U.S. Department of Energy
Naval Reactors Laboratory Field Office

Knolls Laboratory

National Environmental Policy Act (NEPA) Categorical Exclusion (CX)
Determination Summary Form

L4 PUMP HOUSE UPGRADE PROJECT

REFERENCES

36 CFR Part 800, Protection of Historic Properties

10 CFR Part 1021, Department of Energy National Environmental Policy Act Implementing Procedures, Subpart D, Typical Classes of Actions

PROJECT SCOPE DISCUSSION

The scope of the L4 Pump House Upgrade Project includes upgrading the existing cooling water intake system that utilizes Mohawk River water for noncontact once though cooling of the thermal hydraulic test facilities at the Knolls Laboratory. The existing L4 Pump House cooling water system will be upgraded to provide reliable service for the next 15+ years and to meet the requirements of the current New York State Department of Environmental Conservation (NYSDEC) State Pollutant Discharge Elimination System (SPDES) Permit (NY0005851) issued to the Knolls Laboratory to minimize adverse environmental impacts to the aquatic life in the river by 2020. Specifics to accomplish this objective include:

1) Installation of a new intake structure located in the Mohawk River. The intake structure is an approximately 3 ft. diameter, 10.92 ft. long cylindrical wedge-wire intake screen (Johnson Screen). The Johnson Screen will extend approximately 31.5 feet from the L4 pump house wall into the river to provide a non-intrusive means of withdrawing water from the river to minimize adverse environmental impacts.

2) Upgrade the existing copper injection system with a state of the art copper ion injection system.

3) Reconfigure the pump house to provide adequate working areas for maintenance of the cooling water system equipment.

4) Relocate overhead utilities and high voltage electrical equipment into a new modular building (approximately 600 square feet) to be located approximately 60 ft. south of the existing L4 pump house.

5) Restore the concrete stairs leading into the pump house to extend their useful life and upgrade lighting, doors, building access and other minor facility improvements.

6) Disposal of the existing traveling screen and other equipment no longer needed.

The Knolls Laboratory's current SPDES Permit requires the use of Best Technology Available (BTA) for the Facility's cooling water intake system. This project fulfills the SPDES Permit BTA requirement. To support this project, additional regulatory permits will be obtained from the United States Army Corps of Engineers, NYSDEC, and the New York State Canal Corporation.

The project does not violate applicable regulatory requirements, require construction or major expansion of waste handling facilities, result in unpermitted releases of hazardous substances, or adversely affect environmentally sensitive resources, including wetlands. The project does not involve genetically engineered organisms or species. There are no extraordinary circumstances related to the proposed action. The project has not been segmented to meet the definition of a categorical exclusion and is not connected to other actions with potentially significant and/or cumulative impacts.

CONCLUSION

Naval Reactors Laboratory Field Office (NRLFO) completed the Section 106 process under 36 CFR 800, Protection of Historic Properties and has received agreement from New York State Historic Preservation Office, on September 9, 2016, (Project # 16PR04978) that the L4 Pump House Upgrade Project has no adverse effect on any historic properties at the Knolls Laboratory or the Barge Canal Historic District. The utilization of CX(s) for NEPA compliance is appropriate.

The L4 Pump House Upgrade Project is categorically excluded from additional NEPA documentation under 10 CFR 1021 Subpart D, Appendix B, CX B1.3, B1.5, B1.7, B1.8, B1.15, and B1.31. Specifically, the categorical exclusions that apply are as follows:

B1.3 *Routine maintenance*

Routine maintenance activities and custodial services for buildings, structures, rights-of-way, infrastructures (including, but not limited to, pathways, roads, and railroads), vehicles and equipment, and localized vegetation and pest control, during which operations may be suspended and resumed, provided that the activities would be

conducted in a manner in accordance with applicable requirements. Custodial services are activities to preserve facility appearance, working conditions, and sanitation (such as cleaning, window washing, lawn mowing, trash collection, painting, and snow removal). Routine maintenance activities, corrective (that is, repair), preventive, and predictive, are required to maintain and preserve buildings, structures, infrastructures, and equipment in a condition suitable for a facility to be used for its designated purpose. Such maintenance may occur as a result of severe weather (such as hurricanes, floods, and tornados), wildfires, and other such events. Routine maintenance may result in replacement to the extent that replacement is in-kind and is not a substantial upgrade or improvement. In-kind replacement includes installation of new components to replace outmoded components, provided that the replacement does not result in a significant change in the expected useful life, design capacity, or function of the facility. Routine maintenance does not include replacement of a major component that significantly extends the originally intended useful life of a facility (for example, it does not include the replacement of a reactor vessel near the end of its useful life). Routine maintenance activities include, but are not limited to:

(a) Repair or replacement of facility equipment, such as lathes, mills, pumps, and presses;
(b) Door and window repair or replacement;
(c) Wall, ceiling, or floor repair or replacement;
(d) Reroofing;
(e) Plumbing, electrical utility, lighting, and telephone service repair or replacement;
(f) Routine replacement of high-efficiency particulate air filters;
(g) Inspection and/or treatment of currently installed utility poles;
(h) Repair of road embankments;
(i) Repair or replacement of fire protection sprinkler systems;
(j) Road and parking area resurfacing, including construction of temporary access to facilitate resurfacing, and scraping and grading of unpaved surfaces;
(k) Erosion control and soil stabilization measures (such as reseeding, gabions, grading, and revegetation);
(l) Surveillance and maintenance of surplus facilities in accordance with DOE Order 435.1, "Radioactive Waste Management," or its successor;
(m) Repair and maintenance of transmission facilities, such as replacement of conductors of the same nominal voltage, poles, circuit breakers, transformers, capacitors, crossarms, insulators, and downed powerlines, in accordance, where appropriate, with 40 CFR part 761 (Polychlorinated Biphenyls Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions) or its successor;

(n) Routine testing and calibration of facility components, subsystems, or portable equipment (such as control valves, in-core monitoring devices, transformers, capacitors, monitoring wells, lysimeters, weather stations, and flumes);
(o) Routine decontamination of the surfaces of equipment, rooms, hot cells, or other interior surfaces of buildings (by such activities as wiping with rags, using strippable latex, and minor vacuuming), and removal of contaminated intact equipment and other material (not including spent nuclear fuel or special nuclear material in nuclear reactors); and
(p) Removal of debris.

B1.5 *Existing steam plants and cooling water systems*

Minor improvements to existing steam plants and cooling water systems (including, but not limited to, modifications of existing cooling towers and ponds), provided that the improvements would not: (1) Create new sources of water or involve new receiving waters; (2) have the potential to significantly alter water withdrawal rates; (3) exceed the permitted temperature of discharged water; or (4) increase introductions of, or involve new introductions of, hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum and natural gas products.

B1.7 *Electronic equipment*

Acquisition, installation, operation, modification, and removal of electricity transmission control and monitoring devices for grid demand and response, communication systems, data processing equipment, and similar electronic equipment.

B1.8 *Screened water intake and outflow structures*

Modifications to screened water intake and outflow structures such that intake velocities and volumes and water effluent quality and volumes are consistent with existing permit limits.

B1.15 *Support buildings*

Siting, construction or modification, and operation of support buildings and support structures (including, but not limited to, trailers and prefabricated and modular buildings) within or contiguous to an already developed area (where active utilities and currently used roads are readily accessible). Covered support buildings and structures include, but are not limited to, those for office purposes; parking; cafeteria services; education and training; visitor reception; computer and data processing services; health services or recreation activities; routine maintenance activities; storage of supplies and equipment for administrative services and routine maintenance activities; security (such as security posts); fire protection; small-scale fabrication (such as machine shop

activities), assembly, and testing of non-nuclear equipment or components; and similar support purposes, but exclude facilities for nuclear weapons activities and waste storage activities, such as activities covered in B1.10, B1.29, B1.35, B2.6, B6.2, B6.4, B6.5, B6.6, and B6.10 of this appendix.

B1.31 *Installation or relocation of machinery and equipment*

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.

NRLFO Approval: D. A. Delwiche Date: 10-20-2016
CX Determination Date