

**PORTSMOUTH NAVAL SHIPYARD )**  
**YORK COUNTY )**  
**KITTERY, MAINE )**  
**A-452-77-2-M 1**

**DEPARTMENTAL**  
**FINDINGS OF FACT AND ORDER**  
**NEW SOURCE REVIEW LICENSE**  
**MINOR REVISION**

After review of the air emission license minor revision application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A, Section 344, Section 590, 06-096 CMR 115, the Department finds the following facts:

**I. REGISTRATION**

**A. Introduction**

<b>FACILITY</b>	<b>Portsmouth Naval Shipyard (PNS)</b>
PART 70 LICENSE NUMBER	A-452-70-C-R
LICENSE TYPE	Chapter 115 Minor Revision
NAIC CODES	336611- Ship Building and Repair
NATURE OF BUSINESS	National Security (Submarine Repair for U.S. Navy)
FACILITY LOCATION	Kittery, Maine
DATE OF NSR LICENSE ISSUANCE	July 12, 2010

**B. Revision Description and Affected Emission Equipment**

PNS has requested to modify its Dry Dock #2 Refueling Facility. Specifically, the Shipyard removes fuel containing radionuclides from the submarine and loads it into railcars for transportation off-site. The ventilation system of the refueling complex is not listed specifically in the current Air Emission License, A-452-70-C-R, however, the modification to this facility will include an additional high efficiency particulate air (HEPA) filtered ventilation system and will allow the Shipyard to conduct defueling in a shorter time period. The refueling facility is currently not in use and is not expected to go back into service until March 2011.

**C. Application Classification**

PNS is a major source per the Maine Department of Environmental Protection's 06-096 CMR 100 regulation. The changes made to the refueling facility will result in no increase in emissions of any criteria pollutants. The refueling complex ventilation system is regulated as an emission source of radionuclides. Radionuclides are regulated as hazardous air pollutants (HAPs) and are associated with the refueling/defueling process that occurs in the complex. The insignificant threshold for radionuclides is 0 lbs/year, which means that if the proposed change emits any amount of radionuclides, then it is not insignificant. This amendment will increase emissions by less than 4 tons/year for any one regulated pollutant and less than 8 tons/year for total regulated pollutants. Therefore, this modification is determined to be a minor revision in accordance with 06-096 CMR 115 and has been processed as such.

**II. BEST PRACTICAL TREATMENT (BPT)**

**A. Introduction**

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in 06-096 CMR 100 of the Department's regulations. Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for new and modified units requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in 06-096 CMR 100 of the Department's regulations. BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

**B. Revision to Dry Dock #2**

The modification to the existing refueling complex includes adding a bay to accommodate an additional railcar. That bay will be constructed with its own 3000 cubic feet per minute (CFM) HEPA-filtered ventilation system. Work will then be split between two bays and no increase in radionuclide emissions is anticipated as a result of the new addition. In fact, because of changes in the size of the fleet and advances in ship design, the Shipyard does far less of this type of work.

According to 06-096 CMR 140, Appendix B, Section C, the insignificant threshold for radionuclides is 0.0 lbs/year, which means that if the proposed modification emits any amount of radionuclides, then this change can not be considered insignificant. The Shipyard estimated the potential to emit radionuclides without the use of the HEPA filtration system. The effective dose equivalent from the ventilation system pre-filtration

was estimated using COMPLY Code–V1.6. This number is extremely conservative because the estimates include background (natural) radioactivity. The estimated effective dose equivalent (pre-filtration) for the Dry Dock #2 modification is 0.081 mrem/yr. For Calendar Year 2008, the actual emissions caused by all radionuclide sources from the Shipyard was 0.124 mrem/yr. Adding these two numbers together gives 0.205 mrem/year which is less than the number provided in 40 CFR 61.106(b)(1) which would require the Shipyard to submit an application to construct or modify according to the Federal NESHAP regulation.

#### *Federal Requirements*

40 CFR 61, Subpart I, “National Emission Standards for Radionuclide Emissions from Federal Facilities other than the Nuclear Regulatory Commission Licensees and Not Covered by Subpart H”. This subpart applies to facilities owned or operated by any Federal agency other than the Department of Energy and not licensed by the Nuclear Regulatory Commission. The Shipyard is not a major source of Hazardous Air Pollutants (HAPs) because it is limited to 25 tons/year of total HAPs and 10 tons/year for each individual HAP, however it is subject to 40 CFR 61, Subpart I.

According to 40 CFR 61.106, “An application under §61.07 does not need to be filed for any new construction of or modification within an existing facility if one of the following conditions is met: (1) The effective dose equivalent calculated by using methods described in §61.103, that is caused by all emissions from the facility including those potentially emitted by the proposed new construction or modification, is less than 10 percent of the standard prescribed in §61.102, or (2) The effective dose equivalent calculated by using methods described in 61.103, that is caused by all emissions from the new construction or modification, is less than 1% of the limit prescribed in 61.102.” The effective dose equivalent was calculated by the Shipyard based on the potential to emit 24 hours/day, 365 days/year, for the proposed new construction. The calculated exposure is estimated to be less than 1% of the limit prescribed in section 61.102. In addition, the calculated exposure for pre-filtered conditions of the new construction/modification is less than 10 percent of the limit prescribed in §61.102. Therefore, according to section 61.106, PNS does not need to submit an application to construct or modify per the federal regulations. However, since this change at the refueling facility will emit more than 0 lbs/year of a radionuclide, it is subject to the Department’s minor revision requirements.

#### *Reporting and Testing Requirements*

Facilities emitting radionuclides in any amount that would cause less than 10% of the dose standard in 40 CFR 61.102 are exempt from the reporting requirements of 40 CFR 61.104. In accordance with 40 CFR 61.104(b), PNS annually determines whether it is exempt from reporting. Thus far it has always been determined that PNS is exempt and it

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is anticipated to maintain that status after the proposed new construction is in place, however that determination will be made annually as required by 40 CFR 61.104(a).

Once the changes to the refueling facility is complete and operational, PNS will demonstrate that the unit is below emission limits and meets reporting compliance with 40 CFR 61, Subpart I by using alternative procedures approved by the EPA, as documented in a letter to the Department of the Navy from the EPA dated 1 October, 1997. This calculation method is described in the December 2009 application submittal, which is the current PNS practice for reporting all radionuclide emissions. Emissions of radionuclides are limited by 40 CFR 61.102 to those levels that would cause any member of the public to receive in any year an effective dose equivalent of 10 mrem/year. PNS will demonstrate compliance using the approved computer model COMPLY.

By meeting the emission testing and reporting requirements of Subpart I, PNS meets BACT per this minor revision license.

*MACT Emission Limitations, 40 CFR 63*

The proposed new construction is not subject to any MACT standard that has been promulgated to date.

## **ORDER**

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants this Minor Revision, Air Emission License A-452-77-2-M, pursuant to the preconstruction licensing requirements of 06-096 CMR 115 and subject to the standard and special conditions below.

Severability. The invalidity or unenforceability of any provision, or part thereof, of this license shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

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SPECIFIC CONDITIONS

The following is a New Condition:

- (1) PNS may modify its Dry Dock Refueling Facility to include an additional bay with a HEPA-filtered ventilation system. To meet BACT, PNS shall meet the emission testing and reporting requirements of 40 CFR Part 61 Subpart I.

DONE AND DATED IN AUGUSTA, MAINE THIS *12th* DAY OF *July* 2010.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: *James P. Bratherton*  
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DAVID P. LITZELL, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: December 18, 2010

Date of application acceptance: January 4, 2010

Date filed with the Board of Environmental Protection \_\_\_\_\_

This Order prepared by Edwin Cousins, Bureau of Air Quality

