

**CATEGORICAL EXCLUSION FOR LIDAR BUOY ACCEPTANCE AND
CAPABILITY TESTING, PACIFIC NORTHWEST NATIONAL LABORATORY,
MARINE SCIENCES LABORATORY, SEQUIM, WASHINGTON**

Proposed Action:

The Pacific Northwest National Laboratory (PNNL) Marine Sciences Laboratory (MSL) plans to temporarily deploy two Light Detection and Ranging (LIDAR) wind resource assessment buoys off the eastern end of Dungeness Spit in Clallam County, Washington. The deployment is scheduled for mid-September 2014 and will last for up to 2 months to provide time for acceptance and capability testing of the buoys. Upon completion of the testing, the buoys and moorings will be removed from the water and stored at the MSL or a nearby location to await deployment elsewhere in the U.S.

Location of Action:

The buoys will be deployed at two locations east and southeast of the eastern tip of Dungeness Spit on the south shore of the Strait of Juan de Fuca (Figure 1). One site will be within a 500 m (1640 ft) by 200 m (650 ft) area centered at 48.185594 N latitude and -123.083640 W longitude; the other will be within a 500 m (1640 ft) by 1000 m (3280 ft) area centered at 48.177594 N latitude and -123.090217 W longitude (Figure 2).



Figure 1. Project location in northwestern Washington State

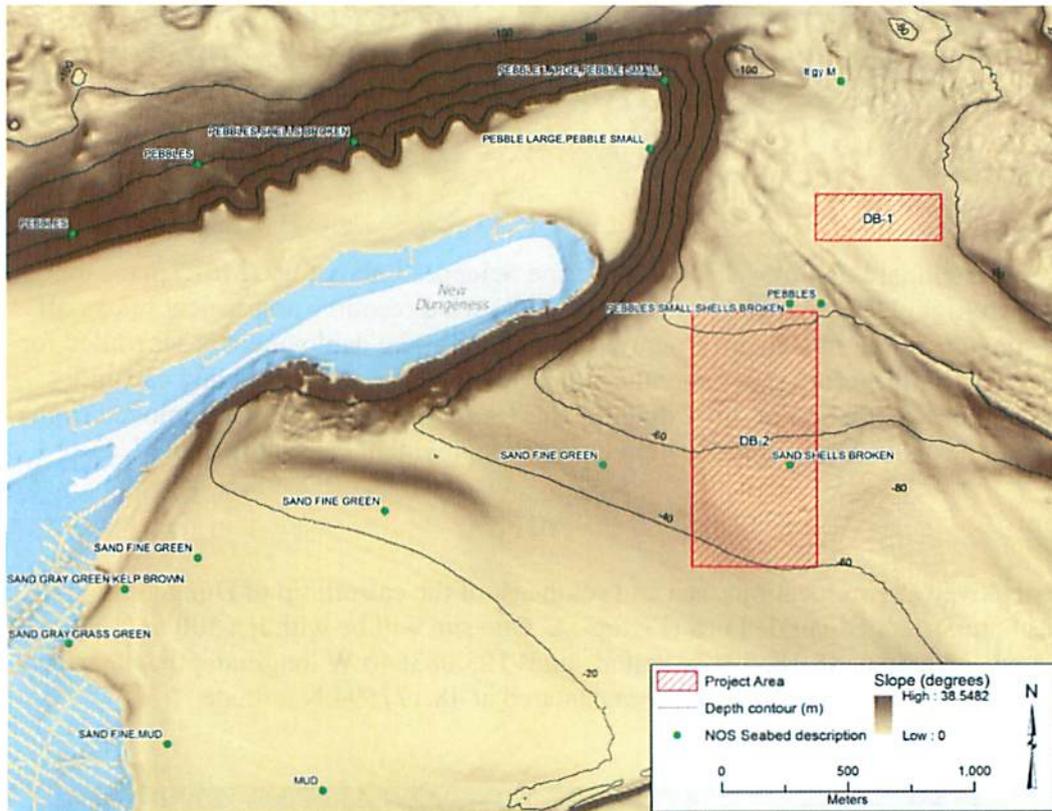


Figure 2. Location of LIDAR buoy deployment areas relative to Dungeness Spit

Description of the Proposed Action:

Two scientific buoys will be temporarily installed at two locations near Dungeness Spit to perform acceptance and capability testing of the marine-based, buoy-mounted LIDAR systems, which are used to characterize marine wind resources for offshore wind energy development. Work will include placing a 4-ton (wet weight) block-type anchor in each test area. One test area is located approximately 420 m southeast of the tip of Dungeness Spit in a relatively protected area in the northeast part of Dungeness Bay. The other site is approximately 900 m east of Dungeness Spit, in much rougher water in the Strait of Juan de Fuca. Testing in both conditions (relatively calm and relatively rough) and comparing the results is critical for full testing of the system capabilities. The buoys consist of the LIDAR systems; scientific instruments; data management and transmittal systems; and power sources, including solar panels, wind turbines, batteries, and an emergency diesel generator; all mounted on a boat-shaped hull (Figure 3). The buoys are approximately 6 m (20 ft) long and 3 m (10 ft) wide, and the instruments extend ~4.1 m (13.5 ft) above the water line. The buoys will be attached to the anchors for up to 2 months (between September and November 2014) while the equipment is tested. Upon completion of the acceptance and capability testing, the buoys will be towed to Sequim Bay for storage at MSL or a nearby location to await deployment elsewhere in the U.S., and the anchors will be retrieved.

Each LIDAR buoy will be attached horizontally to a ~1.5 m (5 ft) wide steel safety float using 71 m (233 ft) of 3.2 cm (1.25 in.) RP-12 synthetic line and a total of 14 m (46 ft) of 2.5 cm (1 in.) link chain (Figure 4) based on water depth of 80 m (262 ft). This horizontal mooring will remain approximately parallel to and slightly below the water surface as shown in Figure 4. The 1.5 m (5 ft)

wide steel safety buoy will be attached to the 4-ton (in-water weight) anchor via 80 m (260 ft) of 3.2 cm (1.25 in.) RP-12 synthetic line and 18.5 m (61 ft) of 2.5 cm (1 in.) link chain, 5 m (16 ft) of which will be supported above the anchor by four 36 cm (14 in.) trawl floats to prevent bottom scour (Figure 4).

As an additional testing control, a small, land-based LIDAR unit will be placed in a previously disturbed site adjacent to the New Dungeness lighthouse, located near the end of Dungeness Spit. The site will likely be on the maintained lawn that is part of the lighthouse site. This unit will be set on the ground surface, will run on a battery power supply, and will not require excavation or ground disturbance for installation. The unit will occupy approximately 1 m² (10 ft²) of surface area. See Figure 5 for a photo of a typical LIDAR unit.

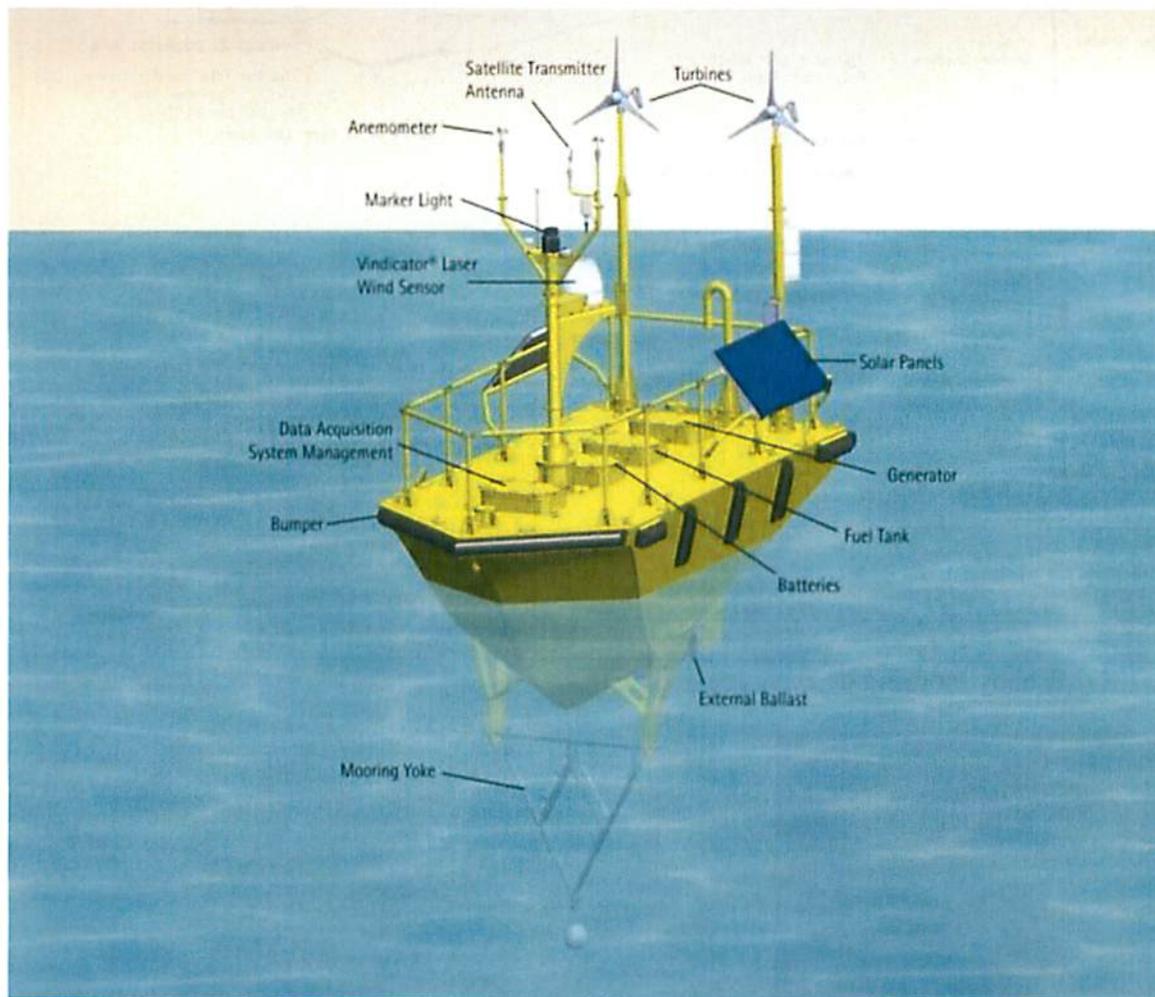


Figure 3. Generic diagram of a WindSentinel™ LIDAR wind resource assessment buoy

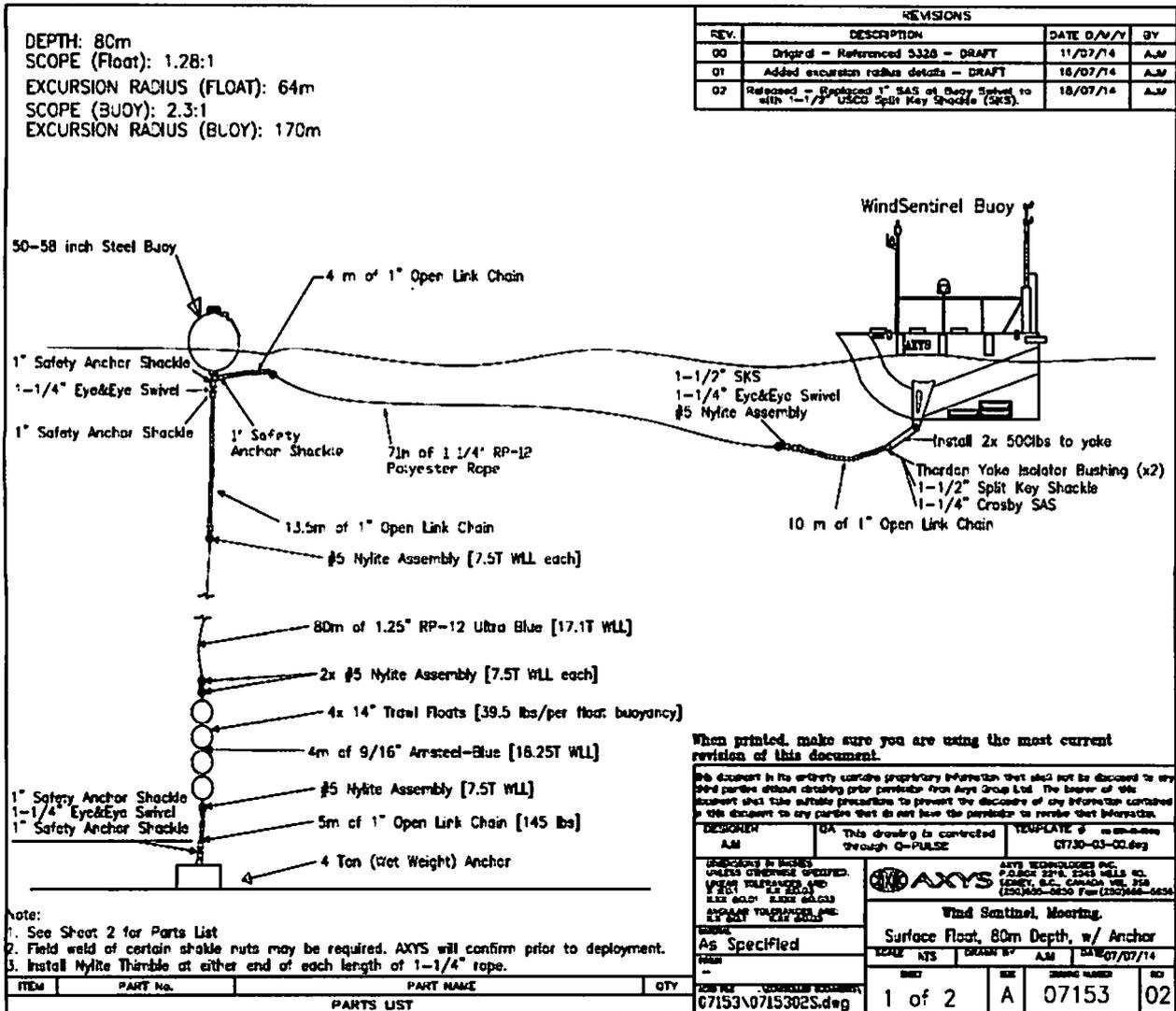


Figure 4. LIDAR buoy mooring design

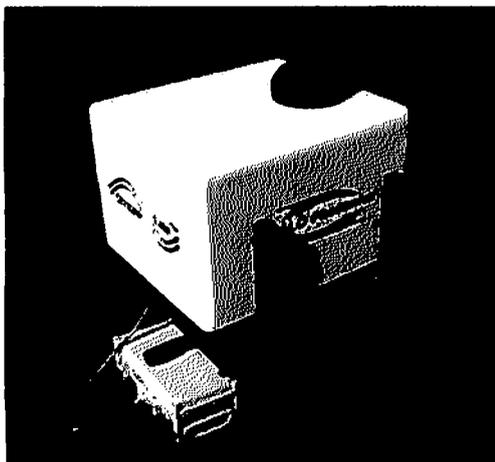


Figure 5. Typical land-based LIDAR unit

Biological and Cultural Resources:

Biological and cultural resource reviews have been conducted and determined that the installation and subsequent testing LIDAR buoys is unlikely to adversely affect sensitive biological or cultural resources.

A biological assessment (BA) was prepared to evaluate the potential impacts of the proposed project on species listed as threatened or endangered under the Endangered Species Act (ESA). Species evaluated include Puget Sound Chinook Salmon, Hood Canal Chum Salmon, Puget Sound Steelhead, Green Sturgeon, Pacific Eulachon, Bocaccio, Yelloweye Rockfish, Canary Rockfish, southern resident killer whale, humpback whale, Puget Sound Bull Trout, marbled murrelet, and short-tailed albatross. The BA also evaluated the potential effects on essential fish habitat and on species protected under the Marine Mammal Protection Act. The BA determined that the proposed actions either 1) would have no effect on the considered species, or 2) may affect, but are not likely to adversely affect, the considered species. This BA was provided to the National Marine Fisheries Service and to the U.S. Fish and Wildlife Service as an informal consultation under Section 7 of the ESA. Project work is not authorized to proceed until consultation is completed. If these agencies do not concur with the assessment's determinations, additional NEPA analysis may be required.

An archeologist evaluated the potential impacts to cultural resources from the proposed actions and concluded that because the buoys will be deployed in deep water areas they have no potential to affect cultural resources. The land-based unit also has no potential to affect cultural resources because it will be deployed in a previously disturbed area and no ground disturbance or excavation will be required.

Categorical Exclusion to Be Applied:

As the proposed action is to install and test wind characterization devices, the following categorical exclusions (CXs), as listed in the DOE National Environmental Policy Act (NEPA) implementing procedures, 10 CFR 1021, would apply:

B5.25 Small-scale renewable energy research and development projects and small-scale pilot projects located in aquatic environments. Activities would be in accordance with, where applicable, an approved spill prevention, control, and response plan, and would incorporate appropriate control technologies and best management practices. Covered actions would not occur (1) Within areas of hazardous natural bottom conditions or (2) within the boundary of an established marine sanctuary or wildlife refuge, a governmentally proposed marine sanctuary or wildlife refuge, or a governmentally recognized area of high biological sensitivity, unless authorized by the agency responsible for such refuge, sanctuary, or area (or after consultation with the responsible agency, if no authorization is required). If the proposed activities would occur outside such refuge, sanctuary, or area and if the activities would have the potential to cause impacts within such refuge, sanctuary, or area, then the responsible agency shall be consulted in order to determine whether authorization is required and whether such activities would have the potential to cause significant impacts on such refuge, sanctuary, or area. Areas of high biological sensitivity include, but are not limited to, areas of known ecological importance, whale and marine mammal mating and calving/pupping areas, and fish and invertebrate spawning and nursery areas recognized as being limited or unique and vulnerable to perturbation; these areas can occur in bays, estuaries, near shore, and far offshore, and may vary seasonally. No permanent facilities or devices would be constructed or installed. Covered actions do not include drilling of resource

exploration or extraction wells, use of large-scale vibratory coring techniques, or seismic activities other than passive techniques.

B3.1 Site characterization and environmental monitoring (including, but not limited to, siting, construction, modification, operation, and dismantlement and removal or otherwise proper closure (such as of a well) of characterization and monitoring devices, and siting, construction, and associated operation of a small-scale laboratory building or renovation of a room in an existing building for sample analysis). Such activities would be designed in conformance with applicable requirements and use best management practices to limit the potential effects of any resultant ground disturbance. Covered activities include, but are not limited to, site characterization and environmental monitoring under CERCLA and RCRA. (This class of actions excludes activities in aquatic environments. See B3.16 of this appendix for such activities.) Specific activities include, but are not limited to:

- (a) Geological, geophysical (such as gravity, magnetic, electrical, seismic, radar, and temperature gradient), geochemical, and engineering surveys and mapping, and the establishment of survey marks. Seismic techniques would not include large-scale reflection or refraction testing;
- (b) Installation and operation of field instruments (such as stream-gauging stations or flow-measuring devices, telemetry systems, geochemical monitoring tools, and geophysical exploration tools);
- (c) Drilling of wells for sampling or monitoring of groundwater or the vadose (unsaturated) zone, well logging, and installation of water-level recording devices in wells;
- (d) Aquifer and underground reservoir response testing;
- (e) Installation and operation of ambient air monitoring equipment;
- (f) Sampling and characterization of water, soil, rock, or contaminants (such as drilling using truck- or mobile-scale equipment, and modification, use, and plugging of boreholes);
- (g) Sampling and characterization of water effluents, air emissions, or solid waste streams;
- (h) Installation and operation of meteorological towers and associated activities (such as assessment of potential wind energy resources);
- (i) Sampling of flora or fauna; and
- (j) Archeological, historic, and cultural resource identification in compliance with 36 CFR part 800 and 43 CFR part 7.

Eligibility Criteria:

The proposed activity meets the eligibility criteria of 10 CFR 1021.410(b) because the proposed action does not have extraordinary circumstances that might affect the significance of the environmental effects, is not connected to other actions with potentially significant impacts [40 CFR 1508.25(a)(1)], is not related to other actions with individually insignificant but cumulatively significant impacts [40 CFR 1508.27(b)(7)], and is not precluded by 40 CFR 1506.1 or 10 CFR 1021.211 concerning limitations on actions during environmental impact statement preparation.

The “Integral Elements” of 10 CFR 1021 are satisfied as follows:

INTEGRAL ELEMENTS, 10 CFR 1021, SUBPART D, APPENDIX B (1)-(5)	
Would the Proposed Action:	EVALUATION:
Threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health?	The proposed action would not threaten a violation of regulations or DOE or Executive Orders.
Require siting and construction or major expansion of waste storage, disposal, recovery, or treatment facilities?	No waste management facilities would be constructed under this CX. Any generated waste would be managed in accordance with applicable regulations in existing facilities. Waste disposal pathways would be identified prior to generating waste and waste generation would be minimized.
Disturb hazardous substances, pollutants, or contaminants that preexist in the environment such that there would be uncontrolled or unpermitted releases?	No preexisting hazardous substances, pollutants, or contaminants would be disturbed in a manner that or results in uncontrolled or unpermitted releases.
Have the potential to cause significant impacts on environmentally sensitive resources, including, but not limited to: <ul style="list-style-type: none"> • protected historic/archaeological resources • protected biological resources and habitat • jurisdictional wetlands, 100-year floodplains • Federal- or state-designated parks and wildlife refuges, wilderness areas, wild and scenic rivers, national monuments, marine sanctuaries, national natural landmarks, and scenic areas. 	<p>No environmentally sensitive resources would be adversely affected. Resource reviews have been conducted to evaluate for special circumstances. Refer to the Biological and Cultural Resources section for details regarding the application of cultural and biological resource reviews.</p> <p>The proposed action would not adversely affect floodplains, wetlands regulated under the Clean Water Act, national monuments, or other specially designated areas, prime agricultural lands, or special sources of water.</p>
Involve genetically engineered organisms, synthetic biology, governmentally designated noxious weeds, or invasive species?	The proposed action would not involve the use of genetically engineered organisms, synthetic biology, governmentally designated noxious weeds, or invasive species, unless the proposed activity would be contained or confined in a manner designed and operated to prevent unauthorized release into the environment and conducted in accordance with applicable requirements.

Checklist Summarizing Environmental Impacts:

The following checklist summarizes environmental impacts considered when preparing this CX determination. Answers to relevant questions are explained in detail following the checklist.

	<i>Would the Proposed Action:</i>	YES	NO
1	Result in more than minimal air impacts?		X
2	Increase offsite radiation dose measurably?		X
3	Require a radiological work permit?		X
4	Cause more than a minor or temporary increase in noise level?		X
5	Discharge any liquids to the environment?		X
6	Require a Spill Prevention, Control, and Countermeasures plan?	X	
7	Require an excavation permit (e.g., for test pits, wells, utility installation)?		X
8	Disturb an undeveloped area?		X
9	Use carcinogens, hazardous, or toxic chemicals/materials?		X
10	Involve hazardous, radioactive, polychlorinated biphenyl, or asbestos waste?		X
11	Require environmental permits?	X	

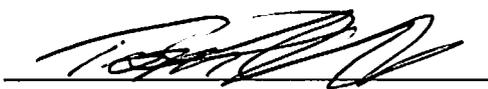
Explanations:

6. The LIDAR buoys will carry up to approximately 210 gallons of diesel fuel for the emergency generator. The fuel tanks are certified and pressure tested, and the internal buoy compartments provide double containment in case of fuel tank failure or leakage. The tanks will be filled at the John Wayne Marina fuel dock in Sequim Bay prior to deployment at Dungeness Spit. The John Wayne Marina has all required spill response equipment readily available at the fuel dock.

11. Placement of the LIDAR buoys will require a permit from the Army Corps of Engineers under Section 10 of the Rivers and Harbors Act and land use authorization from the Washington State Department of Natural Resources. Placement of the land-based LIDAR unit on Dungeness Spit will require a Special Use Authorization from the U.S. Fish and Wildlife Service.

Compliance Action:

I have determined that the proposed action satisfies the DOE NEPA eligibility criteria and integral elements, does not pose extraordinary circumstances, and meets the requirements for the CX referenced above. Therefore, using the authority delegated to me by DOE Order 451.1 B, Change 2, I have determined that the proposed action may be categorically excluded from further NEPA review and documentation.

Signature: 

Date: 8-14-14

Thomas M. McDermott
PNSO NEPA Compliance Officer

cc: MR Sackschewsky, PNNL