track," for experimental capabilities to detect radiological materials in vehicles and containers is also planned as part of the proposed action. Construction of the initial phase is planned to begin in late 2007 or early 2008, with initial occupancy and startup of portions of the facility scheduled for late 2010 or early 2011.

Phased Approach. The initial phase of PSF construction would consist of up to 22,000 square meters (240,000 square feet) and would accommodate the Ultra-trace, Radiation Detection, and Materials Science and Technology research capabilities. Additional structures, including the central utility plant, would be constructed to support facility operations and research missions.

Later follow-on phases may include expansion of the PSF to incorporate modules for the Shielded Operations, Chemistry and Processing, Subsurface Science, and Certification and Dosimetry capabilities that are currently expected to remain in existing 300 Area facilities. Although these proposed follow-on modules are not currently scheduled or funded for construction, they were evaluated in the EA to provide a bounding analysis of environmental impacts, and to maintain flexibility in long-term planning. Therefore, the environmental impacts of constructing and operating the PSF were based on the larger facility as described in the proposed action. That facility would accommodate all of these PNNL capabilities, whether they are relocated in the near term or over a longer period in a phased approach. However, the phased approach to construction of the PSF is expected to be the most cost-effective and operationally efficient means of providing the required facilities with minimal disruption of critical research programs.

ALTERNATIVES: DOE considered a number of alternatives for providing the necessary research laboratories to replace existing 300 Area facilities, including the alternative of No Action as required by NEPA.

No-Action Alternative. The No-Action Alternative would consist of leaving ongoing PNNL research operations in the 300 Area until removal of the facilities was scheduled to begin, then ceasing those operations. The near-term impacts of continuing activities in the 300 Area would reflect the current impact from existing operations, which would cease after the facilities are shut down. Impacts from construction of a new facility would not occur. Ultimately, the No-Action Alternative would result in disruption of ongoing research programs critical to national security and other federal missions, as well as having negative impacts on local employment and other PNNL operations.

Other Alternatives. DOE considered a number of alternatives to the proposed action, such as relocating the research operations to other DOE facilities on the Hanford Site or possibly to other DOE sites, locating the research operations in privately owned facilities near PNNL, or using alternative sources of funding for construction of the proposed facility. Those alternatives were either substantially more costly than the proposed action, or they resulted in operational inefficiencies that made detailed consideration in the EA unwarranted.

ENVIRONMENTAL IMPACTS: The EA presents an evaluation of environmental impacts from constructing and operating the PSF, including impacts on land use, air quality, water quality, geological resources, biological and ecological resources, floodplains and wetlands, cultural and historic resources, socioeconomics, environmental justice, resource commitments, transportation, waste management and pollution prevention, noise, and human health and safety. Cumulative impacts with other past, present, and reasonably foreseeable operations in the vicinity were also considered.

The PSF construction site is a relatively level parcel of vacant property, much of which has been previously disturbed. No prime farm land, scarce geological resources, surface water bodies, floodplains, or wetlands are within the construction site. During recent biological surveys, no federal or state threatened or endangered species, species proposed for listing, or critical habitats were observed. Cultural and historic resources have been identified within some portions of the construction site and the buffer area, and appropriate measures for their management have been established.

Construction Impacts. The primary construction-related comments received on the draft EA concerned land use, fencing or other disturbance of the buffer area, disturbance of cultural or natural resources, environmental justice, and cumulative impacts. These impacts were evaluated in the final EA, and DOE concluded that there were no significant effects in these areas. Construction of the PSF would be compatible with existing land-use designations established by DOE, Benton County, and the City of Richland, and environmental impacts associated with construction are expected to be similar to those for any commercial facility of comparable size. Temporary impacts on air quality would be anticipated, but would be within regulatory standards for criteria pollutants and particulates. Construction activities may likewise have short-term impacts on local traffic and noise levels. Resources required for construction consist of commonly available materials and fuels that are not unique or in short supply, and the labor required represents a small fraction of the local market. Management of known cultural and historic resources, as well as any discovered during the construction process, would be in accordance with regulatory requirements and agreements among DOE and other responsible agencies or parties. DOE is committed to conducting applicable cultural resource reviews and consultations if future changes to use of the PNNL Site are proposed. Measures to protect natural resources will also be employed during construction of the PSF. For example, habitat disturbance at the PNNL Site will be minimized to the extent practicable, and excavation will be timed to avoid impacts on nesting birds. Following completion of each phase of the PSF, landscaping of disturbed areas on the PNNL Site will include native drought-tolerant plants suitable to the region. Pollution prevention and waste minimization practices would reduce the quantities of effluents and wastes generated during construction, and they would be managed using existing facilities. Health and safety risks to workers and members of the public from construction activities were projected to be small.

Operational Impacts. The primary operational issues raised during the draft EA comment period were related to radiological facility safety and the potential for environmental contamination. These impacts were evaluated in the final EA, and DOE concluded that there were no significant effects in this area. Because operations at the PSF would consist of activities to be relocated from laboratories in the nearby 300 Area, the environmental impacts associated with operation of the facility were projected to be similar to, or lower than, those from the existing facilities. Routine radiological, chemical, and other operational effluents were projected to have no discernable impact on human health. Inventories of radiological and other hazardous materials in the PSF are anticipated to be lower than those in existing facilities and would not present a significant safety risk to workers or members of the public. The generation of radioactive

and hazardous wastes would be similar to, or lower than, current rates, and they would be managed using current practices with an emphasis on waste minimization and pollution prevention. The workforce would remain at about current levels, resulting in little, if any, incremental impact on community infrastructure, socioeconomic, or transportation resources. Because the impacts from facility operations were projected to be small in all cases, there would be no opportunity for both high and disproportionate adverse impacts on minority or low-income populations, nor would noticeable cumulative impacts with other ongoing operations in the region be expected.

AVAILABILITY OF EA AND FURTHER INFORMATION:

The EA (DOE/EA-1562) is available at the DOE Public Reading Room, Consolidated Information Center at Washington State University-Tri-Cities, and may be accessed electronically at: http://pnso.oro.doe.gov.

Requests for single copies of the EA or other related information may be referred to:

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DETERMINATION: Based on the analyses of environmental impacts in the final EA and consideration of public comments received on the draft EA, it is concluded that the proposed construction and operation of the Physical Sciences Facility located on DOE property in Benton County, north of Richland, Washington, would not constitute a major federal action significantly affecting the quality of the human environment within the meaning of the NEPA. Therefore, an Environmental Impact Statement for the proposed action is not required. With this determination DOE can proceed with the initial phase of the PSF, including required support functions and parking necessary for operations consistent with the initial phase.

Issued in Richland, Washington, this 29th day of January, 2007.

Julie K. Erickson

Acting Site Manager, Pacific Northwest Site Office