IN THE MATTER OF

PORTSMOUTH NAVAL SHIPYARD	)	MAINE HAZARDOUS WASTE
UNITED STATES DEPT. OF THE NAVY	)	SEPTAGE AND SOLID WASTE
KITTERY, YORK COUNTY, MAINE	)	MANAGEMENT ACT
COMMERCIAL HAZARDOUS	)	
WASTE STORAGE FACILITY	)	
#O-000005-HA-S-R	)	
APPROVAL WITH CONDITIONS	)	RENEWAL

Pursuant to the provisions of Maine Hazardous Waste, Septage and Solid Waste Management Act, 38 M.R.S. §§ 1301 through 1319-Y, and Maine Hazardous Waste Management Rules, 06-096 CMR 850 through 857 (effective July 23, 2008) (hereinafter the "Rules"), and 38 M.R.S. §§ 1319-R et seq., under the authority delegated by the United States Environmental Protection Agency and the Resource Conservation and Recovery Act, the Board of Environmental Protection (hereinafter the "Board") has considered the application of PORTSMOUTH NAVAL SHIPYARD (hereinafter the "Shipyard", "PNS", or the "Navy") with its supportive data, agency review comments and other related materials on file and FINDS THE FOLLOWING FACTS:

1. APPLICATION SUMMARY

A. Application:

PNS applied on October 5, 2011 for approval to renew its commercial hazardous waste storage facility located in Kittery, Maine. The mailing address for Portsmouth Naval Shipyard is Code 106.3, Building 44-2, Portsmouth, NH.

PNS is not proposing any major changes to the facility, operations or types of wastes handled and stored at the Hazardous Waste Storage Facility (HWSF). The changes to the facility in this license renewal are minor changes to the Facility Monitoring Plan to better monitor the facility and a change in the use of one of the Facility storage rooms.

B. Regulatory History:

PNS has operated a hazardous waste facility on Jamaica Island in Kittery, Maine since August 27, 1980, when it was granted an interim license by the Board. The interim license was for storage of hazardous wastes in containers and tanks, and

for the treatment of hazardous waste in its industrial wastewater treatment plant. On September 25, 1985 PNS was issued a non-interim hazardous waste storage and treatment facility license for Building 313, which approved storage of waste in containers and the treatment of wastes for beneficial reuse. The Board renewed this license on September 23, 1992. An application was filed on February 14, 1994 and Board approval was granted on November 22, 1994 for construction of Building 357, known as the hazardous waste storage facility (HWSF). This facility was approved under Board Order #O-000005-HB-G-N. Building 313 was used to store hazardous waste from 1985 through 1992 and was closed in accordance with an approved Closure Order #O-000005-HH-J-C (October 6, 1994) subsequent to construction of the new facility.

An application was filed on November 6, 1997 for approval to become a commercial hazardous waste storage facility for other New England Department of Defense Facilities. Approval was granted on May 24, 2001. The Department ("Department" or "DEP") granted renewal license #O-000005-HA-Q-R for the commercial hazardous waste storage facility on April 5, 2007.

In addition, there have been five abbreviated licenses for treatment activities issued since 1985. Department License #O-000019-95-A-N (June 30, 1987) approved the use of an aerosol can puncture unit to depressurize spent aerosol cans. Department license #O-000005-000095-B-N (September 4, 1987) approved the recovery of silver from waste photographic development solution. License #O-5-000095-D-N (September 26, 1989) approved the on-site distillation and re-use of up to an annual maximum of 12,000 gallons of miscellaneous waste paints and solvents. License #O-000005-000095-C-N (January 5, 1990) approved the relocation of the silver recovery operations originally approved on September 4, 1987 to Building 313.

The renewal Order #O-000005-H6-E-R (September 23, 1992) for Building 313 incorporated the use of the silver recovery unit, three solvent distillation units for beneficial re-use of miscellaneous waste paints and solvents, and the operation of the aerosol can puncture unit. Department license #O-000005-HL-B-N (February 8, 1993) approved the beneficial reuse on-site for 1500 gallons per year of waste antifreeze from routine maintenance for vehicles and cranes. These five abbreviated licenses ceased operation when the new facility was built in 1995. The units were certified as clean and closed in a certification provided to the Department on May 12, 1999.

On May 15, 2000 the Department received notice that the facility covered by the Shipyard's license #O-000005-HL-D-R, the beneficial reuse facility for treatment

of 1888 kg/month of waste coolants generated from routine maintenance of metal fabricating machines located in the Controlled Industrial Area, was also being closed. On November 8, 2000 the closure certification for this particular unit was received. On September 26, 2005 an application was approved to treat 350 gallons per month of waste coolant in a settling tank used in Building 300 under License # O-000005-HL-P-N. The renewal license was approved on December 30, 2010.

Under exemptions from the Department regulations and as described further in Section 7(P), a rag compaction unit that is specially designed for this activity continues to be operated in a designated area.

C. Site History:

The Portsmouth Naval Shipyard is located on the 278-acre Seavey Island, at latitude 43 degrees 4 minutes 56 seconds and longitude 70 degrees 44 minutes 22 seconds, of which approximately 90 acres are filled land. Seavey Island is located in the lower Piscataqua River, a tidal estuary situated in Maine between the Maine and New Hampshire border. The Shipyard was created from a group of five small islands acquired by the Navy between 1800 and 1959. The areas between the islands were filled in to create a 278-acre parcel of land. Jamaica Island was acquired in 1942 and expanded into and over tidal flats to join it to the previously developed area. The two bridges that connect Seavey Island to the mainland both are accessed from the Town of Kittery. See map of the location, Figure 1.

D. Site Description and Conditions:

The Hazardous Waste Storage Facility (HWSF) also referred to as Building 357 and outdoor support area for the facility encompasses approximately 3 acres of the Shipyard on the easternmost portion of the site occasionally referred to as Jamaica Island and is depicted on Figure 2.

Jamaica Island was purchased in the early 1940s for the purpose of temporarily storing ammunition. The Shipyard subsequently constructed 40 munition bunkers in this location and from 1947 through 1978 weapons were stored in them. In 1987 the empty bunkers were demolished. Two small buildings formerly associated with munition storage remained and were designated as IY44 and IZ45. These buildings were demolished in 1997 and 1998, respectively. Two portable structures continue to be used to store small arms at the former location of building IY44. The Shipyard has stated that no disposal or processing of munitions ever occurred here.

In general, land elevations near Building 357 range from 10 to 20 feet above high water with minor topographic variability with depth to bedrock ranging from 0 to 10 feet. The naturally occurring soil on site is classified as Lyman fine sandy loam. Over the past fifty years, the manmade area connecting Jamaica Island to Seavey Island has been built up by land filling with a variety of materials including dredge spoils. Previous soil borings reveal a natural substratum of medium to soft clay beneath 15 to 20 feet of fill. The facility area investigation found fill ranging from one to four feet in depth. The native clay itself overlies a dense till 3 to 15 feet thick, underlain by bedrock.

Groundwater levels from the original island areas are reported to be relatively shallow. For manmade areas, which were formerly inter-tidal areas, the depth to groundwater is equal to the depth of fill. This can vary from approximately 13.5 feet at mean low water to 5.5 feet at mean high water. Surface and subsurface migration pathways exist with receptors of concern in the Piscataqua River and the biota existing in the near shore areas. The surface waters surrounding the Shipyard are Class SC as stated in 38 M.R.S. §. 469.8 C. This classification requires water to be suitable for water contact, recreation and fishing.

To the west of Building 357 are three areas previously identified by the US EPA as Solid Waste Management Units (SWMU) 8, 9 and 11. These areas were subsequently combined and are now referred to as "Operable Unit 3" (or OU 3). See Figure 3.

Site #8 represented a 25-acre landfill known as the Jamaica Island Landfill. The Jamaica Island Landfill is located in an area that was originally open tidal flats. It was filled with a wide variety of materials including debris and waste, some of which is considered hazardous. It was approximately 150 feet due west from Building 357. In 1978 over 100,000 cubic yards of dredge spoils containing heavy metals, including lead and cadmium, were incorporated into the landfill. The portion of the landfill that received the dredge spoils was later encapsulated with a 2-foot clay cap and a clay side barrier wall. A new multilayer hazardous waste landfill cover system was placed over the landfill in 2004. The first phase included the removal and consolidation of approximately 2.6 acres of landfill and construction of a tidal wetland. The design included movement of the waste in that portion of the landfill to the remaining portion of the landfill to consolidate the waste into a smaller area. The second phase included construction of the cover over the remaining larger portion of the landfill and shoreline erosion controls. The 2.6 acre portion of the landfill nearest to Jamaica Cove and Building 357 was consolidated onto the remaining 22 acres of the landfill.

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Site #9 consisted of several mercury burial vaults placed within the Jamaica Island Landfill. The mercury containing vaults were removed over several years as they were discovered. The first vault was removed in 1994, another vault was removed in 1997 and the final vault was removed in 2000. Site #9 no longer exists as part of OU 3.

Site #11 is located west and adjacent to the operational support area of the HWSF (Building 357). When the HWSF (Building 357) was under construction in 1995 and 1996, waste was uncovered, excavated and removed prior to asphalt and concrete placement. This area previously contained two underground 8000-gallon capacity rail car tanks buried and utilized from 1947 through June 1989 for waste oil storage. These tanks appear to have leaked due to overfilling. The surrounding soil was contaminated with a variety of hazardous constituents. Sites #8 and #11 have undergone further investigation and remediation by the Navy, the Department and the US Environmental Protection Agency. Further discussion is provided under Corrective Action, Section 22 of this Order.

The HWSF or Building 357's actual location overlies a natural area of Jamaica Island. The HWSF support area lies adjacent to a thinly filled portion of the Jamaica Island Landfill.

E. Summary of Proposal:

The Shipyard operates a commercial hazardous waste storage facility in support of the overhaul, conversion, and repair of the nuclear propulsion fleet of the U.S. Department of the Navy, particularly attack submarines. The Shipyard accepts hazardous wastes from other New England Department of Defense generators. Because the Shipyard accepts waste from off-site generators, the facility must meet the standards for a commercial hazardous waste storage facility.

Building 357 is a 19,000 square foot one-story structure. The licensed area consists of an enclosed 11,700 square foot portion of the building and the associated outside support area for wastes generated by PNS. Incompatible wastes are kept separated in enclosed and dedicated rooms within Building 357. See Figure 4. The original total storage facility design capacity was 647 fifty-five (55) gallon drums (or 35,585 gallons). The Shipyard subsequently closed two rooms targeted for treatment activities which actually were never implemented and recently used one room for storage of compressed gas cylinders and the other for additional waste storage which increased the total capacity to 659 55-gallon containers (or 36,245 gallons).

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Hazardous wastes stored at the facility ultimately are removed to authorized treatment and disposal facilities by licensed transporters. In the 2001 Order, an adjacent 9,872 square foot outdoor roll-off storage area, which is secured by a chain link fence, is operated in general support of the licensed building. This area was licensed for storage of wastes for up to 180 days. A variance was granted from the liner requirement for the support area and is described in greater detail in Section 9.

2. GENERAL APPLICATION REQUIREMENTS

A. Application Processing:

On October 5, 2011 the Shipyard submitted an application to the Department to renew its Commercial Hazardous Waste Storage Facility license. The Department determined the application and its supporting materials to be complete on October 13, 2011. Subsequent to the initial filing, PNS amended its application several times, as finally amended on June 12, 2012. The application was signed and certified by the Shipyard Commander. An application fee is not required for a renewal.

B. Public Notice of Application:

Public notice that a renewal application was being filed with the Department appeared in the Portsmouth Herald on September 26, 2011. A copy of the application was filed with the Town of Kittery on October 1, 2011. Public notice was broadcast over the radio once each day for the week ending on September 30, 2011. No public comments or requests for a public hearing were received.

C. Local Board Representation:

In 38 M.R.S. § 1319-R, under siting requirements for a commercial hazardous waste facility, any municipality where a commercial hazardous waste facility is proposed is granted an opportunity to appoint up to four local representatives to serve on the Board of Environmental Protection. These representatives would be adjunct members for all decisions that come before the Board on this particular application. In October 1998 Kittery appointed three interested persons to serve on their behalf. A second opportunity was provided to Kittery to appoint a fourth person in August 2000 prior to this matter being noticed for the Public Hearing. No fourth person was identified or appointed by the Town.

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Local representation is not required for a renewal application.

D. Evidence of Title, Right and Interest to the Property:

Portsmouth Naval Shipyard demonstrated sufficient title, right and interest in the property for the proposed facility by deeds recorded in the York County Registry in Alfred, Maine. The applicant has submitted copies of the Warranty Deeds, recorded in Book 65 and Pages 84, 88, Volume 300 and Pages 30 through 39, and Book 976 and Pages 533 through 535 of the York County Registry of Deeds. This description includes the property upon which the hazardous waste storage facility is located.

E. Public Notice of Draft Order:

The draft order was reviewed by the Board of Environmental Protection and approved on June 20, 2012. The draft document was the subject of a public notice in the Portsmouth Herald newspaper on June 25, 2012. No comments were received.

3. FINANCIAL REQUIREMENTS

The Maine Hazardous Waste Management Rules state that the owner or operator of a hazardous waste facility must provide liability insurance, a detailed written cost estimate to close the facility, and establish financial assurance for this future closure. Pursuant to 06-096 CMR 854, (6)(C)(16) and 40 CFR 264.140(c), Federal agencies are exempt from the financial requirements of the rule. Therefore, the Shipyard is not required to and has not, submitted any information regarding closure cost estimates, liability insurance or financial assurance mechanisms. It is anticipated that the United States Department of Defense will finance closure/post-closure costs and any remedial measures necessary. The Rules relieve the Shipyard from demonstrating financial capacity in the application but do not relieve the Shipyard from funding the costs of properly closing the facility in accordance with State and federal closure and corrective action requirements.

4. DESCRIPTION OF THE PROJECT

A. Facility Description:

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The Shipyard is a federally owned Department of the Navy installation engaged in the servicing and repair of nuclear submarines. Chemicals used at the facility become wastes, which are hazardous under federal and state regulations by virtue of their characteristics (i.e. ignitability, corrosivity, reactivity, or toxicity) or by being specifically identified in the Rules as being hazardous by listing. The Shipyard is not located on Indian lands. The Shipyard has provided a topographic map identifying the relative location of the Shipyard, attached as Figure 6.

The four Standard Industrial Classification (SIC) codes that best reflect the principal products and services provided by the facility are:

3731-Shipbuilding and Repair
9711-National Security
3444-Sheet Metal Work
3621-Motors and Generators (Rebuilding)

B. Facility Activities:

This hazardous waste storage facility (hereinafter referred to as the "storage facility", "Facility" or "HWSF" and depicted on Figures 2 & 4 continues to operate in support of the Department of Defense's shipyard operations as well as performing as a commercial facility receiving hazardous wastes from other Department of Defense (DOD) New England facilities since 2001.

(1) Onsite Waste Generation

Hazardous wastes are generated at various work locations throughout the Shipyard and accumulated in generator storage areas at the Shipyard, which are collectively called Hazardous Waste Accumulation Areas (HWAAs). The HWAAs are limited to waste storage for ninety days or less for any container prior to transfer to the storage facility. Personnel are assigned to each HWAA and are responsible for labeling the container as "hazardous waste", identifying the waste, marking the accumulation start date when beginning to fill the container, and complying with all provisions specified under 06-096 CMR 851(8). The accumulation start date is carried forward and the same date transferred to subsequent repackaging and/or consolidation of similar wastes at the storage facility. In situations where multiple small containers are consolidated into a larger 55-gallon container, the oldest accumulation start date is utilized.

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Building 357 is a 19,000 square foot one-story structure. The licensed area consists of an 11,700 square foot portion of the building and an outdoor support area for storage of larger size containers and roll-offs. The building contains the control center for the On-Scene Operations Team (O.S.O.T.), the hazardous waste storage rooms, a mercury control office and supply work area, support facilities including office, electrical, mechanical, restrooms, and a loading dock and forklift ramp adjacent to the shipping and receiving area for waste transfer. In a separate portion of the building that is not licensed, is storage for the O.S.O.T.'s equipment and supplies. Outside there are areas designated for multiple purposes including: an area for storage of new or reconditioned 55-gallon containers, a dedicated concrete pad for twelve 20 to 40 cubic yard roll-off containers for hazardous and non-hazardous solid wastes (of which seven are used for hazardous waste storage of up to the 180 day limit), an area just outside Building 357 designated for an undisclosed number or portable 1,000-gallon Transportable Oily-Waste Tanks and nine empty Transportable Chemical Tanks for storage, as well as support facilities for a 70-ton truck scale, access roads, drainage control, and utilities. The areas incorporated into this license are noted on Figure 2.

(2) Off-site Hazardous Waste Generators or Commercial Off-site Generators (COG)

The Shipyard provided a list of potential DOD generators who could ship waste to the Shipyard for storage. These include DOD entities located at:

- Former Brunswick Naval Air Station, Brunswick, ME;
- Pease Tradeport, Portsmouth, NH;
- Cutler Naval Base, Cutler, ME;
- Prospect Harbor Naval Station, Prospect Harbor, ME; and
- NH Army National Guard, Concord, NH

The complete list of other eligible facilities is included as Attachment 4.

Commercial off-site generators are required to characterize their wastes in accordance with 06-096 CMR 850 of Maine's regulations. This information will be provided to the facility prior to any waste transport and before the Navy assigns a designated waste profile. Upon arrival at the facility, a number of procedures will be followed as described below in Section 6 of the Operations Plan. Once the Shipyard staff confirms the waste characterization information, a

profile number is assigned. The profile number is used to track generation, characterization, handling and final disposition of the waste.

The Shipyard only schedules and receives shipments of wastes from off-site between the hours of 7:00 AM to 3:00 PM. The commercial off-site generator is required to notify the Shipyard facility operator when a waste pick-up at the generation point is necessary and the Shipyard staff makes the arrangements for the waste transport.

C. Facility Traffic Information:

The largest portion of hazardous waste for storage in this facility comes from waste generated within the boundaries of the Shipyard. In general, waste movement from various points on the Shipyard occurs with a 5-ton truck with approximately 15 round trips per day. The roads onsite at the Shipyard have not been systematically designed or constructed; therefore, data on load-bearing capacities is limited. The majority of the roads are surfaced with asphalt. There are no traffic signals in the Shipyard and traffic is controlled internally by "yield", "stop" and "speed limit" signs as well as military police and civilian security police.

Two gates are utilized to enter the Shipyard grounds, Gate No. 1 and Gate No. 2. The internal access roads to the facility from Gate No. 1 are Isaac Hull Street to Wyman Avenue to Sicard Street, onto Goodrich Avenue to Parker Avenue and an unnamed paved road immediately connected to the Facility. An alternate route from Gate No. 1 is Isaac Hull to MacDonough Avenue to Goodrich and then follows the same route as above. From Gate No. 2, the access would begin with Wyman Avenue and follow the same route as previously described. See Figure 3.

Access to the Shipyard is only possible via two bridges from Kittery. There are gates at both entry points guarded by Shipyard police. All personnel entering are required to display identification to guards prior to entry. All vehicles are required to have vehicle passes.

The traffic volume for the Shipyard is approximately 3,000 cars per day with significant volumes of traffic entering and leaving the Shipyard between 7:00 to 8:00 AM and 3:00 to 4:00 PM during shift changes. Facility staff arrivals and hazardous waste delivery and pick up are the only traffic exclusively related to the waste Facility. Deliveries of waste generated by the Shipyard and pick-up of hazardous waste are dependent upon production and hazardous waste generation rates. A total of twenty vehicles are anticipated to be traveling internally to and

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from the facility daily. Internal waste pickups conducted by facility personnel are estimated at fifteen daily. The total number of internal semi-tractor trailer waste shipments is two per day.

For off-site truck pick-ups, the maximum number estimated by the Shipyard is two trucks per week. The primary truck route is Interstate Route 95 to Route 1 to Route 103 to the Shipyard's Gate No. 1. Waste shipments received from off-site are limited to an average of 2 trucks per week calculated annually. The Shipyard files an annual report of waste shipments received which includes the number of trucks received each month, total weight of wastes received, and a calculation of the weekly average for the year. This report is filed with the DEP by January 30th for each preceding calendar year. Over the past ten years, the average number of off-site shipments received is less than one truck per month. Therefore, the established limits have never been exceeded.

In the 2001 application review, local concerns were expressed about the use of Gate 2 and trucks traveling through a residential neighborhood, past an elementary school, and in particular during the 3:00 PM to 4:00 PM high traffic period. At that time, the Department of Transportation's (DOT) also made a recommendation that the Shipyard's transporters avoid the high traffic periods of the day. The Kittery municipal officials additionally raised concerns regarding trucks arriving late and being left parked outside the gate after hours.

As a response to the concerns raised in 2001, the Shipyard now keeps staff overtime and completes the waste delivery in the event that a truck arrives late in the day so that trucks are not left parked outside the gate. The Shipyard also does not use Gate 2 as a route into the shipyard unless Gate 1 is blocked and all traffic is directed to Gate 2. Waste shipping and receiving from off-site are normally scheduled to occur between 7:00 AM and 3:00 PM except as noted above when a truck arrives late. The Shipyard does not receive shipments after 2:30 PM, when Gate No. 2 is in use, to insure that hazardous waste traffic does not occur while the school is being released.

Maine licensed hazardous waste transporters will transport all hazardous waste shipments to and from off-site facilities for treatment or disposal.

D. Operating Hours:

The Facility operates Monday through Thursday from 5:30 AM to 3:30 PM, with shipments into the Facility typically occurring between the hours of 7:00 AM and 3:00 PM.

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5. HAZARDOUS WASTES TO BE HANDLED

The types and quantities of hazardous wastes generated at the shipyard and to be received from off-site generators of hazardous waste are presented in Table A.2 in Appendix G. See Attachment 1.

6. OPERATIONS PLAN

The operation plan specifies the hours of operation, describes the types of wastes, waste handling procedures, receipt and shipping procedures, container management practices, inspection and maintenance practices, describes how any collected precipitation will be managed, and specifies record keeping requirements.

The hazardous waste storage facility (HWSF) receives wastes generated in the course of production activities at the Shipyard. Wastes generated off-site are accepted at the facility in accordance with the procedures outlined in both the Waste Analysis Plan (Section 11 of this Order) and the Operations Plan. No wastes are disposed of on-site and all wastes are temporarily stored in closed containers until shipped off-site for further treatment and/or disposal in accordance with the requirements of the Maine Hazardous Waste Management Rules.

A facility pickup operator delivers hazardous wastes to the storage facility between the hours of 7:00 AM and 3:00 PM Monday through Thursday. An exception is made if unforeseen circumstances occur such that a shipment of off-site hazardous waste will be arriving late. In that case sufficient staff will stay to receive and secure the shipment. Under no circumstances are hazardous wastes left outside the Shipyard gates after hours.

Personnel from the shop generating the waste are required to notify the facility operator to arrange for pickup of wastes at the generating point. Other than the normal hours of operation as listed above, the facility gate is kept closed and locked at all times and wastes cannot be delivered. At least two hazardous waste handling operators will be on duty during normal operating hours with support from the Environmental Division Engineers. In the event of an unexpected absence of the operator, a second individual with proper training credentials will be made available to replace the missing operator.

Any precipitation that could come into contact with hazardous waste would likely occur on the loading dock that is constructed with secondary containment. Drain valves are kept closed at all times and especially during waste movement. Any precipitation collected in this facility's stormwater detention pond located in Figure 2 is released to the

storm drain provided no visual evidence of spills is documented. The containment capacity for the shipping and receiving area is approximately 702 gallons. A valve when open allows the stormwater to drain out through a pipe to a manhole containing a grit trap and then into the permitted stormwater outfall. Prior to opening the drains to release collected precipitation to the detention pond, the storage facility is inspected for leaks, spills, or leaking containers, and the inspection logs are reviewed for evidence of any unremediated leak or spill. If no evidence of leaks or spills is documented, the drains are opened to release collected precipitation. If leaks or spills have been observed, the collected precipitation will be sampled as close to the location of the leak or spill as soon as possible. If the collected wastewater is determined by analysis to be hazardous, it will be managed and disposed of as a hazardous waste in accordance with Maine's Hazardous Waste Management Rules. If a listed hazardous waste is spilled and reaches the containment area, it will be managed and disposed of as a hazardous waste in accordance with Maine's Hazardous Waste Management Rules. Melted snow and any fire fighting runoff would be managed in the same manner. The drainage gates from the detention pond empty to a nearby stormwater trench and drain that leads to the Piscataqua River. In general, the detention pond is drained and kept empty after any precipitation event in order to maintain the full containment capacity as well as to prevent stormwater from becoming a hazardous waste if a spill should occur.

In the event of a power failure, the Shipyard provided a description of precautions to be undertaken to mitigate the effects of equipment failures and power outages. The HWSF was designed with redundant (dual) power feeds, emergency lighting and battery back-up for fire alarms and fire suppression. Waste handling operations are suspended during any power outage or failure.

7. MANAGEMENT OF WASTES WITHIN BUILDING 357

Building 357 is approximately 19,000 square feet in total size, with the licensed portion measuring 11,700 square feet and consisting of twelve rooms, two of which are licensed for hazardous waste handling and ten rooms for specific storage purposes. The building and rooms are described below and depicted in Figure 4. The sizes of the rooms are listed in Attachment 1. Each storage area is required to have a containment collection system capable of storing 20% of the total capacity of all containers or 110% of the capacity of the largest container, whichever is greater, in accordance with 06-096 CMR 854(12)(B)(4).

A. Room 123 is the shipping and receiving area located in the center of the building and is used to temporarily off-load, sort, and catalog containers. Usually the largest container is a 55-gallon drum, however on occasion, containers as large as a 4' x 4' x 4' pallet box may be handled. A forklift moves a maximum of four (4)

55-gallon drums and possibly two forklifts could be operating for a total of 8 drums being moved about the area. The total potential spill volume at any one time, including a pallet box, is 484 gallons. A trench drain (46 ft long x 1 ft wide x 1.5 ft. deep) is sized to handle up to 516 gallons or 115% of the potential spill volume. All of the trench drains are coated with the chemical resistant "Novolac Epoxy" coating system. No container is stored in this area for longer than 8 hours. No overnight storage of wastes occurs in this area.

B. Room 124 is a 499 square foot room used for waste consolidation and is located next door to the shipping and receiving area. This room is used for consolidation of small volumes of wastes into larger 55-gallon containers. Once full, the consolidation container is relocated into the appropriate storage room. This area has the capacity to temporarily store up to twenty-one (21) 55-gallon drums for a total volume of 1,155 gallons. Containers are stored individually along the perimeter of the room. In 2010 the Department approved a modification to the type of wastes being consolidated in the bermed area of Room 124. The Shipyard found that the consolidation of acids was not an activity that they wanted to continue. Furthermore, they had seen a change in the quantities and varieties of alkaline solutions requiring consolidation. Department technical staff reviewed the Shipyard's request and found that the liner in Room 124 was compatible with both acid and alkaline waste materials. At any one time, only two drums of alkalis, up to five drums of flammable waste, and up to fourteen drums of toxic (TCLP) wastes will be stored here. PNS personnel must maintain a six-foot separation between flammable waste and all other wastes. Exhaust ventilation is provided to prevent flammable or explosive gases from accumulating during handling operations as well as mixing of incompatible vapors. Only one drum is open at any one time except that a maximum of two drums containing flammable wastes may be open while transferring material. The flammable wastes need two containers because the liquid waste needs to be separated from the solids or sludge material. The spill containment capacity provided is 3,826 gallons. The containment capacity exceeds twenty percent of the maximum storage capacity by 3,595 gallons.

C. Room 130 is a 205 square foot waste alkaline room and is licensed to store thirty-two (32) 55-gallon drums or 1,760 gallons. It is located in the southeast corner of the building. The secondary containment volume of the segregated waste alkaline containment is 1,851 gallons. The containment capacity exceeds twenty percent of the maximum storage capacity by 1,499 gallons.

D. Room 127A is a 148 square foot room used for the storage of water reactive wastes and is licensed to store sixteen (16) 55-gallon containers or 880 gallons. It

is located in the southwest corner of the building. A special carbon dioxide fire suppressant system has been installed to address any potential fire hazard. The secondary containment volume for the waste area is 1,234 gallons. The containment capacity exceeds twenty percent of the maximum storage capacity by 1,058 gallons.

E. Room 127 is a 205 square foot room used for storage of waste oxidizer and is licensed to store thirty-two (32) 55-gallon drums or 1,760 gallons. It is located in the south end of the building. The secondary containment volume of the segregated containment is 1,851 gallons. The containment capacity exceeds twenty percent of the maximum storage capacity by 1,499 gallons.

F. Room 129 is a 205 square foot waste acids room and is licensed to store up to thirty-two (32) 55-gallon drums of waste acid for a total volume of 1,760 gallons. It is located in the southeast corner of the building. The secondary containment capacity is 1,851 gallons. The containment capacity exceeds twenty percent of the maximum storage capacity by 1,499 gallons.

G. Rooms 125 and 126 are each 969 square foot rooms and are used to store "Toxic Materials" including reactive cyanides, sulfides, and PCB wastes. Each room is licensed to store up to a maximum of one hundred and sixty (160) 55-gallon drums for a total volume of 8,800 gallons in each room. These rooms are located on the west side adjacent to the Consolidation Room. The secondary containment capacity is 8,639 gallons for each room. The containment capacity exceeds twenty percent of the maximum storage capacity by 6,882 gallons for each room.

H. Room 132 is a 726 square foot room and is used for storing flammable solids. This room is licensed to store up to ninety-six (96) 55-gallon drums or 5,280 gallons. It is located on the east side of the building. The secondary containment volume provided for spill containment is 6,171 gallons. The containment capacity exceeds twenty percent of the maximum storage capacity by 5,116 gallons.

I. Room 133 is a 1,122 square foot room designed to provide storage for flammable liquids. This room is licensed to store ninety-six (96) 55-gallon drums or 5,280 gallons. It is located on the east side of the building. The containers must be single stacked in accordance with the National Fire Protection Association (NFPA) 30 Regulation with a minimum of 3 feet of aisle space. The secondary containment volume provided for spill containment is 9,010 gallons. The containment capacity exceeds twenty percent of the maximum storage capacity by 7,955 gallons.

J. Room 134 is a 198 square foot (former solvent recovery) room used to store compressed gas cylinders. It has the capacity to store up to thirty-two (32) 250 pound or up to forty-five (45) 20 pound cylinders or mixed combination between the two sizes. These cylinders contain either residual quantities of propane or acetylene. However, other cylinder types containing non-toxic gases such as oxygen, nitrogen or Freon may also temporarily be stored here. Toxic gases such as chlorine or ammonia will not be stored. This room is designed with explosion proof wiring, blow out wall panels, four-hour firewalls and doors and pre-stressed concrete roof slabs. The secondary containment capacity provides containment for up to 1,481 gallons. No liquids will be stored in this room making it unnecessary to provide containment for twenty percent of cylinder contents.

K. Room 135 is a 198 square foot (former solvent recovery) room used to store solid non-hazardous wastes such as grease or adhesives. It can hold up to fourteen (14) 55-gallon containers. It is located on the east side and center of the building. The secondary containment volume of this room provides containment for up to 1,481 gallons. The containment capacity exceeds twenty percent of the maximum storage capacity by 702 gallons. The Shipyard has the continued option to store non-hazardous wastes in this room.

L. Room 137 is the 792 square foot Machine Room and is currently used for a single drum crusher and a rag compaction unit. The Machine Room is not used to store any drums containing waste. On occasion, new, unused and empty drums and other storage materials may be co-located within this room. Secondary containment provides up to approximately 6,788 gallons of liquid storage.

M. The loading dock area just outside the shipping and receiving area is provided with a center trench sump (31 ft long x 1.5 ft wide x 2 ft deep) to provide containment in the event of a spill of up to 695 gallons in size. An additional containment trench is sized to contain a spill of 440 gallons. The trench is designed to contain spillage in the event that the maximum number of eight drums off-loaded by two forklifts ruptures simultaneously. There is 57% of excess containment capacity over this amount. The trench and loading dock concrete slab are coated with the chemical resistant "Novolac Epoxy" coating system to prevent any spilled liquids from migrating into the concrete and subsurface soil. A concrete retaining wall is sloped away from the entrance to restrict precipitation from entering the loading dock area. The peak runoff volume within the loading dock area for a 25 year, 1 hour duration and 24-hour duration storm is 1,643 gallons and 3,258 gallons, respectively. Capacity for 3,495 gallons is provided in

this area. A curb constructed around the fenced, paved area surrounding the container and roll-off storage areas provides additional spill containment capacity.

N. Outdoor Storage:

The outdoor support and storage area located adjacent to the storage building is used for access into the facility, the storage of empty drums, empty container handling operations, administrative offices, spill clean up gear and tool storage, and the storage of up to twelve roll-off containers used to transport both hazardous and non-hazardous solids. The total support and storage area measures approximately 1.05 acres and is composed of reinforced concrete and asphalt. The combined total area including the detention pond is approximately 1.75 acres.

Two asphalt-paved areas representing an approximate total of 8,800 square feet are used for the storage of empty drums. One 5,800 square foot area is used for the storage of scrapped and to be recycled 55-gallon drums. The second area is used for the storage of new or reclaimed drums and is 3,000 square feet in size.

The Hazardous Waste Storage Facility (HWSF) has nine (9) Transportable Chemical Tanks. These containers are kept outside and are kept empty at the HWSF, available for production shops' use for various work assignments. Typically they are used for a boat system flush down at the waterfront. System flushes circulate an activated solution through a piping system on board the submarine, followed by a neutralizing solution, and finally a rinsing solution. The circulated solutions evacuate to the Transportable Chemical Tanks for temporary waste storage. All three flush cycles are aqueous. A typical flush generates less than 1,000 gallons of waste, which includes all three flush cycles. When the process is complete, a licensed transporter pumps out the tank on-site and the empty tank is then returned to the HWSF for storage until needed. A Transportable Chemical Tank used for storage of waste on-site at the HWSF would be an emergency situation, which would prompt notification and contact with DEP. Prior to the placement of a Transportable Chemical Tank at Building 357, verbal notification must be made to the Department for review and approval 48 hours before the tank is proposed to be placed at this Facility and a letter must be provided within in one week for Department review and approval describing the situation, the waste, its storage location and compatibility with the area, and a schedule for removal of the waste.

There is a two bay loading dock, a truck scale and a forklift ramp adjacent to the Shipping and Receiving Area. A third area used for the storage of twelve roll-off containers was built with reinforced concrete and encompasses approximately

9,900 square feet. Currently, the Shipyard is approved to store up to twelve roll-off containers for both hazardous and non-hazardous solid wastes for less than ninety-day storage. The Shipyard received approval for hazardous wastes to be handled in this area under the 2001 storage license for the seven covered roll-off containers holding hazardous waste solids for up to the maximum storage time of 180 days. This area is unlined and the Shipyard received a variance from the liner requirement for this area provided both the concrete and asphalt surfaces are properly maintained.

The outside support area was constructed in the form of a shallow basin. It slopes from elevation 107.3 at the perimeter down to elevation 106 at the center. Two stormwater detention ponds provide 245,000 gallons of stormwater storage which is sufficient to contain precipitation from 25 year, 24-hour storm event. A seven-inch high bituminous concrete curb was constructed as a perimeter curb, which can provide an additional 240,000 gallons of containment up to the perimeter of the support area. The curb and detention pond provide twice the needed containment capacity required by the rules.

Twelve 20 to 40 cubic yard roll-off containers store wastes. Secondary containment is provided via the 10-inch reinforced concrete pad and 7-inch high bituminous concrete curbing at the perimeter of the Facility. If a spill should ever occur in this area, it would be observed during routine inspections and be cleaned of any spillage. In addition, the outlet pipe gate from the detention pond is kept closed at all times in the event any wastes escape and are contained in the detention pond.

The concrete pad with reinforcing bars underlies the roll-off containers. The concrete pad is designed to support the weight of the roll-offs and to resist crack formation due to bending and thermal stress. This area is inspected on a daily basis as well as informally during intermittent transfers of waste from this location to off-site locations. The Shipyard agreed to seal the concrete with a water resistant sodium silicate sealant every five years. The next scheduled sealing of the concrete would need to occur in 2016. The sealant has a 20-year guarantee.

O. The hazardous waste treatment activities, which were previously approved under abbreviated licenses in the early 1990's and described in the regulatory history section, are now certified closed and are no longer incorporated in this license.

P. The compacting of solvent contaminated rags prior to shipment is a hazardous waste activity that occurs in an area within the hazardous waste storage facility.

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COMMERCIAL HAZARDOUS	)	
WASTE STORAGE FACILITY	)	
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Even though this activity does not require a license, it has been included as part of this application. This process meets the Department's regulatory exemption cited in 06-096 CMR 856(6)(E) for compactors that prevent release of liquids or vapors in its design and operation.

8. MANAGEMENT OF CONTAINERS

The Shipyard proposed a maximum container capacity of six hundred fifty nine (659) 55-gallon containers, for a maximum volume of 36,245 gallons of hazardous waste on-site at any one time. This was the maximum capacity for storage at the time the Facility was constructed and PNS continues to request approval for that amount. The total number of containers for nine of the ten indoor storage areas is six hundred thirty eight (638). The additional 21 containers represent the containers in use in the Consolidation Room. One room stores compressed gas cylinders, with the maximum number permitted of 32 full size cylinders or up to 48 smaller sized cylinders or a combination of the two. In response to Board concerns in the 2001 application process, the Shipyard limits the total amount of waste received from off-site facilities to 2.3 million pounds per year.

The storage time for containerized hazardous waste at the facility can vary depending on when a full truckload can be shipped. The maximum storage time, however, is less than one hundred and eighty (180) days. An exception report must be filed for any waste that exceeds the 180 days. This report includes any fees required by 38 M.R.S. § 1319-I, and requires the Shipyard to segregate and label these containers with the date of the 180th day. In no case shall the storage time exceed 360 days, unless the Shipyard applies for, in writing, and receives approval to do so from the Commissioner.

The Facility handles nine 1,000-gallon portable chemical tanks referred to as Transportable Chemical Tanks. These tanks are double-walled stainless steel tanks and have been pressure tested prior to use and handle aqueous wastes that may exhibit toxicity and/or corrosivity characteristics while located elsewhere on the Shipyard. They are empty when being stored at Building 357. In addition, the Shipyard manages several 1,000-gallon portable oily waste tanks known as Transportable Oily Waste Tanks. This oily waste is managed in accordance with 06-096 CMR 860 and 40 CFR 279 and does not exceed the waste oil specification parameters which would classify the waste as off-specification waste oil or a hazardous waste. The fluids pumped into these tanks are primarily oily water that is pumped from bilges or buoyancy compensation tanks or wastewater collection tanks aboard boats and vessels. The oil percentage is very small compared to the water component; however this oily water cannot be released to a sanitary system. These containers are also stored empty at Building 357.

RCRA air emission standards were promulgated under Section 3004 (n) in the federal regulations in phases during the late 1990s. EPA can enforce compliance with this rule until the State adopts this set of regulations. The State of Maine has not adopted these rules as of this date. The first phase included 40 CFR Part 264/265 Subparts AA and BB. These subparts address volatile air emissions from process vents associated with certain types of hazardous waste management processes (Subpart AA) and leaks from certain types of equipment at TSDFs and large quantity generators (Subpart BB). At such facilities, owners and operators are required to install control equipment and employ management practices to reduce air emissions from affected units and equipment. The Shipyard does not use any processes or equipment that triggers the 40 CFR Part 264/265 Subparts AA and BB requirements. There is no difference between the air emission standard in Part 264 and Part 265, except for reporting requirements.

Phase 2 of the RCRA air emission standards, Part 264/265 Subpart CC, regulates organic air emissions from tanks, surface impoundments, and containers located at RCRA Treatment, Storage or Disposal facilities and large quantity generators. The Shipyard does have to comply with the Subpart CC requirements as they pertain to containers and are considered self-implementing by US EPA. Most of the containers are 55-gallons in size and would be managed under Level 1 controls. The Level 1 requirements are that the container meets DOT regulations and that the containers be covered or kept closed at all times except for when transferring hazardous waste between batches and the time not to be exceeded is less than 15 minutes between transfers. The inspection requirements are to check to ensure the closure devices are in good condition and closed when transfer is complete. When waste is received from off-site sources and unloading is not completed within 24 hours, then the container must be visually checked and repairs made to any noted defects. The container cannot be used until any such defect is repaired. No tanks are used for storage of hazardous wastes containing volatile organics with high vapor pressure. In addition, no containers are used that are larger than 122 gallons for which solvents defined as "in light material service" are placed in the 1,000 gallon transportable chemical or oil tanks. The typical waste placed within the 1,000 gallon containers are either oily water or aqueous based wastes used to flush piping systems on a submarine and are toxic due to corrosivity.

In summary, this Facility has 13 separate rooms used for waste handling and storage (see Figure 4). Seven of the waste storage rooms feature the same physical controls including 24-hour leak detection and fire detection, continuous negative pressure ventilation, Aqueous Film Forming Foam (AFFF) fire suppression, epoxy coated floors and secondary containment. The Shipyard has submitted a Standard Operating Procedure (SOP) for relocation of containers and changing the type of waste stored within a particular room if it is necessary to reallocate resources based upon waste storage demands. See Attachment 2. The following rooms are dedicated and unique in their

function and are ineligible for this SOP: Room 124 is the Consolidation area, Room 127A Water Reactive storage, Room 134 for Compressed Gas Cylinders or non-hazardous waste solids storage, Room 135 Solid Hazardous or non-hazardous waste, and Room 137 the Machine room.

The interchangeable rooms include Rooms 125 and 126 which are used for Toxic Waste storage. In addition, Room 127 is used to store Oxidizers, Room 129 for the storage of Flammable Solid Waste, Room 130 for the storage of Alkaline Wastes, Room 132 for Acid Wastes storage and Room 133 for Flammable Liquids storage. The primary difference between these potentially interchangeable rooms is space or size of the rooms and the number of containers that can be safely stored and inspected. All the other features remain the same. Any proposed change would undergo an engineering review and approval with a justification submitted to DEP for approval prior to implementation. The rooms proposed for any waste reallocation would have the wastes and residues removed and the area inspected prior to implementation.

9. MANAGEMENT OF THE OUTDOOR ROLL-OFF STORAGE AREA

In the outdoor roll-off container storage area, only solid hazardous wastes are stored in covered 20, 30 or 40 cubic yard sized roll-off containers which are located on a 10-inch thick steel reinforced concrete pad. The Shipyard received approval for licensed storage of up to a maximum of seven roll-off containers or slightly more than half the concrete pad. Typically only one roll-off with hazardous wastes is stored at any one time, however up to twelve full-size 40 cubic yard roll-offs can be stored here. The typical hazardous waste stored is lead contaminated soil or sandblast grit. The other types of solid waste likely to be adjacently stored are asbestos, boiler soot, or oil-contaminated soils. The elevation of the concrete pad was raised during construction from an elevation between 105.6 and 106 feet to 107.3 feet. The 500-year flood level is 105.2.

To ensure that no spilled wastes can escape from the Facility, a 7-inch high asphalt curb was constructed around the entire outdoor handling area to prevent run-on/run-off of stormwater. This curb measures 5-inches wide at the top and 9-inches wide at the base. During waste transfers, personnel are present to immediately clean up any spillage. The roll-off containers are kept covered to prevent collection of precipitation in the containers and would only be uncovered during waste transfers. The underlying concrete pad has a 1% slope so precipitation will drain away from the containers. The containers are elevated on a raised base to prevent any continuous contact with collected precipitation. As an additional protective measure, the containment area has a valve on the outlet pipe to be kept closed at all times to prevent any releases escaping if a spill should occur.

The asphalt sections of the outdoor storage area and detention pond were coated annually with a tar sealer in the past but it was determined to not be helpful. The entire outdoor storage area was milled and repaved in September 2005. Sealant was applied in July 2006, as the initial seal coating for any new asphalt pavement had to be performed 6 to 12 months after installation of the new pavement. The asphalt was resealed on September 9, 2011 and a recent inspection of the outdoor storage area identified that the pavement and berms were in excellent condition with no cracks, depressions or other defects which would compromise its integrity. The condition of the asphalt and coating are monitored on a daily basis for signs of cracking or distress and a seal coat reapplied as necessary. In most cases, the re-application period is usually once every 3 to 5 years. More frequent re-applications are not necessary (unless pavement distress is noted) and should be avoided since annual application caused additional problems including poor adherence. Re-application of coating should occur when the coating begins to wear away in places and the asphalt is visible.

The concrete pads under the roll-offs are inspected daily and are sealed every five years with a protective sodium silicate sealant specifically manufactured for concrete. The coating is called Hydra Loc and the manufacturer provides a 20-year guarantee. This coating provides resistance to water and weather, and sufficient chemical resistance to withstand heavy loading and be readily and reliably installed and maintained. The Shipyard proposes to recoat any gouges identified as soon as possible after they occur and maintains a five year schedule of recoating for the entire pad. The concrete pads were last sealed during the first week of September 2011.

The stormwater management system relies on a combination of engineering controls and visual observation of any spills or leaks that have occurred at the Facility. Trained staff observing waste transfers would immediately detect any spillage occurring during a precipitation event. In addition, a quarterly surface water monitoring program is conducted and the results are provided to the Department.

The Shipyard was granted a variance to the liner requirement in 2001 for the outdoor storage area based on the additional protective measures that have been incorporated into the design and operation of this area. The following unique features were incorporated in the construction of this storage area:

- The area was filled and raised from the original elevation of 106 feet to 107.3 feet which is 2.1 feet above the 500 year flood level of 105.2;

- The concrete pad is gently sloped to the east to drain any precipitation and keep any precipitation from pooling on it;

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COMMERCIAL HAZARDOUS	)	
WASTE STORAGE FACILITY	)	
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- Only storage of solid bulk hazardous wastes kept in covered roll-offs is allowed;
- The 10-inch thick reinforced concrete base is designed to resist cracking due to bending and thermal stress; and
- The concrete will undergo maintenance every five years with the approved protective sealant to prevent any solid hazardous waste from migrating through the concrete. This maintenance event was last performed in September 2011. The asphalt will be recoated every three to five years and inspected on a daily basis.

10. CONTAINMENT SYSTEM

A. Containment Capacity for Building 357:

The indoor portion of the Facility is provided with secondary containment for each individual storage room or area of activity. This portion of Building 357 is underlined by an 80 mil High Density Polyethylene (HDPE) geomembrane liner that meets the performance standard of 06-096 CMR 854(8)(B)(4, 6, and 7), and an automatic leak detection system that sounds an alarm when any liquid is detected in the floor trench. If any waste is spilled it will be pumped out as soon as possible depending on the spill amount and location by accessing a 3-foot square manway located at the end of the secondary containment tank top or floor trench.

Secondary containment is provided for all storage areas for a total maximum capacity of 52,822 gallons. The containment system for each storage room consists of 6-inch high curbing around the room perimeter and a concrete floor trench drain at the room entry which prevents liquid spills in a room from migrating out and into the aisle. Any spill would drain via an under floor trench into piping to a segregated, buried concrete containment tank (vault). Each containment tank has a 12-inch thick base and abuts the building foundation. The remaining three sidewalls and top are constructed of 6-inch thick reinforced concrete. The tanks are 5.5 feet in height and 6 feet wide, with varying lengths to achieve the required capacity for its designated room. During the December 2005 integrity assessment, precipitation was identified to be collecting inside a number of the vaults and a recommendation was made to reseal the vaults. These repairs were completed in September 2006 and further visual monitoring was done to ascertain the effectiveness of the repairs. During the September 2011 integrity assessment, precipitation was again found to be collecting inside a number of the vaults, most notably the ones along the east side of the building. The Shipyard will reseal the vaults by August 1, 2012. However, given that this fix has only

proven to be temporary in the past, the Shipyard will also evaluate the vaults to determine a more substantial fix. Any proposed change would undergo an engineering review by DEP for approval prior to implementation.

Each storage area is required to have a containment collection system capable of storing 20% of the total capacity of all containers or 110% of the capacity of the largest container, whichever is greater, in accordance with 06-096 CMR 854(12)(B)(4). As described in Section 10, each separate containment tank has been sized to contain 20% of the storage room's waste capacity as well as 20 minutes of liquid from the facility's fire protection system (i.e., 0.35 gallons per minute per square foot). Calculations for each room are presented on Table A.2. See Attachment 1.

B. Facility liner compatibility:

The building floor consists of a 6-inch thick reinforced concrete slab. The floor and secondary containment tanks are coated with a chemical resistant "Novolac Epoxy" coating system which is resistant to a wide range of chemicals including acidic and basic pH liquids. This coating is compatible for short-term exposure. The manufacturer has tested it for 72 hours of immersion in the chemicals typically in storage. At joints and stress locations, a flexible joint coating was applied. In high traffic areas an aggregate material was added for additional durability. The floor coating is inspected daily for any spills or impacts as well as any signs of deterioration warranting repair.

The secondary containment tanks were also coated with the chemical resistant "Novolac Epoxy" coating system. This sealant is required to have less than a 10% change in weight or compressive strength, exhibit no surface cracking, pitting, or demonstrate any softening after 72 hours of immersion in the chemicals that are in storage. This coating/sealant meets the regulatory standard specified.

An HDPE 80 mil liner was installed under the licensed portion of Building 357 that includes all hazardous waste handling areas, storage rooms, and secondary containment tanks. These areas consist of the shipping and receiving area, the consolidation room, the ten storage rooms, the machine room and the mercury control and office area. The Shipyard submitted information by the liner manufacturer in 1994 that demonstrated that the HDPE is resistant to a wide range of chemicals including acids, bases, heavy metals, hydrocarbons, detergents, corrosives, chlorinated hydrocarbons, inorganic salts, and reactive chemicals. Due to the very broad and extensive list of chemicals handled and stored at the Shipyard, a list of chemical compatibility reports available and associated report

numbers previously conducted in accordance with EPA Method 9090 and ASTM D543 by the manufacturer were provided for documentation. If a system failure did occur and a particular chemical waste reached the liner, the liner's chemical resistance could be compromised if the chemical remained in contact for an extended period of time. This could lead to the liner's integrity and effectiveness being destroyed thus requiring the liner's replacement. If a spill is documented to have reached the HDPE liner, the Shipyard will submit a remediation plan for removal of the waste material and an evaluation of any impact to the liner will be submitted to the Department for its review and approval.

On a quarterly basis, the observation ports over the geomembrane liner are opened and inspected for the presence of accumulated moisture. If a liquid volume is observed in any of the observation ports, the Shipyard is required to pump off as much of the liquid as is possible during on-site monitoring events and analyze a sample for contents and disposal until such time that no more liquid is present, as outlined in Attachment 3.

C. Outdoor Storage Containment Capacity:

The outdoor storage area is constructed in the shape of a shallow basin with two stormwater detention ponds. The ponds and basin set at elevation 106.85 provide containment of a peak runoff of 245,000 gallons for a 25 year, 24-hour storm event. A 7-inch high bituminous concrete curb was constructed as a perimeter curb, which provides approximately 240,000 gallons of additional containment. This is twice the necessary containment capacity required by the rules.

The concrete pad undergoes maintenance with a water protective sealant every five years to maintain the integrity of the concrete over time. The asphalt areas are to be treated every 3 to 5 years when surface wear and cracking has determined it to be necessary to recoat the surface. The asphalt is inspected on a daily basis for spills, leaks, safety and compliance and asphalt inspectors annually review the condition of the asphalt and sealants to determine if treatment is needed. The asphalt was scarified and replaced in August 2005 and resealed in July 2006 and again in September 2011.

D. Liner Variance:

The Shipyard did not install a liner under its outdoor storage area in 1995 and a variance from the liner requirement in the rule was granted in 2001.

06-096 CMR 854(12)(B)(2) requires a storage facility to have a base, which is a firm working surface, such as asphalt or concrete, which is impervious and must be kept entire. A natural clay liner meeting the requirements of 06-096 CMR 854(12)(B)(2) or a synthetic liner meeting the requirements of 06-096 CMR 854(8)(B)(4), (5), (6) and (7) must underlie the working surface. The liner must be intact beneath the storage facility and must be constructed with a raised berm around the entire storage facility.

The rule provides that an applicant may apply for a variance to the liner requirement for licensed facilities (or portions thereof). Such modifications or variances may be justified on the basis that protection to the health, safety, or environment is being met by the performance standards as required, and that the design is an alternate but equivalent one. The Board may grant a waiver from the liner requirement beneath the existing base if the Facility has not in the past violated the performance standards established and the facility design will provide full compliance with the performance standards at all times.

In support of this request, the Shipyard offered the following evidence:

The concrete pad is designed to contain any accidental spills. The floor is designed to resist any crack formation from bending or stress from weight. The concrete is a minimum of 10 inches thick with steel mesh reinforcement; a berm surrounds the area and is sloped to prevent stormwater run-on.

In general, cured concrete is less permeable than the clay liner compacted to 10^{-7} cm/sec called for by 06-096 CMR 854(12)(B), provided all cracks and penetrations are properly sealed. Cracks, poorly sealed joints, penetrations, and other defects are the more usual pathways for contaminant releases from concrete containment structures. The concrete pad's floor ranges from ten inches thick with steel mesh reinforcement and increases up to two feet thick in places, sufficient to resist crack formation due to stress from the load. This concrete pad was built on top of an older concrete pad used for the previous facility, Building 313.

Roll-off trucks drive on the pad to load and unload the roll-off containers. These containers roll on and off the truck on steel casters. The act of loading and unloading the roll-offs has not caused cracking to the pad to date. The main type of wear to the pad as a result of this operation has been occasional shallow gouges and chips resulting from jammed casters. During the initial period after the installation of the pad, hairline surface cracks appeared. These cracks were chiseled to sound concrete and refilled with epoxy caulking. No significant cracking has occurred since that time. The pad was sealed initially and thereafter

maintained with a penetrating water sealant as approved by the Department in July 2001.

A bituminous asphalt berm surrounds the entire support area and runs along the backside of the concrete pad. This pad is also sloped to prevent stormwater run-on. The concrete surface was coated with a sealant approved by DEP, which is compatible with and resistant to the materials typically stored upon the pad. The Shipyard will maintain the sealant to provide for UV protection, withstand the wear of truck traffic, be weather resistant, hold up under a working range of temperatures, be compatible with all substances in storage, maintain a hardness appropriate for intended service, and good adhesion to concrete.

In addition, the roll-off containers are used only for solid types of waste and will be kept covered at all times except when waste is being added. The area is also inspected on a daily basis as well as during transfers of waste.

In 2001 the Board granted the variance to the liner requirement for the outdoor storage area based on the fact that it is a visible, inspectable, properly designed and sealed concrete containment facility for the storage of solid hazardous wastes only, which is inspected daily, and therefore, can afford equivalent protection against leakage to that of a geosynthetic liner. Where operating practices promptly detect and clean up any release of waste streams, a properly maintained concrete pad can be a dependable means to protect human health and environmental media.

11. WASTE ANALYSIS PLAN

Prior to receipt and storage of hazardous waste, the owner or operator of any hazardous waste facility must obtain a detailed chemical and physical analysis of a representative sample of the waste. The waste analysis plan at a minimum must specify the parameters for which each waste will be analyzed, the rationale for the selection of these parameters, the test methods which will be used in this testing, and the sampling method which will be used to obtain a representative sample.

To meet these requirements, the Shipyard has established a waste analysis plan to facilitate proper identification, labeling, and manifesting of its wastes. The plan describes how the Shipyard obtains chemical and physical data for all hazardous wastes that are generated and handled. The characterization data provides the information needed to safely store and ship the wastes from both on-site and off-site sources.

Material Safety Data Sheets (MSDS) describing the hazards associated with the materials will accompany all shipments of hazardous materials to the Shipyard. The hazardous materials are subject to a waste processing system that labels each individual container with the National Fire Protection Association (NFPA) hazard labels indicating health, fire, and reactivity hazard levels. A completed waste information form and MSDS data help with the characterization of wastes with regard to potential hazards and a determination of which materials may constitute hazardous wastes when spent.

Hazardous wastes are periodically sampled and analyzed to verify waste characterizations. Sampling is conducted to characterize the wastes for disposal, provide information to complete appropriate documentation for Land Disposal Restrictions and verify its correct profile. A waste profile numbering system has been created by the Shipyard to organize various categories of information for a computer tracking system. The first digit of a profile number describes its primary characteristic. The codes are as follows: 1000 codes are gas cylinders, 2000 codes are ignitable, 3000 codes are corrosives, 4000 series are toxins, 6000 indicates poisons, 7000 are reactive, 8000 are state regulated wastes, for example PCB wastes, and the 9000 series are used for wastes not regulated as hazardous. The remaining three digits are assigned as new profiles are designated. This number is used to ensure that the waste compatibility, storage requirements, treatment standards and shipping requirements are being met.

The plan consists of descriptive standard operating procedures for sample collection of various waste streams. The plan entitled "Environmental Sampling Operations Manual" specifies separate chapters for Quality Control and Assurance, Documentation and Record Keeping, Safety, Solid Waste Sampling, Hazardous Waste Storage Facility Sampling, Analysis for Commercial Waste, PCB Sampling, Surface Water and Groundwater Sampling and Field Testing protocol. The Shipyard updated Chapter 9 of this manual in March 2012 to reflect a preservation requirement for mercury of 4 degrees Celsius at the Department's request.

The commercial off-site generators must provide sufficient characterization information for the Shipyard to be able to assign a profile number. The supporting documentation will include MSDS Sheets, a description of the waste generation process and analytical results. The commercial off-site generators must notify the HWSF of any process changes that could alter the characterization information so that management practices can be appropriately adjusted. The HWSF may request a sample of the waste to confirm the information.

Upon arrival at the commercial off-site generators, the driver picking up the wastes will inspect and inventory the containers being picked up to ensure that the wastes match the shipping documentation. Discrepancies will be resolved prior to loading any wastes on

the truck. Wastes are rejected if any containers are: (1) not documented properly on the shipping papers; (2) do not meet EPA/DEP/DOT regulations; (3) have no profile number assigned; (4) are explosives with Hazard Class 1; (5) are compressed gas cylinders with Hazard Class 2 and 6.1; and/or (6) are radioactive Class 7 wastes.

Upon arrival at the Shipyard, the truck is inspected first for proper shipping seals and then for any signs of leakage or spills. Once the containers are off-loaded, screening of the wastes will be done. This includes a documentation review and visual inspection of container condition. The drums are then opened and inspected and the contents field-tested and screened using rapid qualitative and quantitative methods and if necessary, laboratory tested. The field screening may include ignitability (flashpoint), corrosivity (pH), metals (totals), PCBs, cyanide and sulfide content, total halogens, or VOC emissions. If waste fails any of these tests the HWSF may reject the waste. Rejection may include returning the waste to the off-site generator, repackaging or remarking the container to bring it into compliance and correcting the characterization information after consultation with the off-site generator. After successful clearance, any small or partially full containers will go to the Consolidation Room. Once containers are full, they are moved to the appropriate storage room.

The only unknown wastes likely to be encountered would be from an unexpected discovery on-site at the shipyard. No unknown wastes will be accepted from off-site. If an abandoned drum is encountered on-site, a hazardous waste determination process consisting of a review of information on where it was discovered and how the waste was likely generated takes place. If the waste remains unknown, then a sample can be provided to the Shipyard's Materials Testing Laboratory personnel who will then decide if analysis is to be conducted on-site or at a contract laboratory. This decision is based on the lab's specific capabilities to conduct the analyses and current workload. Appropriate analysis will be performed to identify the toxicity characteristics using the Toxicity Characteristics Leaching Procedure (TCLP), as well as its reactivity, corrosivity, and ignitability characteristics. Other analyses may be performed such as volatile organics if additional information is necessary to adequately characterize the waste. These analyses are conducted according to the standards established under EPA SW-846 (third edition) Test Methods for the Evaluation of Solid Waste: Physical/Chemical Methods.

Testing will occur before receipt of any new waste. An annual review is conducted of all wastes which specifies variable limited testing. Less frequently received wastes that are less well known are re-characterized on an annual basis and frequently received wastes that are well known and well characterized are re-characterized every three years. According to the Waste Analysis Plan, Appendix B, Chapter 6, Section 6.3, the frequency of the re-characterization is included on the individual waste profile sheets. Typical annual testing required for some of the waste streams consists of corrosivity (pH) and

TCLP metals. Testing must always be performed prior to any unidentified waste being sent to the storage facility.

All containers are tracked on a central computer system. This system can identify which containers are approaching the 180-day storage limit and may trigger the need to file an exception report with the Department. If the 180 days are exceeded, these special containers are segregated from the others and shipped out at the earliest possible date.

Stormwater samples from runoff are collected from the detention pond and analyzed on a quarterly basis. The stormwater pond is sized to hold approximately 125,000 gallons. During a typical stormwater sampling event, the pond contains approximately 50,000 gallons when it is sampled. In addition, samples are collected after any combined spill and associated storm event. The analysis performed includes total metals, total organic carbon, and total organic halides. Analytical results must be reviewed and demonstrate contaminant concentrations are at or below acceptable levels in accordance with the Shipyard's National Pollutant Discharge Elimination System (NPDES) permit (ME0000868) and the maximum concentrations for discharge contained in the Waste Analysis Plan, Appendix B, Chapter 11, Section 11.4.

An internal Navy audit is conducted approximately once per year with independent auditors who review the procedures being followed with respect to hazardous waste management by HWSF personnel.

12. SECURITY

The Shipyard is a restricted access, defense related facility located on an island. Vehicle entry to the Shipyard is only possible over two bridges from Kittery (the mainland). There is a gate at each bridge guarded by the Shipyard police. All personnel entering the Shipyard are required to display identification badges or passes and all vehicles must have current decals or temporary passes obtainable only from the two gates. A seven-foot high chain-link fence and three vehicular gates control access to the active portion of Building 357 and the outdoor storage area. The gated areas are posted with signs bearing the legend "Danger-Unauthorized Personnel Keep Out". Authorized personnel entering the facility itself are required to sign-in and sign-out in the office. All internal doors within the facility are kept locked from the outside. Internal panic bars are provided on all doors to permit personnel to get out once inside a storage room. Signs identifying the type of waste and associated hazards are posted on the doors to specific rooms for emergency response personnel. In addition, with the facility being located on an island, the powerful currents in the back channel of the Piscataqua River serve as a natural barrier to prohibit the unauthorized or unknowing entry of an intruder onto the Shipyard's property.

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13. GENERAL INSPECTION REQUIREMENTS

The objective of the inspection plan is to ensure that leaks, spills or other problems resulting from the storage and handling of hazardous waste are promptly detected and ensure that remedial action is taken immediately to prevent harm to human health and the environment. The Shipyard's plan establishes a written schedule for the daily, weekly and annual inspection of structures and equipment, containers of hazardous waste, containment systems, emergency and safety equipment, and monitoring and alarm systems.

Records of all inspections and remedial actions are kept for a period of three years. The record-keeping system consists of a log book in which the date and time of inspection, observations noted, and the inspector's name are recorded. A file is maintained that contains any deficiency reports and work orders issued to remedy problems found during inspections.

The areas and items subject to inspection and the associated frequency are summarized below:

Inspection Plan Summary

Item	**Inspected For**	**Frequency**
Fire extinguishers	Full & Operational	Monthly
Fire alarm circuit	Operational	Daily
Fire detection and alarm system	Operational	Annual
Wall Mounted Fire Hydrant	Adequate Pressure and Flow	5 years
Spill response equipment	Adequate Supplies	Weekly
General	Spill, Leaks, Container Integrity/ Safety & Compliance Oversight	Daily/Monthly
Shipping & Receiving Areas	Spill, Leaks, Safety & Compliance	Daily
Support Areas including berms Secondary containment detention pond	Spills, Leaks Safety & Compliance	Daily
Asphalt and concrete support areas	Condition of sealants	Annually
Roll-off Pad Containers	Compliance	Daily

Spill containment drainage valves	Leaks	Annually
Secondary containment drains and tanks	Leaks	Daily/Monthly for 6 months then Semi-Annual if dry
Leak detection and systems	Systems check	Daily
All Hazardous Waste Handling and accumulation areas	Spill, Leak, Safety & Compliance	Daily/Weekly
Ventilation System	Flow Rates	Annual
Communication Systems	Operational	Weekly

14. PERSONNEL TRAINING

The personnel training program describes the type and frequency of training which is provided to facility employees whose job tasks require handling and management of hazardous wastes. Personnel must be trained to effectively handle emergencies at the facility, inspect and maintain the facility, and operate the facility equipment. The training program developed by the Shipyard provides a job description for each level of personnel involvement in the management of hazardous waste. The training plan further includes the specific areas of training an employee will receive. All personnel that require hazardous waste training are required to review and be familiar with the Shipyard's Contingency Plan. The training received by each employee is referred to in the plan as initial (within the first six months of being hired to work at the facility) or continuing training. Initial training is usually task specific and is required of all new or reassigned employees. This training consists of both classroom and on-the-job training and the new employee will be supervised until the training is complete. Continuing training generally consists of review of operating procedures, the contingency plan, regulatory requirements, regulatory changes, and a review of initial training. Attendance at seminars, workshops or short courses is often included as part of the continuing training program.

Records of the training received by each employee will be kept until closure of the facility or for three years after the termination date of the employee, whichever is longer.

15. FACILITY PREPAREDNESS AND PREVENTION PLAN

A Preparedness and Prevention Plan has been developed to ensure that this facility is operated to minimize the possibility of fire, explosion or unplanned sudden or non-sudden release of hazardous waste to air, soil, or surface water that could threaten human health or the environment. Building 357 is designed with a liner under the portion of the

building containing waste including the secondary containment areas for all storage rooms; leak detection and alarms; separate storage rooms for each waste category; explosion proofing in all areas where flammable wastes are stored; explosion panels in all areas where flammable wastes are handled; fire alarms; and fire suppression systems appropriate to the wastes being stored. Liquid leak spill detection devices are located in the spill containment trenches as well as in the curbed areas in the Consolidation Room to detect any spill or leak. An alarm sounds at an electrical signaling device termed a "zoned enunciator" used to identify the source of concern and located at the main entrance. An alarm is automatically sent to the Shipyard's central fire alarm center.

The Shipyard maintains several forms of communication equipment, which serves in notifying appropriate response officials in the event of an accident or discharge. The hazardous waste facility manager and the hazardous waste handlers carry portable two-way radios whenever away from the facility and during hazardous waste pickups. Telephones are available at the facility, providing contact to anywhere within the Shipyard. In addition, a public address system exists with one-way communication that can be used to broadcast routine or emergency information to all personnel within the surrounding area.

The Shipyard maintains the communication and emergency equipment by insuring any breakdowns are immediately reported and repaired. The telephone, public address system, and two-way radios are in daily use in support of normal facility operations. The Shipyard Fire Department inspects the emergency equipment monthly. Materials found to be inadequate or unusable are repaired or replaced.

Building 357 is equipped with an internal fire alarm system activated by heat and smoke detectors, and multiple manually operated alarm box stations are located in all storage rooms, flammable material handling areas and in all exit paths. The alarm sounds at the Shipyard Fire Department.

The Shipyard maintains Emergency Response Equipment to provide immediate response to any accident or discharge. The facility is equipped with eyewash and shower station, carbon dioxide fire extinguishers for small fires, spill control sorbent pads, neutralizing agents for corrosive chemicals, and tools for manually controlling any discharge. Fire suppression is provided throughout the facility by an Aqueous Film Forming Foam (AFFF) sprinkler system. Adequate water for the sprinkler system is calculated to be approximately 1,350 gallons per minute (GPM). In 1995 the existing 8" water main was supplemented with a new 12" water main to provide an additional 2,000 GPM at a residual pressure of 35 PSI to meet this demand. The Waste Water Reactives Room has its own special fire protection provided by a carbon dioxide total flooding system since

water reactive wastes are stored here and would not be extinguished with the AFFF system.

The Shipyard utilizes specific operational procedures to prevent or minimize any accidental discharge of hazardous wastes. All waste containers are properly labeled and sealed and all wastes are grouped by like waste categories to ensure segregation of incompatible materials and are further segregated from other waste types by separate rooms. Drums are not stacked more than 2 high, an aisle space of 36" or more is maintained between rows to allow for daily inspections of the containers, containers are not placed against walls in the storage rooms, and only non-sparking tools are used. In the Flammable Liquid Room, containers are not permitted to be double stacked. In the Consolidation Room, containers are stored one row wide along the perimeter of the room. Only one drum at a time of acids, one drum of alkalis, up to five drums of flammable waste and up to fourteen drums of toxic (TCLP) wastes can be stored here. The drum of acid and drum of alkalis are stored on opposite sides of the room. Flammable wastes maintain a six-foot separation from all other wastes. Exhaust ventilation is provided to prevent flammable or explosive gases from accumulating during handling operations as well as mixing of incompatible vapors. Only one drum will ever be open at any time except for flammable wastes that may have a maximum of two drums open at any one time.

In support of its Preparedness and Prevention Plan, the Shipyard has submitted memorandums of understanding between local authorities and the Shipyard that must be annually updated. Five mutual assistance agreements were provided with the application. Agreements exist with the York County Emergency Management Agency, the Piscataqua River Cooperative, and the Town of Kittery who agree to provide assistance in the event of an emergency. Two other agreements exist with the Portsmouth Regional Hospital and the York Hospital who agree to provide information regarding the prognosis of a patient to medical officers of the Shipyard Medical Clinic. The Shipyard will provide information regarding the properties of hazardous waste handled at the Shipyard and consultative support to the hospital as to the types of illnesses or injuries which could result from fires, explosions, or releases as specified in 06-096 CMR 854(6)(C)(7). The Shipyard has stated that if agreements are canceled, notification to the Department of Environmental Protection will be provided thirty days prior to termination of the agreement and shall include a cancellation rationale and any alternate agreements. The Shipyard will provide the Department with annually updated agreements or copies of letters documenting that the Shipyard has complied with this requirement.

The Shipyard maintains that it possesses the requisite emergency response capabilities in the form of its Fire Department, Spill Control Team, and Medical Clinic. These entities are prepared to respond to any accidental releases or fires involving hazardous wastes at

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the Shipyard. The mutual aid and memorandums of understanding are entered into to provide additional measures of protection in the event of a larger emergency.

16. CONTINGENCY PLAN

The contingency plan identifies the responsibilities of the Shipyard personnel and identifies the name of the on-scene coordinators who will be responsible for responding to emergency conditions such as fire, explosion, spills or discharges of hazardous waste. The plan developed by the Shipyard includes a notification procedure to be initiated upon observation of a fire, explosion, spill or other emergency involving hazardous waste and an evacuation plan for personnel on-site. The steps to be taken in the event of an emergency are outlined in the plan in much greater detail. Those steps include emergency notification to the Maine State Police, who in turn will immediately notify the Department. The Shipyard maintains its own Fire Department, ambulance service and emergency medical facilities. The Shipyard has a trained Spill Control Team on call to respond to any spill of hazardous wastes, should one occur. The Shipyard has provided information supporting the capability and familiarity of these departments and teams with the operations conducted on site and the hazardous wastes generated during these operations. Mutual aid agreements and descriptions of aid to be provided by local municipalities have been updated and will be provided to the Department upon request as required by 06-096 CMR 851(13)(C)(7)(c)(ii).

The contingency plan lists the Shipyard's Fire Department as having the emergency equipment available to respond to a spill or a release of hazardous waste. The Fire Department response time to anywhere on the Shipyard is three minutes, fully equipped, in full response mode. Spill control and clean up materials are stored on their Hazardous Material Response Van for immediate use for a spill of up to 250 gallons. Spill control and clean up materials are also stored in the On Scene Operations Team (OSOT) portion of the storage facility for immediate use for a spill of up to 250 gallons.

The Shipyard Fire Department is equipped with three 1,250 gallons per minute (gpm) Pumper trucks which are capable of accessing the Piscataqua River which is less than 250 feet away from Building 357, a 106 foot Aerial Ladder Truck, a Flooding/Dewatering equipment van, a utility truck, a Command vehicle and two ambulances. The Fire Department also has numerous generators, portable pumps, emergency breathing apparatuses and turnout gear for responding to fires involving chemical wastes. Fire extinguishers suitable for various types of fires such as trash, wood, paper, liquids, grease, or electrical equipment are available in the storage facility.

An evacuation plan has been provided that orders an evacuation whenever a release has occurred that could cause exposure or injury to personnel or when response personnel

need space to adequately contain and clean up any spill. Evacuation routes have been identified for the entire building.

In the event of a power failure, the Shipyard has made provisions for back-up power with emergency lighting, dual power feeds into the building and battery back-up for fire alarms and fire suppression. Waste handling operations are suspended during a power failure.

17. IGNITABLE, REACTIVE OR INCOMPATABLE WASTES

The Shipyard separates incompatible hazardous wastes by utilizing dedicated rooms as well as separate containment tanks for each room within the building. This prevents any spilled wastes from coming in contact with one another. The Shipyard has also instituted a waste handling protocol of assigning a disposal code and number to all of its waste streams to ensure incompatible wastes are kept separate. The incompatible wastes of greatest concern are comprised of waste acids, oxidizers and water reactives. Each room has a separate ventilation system to ensure that incompatible vapors are not mixed. Storage of wastes complies with the requirement that they be stored at least 50 feet from the property boundary in accordance with 06-096 CMR 854(12)(C)(13) of Department rules.

18. RECORDKEEPING AND REPORTING

Records of all inspections and remedial actions are kept for a period of three years. The record-keeping system consists of a log book in which the date and time of inspection, the observations, and the inspector's name are recorded. In addition, a file is maintained that contains any deficiency reports and work orders issued to remedy problems found during inspections. Records of the training received by each employee will be kept until closure of the facility or for three years after the termination date of the employee, whichever is longer.

19. CLOSURE REQUIREMENTS

In accordance with 06-096 CMR Chapter 854(6)(C)(15), the owner or operator of a hazardous waste facility must close the facility in a manner that minimizes the need for further maintenance and controls, minimizes or eliminates threats to human health and the environment, and prevents the post closure escape of hazardous waste and hazardous waste constituents to the environment.

A. <u>Facility Closure Plan:</u>

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i. The closure plan of the Shipyard identifies the steps that will be taken to properly close out the storage facility, including how and when the facility will be closed. The plan provides an estimate of the maximum amount of the material in storage and in treatment during the life of the facility. An estimate of the expected year of closure and a schedule for final closure is provided. The plan allows for the completion of all closure activities within 180 days from the date that the facility has stopped receiving the final volume of wastes.

The maximum inventory of hazardous waste anticipated to be stored at the facility is 659 55-gallon drums, 8,900 pounds of small and large gas cylinders in combination and 7 roll-off containers of 40 cubic yard capacity. At the time of closure, all waste containers will be removed from the storage facility and disposed of in accordance with state and federal regulations. Any hazardous waste residues will be scraped up, the storage area will be pressure washed, and any residues will be collected and stored in drums to be disposed of at a properly licensed facility.

The rooms and floors within Building 357 and the support area will be closed by a visual inspection and decontaminated as necessary by scraping and vacuuming of visual debris, targeting areas with stains for cleaning, followed by a high pressure and temperature wash with water which will be conducted twice. The wash water will be collected in drums. The collected wash water from each separate room and associated containment tank will be combined for appropriate testing. Residual wash waters will be collected with sorbent material and drummed. Sorbent residues will be tested for hazardous constituents and disposed of in accordance with the analytical results and in accordance with the hazardous waste listing requirements. The level of quality assurance and quality control to be employed for the analyses includes preparation of a detailed laboratory data package. This will be done in accordance with the Shipyard's Waste Analysis Plan as well as "SW-846, Test Methods for Evaluating Solid Waste, Chapter 9 Sampling Plan" protocol and statistical analysis. Section C.3.1 of the Closure Plan defines the frequency of testing to ensure representative samples of the various waste streams.

The Shipyard agrees to analyze the rinse water for the presence of compounds that are likely to be expected in association with each designated area. The Shipyard has agreed to utilize the concentrations established to determine if a waste is a hazardous waste using the toxicity characteristic leaching procedure (TCLP) in 40 CFR Part 261.24 (b) and

the Maine Maximum Exposure Guidelines (MEG's) as the decontamination standards to be achieved. If constituents are detected, then the Shipyard has agreed to do additional cleaning. A background water sample will be collected from the fresh cleaning water used for decontamination. If any levels of contaminants in the cleaning water are identified, this amount of a constituent will be subtracted from the total to determine if results meet the closure criteria.

Closure documentation performance standards are summarized in Table C.3 of the Plan. The closure plan specifies quality assurance or quality control measures to be utilized for collection and analysis of confirmation samples, which does provide a frequency at which such samples will be taken to provide representative samples. The Shipyard has not proposed any excavation of contaminated concrete, asphalt, or soils because the Shipyard does not expect wastes will reach the environment. The closure plan will be amended whenever hazardous waste operation plans, facilities, equipment or the regulations are changed in such a way that closure procedures are affected.

ii. The staff analysis of the plan determined that TCLP is intended to determine if a given waste stream is a hazardous waste due to the toxicity characteristic. It is not used to determine whether residues are present in concentrations which pose a risk to human health or the environment. In the previous license, staff analysis determined that while TCLP is not appropriate as a decontamination standard, the results may be used by the Shipyard to assist in determining appropriate disposal of the rinse water.

Upon completion of the decontamination process, the Shipyard is also not proposing any sampling of the concrete floor, the outdoor asphalt pad, or the soils surrounding the pad to test for toxicity characteristics and/or the presence of any solvents based on the Shipyard's justification that the floors have been made impervious due to the application and maintenance of chemical resistant coatings. This will meet the requirements of the rules only if the coatings are maintained over the life of the facility until closure. If the concrete, asphalt, or soils are found to be contaminated, the Shipyard will need to remove the contamination.

Therefore, prior to implementation of the closure plan, an amended plan will be necessary to address any releases that are documented to have occurred and to address constituents found in decontamination water. A

plan amendment which contains these details must be submitted to the Department for its review and approval prior to implementation.

B. Notification:

The closure date for the Shipyard's hazardous waste facility, assuming an estimated thirty year life span, is anticipated to be the year 2026. The anticipated date of closure should not affect the content of the closure plan, nor should it impact the implementation of the plan. The plan describes the general procedures that would be implemented should closure be required. The Department shall be notified 180 days prior to initiating closure activities.

C. Certification:

Within 60 days of completion, the Shipyard will submit a certification by the owner/operator and an independent Maine registered professional engineer stating that the facility has been closed in accordance with the specifications in the plan.

D. Post Closure Plan:

A post closure plan is not proposed since this is a storage facility. At closure, all waste, waste residues, containers, and contaminated soil must be decontaminated or removed. If the Shipyard cannot demonstrate that all contaminated soils can be practicably removed or decontaminated, then the Shipyard will submit a post closure plan for Department review and approval.

20. FACILITY MONITORING PLAN

The Maine Hazardous Waste Management Rules allow the Board to require groundwater and surface water monitoring if it determines that such monitoring is necessary to ensure protection of public health and safety or of the environment as noted in 06-096 CMR 854(12)(F). The Shipyard established a quarterly groundwater and surface water monitoring program as a condition of their 1994 license, in order to detect and quantify potential environmental impacts from losses/releases of hazardous waste from the HWSF.

Quarterly (every three months) sampling of four groundwater monitoring wells that are specifically located and constructed in close proximity to the HWSF is conducted. These wells are screened in the shallow groundwater within 15 to 30 feet from the building's perimeter. The facility monitoring plan has one upgradient monitoring well to compare

to the three down-gradient and cross-gradient wells. The purpose of these wells is to compare the groundwater quality before it reaches the facility to the groundwater quality after it passes underneath the facility. At this facility, monitoring well HW-1 is an upgradient monitoring location, wells HW-2 and HW-3 are located downgradient and well HW-4 is located cross-gradient of the facility. The groundwater chemical data from each sampling event are compared with baseline groundwater chemical concentrations established by sampling prior to the facility becoming operational.

In addition, there are three additional monitoring wells used for determining groundwater elevations. Previously, one of these wells was WOT-4. In 2011 the Shipyard received approval from the Department to abandon monitoring well WOT-4, which has been previously abandoned by the Comprehensive Environmental Response, Compensation, and Liability Act/Installation Restoration (CERCLA/IR) Program, and to use monitoring well WOT-2 for gauging, which is located downgradient of monitoring well HW-3.

The Department reviews the chemical and groundwater gradient data and the Navy's updated graphs of compounds of concern to assess any trends in the data and to determine if any contamination is related to the facility. The Department has found that during the past several years, elevated levels of sodium and manganese have been detected in the monitoring wells and these levels have periodically exceeded Maine Maximum Exposure Guideline (MEG) criteria. Corresponding elevated levels of sodium and other cations, and increasing or elevated specific conductivity suggest that the increases are related to seawater-groundwater interaction. The concentrations of potassium, barium and magnesium have also steadily increased at monitoring well HW-1 over the years. Monitoring well HW-3 has also shown similar trends in these same parameters. This well has had a steadily decreasing concentration of Freon 113. Lead concentrations at monitoring well HW-4 have periodically exceeded MEG criteria, but there is no indication that the HWSF is the source, and there is no definitive trend to the data. Levels of barium have increased or remained elevated at three of four locations, but are less than half the value of the MEG. The monitoring of the site is challenging due to its location on an island and with substantial fill deposits. For example, monitoring well HW-1 is not consistently upgradient of the facility or the other three monitoring wells.

In response to Department reviews, the Shipyard modified their application to incorporate a number of changes related to the facility monitoring plan. The first change is to review the data in more detail over the course of the license period and install a new upgradient well to replace HW-1 for the purpose of providing more reliable upgradient groundwater data, should the Department determine that a new upgradient monitoring well is necessary. The new well would be located approximately 150 feet to the east of Building 357, closer to the center of the former island. This location would allow for the

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placement of a well located more reliably upgradient of the Facility based on the direction of the groundwater flow at this location.

The second modification to the application was that the Shipyard agreed to establish baseline groundwater contamination levels for dissolved petroleum compounds. This baseline will be established through conducting one year of quarterly sampling using total Extractable Petroleum Hydrocarbon (EPH) Analysis. The purpose of this analysis is to detect a petroleum leak or spill from the HWSF, should one occur in the future. After one year of sampling has been completed, the Shipyard will then analyze the data and submit the data to the Department for review. The Shipyard will propose a modification to the monitoring plan for detection of EPH following this baseline analysis should the results indicate that a monitoring plan is appropriate. The plan will be submitted to the Department for review and approval. The Shipyard will begin sampling for total EPH starting in the second Quarter of 2012.

Lastly, the Shipyard modified their application to add two parameters and drop two parameters for monitoring of the Facility. The Shipyard added copper and zinc to the stormwater monitoring plan based on the frequent occurrence of these parameters in waste materials and contaminated soils. The Shipyard agreed that if the stormwater samples have a maximum concentration of 0.29 mg/L for copper or 0.535 mg/L for zinc, the surface water will not be discharged without treatment and corrective actions will be required. The Shipyard also agreed to discontinue sampling stormwater for magnesium and cyanide, as neither parameter is a good indicator of a release from the waste stored in the outside portion of the facility.

Pursuant to the Department's legal authority at 10 M.R.S. section 9412(1) and 9418(2)(A), the Department requires electronic submission of data in a specified format. All sampling results must be provided electronically in the Department's Electronic Data Deliverable (EDD) format for the Environmental and Geographic Analysis Database (EGAD). This must include field parameter data, water level and flow data, and laboratory analytical data for all environmental media. Laboratory analytical data must include field and lab quality control sample results including but not limited to blanks, duplicates, surrogate recoveries in percent, and matrix spike/matrix duplicate recoveries in percent. All reports that include discussion of new data must include that data in the EDD format as an electronic deliverable. Specific EDD formats and additional information can be found on the Department's EGAD web page at http://www.maine.gov/dep/maps-data/egad/index.html.

Location data must be provided for uploading to the Department's geographic information system (GIS) in accordance with the Department's guidelines for spatial data

collection at
http://www.maine.gov/dep/gis/datamaps/Spatial_Data_Collection_Guidelines.doc.

Navy contractors updated the groundwater elevation maps in 2006 and again in 2012, see Attachment 6, to include all seven wells gauged at the HWSF and the results are consistent with previous interpretations prior to construction of the nearby Jamaica Island Landfill. The update also indicated little or no tidal influence on HWSF wells, and slight variations due to seasonal or precipitation effects. The Department believes that this monitoring program would detect any significant loss of chemicals to the subsurface. If unexpected water quality changes are observed, additional monitoring in the immediate area will be sought by the Department to define the nature and extent of any contaminant release to groundwater.

CT Male, an engineering consulting company, performed an analysis of air impacts as part of the construction design for this facility in 1993. Total organic emissions for the HWSF were calculated at approximately 1.5 pounds per hour or 12 pounds per day. The majority of the air emissions were attributed to the solvent recovery and aerosol can puncture processes. The solvent recovery and aerosol can treatment units were never operated once the new building was constructed. Without these processes occurring, air emissions are estimated at under 0.1 pound per hour or 0.8 pounds per day. These occur mainly from the waste consolidation activities in Room 124.

21. FACILITY LOCATION IN CERTAIN AREAS

The Hazardous Waste Management Rules in 06-096 CMR 854(7) identify two siting areas of concern: a) areas that are unacceptable for development; and b) areas where the applicant can rebut the concern by demonstrating the unique features of a facility that would prevent the facility from posing a serious threat to public health and/or the environment. These areas are described in greater detail below.

A. Prohibition Areas:

The Rules prohibit a facility from being established or altered if the facility is located on land defined as a wetland, is within any 100-year floodplain overlaying a sand and gravel aquifer or a high yield bedrock aquifer, or is within the boundaries of a state or federal park or designated wilderness area (this provision does not apply to storage facilities).

The Shipyard's facility is not located on land identified as a wetland, within a 100- year floodplain and does not overlie an aquifer. The facility is not located within the boundaries of any state or federal park or designated wilderness area.

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B. Rebuttable Presumption Areas:

In accordance with 06-096 CMR 854 (7)(B) of the Rules, a waste facility for hazardous waste as set forth below is presumed to pose serious threats to public health or welfare or to the environment such that a license for a facility cannot be issued. The presumption applies if among other things the facility or facility property:

(1) is located on land defined as a wetland under Department or State statute or regulations; or

(2) is located within 300 feet of the 100-year floodplain as mapped by the Federal Emergency Management Agency (FEMA); or

(3) is located over any portion of a surface or subsurface sand and gravel aquifer or its primary recharge zone or a high yield bedrock aquifer; or

(4) is located within one mile upgradient of any underground source of public drinking water, or within the watershed of a surface water source of public drinking water, or within 1,000 feet of any source of potable water for humans or livestock; or

(5) is located such that it may pose a threat to fisheries or wildlife or other natural resources in an area including a sanctuary, refuge, or preserve designated as such under statutes or regulation administered by the Departments of Inland Fisheries & Wildlife or Marine Resources; a state or federal park, sanctuary, or designated wilderness area or a critical area identified as such under statute or regulation by the Department of Agriculture, Conservation and Forestry.

(6) the facility property is located within the boundaries of a state or federal park or designated wilderness area.

This rebuttable presumption may be overcome by persuasive evidence that the facility is unique in some way that allows for compliance with the intent of the rule.

C. Site-specific information:

The Shipyard's waste facility is located within 300 feet of the 100-year floodplain as mapped by the Federal Insurance Agency and FEMA.

A site specific study conducted in January 1995 by Woodard-Clyde Consultants determined the accuracy of the 100-year flood elevation using FEMA specifications and elevation datum. The evaluation also assessed whether any wave action during a storm event would cause damage to the Facility storage building or a release of hazardous wastes to the environment. The report's findings conclude that the Facility is out of the 100-year coastal floodplain. Also included in this evaluation was whether any features specific to the site would influence flood height and the various sea levels. Storm surge elevations, wave run up and wave heights were also evaluated. The calculations performed places the limit of a coastal flood at an elevation equal to 104.7 feet, which is below the storage facility elevation.

Based upon the site survey data and CAD drawings produced by the Navy's consultant for the previous application, the Facility building's finished floor elevation is at an elevation of 111.5 feet. The roll-off container storage area is at 107.3 feet. The 100-year flood level for this area is at 104.7 feet and the 500-year flood level is estimated at 105.2 feet. The 100-year storm surge of 8.7 feet is at 104.69 feet. The 500-year storm surge of 9.3 feet is at 105.19 feet. The elevations of the Facility are not located within the 100-year, the 500-year flood zone, or within the storm surge of either the 100-year or 500-year flood zone.

In accordance with the Rules, the Shipyard has previously demonstrated through persuasive evidence that the Facility location allows for compliance with the intent of the rule, specifically the provision for locations within 300 feet of a 100-year flood zone.

22. CORRECTIVE ACTION

Years of shipbuilding, submarine construction and repairs at the Shipyard have resulted in hazardous substances being released into the environment around Seavey Island. Many investigative and remedial activities have been performed at the Shipyard since 1983. The US EPA became involved with the Shipyard in 1985 with a visual site inspection and requests for information on earlier hazardous wastes generated. Until 1994 investigations were conducted under RCRA authorities. On May 31, 1994 the Shipyard was formally placed on the federal National Priority List under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) commonly known as Superfund. Corrective actions on the site have

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continued under the authority of CERCLA. The FY 12 Site Management Plan of June 2011 addresses the corrective actions for the site.

As part of the site investigation in preparation for the hazardous waste facility's construction, monitoring wells were placed around Building 357. A groundwater monitoring program was implemented to determine and maintain a point of compliance for any future impacts from this facility. Groundwater results to date show elevated levels of freon and other volatiles from practices that occurred prior to the construction of the HWSF. Prior to the 1994 license approval, the Shipyard submitted a report to the Department titled "Report on the Subsurface Investigation of the Proposed Hazardous Waste Consolidation and Storage Facility" dated July 1, 1994. This report identified existing contamination under the support area for Building 357. The subsurface investigation included test pit excavations, soil sampling, field screening of soil samples, laboratory analysis of soil and water samples, field and laboratory quality control checks and data validation. The ongoing monitoring has shown no evidence of additional releases of contaminants.

There are two sites located adjacent to Building 357 (Sites #8 and #11) that are managed under CERCLA in accordance with EPA Superfund Record of Decision, dated August 29, 2001 and entitled "Portsmouth Naval Shipyard, EPA ID# ME7170022019, OU3, Kittery, ME." Site #11, which includes the former Solid Waste Management Unit, is located approximately 200 feet west of Building 357. From 1943 until June 1989 there were two underground 8000-gallon rail car tanks that were buried on this site and were utilized for waste oil storage. These tanks appear to have leaked due to spillage from over filling. The surrounding soil was contaminated with a variety of hazardous constituents. The Department oversaw the removal of the tanks and 322 tons of soil in June 1989 and an additional 300 cubic yards of soil from the site in March 1990. The soil was heavily contaminated with fuel oil, high levels of lead, other metals, as well as pesticides. The removed soil was disposed of off-site as hazardous waste. Contaminated soil still remains and has been addressed as part of the remediation of the Jamaica Island Landfill also referred to as Site #8. See Figure 3.

As a condition for granting this commercial hazardous waste license to the Navy, the Maine Hazardous Waste Management Act, 38 M.R.S section 1319-V requires that this license contain a schedule of compliance for all known corrective action units at the Portsmouth Naval Shipyard.

On September 30, 1999 the Navy and the U.S. Environmental Protection Agency (EPA) entered into a Federal Facility Agreement (FFA) under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), 42 U.S.C. 9601, et seq., as amended. The general purpose of the FFA is to ensure that the

environmental impacts associated with the past and present activities at the site are thoroughly investigated under CERCLA and that the appropriate response actions are taken as necessary to protect the public health and welfare and the environment. A Site Management Plan was prepared by the Navy and reviewed by EPA with input from Department staff pursuant to the FFA. Both the Navy and EPA expect that all of the Navy's obligations under the FFA will be fully funded.

Accordingly, the Board incorporates by reference the remediation schedule in the document entitled FY 2012 Amended Site Management Plan, Appendix C, for Portsmouth Naval Shipyard, Kittery, Maine, June 2011. See Attachment 6.

In the future, if new sites are identified, schedules for these sites will also be added to the Site Management Plan as approved by the DEP without the necessity of any further Board action. The DEP and the Navy are committed to working in a cooperative manner to insure that the Navy will meet its obligations for site remediation under both this license and under the FFA. The DEP and the Navy will endeavor as appropriate to avoid and minimize any conflicts between the remediation schedules under this license and the schedules under the FFA.

This schedule is subject to the following terms:

A. Extensions:

The schedule as set forth in the Site Management Plan can be extended in accordance with the FFA for good cause. The reasons why good cause exists for an extension include:

(a) An event of Force Majeure; or,

(b) Any other event or series of events mutually agreed to by the Navy and DEP as constituting good cause.

Absent agreement between the Navy and DEP with respect to the existence of good cause for an extension, the Navy may seek a determination through the dispute resolution process described below that good cause exists.

B. Force Majeure:

A Force Majeure shall mean any event arising from causes beyond the control of the Navy that causes a delay in or prevents the performance of any obligation set forth in the referenced and incorporated schedule, including, but not limited to,

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acts of God; fire; war; insurrection; civil disturbance; explosion; unanticipated breakage or accident to machinery, equipment or lines of pipe despite reasonably diligent maintenance; adverse weather conditions that could not be reasonably anticipated; unusual delay in transportation; restraint by court order or order of public authority; inability to obtain, at reasonable cost and after exercise of reasonable diligence, any necessary authorizations, approvals, permits or licenses due to action or inaction of any governmental agency or authority other than the Navy; delays caused by compliance with applicable statutes or regulations governing contracting, procurement or acquisition procedures, despite the exercise of reasonable diligence; and insufficient availability of appropriated funds if the Navy shall have made a timely request for such funds. It is expected that all the obligations of the Navy arising under the referenced and incorporated schedule will be fully funded. The Navy agrees to seek sufficient funding through the DOD budgetary process to fulfill its obligations set forth in the referenced and incorporated schedule and to make Congress aware that the Navy is legally obligated to meet the schedule set forth below. If appropriated funds are not available to fulfill the Navy's obligations under this condition, DEP and the State of Maine reserve the right to take any and all actions allowed by law. Force Majeure shall also include any strike or other labor dispute, whether or not within control of the parties affected thereby. Force Majeure shall not include increased costs or expenses of response actions whether or not anticipated at the time such response actions were initiated.

C. Limitations on Navy's Obligations Imposed by Federal Law:

Any requirement for the payment of fines or penalties imposed upon the Navy based upon violations of the schedule for corrective action contained in this license, shall be subject to the provisions of 10 U.S.C. 2703(e). No provision of this license shall be interpreted to require obligation or payment of funds in violation of the Anti-deficiency Act, 31 U.S.C. Section 1341. In cases where the payment or obligation of funds would constitute a violation of the Anti-deficiency Act, the dates established requiring the payment or obligation of such funds shall be appropriately adjusted.

D. Dispute Resolution:

As part of the Federal Facilities Program, there is an existing dispute resolution agreement between the Department of Defense and the DEP. In 1991 the Department of Defense (DOD) and the DEP, on behalf of the State of Maine, entered into a Department of Defense and State Memorandum of Agreement (DSMOA). DEP and DOD agree to resolve any disagreements between them in

accordance with the terms of the 1991 DSMOA and the 2006 DSMOA Cooperative Agreement Program Guide[1] or any other dispute resolution process agreed to by the State of Maine and the Department of Defense that may supersede these terms.

23. CRITERIA FOR FACILITY DEVELOPMENT

A. Regarding Statutory Criteria, the Board shall issue a license for a hazardous waste facility pursuant to 38 M.R.S § 1319-R and § 1319-V when the following factors are demonstrated:

(1) The facility will not pollute any water of the State, contaminate the ambient air, constitute a hazard to health or welfare, or create a nuisance;
(2) The applicant has sufficient financial capacity to operate the facility, including undertaking and completing corrective action;
(3) The licensing and operation of the facility will be harmonious with the surrounding environment;
(4) Adverse impacts to air quality, water quality, or other natural resources will not occur as a result of facility licensing;
(5) The operation of the facility will not pose an unreasonable risk such that a discharge to a significant groundwater aquifer will occur;
(6) The facility will be built on soil types suitable to the nature of the undertaking and will not cause unreasonable erosion of soil or sediment;
(7) Adequate traffic movement of all types will be provided;
(8) Operation of the facility will not have an unreasonable adverse effect on municipal facilities;
(9) Operation of the facility will not unreasonably cause or increase flooding of the facility or adjacent properties, nor will the project create an unreasonable flood hazard to a structure;
(10) The applicant has sufficient technical ability to operate the facility in a manner consistent with state environmental standards; and
(11) The facility owner or operator shall undertake corrective action beyond the facility boundary or site to remove danger to public health or the environment. If an applicant prior to issuance of a license cannot complete corrective action, the license must contain a schedule of compliance for corrective action.

[1] Department of Defense and State Memorandum of Agreement/Cooperative Agreement Program Guide, "Working Together to Achieve Cleanup: A Guide to the Cooperative Agreement Process," July 31, 2006

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B. The regulatory criterion for hazardous waste facilities is found in 06-096 CMR Maine Hazardous Waste Management Rules Chapters 850 through 857. Hazardous waste storage facilities shall be operated and maintained in a manner that will assure protection of human health and the environment.

(1) Environmental Performance Standards: The facility must prevent adverse effects on groundwater quality, surface water quality, air quality, and those due to migration of waste constituents in the subsurface environment.

(2) General Standards: The facility must be established, constructed, altered and operated in compliance with the requirements of 06-096 CMR 854(6) including the following requirements: required notices; security; general inspection; personnel training; record keeping and reporting; financial assurance and liability coverage; corrective action provisions; pre-transport requirements; and use of an identification number.

(3) Storage Facility Standards: A container storage facility needs to be in compliance with the requirements of 06-096 CMR 854(12). This section stipulates that no hazardous wastes shall escape from the facility to the groundwater, surface water or subsurface soils at any time; nor shall any waste appear in the atmosphere in concentrations significantly above background levels or exceed current ambient air quality standards. In addition, it must have a base with a firm working surface and provide for secondary containment. The stored containers must not exceed their design life, not be rusted, bulging or leaking, be compatible with the types of waste stored within, not be used to store foodstuffs or animal feed, be readily accessible for inspection, be properly labeled, not exceed approved storage time limits of 180 days unless expressly approved, and for ignitable or reactive wastes be located at least 50 feet from the property line.

(4) Facility Location in Certain Areas: Hazardous waste facilities are prohibited from wetlands, floodplains, or within state or federal parks and wilderness areas. Hazardous waste facilities are presumed to pose serious threats to public health if the facility or facility property:

(a) is located on a wetland;
(b) is within 300 feet of any 100-year floodplain;
(c) overlies any portion of a surface or subsurface aquifer or primary recharge zone;
(d) is within 1 mile upgradient of public drinking water source;
(e) is within the watershed of a surface public water supply;
(f) is within 1,000 feet of any source of potable water;
(g) is located such that it may pose a threat to fisheries or wildlife; or

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(h) is located within a state or federal park or wilderness area.

(5) Public Notice: A public notice soliciting comments on the application for a commercial license for a hazardous waste facility is required.

(6) Evidence of Title, Right, and Interest must be demonstrated.

24. OTHER FINDINGS

A. The Shipyard will not handle hazardous waste by means of underground injection.

B. The Shipyard will not incinerate or otherwise treat any hazardous waste unless authorized to do so.

C. The Shipyard will not dispose of hazardous waste on site.

D. The Shipyard will not dispose of any hazardous waste within the coastal waters of the State.

BASED on the above Findings of Fact and subject to the Conditions below, the Board makes the following CONCLUSIONS:

The Shipyard's application and supporting documents attached therein for a hazardous waste storage facility are consistent with the requirements set forth in 06-096 CMR 854, Standards for Hazardous Waste Facilities, and 06-096 CMR 856, Licensing of Hazardous Waste Facilities with and any are noted below.

1. The Shipyard has demonstrated the financial capacity and technical ability to operate the project in a manner consistent with state environmental standards. In general, the safe operation of the facility and a review of previous inspection reports support this demonstration. The Shipyard budgets approximately $437,500 annually to operate and maintain the facility in compliance with hazardous waste management laws. The Shipyard, being a federal agency, is not required to demonstrate compliance with the financial assurance and liability insurance requirements of the Rules.

2. The Shipyard has been located on this site since the 1800's and the site is zoned for industrial use. The licensing standards were reviewed to ensure that this facility fits harmoniously into the existing natural environment and should not adversely affect existing uses, scenic character, air quality, water quality or other natural resources in Kittery or neighboring municipalities.

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3. The operation of the facility does not pose an unreasonable risk that a discharge to a significant groundwater aquifer can occur, if it is operated in accordance with the application, the Rules, and the terms and conditions of this license.

4. This project is built on soil types suitable for this facility and has not caused unreasonable erosion of soil or sediment.

5. Highway signs, military police, and civilian security police control traffic movement into the Shipyard. Shipyard Police control access to the Shipyard and are located at both access gates. Shipyard roads are paved, level, and well maintained. The speed limit at the Shipyard is 20 miles per hour and is posted. All roads are two lanes providing adequate passage width. The Department of Transportation has provided a review of the Shipyard's traffic movement into, out of, and within the project area and identified truck traffic during high traffic periods of the day as an issue of concern. Therefore, the Shipyard has made adequate provisions for traffic movement of all types out of or into the hazardous waste facility.

6. The project has adequately provided for utilities including water supplies, sewerage facilities, solid waste disposal and necessary roadways and will not unreasonably affect any existing or proposed utilities and roadways in Kittery.

7. The facility has demonstrated that it is unlikely that a flood hazard exists for this facility. The facility is not located within the 100-year floodplain. However, portions of Building 357 are located within 300 feet of the 100-year floodplain. This fact raises the rebuttable presumption of a flood hazard being of concern. The evidence provided by the Shipyard in its application, which includes an assessment of the 100-year and 500-year flood zones on the island, is sufficiently persuasive to overcome the presumption of a flood hazard and that a hazardous waste facility can be safely operated within 300 feet of a 100-year floodplain. The Shipyard conducted a site-specific investigation in 1995 to accurately determine elevations and determined that the facility is outside of both the 100-year and 500-year flood zones and unlikely to be impacted by any wave roll-up during a storm.

8. The facility is not located within the boundaries of a federal or state park or designated wilderness area.

9. The facility is not located within one mile upgradient of any underground source of public drinking water, within the watershed of a surface water source of public drinking water, or within 1,000 feet of any potable source of water for humans or livestock.

10. The facility is not located on land identified as a wetland.

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11. The facility is not located such that it will pose a threat to fisheries or wildlife or other natural resources in any sanctuary, refuge, preserve, state or federal park, designated wilderness area, critical area, or to fish in a fish hatchery.

12. The facility will not pollute any water of the State, contaminate the ambient air, constitute a hazard to health or welfare or create a nuisance.

13. The Shipyard has provided sufficient Title, Right and Interest to the property.

14. The Shipyard has established an operation plan, which specifies the types and amounts of materials to be stored, the container management practices employed, and the facility monitoring practices. Prior to release of any stormwater, the facility is inspected and records are reviewed for evidence of any leaks or spills. The plan of operation meets the requirements of 06-069 CMR 856 (10)(B)(8) provided that the Shipyard conducts the periodic inspections as stated. The outdoor support area and the roll-off storage area must maintain a firm working surface such that any future cracks are kept from forming or penetrating through this area. The sealant must provide for UV protection, withstand the wear of truck traffic, be weather resistant, hold up under a working range of temperatures, be compatible with all substances in storage, and maintain a hardness appropriate for intended service and good adhesion to the concrete or the asphalt. Appropriate sealants must be applied as needed and specified in their application. If a Transportable Chemical Tank is needed to store liquid waste at Building 357, the Shipyard must provide verbal notification to the Department for review and approval 48 hours before the tank is proposed to be placed this Facility. A letter must be provided to the Department within one week for Department review and approval describing the situation, the waste, its storage location and compatibility with the area, and a schedule for removal of the waste.

15. The Shipyard has established a Waste Analysis Plan to facilitate proper identification, labeling, and manifesting of its wastes. The waste analysis plan meets the requirements of 06-096 CMR 854 (6)(C)(3).

16. The Shipyard has made adequate provisions for Shipyard and Building 357 security, which will prevent unauthorized access or entry into the hazardous waste facility.

17. The Shipyard has established a personnel training program in accordance with 06-096 CMR 854 (6)(C)(6) which outlines the type and frequency of training provided to facility employees whose job tasks require handling and management of hazardous wastes. The plan is an effective measure to ensure personnel can handle emergencies at the facility. Training is provided to all facility personnel within six months after the date of their

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employment or assignment to the facility. In addition, all personnel take part in an annual review of training as required.

18. The Shipyard has established a preparedness and prevention plan in accordance with 06-096 CMR 854 (6)(C)(7), which ensures that the facility is operated to minimize the possibility of fire, explosion, or unplanned sudden or non-sudden release of hazardous waste to the environment. The plan is another effective measure in preventing accidents or releases to the environment provided that the communication and emergency equipment is maintained and inspected in accordance with the inspection plan, and that operational procedures for prevention and minimization of accidental discharges are adhered to.

19. The Shipyard has provided a contingency plan in accordance with 06-096 CMR 854 (6)(C)(8), which identifies the responsibilities of specific Shipyard personnel for responding to emergency conditions. The plan provides for a reliable response in the event of an emergency provided employees involved with an emergency response associated with hazardous wastes are familiar with the plan and periodically review the plan. Mutual aid agreements must be annually updated. The Shipyard has proposed to notify and provide information to the Department in the event that any memorandum of understandings or mutual aid agreements between the Shipyard and local authorities are canceled and no longer in effect within 30 days of notice.

20. The Shipyard has provided a Closure Plan to ensure that when facility operations cease, the Shipyard will close the facility in accordance with the performance standard established in 06-096 CMR 856 (10)(B)(12). A closure date for the year 2026 is proposed by the Shipyard. The closure plan specifies quality assurance or quality control measures to be utilized for collection and analysis of confirmation samples. The plan provides a frequency for acquiring representative samples. The Shipyard has not proposed any sampling of the concrete floor, asphalt pad, or the soils surrounding the pad to test for toxicity characteristics and/or the presence of any solvents based on the Shipyard's justification that the floors have been made impervious due to the application and maintenance of chemical resistant coatings. If the concrete, asphalt pad or soils surrounding the pad are found to be contaminated, the Shipyard will remove the contamination. Prior to implementation of the closure plan, the Shipyard must submit an amended plan to the Department for review and approval to address any releases that are documented to have occurred and to address constituents found in decontamination water.

21. No hazardous waste or derivative thereof should escape from the storage facility to surface or groundwater or to adjacent subsurface soil at any time during the life of the facility provided the facility is operated in accordance with the rules, this application and

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Order, including any conditions attached. In the event that waste does escape such that all hazardous waste and hazardous waste residues cannot or is not fully removed, the Shipyard will be subject to post-closure requirements of the Rules, including the requirements of 40 CFR Part 264.

22. In accordance with 06-096 CMR 854 (12)(F) the Board may require groundwater and surface water monitoring to be conducted to determine and ensure protection of public health and safety and the environment.

23. The Shipyard's hazardous waste facility will be operated, maintained and closed in a manner that will assure protection to human health and welfare and the environment provided that the facility is operated and maintained in accordance with the application, supporting documents, the rules, this Order and Conditions.

24. Issuance of this license will not cause or contribute to a violation of law or rule.

THEREFORE, the Board APPROVES the Order for the above noted application of PORTSMOUTH NAVAL SHIPYARD, SUBJECT TO THE ATTACHED CONDITIONS and all applicable standards and regulations:

1. The Standard Conditions of Approval, a copy attached as Appendix A, including the requirement for payment of an annual fee.

2. The Shipyard shall submit one consolidated copy of the application with plans that depict the facility structure and operation as finally amended and approved within sixty days of issuance of the final order approved by the Board. The purpose of this submission is to consolidate and compile the facility application and various revisions such that the Department receives an accurate document.

3. The Shipyard shall limit the total storage capacity within the hazardous waste storage building to the limits stated within Sections 7 and 8 of this Order and listed in Attachment 1.

4. The hazardous waste facility shall receive wastes only from other New England Department of Defense facilities identified in Attachment 4. The total annual waste shipment from these offsite DOD facilities is limited to 2.3 million pounds.

5. Shipments shall be scheduled such that they will arrive at the Shipyard by 3:00 PM using the preferred route via Gate 1. If Gate 2 is required to be used, the Shipyard shall schedule such shipments to arrive by 2:30 PM. However, if for any unforeseen reason a shipment arrives late, it shall be received and secured by the Shipyard that day. No

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shipment of hazardous waste shall be left parked outside the Shipyard over night. Waste shipments received from off-site shall be limited to an average of 2 trucks per week calculated annually. The Shipyard shall file an annual report of waste shipments received which will include the number of trucks received each month, total weight of wastes received, and a calculation of the weekly average for the year. This report shall be filed with the DEP by January 30th for each preceding calendar year.

6. Containers shall be maintained in good condition with no evidence of leaks, rusting or corrosion, or apparent structural defects. Waste stored in a container which is found not to be in good condition shall be transferred to a container that is in good condition and has not previously held any incompatible waste or material. If a Transportable Chemical Tank needs to be used to store hazardous wastes at Building 357, verbal notification shall be made to the Department for review and approval 48 hours before the tank is proposed to be placed at this Facility and a letter shall be provided within in one week for Department review and approval describing the situation, the waste, its storage location and compatibility with the area, and a schedule for removal of the waste.

7. The Shipyard shall operate and maintain the facility such that a firm working surface underlying storage areas is sufficiently impervious to contain the wastes and be free of all cracks. Any hazardous waste that spills or leaks shall be contained and removed in accordance with this license and the Rules in an expeditious manner including removal from the secondary containment, trenches, and sumps to prevent overflow of the collection system.

8. The Shipyard shall promptly remedy any deterioration or malfunction of equipment or structures. In a worst case scenario, if hazardous waste should reach the liner and be identified by the leak detection system, the Shipyard shall identify the waste, submit an evaluation of the problem to the Department, and prepare a remediation plan to remove any spilled material from the lined area. Upon removal of any free product, the Shipyard shall submit a report that assesses the impact on the liner, quantity of waste and length of time the waste was likely in contact with the liner, and determine if the HDPE liner has been compromised.

9. The Shipyard shall inspect and maintain communication and emergency equipment in accordance with the inspection plan. Operational procedures for prevention and minimization of accidental discharges shall be adhered to. The inspection plan and schedule as outlined in Section 13 shall be followed as stipulated.

10. The Shipyard facility personnel with responsibilities for handling hazardous wastes shall be provided training within 6 months after the date of their employment and the training program shall be reviewed annually thereafter. Facility personnel shall be provided with

a copy of this license upon issuance of this Order for their review and understanding of these conditions.

11. The Shipyard shall immediately carry out the provisions of the approved Contingency Plan in this license whenever there is a fire, explosion, or release or discharge of hazardous waste or hazardous waste constituents that threaten or could threaten human health or the environment.

12. The Shipyard shall assure that at all times there will be at least two employees, either on the premises or on call, authorized to act as an emergency coordinator. The emergency coordinator shall have the responsibility for coordinating all emergency response measures. The emergency coordinator must be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, the location and characteristics of waste handled, and the location of all records within the facility layout. In addition, this person must have the authority to commit the resources needed to carry out the Contingency Plan.

13. The Shipyard shall provide the Department in writing by December 31 of each year, with annual, updated, and signed memoranda of understanding or mutual aid agreements or document any unsuccessful efforts to obtain such an agreement between the Shipyard and local authorities. The Shipyard shall, within 30 days of receiving a cancellation, provide to the Department a rationale for the cancellation as well as measures to be implemented to restore alternate support services.

14. Spills, leaks or drips, or other discharges as a result of unloading, processing or other handling of hazardous waste shall be contained immediately. Hazardous waste generated from these events must be managed in accordance with the license application and the Maine Hazardous Waste Management Rules.

15. The Shipyard shall reseal all leaking containment vaults by November 1, 2012. The Shipyard shall further evaluate a more substantial fix to the vaults and propose such changes to the Department for review and approval by December 31, 2013. Any proposed change shall be implemented as approved by the Department by December 31, 2014.

16. The Shipyard shall comply with the schedule of compliance for Corrective Action as approved in the Amended Site Management Plan (SMP) Appendix C, for Portsmouth Naval Shipyard, Kittery, Maine, dated June 2011. Upon letter approval by DEP corrective action staff, the final schedule shall be enforceable as a condition of this license. New site schedules as identified and developed by the Navy and approved by the Department shall also be enforceable as conditions of this license.

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17. The Shipyard shall review the groundwater monitoring data in more detail over the course of the license period and should the Department determine that a new upgradient well is necessary the Shipyard shall install a new upgradient well to replace HW-1 for the purpose of providing more reliable upgradient groundwater data. The new well shall be located approximately 150 feet to the east of Building 357, closer to the center of the former island.

18. The Shipyard shall conduct one full year of sampling for petroleum contamination to establish baseline levels using the total Extractable Petroleum Hydrocarbon (EPH) Analysis. Following this sampling, the Shipyard shall analyze the data and submit the data to the Department for review. The Shipyard shall propose a modification to the monitoring plan for detection of EPH following this baseline analysis should the Department determine that the results indicate that a monitoring plan is appropriate. The plan shall be submitted to the Department for review and approval by June 30, 2014.

19. The Shipyard shall add copper and zinc to the list of stormwater monitoring parameters beginning in Quarter 1 of 2013. The maximum concentration in stormwater shall be 0.29 mg/L for copper and 0.535 mg/L for zinc, above which the stormwater may not be released without treatment and will also trigger corrective actions to identify and correct the contaminant source. The Corrective Action Plan shall be sent to the Department for review and approval within 30 days of obtaining a stormwater result above these levels.

20. Prior to the closure of the Facility, if the concrete, asphalt pad or soils surrounding the pad are found to be contaminated, the Shipyard shall remove the contamination. Prior to implementation of the closure plan, an amended plan shall be submitted to the Department for review and approval to address any releases that are documented to have occurred and to address constituents found in decontamination water.

21. In the event that any hazardous waste escapes from the facility such that the waste cannot or is not fully removed, the Shipyard shall be subject to Post-Closure requirements of 06-096 CMR Chapters 850-857 including the requirements of 40 CFR Part 264.

22. Nothing in the Order or License shall relieve the Shipyard of any liability or responsibility resulting from any past or future spills, leaks, discharge or any other violation of the Maine Hazardous Waste Management Rules.

23. The seven hazardous waste storage roll-offs shall be limited to solids only. A sealant shall be applied every five years to the concrete to keep any future cracks from forming and wastes and precipitation from penetrating the roll-off storage area. The Shipyard

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shall maintain the firm working surface such that the sealant provides for UV protection, can withstand the wear of truck traffic, be weather resistant, hold up under a working range of temperatures, be compatible with all substances in storage, maintain a hardness appropriate for intended service and provide good adhesion to concrete. The asphalt support area shall be annually assessed and resealed at least once every 5 years.

24. All groundwater, surface water and stormwater monitoring results shall be provided electronically in the Department's Electronic Data Deliverable (EDD) format for the Environmental and Geographic Analysis Database (EGAD) as discussed in Finding of Fact 20.

25. The groundwater and surface water monitoring program shall be conducted on a quarterly basis. During the collection, attempts will be made to pump off the water that has collected on the liner during construction, and then the water will be analyzed and properly disposed of.

26. This license is not transferable in the event the Shipyard undergoes closure and a private contractor is solicited to operate this facility as a commercial hazardous waste storage facility. In the event Congress makes a final decision to close the Portsmouth Naval Shipyard, the license shall immediately terminate upon completion of the approved closure plan.

27. 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.

28. This license expires on April 5, 2017.

DONE AND DATED IN AUGUSTA, MAINE THIS _____ DAY

OF _____, 2012.

BOARD OF ENVIRONMENTAL PROTECTION

BY: _____

Susan Lessard, Chair

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PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application October 5, 2011.

Date application accepted for processing October 13, 2011.

Draft Order approved by the Board on
This Order prepared by Becky Blais, Bureau of Remediation and Waste Management.

pns final 2012

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