



Liquid Waste and Water Pollution Prevention

A. Hazard, Regulators, References and Requirements

1. NNS has many industrial processes and materials that have the potential to cause pollution of the waterways, the sewer or ground water. In order for NNS to better protect the environment, all employees, contractors, subcontractors, navy personnel and visitors are responsible for the protection of the environment.
2. NNS is regulated by various government agencies including Environmental Protection Agency (EPA), Virginia Department of Environmental Quality (VDEQ), the Coast Guard and Hampton Roads Sanitation District (HRSD)
3. Requirements for Disinfecting Water Systems and Tanks are taken from:
 - a. NNS Procedure X42-17.12, Disinfection of Drinking Water Systems and Tanks on Ships.
 - b. NNS Procedure O67-18.1, Disinfecting, Flushing, and Cleaning Sanitary Tanks.
 - c. NNS Procedure Y-1004, Best Management Practices for Abrasive Blasting and Painting.
 - d. NNS Procedure Y-1075, Water Pollution Control for Dry Docks, Piers and Outfitting Berths.
 - e. NNS Procedure EM-1000, Environmental Controls Manual.
4. These are the primary NNS references for these operations. The requirements discussed below will be updated as necessary when these primary references are changed.
5. Appendix D of the EM-1000 is a list of products not acceptable for use at NNS. HRSD determined the products listed to be unacceptable for discharge into the sewage system to protect the Publicly Owned Treatment Works (POTW) from a plant upset.
6. The following two sections (2 & 3) provide instructions for wastewater environmental disposal. These sections do not specify procedures for protecting personnel and/or equipment from the materials used to disinfect the systems. It is the responsibility of the contractor employer to ensure personnel protection and safety, protection of equipment and systems, and prevention of possible catastrophic releases of hazardous materials.



7. The next three sections (4, 5 & 6) establish the environmental protection requirements for managing liquid waste and industrial wastewater (IW). These requirements are applicable to all operations and facilities that could affect the James River and/or groundwater.
8. Contractors shall adhere to these sections to minimize the environmental impact of their operations and help ensure compliance with applicable federal, state, and local regulations, NNS environmental permits and policies.
9. No water or debris shall be allowed to enter any drain unless approved by EE.
10. Wastewater from Contractor bathrooms, sinks, and washbasins is not allowed to be discharged to the ground, storm drains, Dry Docks, or to the river. Contractor trailers with bathrooms that are desired to be used must request via their contractor coordinator for a connection to the sewer to be made.

B. Disinfecting Potable Water Systems and Tanks

1. The contractor employer shall ensure that:
 - a. No chlorinated water from the disinfecting process is discharged without prior approval from the Environmental Engineering section of EH&S (O27), and
 - b. The tank(s) receiving the chlorinated water from the disinfecting process are sampled to ensure the water meets the HRSD permit requirements before any discharge is made to the city sewer system.
2. The NNS "Chain of Custody" form (COC) shall be used to trace the handling and possession of a sample from the time of collection to arrival time at NNS Laboratory Services Department (O31).
 - a. The COC is essential to ensure sample integrity from collection to data reporting and may be used as a legal document. All potable water samples taken to the NNS Laboratory Services Department (O31) for analysis must have a COC.
 - b. Contractor employers (or the contractor coordinator) shall contact the Laboratory Services Department (O31) to obtain the COC forms and instructions on completing the form.
3. Before discharging chlorinated water from the disinfecting process, the contractor employer (or contractor coordinator) shall complete a COC and submit it with the sample to Laboratory Services Department (O31) for an analysis of chlorine and pH levels in the water of the receiving tank. Laboratory Services Department (O31) will forward a copy of the analysis results to the Environmental



Engineering section of EH&S (O27) and to the contractor coordinator to determine any additional actions needed to the tank contents.

4. If the laboratory results reveal that the pH is equal to or greater than 5.0 and less than 12.5 and the residual chlorine level is less than 5 ppm:
 - a. The contractor employer (or contractor coordinator) shall report the volume, proposed date and time of discharge of each tank to the Environmental Engineering section of EH&S (O27).
 - b. Following consultation and approval from the Environmental Engineering section of EH&S (O27), the tank contents may be discharged to the city sewer system.
5. If the laboratory results do not meet these limits, the contractor employer shall contact the Environmental Engineering section of EH&S (O27) for treatment options.

C. Disinfecting and Cleaning Sanitary Tanks on Ships

1. Note: The environmental sampling and discharge requirements listed below apply to all systems used to clean and flush the tanks, whether the agent used is caustic soda, microorganisms or another approved material.
2. The contractor employer shall Contact the Environmental Engineering section of EH&S (688-0169 or 688-5523) before the cleaning procedure begins and shall provide the pH, volume, and proposed discharge time and date.
3. Sampling and Discharge Requirements:
 - a. The contractor employer shall collect representative samples and take them to NNS Laboratory Services (O31) with a properly completed COC to be analyzed for pH. Note: The pH range must be between 10.5 and 12. If the pH is not within that range, O31 will advise as to corrective measures.
 - b. Approximately 48 hours prior to discharge of materials used to clean and flush the tanks, the contractor employer (or contractor coordinator) shall contact the Environmental Engineering section of EH&S (O27) at 688-0169 or 688-5523.
 - c. Following consultation with O27, the contractor employer shall collect representative samples and take them for analysis to O31 with a properly completed COC to be analyzed for:
 - 1) pH — Note: The pH must be greater than 5 and less than 12.



- 2) COD (Chemical Oxygen Demand) — **Note:** The person filling out the COC must note in the comments section of the COC that if the COD is below 1000, it is **NOT** necessary for O31 to run the BOD.
 - 3) BOD (Biological Oxygen Demand)
 - 4) Total Metals: Cd, Cu, Cr, Pb, Ni, Zn
 - 5) Residual Chlorine. NOTE: Chlorine needs to be run only if the tank has been disinfected. The chlorine residual for tank or pipeline disinfection must be $\leq 5\text{mg/L}$. EE will give guidance on whether chlorine needs to be sampled for.
- d. After receiving the results from the Laboratory Services Department (O31), the Environmental Engineering section of EH&S (O27) will determine if the requirements of the applicable HRSD permit are met, and approve or disapprove whether the tank contents may be discharged to the city sewage system.
 - e. The contractor employer shall have the approval of the Environmental Engineering section of EH&S (O27) before any discharges are made to the sewage system, and shall not exceed 50 psi when pumping tanks.

D. Liquid Waste and Industrial Wastewater (IW)

1. Documentation and Disposal Restrictions
 - a. Contractor employers shall document that liquid waste is non-hazardous through lab analysis and “generator knowledge”.
 - b. Contractor employers shall manage hazardous liquid waste or other toxic waste in accordance with section III. of this manual. The Environmental Engineering section of EH&S (O27) will provide guidance to help identify hazardous waste.
 - c. Contractor employers shall not dispose of liquid waste or IW on the land, into the groundwater or to the sewer at NNS.
2. Storage Time Limit — Contractors shall not store liquid waste or IW for more than 10 working days after the operation has been completed, and no more than 30 days after the waste was generated, without approval from the Environmental Engineering Section of EH&S (O27), except for waste accumulated for recycling.
3. Storage to Prevent a Nuisance — Contractors shall not store or collect liquid waste or IW in a manner that creates a public nuisance, such as odor or the attraction of vermin or birds.



4. Spill Management and Prevention
 - a. Storage to Prevent Spills — Contractors shall store liquid waste or IW in a manner that prevents spills from overflowing, tipping, rupturing, or other accidents from entering the James River, groundwater, or sewer.
 - b. Management of Spilled Waste — Contractors shall collect spilled liquid waste or IW and recycle it back to the appropriate storage container or dispose of it. Spilled liquid waste and IW must be handled, recycled or disposed of in such manner as to prevent non-permitted discharge into the James River, groundwater, or sewer.
 - c. It is the responsibility for all persons working at NNS to report all spills to the NNS Communication Center at *911, 0-2222, or 380-2222 for cell phones.
5. Sampling and Analysis — If sampling is required, then a COC must be used with the samples taken.
6. Off-Site Disposal Approval
 - a. Contractors shall not transport or arrange for the shipment of liquid waste or IW to an off-site facility without approval from EH&S.
 - b. Free liquids cannot be disposed of in a landfill. Free liquids and poorly contained liquids shall be absorbed on solid material before placed in a sanitary landfill.

E. Liquid Waste Disposal

1. Acceptable disposal pathways:
 - a. Liquid waste must be:
 - 1) Approved by the Environmental Engineering section of EH&S (O27) before disposal, and, as directed by EE:
 - 2) Transported to the Material Recycling Facility (MRF), Stop 550, for recycling or disposal, or
 - 3) Shipped to an off-site recycling or disposal facility.
 - b. The MRF accepts only the following liquid wastes that are not a hazardous waste:
 - 1) AFFF (Aqueous Film Forming Foam)



- 2) Iron-oxide Solution (Non-Destructive Testing)
 - 3) Ethylene Glycol (anti-freeze)
 - 4) Hydraulic Fluids
 - 5) Liquid Detergent
 - 6) Grease
 - 7) Used Oil
 - 8) Water Based Paint
- c. NOTE: Liquid wastes not in the above listing must be shipped off-site for recycling or disposal (this is coordinated by the OHWC).
2. Identification Criteria — Before waste is dispositioned, contractors shall make certain that a waste:
- a. Consists of a liquid or mixture of liquids other than water;
 - b. Is less than 10% solid;
 - c. Is not suspected to be a hazardous waste, asbestos waste, or PCB waste; and
 - d. Is not mixed with any other solid waste or IW.
3. Testing Requirements
- a. Contractors shall arrange to have liquid waste tested to verify it is non-hazardous waste. A COC is required for all testing done for the HRSD permits.
 - b. Waste products that meet the identification criteria for liquid waste listed below may be considered non-hazardous based on generator knowledge only.
 - 1) Cooking grease
 - 2) Synthetic oils (e.g., Fyrequel®, Houghto Safe®)
 - 3) Antifreeze (e.g., ethylene glycol)
 - 4) Water-based paint



- c. For off-site disposal of an industrial waste or wastewater rejected for pretreatment from OWTF, CWTP or the sewage system, contact the Environmental Engineering section of EH&S with the following information:
 - 1) The name, address and phone number of the waste carrier;
 - 2) HRSD permit number, if applicable
 - 3) A description of the wastewater and/or process generating the waste;
 - 4) Quantity of waste;
 - 5) Date and time of generation; and
 - 6) The destination of the waste and/or final disposal location;
 - 7) An MSDS.
4. Report the above listed information immediately to the Environmental Engineering section of EH&S. The Environmental Engineering section of EH&S must report this information to HRSD within twenty-four (24) hours of the waste being taken off-site (or the next business day if waste is generated on the weekend or legal holiday).
 - a. The above does not apply to waste generated and handled by the OHWC.
 - b. If an HRSD permitted vendor handles the waste generated, then the following shall apply and be provided to the Environmental Engineering section of EH&S in the form of a memo:
 - 1) Contractor employer shall for the wastewater generated to be taken off-site.
 - 2) Note the volume of wastewater, date, time, and where or what process generated the wastewater.
 - 3) Note the person who arranged (NNS/Contractor personnel) for the wastewater disposal
 - 4) If an HRSD permitted vendor is transporting the waste, this shall also be noted.
5. Prohibited Discharges — Contractors shall not discharge liquid waste into the James River, groundwater, sewer, CWTP, or OWTF without prior approval from the Environmental Engineering section of EH&S.



6. Applicable Solid Waste Management Requirements — Contractors shall comply with the applicable federal, state, and local waste management requirements and those of NNS.
7. Approval for New Waste Streams
 - a. Contractors shall not arrange for recycling or disposal of a new source of liquid waste without approval from the Plant Operations (O46) and EH&S.
 - b. A waste shall be considered a new liquid waste if the operation generating a previously approved liquid waste is changed.
 - c. Contractors requesting approval to dispose of a new liquid waste or to change a currently approved liquid waste, shall provide the following information to the Plant Operations and the Environmental Engineering section of EH&S:
 - 1) Brief description of the process generating the liquid waste;
 - 2) Lab report and/or any supporting documents verifying the waste is not a hazardous waste;
 - 3) Estimated amount to be generated; and
 - 4) Time frame for the waste generated and disposal needs.
8. Non-bulk Packaging and Disposal
 - a. Non-bulk Packaging — Contractors shall package non-bulk liquid waste (i.e. drums, pails) in accordance with the following:
 - 1) Use only approved Department of Transportation (DOT) containers suitable for transporting liquid.
 - 2) Leave six (6) inches of headspace in each drum for the liquid to expand.
 - 3) Consolidate containers of the same or similar liquids smaller than thirty (30) gallons into fifty-five (55) gallon drums, if practical.
 - 4) Containers located outside shall be covered to prevent moisture from mixing with the waste.
 - 5) Label containers. Use forms NN4651 NNPN 3321836 Waste Label and NN7029 NNPN 15278621 Hazard Waste Label (see Appendix H.)



- 6) Remove any markings and labels that do not describe the waste in the container.
 - 7) Comply with any additional requirements of the shipping company and the off-site recycling or disposal facility.
- b. Non-bulk Disposal
- 1) Contractors shall arrange for transportation of liquid waste in drums to the MRF.
 - 2) A description of the liquid waste should include any available lab report or supporting documents that would verify the waste is not a hazardous waste.
 - 3) If the waste is not approved for recycling/disposal at the MRF, then contractors shall arrange for the OHWC to manage the waste.
 - 4) Complete the material receipt form
 - 5) The OHWC is responsible for transporting the waste from the worksite to the North Yard Accumulation Area.
9. Bulk Packaging and Disposal
- a. Bulk Packaging — Contractors shall arrange for bulk packaging containers, such as a tank truck, through the Plant Operations.
- b. Bulk Disposal
- 1) Contractors shall arrange for transportation of bulk liquid waste through the Plant Operations (O46) who shall in turn arrange for the recycling/disposal of that waste. A description of the liquid waste should include any available lab report or supporting documents that would verify that the waste is not a hazardous waste.
 - 2) If the waste is not approved for recycling/disposal at the CWTP, OWTF or MRF, then contractors shall arrange for the OHWC to manage the waste.
 - 3) Complete the material receipt form provided by the contractor.

F. Management of Industrial Wastewater (IW) and Discharges

1. General: IW Disposal



- a. IW should be disposed of in the most environmentally responsible manner in accordance with NNS permit requirements.
- b. Disposal operations may have a significant environmental impact on the local POTW or the James River. Any disposal must be authorized by the Environmental Engineering section of EH&S (O27).
 - 1) Contractors shall consider IW for treatment at the CWTP or OWTF prior to being shipped to an off-site facility for treatment.
 - 2) Contractors shall not arrange for disposal of a new source of IW without approval from EH&S and the treatment plant supervisor.
 - 3) Contractors requesting approval to dispose of a new IW or change a currently permitted IW, shall provide the following information to the Environmental Engineering section of EH&S (O27):
 - a) A description of the process generating the IW;
 - b) A schematic process diagram which indicates points of discharge and sampling points;
 - c) The expected average and maximum daily flow rate in gallons per day;
 - d) The expected average and maximum daily concentration of pollutants in the IW; and
 - e) An MSDS for the chemicals being used.
2. Off-Site Disposal Liquid wastes not in the listing at section E.5.a.2), page 5) must be shipped off-site for recycling or disposal (this is coordinated by the OHWC).
3. Discharging IW to the HRSD Sewer System.
 - a. General Permitting Information
 - 1) NNS has two (2) HRSD permits that authorize the Yard to discharge into the HRSD sewage system.
 - 2) Industrial wastewater generated must be pre-treated by the CWTP or OWTF before discharging into the HRSD sewage system.
 - 3) NNS has been authorized to discharge some IW directly to the sewage system. As a Contractor employer, it is your responsibility to assure



that only approved wastewater is sent to the sewer. Contact the Environmental Engineering section of EH&S for approved discharges.

- a) This wastewater is then pumped to the Boat Harbor Treatment Plant (owned and operated by HRSD)
 - b) HRSD then discharges the treated wastewater to the James River via their Virginia Pollutant Discharge Elimination System (VPDES) permit.
- 4) The prohibited product use and discharge list (see Appendix D, EM-1000) shall be reviewed by the contractor employer to ensure these prohibited products are prevented from use at NNS and are not discharged into the sewage system.
- a) Review this list to ensure your operation(s) does not use or discharge these chemicals to the sewer.
 - b) If these prohibited products are currently in use, stop use immediately and contact the Environmental Engineering section of EH&S (O27).
- b. New Sources of IW — see section E.5.g. page 8 above for new source information
- c. Transfer/Shipment — Contractors shall not transport or arrange for the shipment of IW to the sewer, OWTF, CWTP or a treatment facility off-site without approval from EH&S.
- d. Unusual Discharges — Contractors shall immediately notify the Communication Center at *911, 0-2222 or 380-2222 for cell phones to report unusual or extraordinary discharge that enters, or could be expected to enter, the sanitary sewer. This notification shall include as much of the following information as possible:
- 1) Description of the discharge and its source;
 - 2) Exact date, time, and duration of the discharge;
 - 3) Actions taken to correct and clean up the discharges;
 - 4) Actions planned to prevent a recurrence of the discharge; and
 - 5) An MSDS of the product.
- e. Direct discharges shall not be made without prior authorization from EE.



4. Vessel discharges and cleanings -- potable IW & Sanitary (CHT) IW
 - a. Contractor Employers shall:
 - 1) Discharge sanitary wastewater from vessels into holding tanks or into the sewerage system.
 - 2) Make certain that connections, valves, pipes, hoses and soil chutes used to transfer IW from vessels into the sanitary sewer are tightly connected and leak free prior to transfer.
 - 3) Immediately repair any leaks during the transfer.
 - b. Potable Wastewater Cleanings and Discharges – before performing this operation:
 - 1) Contact your contractor coordinator and obtain a copy of NNS procedure Y-1112
- NOTE: O67-18.1 has been cancelled.**

 - 2) Follow the steps in that procedure.
5. CWTP/OWTF Pretreatment Plant IW Transfers
 - a. Wastewater that is not authorized for direct discharge to the James River or HRSD sanitary sewage system may be suitable for pretreatment at the CWTP or OWTF.
 - 1) Before pretreatment at the plants and/or discharge to the HRSD sewage system, NNS must:
 - 2) Pre-treat specific types of approved IW at the plants (these must be pre-approved by EE).
 - 3) Obtain EE approval for discharges from CWTP/OWTF plants of treated IW to the HRSD sewerage system. VPDES BMP 24
 - 4) Sample treated wastewater to ensure compliance with the permit discharge requirements.
 - 5) Prevent certain wastes from entering the sanitary sewage system.
 - b. Responsible departments must coordinate closely with EE and the CWTP/OWTF supervisor to make sure untreated or prohibited wastes do not enter the plants.



- 1) CWTP Acceptable Wastes:
 - a) Electroplating
 - b) Photo processing
 - c) Phosphating
 - d) Reproduction
 - e) Lead-laundry water
 - f) Pipe-cleaning
 - g) Acid/Caustic waste
 - h) Developer
 - i) Hydro-testing
 - j) Metal Finishing
- 2) OWTF Acceptable Wastes:
 - a) Oily bilge wastewater
 - b) Cutting Oils
 - c) Pipe-cleaning wastewater
 - d) Paint spray curtain wastewater
 - e) Special Gosh / Industrial Strength Gosh
 - f) Condensate
 - g) Bunker C Oil
 - h) Boiler blow-down
 - i) Cooling fluids
 - j) Glycols
- c. Contractor Employers shall meet the requirements listed below before transferring IW:



- 1) Notify your contractor coordinator or the supervisor of CWTP/OWTF (380-3824) for authorization of all transfers to the plants.
 - 2) Information required for IW transfers shall be given to the plant supervisor as listed below:
 - a) Generator/contact name, department and telephone number
 - b) Description, source and generating process of IW
 - c) Volume generated
 - d) MSDS
 - e) Sample of the wastewater (see bench testing below)
 - 3) Exception: If the IW has been previously approved for discharge to the plants, the above information is not necessary.
6. New IW for CWTP/OWTF
- a. Bench Testing--If a wastewater has never been treated before at either plant, a sample of the new wastewater will be required to determine treatment requirements. Contact the Environmental Engineering section of EH&S for sampling requirements.
 - b. Transfer of IW
 - 1) Contractor employers shall not transfer a new IW to the plants without approval from the Environmental Engineering section of EH&S and the treatment plant supervisor.
 - 2) If the operation generating a previously approved wastewater is changed, then the wastewater shall be considered a new wastewater.
 - 3) Contractor employer requesting approval to transfer a new IW or change a currently approved IW shall provide the following information to the Environmental Engineering section of EH&S and the treatment plant supervisor:
 - a) A brief description of the process generating the IW
 - b) A schematic process diagram which indicates points of discharge and sampling points



- c) The expected average daily and maximum daily flow rate in gallons/day
 - d) Potential pollutants in the IW
 - e) MSDS
- 4) Prohibited Wastes -- Departments shall not use or transfer an IW containing a prohibited waste to the CWTP, OWTF or the sewage system (see Appendix D, EM-1000).
7. Transfer of Oily IW
- a. Wastewater that has visible petroleum or sheen on the surface will be considered oily waste.
 - b. Federal regulations dictate that oily waste is considered an oil with reference to transfer operations.
 - c. Transfers of oily waste to the OWTF must, therefore, follow rules assigned to an oil transfer, including the completion of a pre-transfer Declaration of Inspection and origination to destination communication.

G. Industrial Wastewater to Specific Outfalls to the James River

1. NNS has a Virginia Pollutant Discharge Elimination System (VPDES) permit with the State of Virginia to discharge specific types of industrial wastewater (IW) from specific outfalls to the James River. Any changes or additions to this permit, such as plans to discharge new sources of industrial wastewater, must be approved and added to the current permit by the Environmental Engineering section of EH&S (O27).
 - a. Contractor employers must comply with the Best Management Practices (BMPs) requirements to prevent pollution. These BMPs are issued by the VDEQ specifically for the shipbuilding industry. Because dry docks, piers and outfitting berths are major sources of NNS IW discharges to the James River, NNS developed SSP Y-1075, "Water Pollution Control for Dry Docks, Piers and Outfitting Berths." Specific instructions and responsibilities are included in SSP Y-1075 to minimize water pollution and help ensure compliance with Yard BMPs and the VPDES permit. Contractor employers shall:
 - 1) Obtain a copy of this procedure from their contractor coordinator.
 - 2) Review this procedure and use it where applicable.
 - b. The SSP Y-1075 requirements for contractors are as follows:



- 1) Water Discharges from Vessels/Production Equipment. The NNS responsible department, contractor employer, or Construction Project shall ensure that all production equipment (compressors, vacuum pumps, etc.) and vessel water discharges (cooling, blasting, and other permitted aqueous dry dock discharges) are directed away from vessel/equipment by one of the following methods (These methods will minimize aqueous discharges from running across the dock floor and minimize the possible migration of pollutants to the dry dock ditches.):
 - a) Direct pipe line to the dry dock sump or longitudinal drainage trench.
 - b) Chute or flume water discharges to longitudinal drainage trenches.
 - c) Direct pipe line over the gate to the river with prior approval from the Environmental Engineering section of EH&S (O27).

- 2) NOTE: The above actions are not required if Construction Management advises the Environmental Engineering section of EH&S (O27):
 - a) No abrasive blasting is planned.
 - b) Blasting has been completed and the dry dock has been cleaned as indicated in Section II.E.7.c.1) Page 18 of this procedure.
 - c) There has been no application or removal of anti-foulant or organotin coatings.
 - d) Bilge water will not be permitted to discharge to any dry dock or the water at piers and outfitting berths. Vessel discharges described below have special conditions that must be followed prior to discharge:
 - e) Any discharges suspected to contain any toxic substances (including but not limited to microbiocides and germicides) must be coordinated through the Environmental Engineering section of EH&S (O27). These discharges will be evaluated on a case by case basis and may require laboratory analysis to determine proper disposal procedures.
 - f) Any discharges which are suspected to contain oil and/or grease must be analyzed for pH, oil and grease; the results must be reviewed by Environmental Engineering prior to discharge. Contact the Laboratory Services Department (O31) when sampling is required.



2. Contractors shall prevent solids, floating debris, paint, oil and grease from entering the James River, by doing the following:
 - a. Use drip pans to contain and prevent discharges of oil and/or oily wastes from reaching the floor of the dock during any operation that can be expected to result in the discharge of oil.
 - 1) The X33 Department or the X65 Department will provide oil boxes.
 - 2) Clean up all spilled oil and clean-up material immediately.
 - 3) Comply with The Manual for the Transfer of Oils and Oily Wastes for all oil and oily waste transfers (contact your contractor coordinator and obtain a copy of that Manual).
 - b. Prevent the spillage of paint, float coat/preservatives, paint thinners, and other solvents in the docks.
 - 1) Paint shall not be mixed on top of gratings, pits, deck drains or trenches.
 - 2) Drip pans, sheet plastic or other suitable material for containment will be used under all mixing or pouring of paints.
 - 3) All spilled paint, solvents, and thinners will be cleaned up immediately.
 - 4) The amount of paint stored on the dry dock floor or at piers and outfitting berths shall be kept to a minimum.
 - c. Use acceptable methods of control during abrasive blasting and spray painting to prevent blast dust and overspray from entering the James River.
 - d. Inspect to ensure that all ditches and trenches are covered with rubber mats during blasting/painting operations.
 - 1) Rubber matting may be substituted with materials having equal protective properties only with prior approval from the Environmental Engineering section of EH&S (O27).
 - 2) Ensure all blast material and equipment are kept clear of ditches and trenches.
 - 3) Place equipment over trenches only if all grate covers are in place and properly covered.



- 4) Frequently inspect the covers to ensure adequate coverage. (NNS personnel will be inspecting the contractor employer as well.)
3. Contractor Employers shall clean up spent abrasive/paint over-spray and shall ensure the following:
 - a. As soon as practicable after the completion of an abrasive blasting/spray painting event, clean the area of the dry dock floor affected by the blasting/painting to the equivalent of a scraped or broomed clean condition.
 - 1) Remove blast grit and paint overspray from the dry dock as soon as practicable and do not allow it to accumulate.
 - 2) Do not allow blast grit or paint to accumulate in work areas.
 - a) Equipment placement that inhibits mechanical clean-up operations will not be an acceptable reason for not cleaning work areas. Place any such material that cannot be immediately removed from the dock into manageable piles and cover with a waterproof cover.
 - b) Anchor the cover firmly over the pile and maintain coverage until removal can be achieved. Cover all containers (drums, skiffs, roll-off boxes, tractor trailers) containing blast grit/paint debris with a waterproof cover. Maintain this coverage when material is not being added to these containers.
 - 3) In the case of paint overspray cleanup, use equipment such as wet-vacuums, brooms, and mechanical sweepers to accomplish a broom clean condition.
 - 4) Scraping the dock floor with the bucket of a front-end loader (uniloaders) will be a sufficient means of cleaning after the blasting/spray painting event. Operations will be conducted to allow maximum use of this equipment.
 - 5) Manually clean areas that cannot be reached by uniloaders.
 - 6) Excess blocks will be removed by the X36 Department from, or stored in, the dock in such a manner as to facilitate ship work and cleaning of the dock.
 - 7) X36 Department will remove equipment such as oil boxes, pipe, hose, staging, etc., from the dock when no longer needed or placed in such a manner so as to minimize interference during dock cleaning.



- 8) During scraping and sweeping operations of spent abrasives from lead or cuprous oxide coatings spray a fine mist of water to suppress dust, but do not allow puddles to form.
- b. After work has been completed on a vessel and prior to flooding the dock, clean-up shall be as follows:
 - 1) Broom clean the dry dock floor. Remove all blast grit/painting debris and trash from the dock prior to flooding. Do not allow any solid material to be placed into longitudinal ditches, cross trenches or pump sump areas.
 - 2) In the case of paint overspray, use cleanup equipment such as wet vacuums, brooms, and mechanical sweepers to accomplish a broom clean condition.
- c. Once the vessel has left the dock and de-watering is complete, additional clean up shall be as follows:
 - 1) Clean all longitudinal ditches, cross trenches and pump sump area to remove any visible sediment and debris. Use of a vacuum system is recommended to achieve maximum cleanliness.
 - 2) Complete this cleaning within one (1) week of ship's departure. No other vessel will be allowed to enter any dry dock that has not been cleaned to the above requirements.
 - 3) In addition to the above requirements, prior to job completion, all longitudinal ditches, cross trenches and pump sump areas will be cleaned to remove any sediment and debris if deemed necessary by the X36 Dockmaster and/or the Environmental Engineering section of EH&S (O27).
 - 4) Any variances to these requirements must be approved by the Environmental Engineering section of EH&S (O27).
4. Contractor employers are responsible for reporting and controlling oil spills:
 - a. The discharge of oil through dry dock pumps or at piers and outfitting berths will subject the company to monetary fines and clean-up costs. These costs will be passed on to contractors who are responsible for the spill.
 - 1) If oil is spilled or discharged into the dry dock during de-watering, the de-watering and sump pumps must be immediately stopped and the oil must be cleaned up to prevent polluting the river.



- 2) If oil is spilled or discharged into the dock during flooding, the oil must be cleaned from the dock before the gate is removed.
 - 3) If oil is spilled or discharged into the dock while the gate is not in place, or if oil is spilled or discharged to the water while a vessel is pier-side or at an outfitting berth, the waterborne oil must be contained and cleaned up as practicable and reported by Environment Engineering in accordance with company practices and U.S. Coast Guard regulations.
- b. Report all oil spill incidents to the Communications Center at *911 or 0-2222, (380-2222 for cell phones). The person reporting any spill shall:
- 1) Give their name, and department number, the location of the spill, and identification of the material being spilled, if known, and an estimation of the quantity.
 - 2) Follow all operator instructions and remain at the spill location until the arrival of the spill team.
5. Other:
- a. The discharge of floating debris is prohibited.
 - 1) Trash, wood and other debris will be cleaned from the dry docks before flooding operations start.
 - 2) Any debris floating in the dry dock after flooding will be removed before the dry dock gate is removed or means will be taken to prevent debris from floating or washing out of the dock while the gate is removed.
 - b. Any variances to these procedures must be approved by the Environmental Engineering section of EH&S (O27).

H. Best Management Practices for Abrasive Blasting and Painting

1. NNS developed SSP Y-1004 "Best Management Practices for Abrasive Blasting and Painting" because these activities can contribute to water pollution.
 - a. Specific instructions and responsibilities are included in SSP Y-1004 to minimize potential water pollution and to help ensure compliance with Yard BMPs and the VPDES permit.
 - b. Contractors shall obtain a copy of this procedure from their contractor coordinator, review it and use it where applicable at all locations where they perform blasting and painting operations.



2. Land Surfaces

- a. Contractors shall clean work areas adjacent to blasting/coating activities on a daily basis. This is necessary to minimize runoff carrying spent abrasives, paints, solvents, cleaners, anti-corrosive compounds, paint chips, scrap metal, trash, garbage, petroleum products, or other debris into the State waters.
- b. Daily cleanup of these areas shall consist of mechanical or manual methods to sweep up and collect the debris. Piles of spent abrasive awaiting removal shall not be located near storm drains or dry dock drains. The material shall be gathered into manageable piles and must be covered with a waterproof cover. The coverage is to be securely anchored and maintained.
- c. Clean dry dock floors of all industrial rubbish on a daily basis. Employ good housekeeping procedures to prevent the discharge of any and all pollutants into the waterways. Do not consider short docking intervals justification for not cleaning a dry dock before it is flooded.

3. Blast Dust and Overspray Control

- a. Use acceptable methods of control during abrasive blasting and spray painting. These methods typically include down-spraying blast and paint materials and erecting effective barriers/shrouds to confine blast dust and overspray. Constructing temporary structures may be necessary for this purpose. Maximum containment effort is mandatory. All methods of operation are subject to the approval of Dept. X33 or the contractor coordinator. Shrouding of superstructures and the use of fixed or floating platforms when working at the water surface is required.
- b. Containment areas shall be properly ventilated for environmental control, vapor explosive limit control, and personnel exposure to dust or vapor levels.
- c. When abrasive blasting, cover openings and open areas between decks (including but not limited to scuppers, railings, freeing ports, ladders, and doorways) if they may allow discharge into State waters.
- d. Contain exterior work on vessels that extend beyond the length of the dry dock.
- e. Use fixed or floating platforms as work surfaces when working at the water surface in order to provide a surface to catch spent material. Bridge gaps between the vessel and the platform with Herculite® or a material of equal protection to funnel dust to the platform so that pollutants do not fall into the adjacent waters. Clean platforms at the end of each work shift.



- f. Control dust and overspraying from abrasive blasting and painting in yard facilities as well as on the water. The practices outlined will minimize the spreading of wind blown materials. Cleanup and proper management of blasting materials is necessary to prevent the waste from being washed into storm drains. Clean up blast grit following blasting operations on a daily basis. Place spent blast grit into appropriate containers for disposal. Ensure that these containers are lined with clear poly to prevent leakage and covered with a waterproof cover to prevent contact with rainwater.
 - g. If sustained winds exceed 20 MPH suspend blasting and painting operations and/or implement additional control measures.
 - h. Compliance with these practices will be monitored daily by the trades' supervisor or contractor coordinator.
 - i. Ensure that, when water blasting, hydroblasting, or water-cone blasting (in dry docks or on the floating dry dock) to remove paint from surfaces, the resulting water with debris is filtered or collected, and either delivered to appropriate containers for removal or subjected to a treatment to concentrate the solids for proper disposal. Use shrouding to confine paint debris to the work area. All methods of operation are subject to the approval of the Dept X33 or contractor coordinator. Contact Environmental Engineering for additional information on disposal.
4. Storm System Maintenance: Contractor employers shall take precautions and employ stringent cleaning procedures to remove waste materials, thus preventing their introduction into the storm drainage system.
 5. Spillage Control
 - a. Locate the nearest spill kit prior to the commencement of any work that may result in a spill. These spill kits have been placed at dry docks, piers and outfitting berths. Use the contents of these spill kits to contain and cleanup oil, grease, paint or fuel spills. Oil containment booms are stored so as to be immediately deployable if necessary. Carry out cleanup promptly to keep the pollutants from reaching State waters. Remove contaminated materials from the spill area or dry dock as soon as possible and in all cases prior to submersion/flooding of a dry dock. These procedures also apply to all hazardous substances. Emulsifiers and dispersants are not suitable cleanup agents. For any spills always call *911 or 0-2222 (380-2222 for cell phones). This will initiate a response to the spill and serve to determine if local, state or federal reporting is required.
 - b. Use drip pans or other protective devices for all oil or oily waste transfer operations to catch incidental spillage and drips from hose nozzles, hose



rack, drums, or barrels. Carry out the mixing of paints and solvents under conditions that will minimize the possibility of a spill.

- c. Use drip pans, drip cloths or tarpaulins unless the mixing operation is carried out in a controlled area away from storm drains, surface waters, shorelines, and piers. Keep sorbents on hand to soak up spills.
- d. Keep the amount of paint stored in the dry dock to a minimum. Store solids, metal finishing solutions, paints, oils, solvents, acids, rinse-water, caustic solutions, and waste materials, including used batteries in a manner which will prevent overflowing, tipping, ruptures, or other accidents and the entry of these materials into waters of the State.

6. Miscellaneous

- a. Execute all washing tasks in a manner that prevents debris and industrial waste from entering any drainage system or discharge into State Waters. Exercise special care when washing adjacent surfaces that may have had a blast residue deposited on them.
- b. Direct all shipboard cooling and process water away from contact with spent abrasives, paints, and other debris. Direct these waters to the dry dock trenches. Segregate spent abrasives, paint etc. to prevent the pollution of water systems.

I. Additional Best Management Practices and other requirements

1. Submit to your contract coordinator or to the Environmental Engineering section of EH&S (O27) any new practices or innovative measures for collecting contaminants for evaluation prior to the start of work. .
2. Additional Yardwide Best Management Practices (BMPs) which must be adhered to in order to comply with the NNS VPDES permit. All contractors shall ensure that:
 - a. All liquid material containers are stored away from drains in a way that prevents spillage of the material.
 - b. All liquid material containers are kept closed and secured when not in use.
 - c. Drip pans that are 1/3 full or greater are pumped down and the material is disposed of the material properly. (Contact Department 046 for pump down of the drip pans.)
 - d. Liquid material storage areas have absorbent material on hand to contain any incidental spills.



- e. Liquid material containers are kept in good condition (not heavily rusted or dented).
 - f. Storm drains are kept clear of trash and debris.
 - g. Liquid materials are mixed away from the following:
 - 1) All drain gratings
 - 2) Pits
 - 3) Deck openings
 - 4) The water's edge
 - h. Lead and zinc materials and components assembled with these materials are protected from contact with storm water by making sure that they are:
 - 1) Stored off the ground
 - 2) Covered with firmly anchored Herculite® covers, a covered structure, or equal protection which:
 - a) Shields the material from contact with storm water completely.
 - b) Is maintained in good repair.
 - i. All work areas are kept free of unwanted/scrap materials, such as empty paint cans, buckets and drums. (These materials shall be disposed of properly).
3. Contractor employers must not do the following activities without approval from the Environmental Engineering section of EH&S (O27)
- a. Construct or modify any point source discharge from areas used to discharge to the James River.
 - b. Discharge a new source of IW.
 - c. Change a currently permitted IW discharge (e.g., change in operations).
4. Contractors requesting approval to discharge a new IW, or change a currently permitted IW, shall provide the following information to EE:
- a. A brief description of the process generating the IW.



- b. A schematic process diagram which indicates points of discharge and sampling points.
 - c. The expected average daily and maximum daily flow rate in gallons/day.
 - d. An MSDS for all materials found in the IW discharge.
5. Contractors shall take all reasonable steps to prevent and/or correct any non-permitted IW discharges, including securing the operation generating the discharge.
6. Contractors shall immediately notify EE of any suspected non-permitted discharges:
 - a. This includes any discharges that may enter, or could be expected to enter any of the following areas:
 - 1) Dry Docks,
 - 2) Piers,
 - 3) Outfitting Berths,
 - 4) Storm Drains,
 - 5) IW Drain,
 - 6) Sanitary Sewer Drain or
 - 7) Directly to the James River.
7. This notification shall include as much of the following information as possible:
 - a. Description of the discharge and its source.
 - b. Exact date, time, and duration of the discharge.
 - c. Actions taken to correct and/or clean up the discharge.
 - d. Actions planned to prevent a recurrence of the discharge.
8. Requirements for paint mixing/scraping operations:
 - a. Place protective devices beneath the work area to contain incidental spills. These devices include drip pans, drop cloths, tarps and plastic. Remove, drain or replace these devices as needed.



- b. Locate absorbent materials at paint mixing/scraping areas so that any incidental spills can be contained immediately. Clean up materials used to clean up these spills immediately and do not allow them to accumulate in work areas.
- c. Store all painting materials in such a way to prevent tipping, rupture, overfilling or spillage. Ensure that proper container tops are on all containers when not in use (e.g. bungs, lids, caps).