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TRANSMITTAL FOR SOUTH CAROLINA DEPARTMENT OF HEALTH AND
ENVIRONMENTAL CONTROL RESOURCE CONSERVATION AND RECOVERY ACT PERMIT
CNC CHARLESTON SC
5/4/1990
SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL



May 4, 1990

CERTIFIED MAIL

Commander
Charleston Naval Shipyard
Code 460, Bldg. 12
Attn: J. W. Sneed
Charleston, S.C. 29408-6100

RE: Final RCRA Permit
Charleston Naval Shipyard
SCO 170 022 560

Dear Mr. Sneed:

Attached is the final SCDHEC RCRA permit for storage of hazardous waste in containers in two buildings at your facility. Also attached is the Responsiveness Summary to comments made during the public notice period.

Procedures for contesting a final permit decision are found in Section R.61-72 of the South Carolina Code of Laws. A request for an adjudicatory hearing (appeal the final permit decision) must be served on the Board within fifteen (15) days after notification of the final permit decision.

If you have any questions, please call Randy Thompson at (803) 734-5200.

Sincerely,

David E. Wilson, Jr., P.E., Manager
Hazardous Waste Permitting
Bureau of Solid and Hazardous Waste
Management

DEWjr/GRT/jth

Attachments

- cc: Pano Kordonis, Southern Division NAVFAC (w/attachments)
- Dennis Manganiello, US EPA Region IV (w/attachments)
- Mike Arnett, EPA Region IV (w/attachments)
- Rick Richter, Trident (w/attachments)

Commissioner: Michael D. Jarrett Board: Henry S. Jordan MD, Chairman John B. Pate, MD, Vice Chairman William E. Applegate, III, Secretary
Toney Graham, Jr., MD John H. Burriss Richard E. Jabbour, DDS Currie B. Spivey, Jr.

RESPONSE TO COMMENTS
ON THE DRAFT HAZARDOUS WASTE PERMIT
FOR CHARLESTON NAVAL SHIPYARD
CHARLESTON, SOUTH CAROLINA
SC0 170 022 560

PREPARED BY
THE SOUTH CAROLINA DEPARTMENT
OF HEALTH AND ENVIRONMENTAL CONTROL

MAY 4, 1990

RESPONSE TO COMMENTS MADE BY SOUTHERN
DIVISION - NAVAL ENGINEERING COMMAND ON
BEHALF OF CHARLESTON NAVAL SHIPYARD

- COMMENT: Recommend modification of Condition I.D.6. to reflect that contamination at the DRMO Staging Area and the Public Works Storage Yard (Old Corral) may be referred to as "exceeding health-based criteria (if approved by the state) vs. background" (Ref. SCDHEC ltr of 22 Feb. 90)
- RESPONSE: The Department will add the following sentence to Condition I.D.6.: "This definition does not preclude the Permittee from using health based clean-up levels which must be approved by the Department for the old DRMO Staging Area and the Public Works Storage Yard (Old Corral)."
- COMMENT: It is the Navy's understanding that SCDHEC has removed the 8888 waste number series from the hazardous waste list; thus it is recommended that hydraulic fluid waste, lubricating oil waste, and oil waste be deleted from Table 2.
- RESPONSE: The Department agrees and has deleted the 8888 wastes from Table 2 of Appendix D.

CHARLESTON NAVAL SHIPYARD
REVISIONS TO PERMIT IN
RESPONSE TO COMMENTS RECEIVED
DURING PUBLIC NOTICE PERIOD
SCO 170 022 560

Section of Permit

Revision

Condition I.D.6.

Added the sentence "This definition does not preclude the Permittee from using health based clean-up levels which must be approved by the Department for the old DRMO Staging Area and the Public Works Storage Yard (Old Corral)."

Appendix D
Table 2

Deleted the following wastes:
Hydraulic fluid waste 8888
Lubricating Oil waste 8888
Oil wastes 8888

CHANGES DUE TO TYPOGRAPHICAL ERRORS

Section of Permit

Revision

Condition II.H.2.

Changed "II.I.1." to II.H.1."

Condition IV.C.

Changed "RCRA Facility Assessment (RFA)" to RCRA Facility Investigation (RFI)"

OFFICE OF ENVIRONMENTAL QUALITY CONTROL
BUREAU OF SOLID AND HAZARDOUS WASTE MANAGEMENT

HAZARDOUS WASTE PERMIT

Date of Issue: May 4, 1990 Expiration Date: June 4, 1995

Effective Date: June 4, 1990

Permit Number: SCO 170 022 560

Permission is hereby granted to:

Name of facility: Charleston Naval Shipyard

Address: Commander Naval Shipyard (Code 460)

Charleston, South Carolina 29408-6100

Facility Contact: John W. Sneed, Program Manager

Phone: 803-743-5519

for the operation of two hazardous waste container storage buildings located in Charleston, South Carolina in Charleston County.

This permit is issued pursuant to Section 44-56-10 et seq. and Regulation 61-79 of the 1976 South Carolina Code of Laws, as amended. The authority granted hereunder is subject to the requirements of the aforementioned laws and regulations and the following conditions:

(See attached list of conditions)

William W. Culler

William W. Culler, P.E., Director
Division of Facility Engineering
Bureau of Solid and Hazardous Waste
Management

This permit is non-transferable and is the property of the Bureau of Solid and Hazardous Waste Management and must be surrendered on demand. Keep posted at all times in a conspicuous place on the premises.

Charleston Naval Shipyard
SCO 170 022 560
MODULE I - GENERAL PERMIT CONDITIONS

The permittee must comply with all applicable South Carolina Hazardous Waste Management Regulations. Many changes are anticipated in State requirements and at such time as the Department accomplishes the necessary regulatory changes, you will be required to comply with any applicable portions of such revisions.

The Permittee shall construct and/or operate this facility in accordance with the Hazardous Waste Permit Application dated October 20, 1986, and revised November 23, 1988.

I.A. EFFECT OF PERMIT

The Permittee is allowed to store hazardous waste in containers in accordance with the conditions of this permit. Any storage, treatment, and/or disposal of hazardous waste, under the jurisdiction of RCRA, not authorized in this Permit is prohibited. Issuance of this permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of state or local law or regulations. Compliance with the terms of this permit does not constitute a defense to any order issued or any action brought under Sections 3008(a), 3008(h), 3013, or 7003 of RCRA; Sections 106(a), 104 or 107 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9601 et seq., commonly known as CERCLA), or any other law providing for protection of public health or the environment. [R.61-79.270.4, 270.30(g)]

I.B. PERMIT ACTIONS

I.B.1. Permit Modification, Revocation and Reissuance, and Termination

This permit may be modified revoked and reissued, or terminated for cause as specified in R.61-79.270.41, 270.42, and 270.43. The filing of a request for a permit modification, revocation and reissuance, or termination, or the notification of planned changes or anticipated non-compliance on the part of the Permittee does not stay the applicability or enforceability of any permit condition. [R.61-79.270.30(f)]

I.B.2. Permit Renewal

This Permit may be renewed as specified in R.61-79.270.30(b) and Permit Condition I.E.2. Review of any application for a Permit renewal shall consider improvements in the state of control and measurement technology, as well as changes in applicable regulations. [R.61-79.270.30(b)]

I.C. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

I.D. DEFINITIONS

For purposes of this Permit, terms used herein shall have the same meaning as those in R.61-79 Parts 124, 260, 264, 266, 268, and 270, unless this Permit specifically provides otherwise; where terms are not defined in the regulations or the Permit, the meaning associated with such terms shall be defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term.

- I.D.1. The term "solid waste" means any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities, but does not include solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to permits under section 402 of the Federal Water Pollution Control Act, as amended (86 Stat. 880), or source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954, as amended (68 Stat. 923).
- I.D.2. "Hazardous constituents" for purposes of this permit are those substances listed in Appendix VIII of R.61-79.261.
- I.D.3. A "Solid Waste Management Unit" for the purposes of this permit includes any unit which has been used for the treatment, storage, or disposal of solid waste at any time, irrespective of whether the unit is or ever was intended for the management of solid waste. RCRA regulated hazardous waste management units are also solid waste management units.
- I.D.4. A "unit" for the purposes of this permit includes, but is not limited to, any landfill, surface impoundment, waste pile, land treatment unit, incinerator, injection well, tank, container storage area, septic tank, drain field, wastewater treatment unit, elementary neutralization unit, transfer station or recycling unit.
- I.D.5. "Release" for purposes of this permit includes any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment of any hazardous waste or hazardous constituents.

- I.D.6. "Contamination" for purposes of this permit refers to the presence of any hazardous constituent in a concentration which exceeds the naturally occurring concentration of that constituent in the immediate vicinity of the facility (in areas not affected by the facility). This definition does not preclude the Permittee from using health based clean-up levels which must be approved by the Department for the old DRMO Staging Area and the Public Works Storage Yard (Old Corral).
- I.D.7. "Corrective action", for purposes of this permit, may include "corrective action" as provided in R.61-79.264.100 and/or other remedial activities for any media until otherwise defined in R.61-79.264.101.

I.E. DUTIES AND REQUIREMENTS

I.E.1. Duty to Comply

The Permittee shall comply with all conditions of this permit, except to the extent and for the duration such noncompliance is authorized by an emergency permit. Any permit noncompliance, other than non-compliance authorized by an emergency permit, constitutes a violation of RCRA and the South Carolina Hazardous Waste Management Act and is grounds for enforcement action, permit termination, revocation and reissuance, modification, or denial of a permit renewal application. [R.61-79.270.30(a)]

I.E.2. Duty to Reapply

If the Permittee wishes to continue an activity allowed by this permit after the expiration date of this permit, the Permittee shall submit a complete application for a new permit at least 180 days prior to Permit expiration, unless permission for a later date has been granted. [R.61-79.270.10(h), 270.30(b)]

I.E.3. Permit Expiration

Pursuant to R.61-79.270.50, this Permit shall be effective for a fixed term not to exceed five years. This Permit and all conditions herein will remain in effect beyond the Permit's expiration date, if the Permittee has submitted a timely, complete application (see R.61-79.270.10, 270.13 through 270.29) and, through no fault of the Permittee, the Department has not issued a new Permit, as set forth in R.61-79.270.51.

I.E.4. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. [R.61-79.270.30(c)]

I.E.5. Duty to Mitigate

In the event of noncompliance with this Permit, the Permittee shall take all reasonable steps to minimize releases to the environment, and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment. [R.61-79.270.30(d)]

I.E.6. Proper Operation and Maintenance

The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance/quality control procedures. This provision requires the operation of a backup or auxiliary facility or similar systems only when necessary to achieve compliance with the conditions of the permit. [R.61-79.270.30(e)]

I.E.7. Duty to Provide Information

The Permittee shall furnish to the Department, within a reasonable time, any relevant information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Department, upon request, copies of records required to be kept by this permit. [R.61-79.264.74(a), 270.30(h)]

I.E.8. Inspection and Entry

Pursuant to R.61-79.270.30(i), the Permittee shall allow the Department, or an authorized representative, upon the presentation of credentials and other documents as may be required by law to:

- I.E.8.a. Enter at reasonable times upon the Permittee's premises where a regulated activity is located or conducted, or where records must be kept under the conditions of this permit;
- I.E.8.b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- I.E.8.c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under this permit; and
- I.E.8.d. Sample or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by RCRA, any substances or parameters at any location.

I.E.9. Monitoring and Records

I.E.9.a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. The method used to obtain a representative sample of the waste to be analyzed must be the appropriate method from Appendix I of R.61-79.261 or an equivalent method approved by the Department. Laboratory methods must be those specified in the most recent edition of Test Methods for Evaluating Solid Waste: Physical/Chemical Methods SW-846, Standard Methods of Wastewater Analysis, or an equivalent method as specified in the Waste Analysis Plan. [R.61-79.270.30(j)(1)]

I.E.9.b. The Permittee shall retain at the facility records of all monitoring information, including all calibration and maintenance records, copies of all reports and records required by this permit, the certification required by R.61-79.264.73(b)(9), and records of all data used to complete the application for this permit for a period of at least 3 years from the date of the sample, measurement, report, record, certification, or application. These periods may be extended by request of the Department at any time and are automatically extended during the course of any unresolved enforcement action regarding this facility.

I.E.9.c. Pursuant to R.61-79.270.30(j)(3), records of monitoring information shall specify:

I.E.9.c.i. The dates, exact place, and times of sampling or measurements;

I.E.9.c.ii. The individuals who performed the sampling or measurements;

I.E.9.c.iii. The dates analyses were performed;

I.E.9.c.iv. The individuals who performed the analyses;

I.E.9.c.v. The analytical techniques or methods used; and

I.E.9.c.vi. The results of such analyses.

I.E.10. Reporting Planned Changes

The Permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. The permitted facility is the hazardous waste storage area. [R.61-79.270.30(1)(1)]

I.E.11. Reporting Anticipated Noncompliance

The Permittee shall give advance notice to the Department of any planned changes in the permitted facility (hazardous waste storage area) or activity which may result in noncompliance with permit requirements. [R.61-79.270.30(1)(2)]

I.E.12. Transfer of Permits

This permit is not transferable to any person, except after notice to the Department. The Department may require modification or revocation and reissuance of the Permit pursuant to R.61-79.270.40. Before transferring ownership or operation of the facility during its operating life, the Permittee shall notify the new owner or operator in writing of the requirements of R.61-79.264 and 270 and this permit. [R.61-79.270.30(1)(3), 264.12(c)]

I.E.13. Twenty-four Hour Reporting

I.E.13.a. The Permittee shall report to the Department any noncompliance with the permit which may endanger health or the environment. Any such information shall be reported orally within 24 hours from the time the Permittee becomes aware of the circumstances. This report shall include the following:

- i. Information concerning the release of any hazardous waste, or hazardous constituents, which may endanger public drinking water supplies.
- ii. Any information of a release or discharge of hazardous waste, or of a fire or explosion from the hazardous waste management facility, which could threaten the environment or human health outside the facility.

I.E.13.b. The description of the occurrence and its cause shall include:

- i. Name, address, and telephone number of the owner or operator;
- ii. Name, address, and telephone number of the facility;
- iii. Date, time, and type of incident;
- iv. Name and quantity of materials involved;
- v. The extent of injuries, if any;
- vi. An assessment of actual or potential hazard to the environment and human health outside the facility, where this is applicable; and
- vii. Estimated quantity and disposition of recovered material that resulted from the incident.

I.E.13.c. A written submission shall also be provided to the Department within five days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period(s) of noncompliance (including exact dates and times); whether the noncompliance has been corrected; and if not, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The Department may waive the five-day written notice requirement in favor of a written report within 15 days. The written report shall contain the above as well as the information specified under condition I.E.13.a and b. [R.61-79.270.30(1)(6)]

I.E.14. Other Noncompliance

The Permittee shall report all other instances of noncompliance not otherwise required to be reported above, Permit Conditions I.E.10. - 13., at the time monitoring reports are submitted. The reports shall contain the information listed in Condition I.E.13. [R.61-79.270.30(1)(10)]

I.E.15. Other Information

Whenever the Permittee becomes aware that he failed to submit any relevant facts in the permit application, or submitted incorrect information in a permit application or in any report to the Department, the Permittee shall promptly submit such facts or information. [R.61-79.270.30(1)(11)]

I.F. SIGNATORY REQUIREMENT

All applications, reports, or information submitted to or requested by the Department shall be signed and certified in accordance with R.61-79.270.11. and 270.30(k).

I.G. REPORTS, NOTIFICATIONS, AND SUBMISSIONS TO THE DEPARTMENT

All reports, notifications, or other submissions which are required by this Permit to be sent or given to the Department should be sent by certified mail or given to:

S.C. Department of Health and Environmental Control
Bureau of Solid and Hazardous Waste Management
2600 Bull Street
Columbia, South Carolina 29201
Attn: Director, Division of Facility Engineering

I.H. CONFIDENTIAL INFORMATION

In accordance with R.61-79.270.12, the Permittee may claim confidential any information required to be submitted by this permit.

I.I. DOCUMENTS TO BE MAINTAINED AT THE FACILITY

The Permittee shall maintain at the facility, until closure is completed and certified by an independent, registered professional engineer, the following documents and all amendments, revisions and modifications to these documents:

1. Waste Analysis Plan, as required by R.61-79.264.13 and this Permit.
2. Inspection schedules, as required by R.61-79.264.15(b)(2) and this Permit.
3. Personnel training documents and records, as required by R.61-79.264.16(d) and this Permit.
4. Contingency Plan, as required by R.61-79.264.53(a) and this Permit.
5. Operating record, as required by R.61-79.264.73 and this Permit.
6. Closure Plan, as required by R.61-79.264.112(a) and this Permit.
7. All other documents required by Module I, Permit Condition E.9 and this Permit.

MODULE II - GENERAL FACILITY CONDITIONS

II.A. DESIGN AND OPERATION OF FACILITY

The Permittee shall construct, maintain and operate the facility in a manner to minimize the possibility of a fire, explosion, or any unplanned sudden or nonsudden release of hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment, as required by R.61-79.264.31.

II.B. REQUIRED NOTICES

II.B.1. Hazardous Waste Imports

The Permittee shall not receive hazardous waste from a foreign source.

II.B.2. Hazardous Waste from Off-Site Sources

The Permittee shall not receive hazardous waste from an off-site source.

II.C. GENERAL WASTE ANALYSIS

The Permittee shall follow the waste analysis procedures required by R.61-79.264.13, as described in the Waste Analysis Plan of the approved permit application.

The Permittee shall verify the analysis of each waste stream annually as part of its quality assurance program, in accordance with Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, EPA Publication SW-846, or equivalent methods approved by the Regional Administrator. At a minimum, the Permittee shall maintain proper functional instruments, use approved sampling and analytical methods, verify the validity of sampling and analytical procedures, and perform correct calculations. If the Permittee uses a contract laboratory to perform analyses, then the Permittee shall inform the laboratory in writing that it must operate under the waste analysis conditions set forth in this Permit.

II.D. SECURITY

The Permittee shall comply with the security provisions of R.61-79.264.14(b)(2) and (c), and Part F-1 of the permit application.

II.E. GENERAL INSPECTION REQUIREMENTS

The Permittee shall follow the inspection schedule set out in Part F-2 of the Permit Application. The Permittee shall remedy any deterioration or malfunction discovered by an inspection, as required by R.61-79.264.15(c). Records of inspection shall be kept, as required by R.61-79.264.15(d).

II.F. PERSONNEL TRAINING

The Permittee shall conduct personnel training, as required by R.61-79.264.16. This training program shall follow the outline in Part H-1 of the permit application. The Permittee shall maintain training documents and records, as required by R.61-79.264.16(d) and (e).

II.G. SPECIAL PROVISIONS FOR IGNITABLE, REACTIVE, OR INCOMPATIBLE WASTE

The Permittee shall comply with the requirements of R.61-79.264.17(a). The Permittee shall follow the procedures for handling ignitable, reactive, and incompatible wastes set forth in Part F-5 of the permit application.

II.H. PREPAREDNESS AND PREVENTION

II.H.1. Required Equipment

At a minimum, the Permittee shall maintain at the facility the equipment set forth in the Contingency Plan, Part G of the permit application, as required by R.61-79.264.32.

II.H.2. Testing and Maintenance of Equipment

The Permittee shall test and maintain the equipment specified in Permit Condition II.H.1, as necessary, to assure its proper operation in time of emergency, as required by R.61-79.264.33.

II.H.3. Access to Communications or Alarm System

The Permittee shall maintain access to the communications or alarm system, as required by R.61-79.264.34.

II.H.4. Required Aisle Space

At a minimum, the Permittee shall maintain aisle space, as required by R.61-79.264.35 and the plans and specifications in Part D of the permit application.

II.H.5. Arrangements with Local Authorities

The Permittee shall maintain arrangements with state and local authorities, as required by R.61-79.264.37. If state or local officials refuse to enter into preparedness and prevention arrangements with the Permittee, the Permittee must document this refusal in the operating record.

II.I. CONTINGENCY PLAN

II.I.1. Implementation of Plan

The Permittee shall immediately carry out the provisions of the Contingency Plan whenever there is a fire, explosion, or release of hazardous waste or constituents which could threaten human health or the environment.

II.I.2. Copies of Plan

The Permittee shall comply with the requirements of R.61-79.264.53.

II.I.3. Amendments to Plan

The Permittee shall review and immediately amend, if necessary, the Contingency Plan, as required by R.61-79.264.54.

II.I.4. Emergency Coordinator

A trained emergency coordinator shall be available at all times in case of an emergency, as required by R.61-79.264.55.

II.J. RECORDKEEPING AND REPORTING

In addition to the recordkeeping and reporting requirements specified elsewhere in this Permit, the Permittee shall do the following:

II.J.1. Operating Record

The Permittee shall maintain a written operating record at the facility, in accordance with R.61-79.264.73.

II.J.2. Quarterly Report

The Permittee shall comply with the quarterly reporting requirements of R.61-79.264.75.

II.K. GENERAL CLOSURE REQUIREMENTS

II.K.1. Performance Standard

The Permittee shall close the facility, as required by R.61-79.264.111 and in accordance with the Closure Plan, Part I of the permit application.

II.K.2. Amendment to Closure Plan

The Permittee shall amend the Closure Plan, in accordance with R.61-79.264.112(c), whenever necessary.

II.K.3. Notification of Closure

The Permittee shall notify the Department in writing at least 45 days prior to the date on which he expects to begin final closure of the facility, as required by R.61-79.264.112(d).

II.K.4. Time Allowed For Closure

After receiving the final volume of hazardous waste, the Permittee shall treat, remove from the unit or facility, or dispose of on site all hazardous waste and shall complete closure activities, in accordance with R.61-79.264.113 and the schedules specified in the Closure Plan.

II.K.5. Disposal or Decontamination of Equipment, Structures, and Soils

The Permittee shall decontaminate or dispose of all contaminated equipment, structures, and soils, as required by R.61-79.264.114 and the Closure Plan.

II.K.6. Certification of Closure

The Permittee shall certify that the facility has been closed in accordance with the specifications in the Closure Plan, as required by R.61-79.264.115.

MODULE III - STORAGE IN CONTAINERS

III.A. MODULE HIGHLIGHTS

This permit module is for two hazardous waste container storage buildings at the Charleston Naval Shipyard. Each of the buildings are totally enclosed and have concrete floors.

The Defense Reutilization and Marketing Office (DRMO) storage building has a total floor area of 36,000 square feet which is divided into 16 storage bays and four storage closets for segregation of wastes. Ten of the bays are 2168 square feet each, one is 2094 square feet, and five are 940 square feet each. The storage closets are 80 square feet each.

The Charleston Naval Shipyard building has a total floor area of 6500 square feet which is divided into seven storage bays. One of the bays is 818 square feet, four are 533 square feet each, one is 308 square feet, one is 266 square feet, and the center aisle is 996 square feet.

The types of waste which are stored in the container storage buildings are listed below in permit condition III.B.1.

The maximum permitted volume of container storage for the DRMO facility is 335,280 gallons, and the maximum permitted volume of container storage for the Charleston Naval Shipyard facility is 56,760 gallons. The DRMO facility has a secondary containment capacity of 107,690 gallons, and the Charleston Naval Shipyard facility has secondary containment of 5936 gallons.

III.B. PERMITTED AND PROHIBITED WASTE IDENTIFICATION

III.B.1. The Permittee may store the wastes identified in Appendix D in containers at the two facilities, subject to the terms of this Permit and as follows:

The location of the containers must be in accordance with Part D-1(c) of the approved permit application.

III.B.2. The Permittee is prohibited from storing hazardous waste that is not identified in Appendix D.

III.C. CONDITION OF CONTAINERS

If a container holding hazardous waste is not in good condition (e.g., severe rusting, apparent structural defects) or if it begins to leak, the Permittee shall transfer the hazardous waste from such container to a container that is in good condition or otherwise manage the waste in compliance with the conditions of this Permit. [R.61-79.264.171]

III.D. COMPATIBILITY OF WASTE WITH CONTAINERS

The Permittee shall assure that the ability of the container to contain the waste is not impaired, as required. All acidic wastes shall be contained in containers which have a polyethylene liner.

III.E. MANAGEMENT OF CONTAINERS

The Permittee shall keep all containers closed during storage, except when it is necessary to add or remove waste, and shall not open, handle, or store containers in a manner which may rupture the container or cause it to leak. [R.61-79.264.173]

III.F. CONTAINMENT SYSTEMS

The Permittee shall maintain the containment system in accordance with the attached plans and specifications, contained in Part D of the permit application. [R.61-79.264.175]

III.G. INSPECTION SCHEDULES AND PROCEDURES

The Permittee shall inspect the container area weekly, in accordance with the Inspection Schedule to detect leaking containers and deterioration of containers and the containment system caused by corrosion and other factors. [R.61-79.264.174]

III.H. RECORDKEEPING

The Permittee shall place the results of all waste analyses and trial tests and any other documentation showing compliance with the requirements of Permit Conditions III.K.1 and III.K.2 and R.61-79.264.17(b) and 264.177 in the facility operating record.

III.I. CLOSURE

At closure of the container area, the Permittee shall remove all hazardous waste and hazardous waste residues from the containment system, in accordance with the procedures in the Closure Plan.

III.J. SPECIAL CONTAINER PROVISIONS FOR IGNITABLE OR REACTIVE WASTE

III.J.1. The Permittee shall not locate containers holding ignitable or reactive waste within 15 meters (50 feet) of the facility's property line.

III.J.2. The Permittee shall take precautions to prevent accidental ignition or reaction of ignitable or reactive waste and follow the procedures specified in Part F-5 of the permit application.

III.K. SPECIAL CONTAINER PROVISIONS FOR INCOMPATIBLE WASTE

III.K.1. The Permittee shall not place incompatible wastes, or incompatible wastes and materials, in the same container unless the procedures in Part F-5 of the permit application are followed.

- III.K.2. The Permittee shall not place hazardous waste in an unwashed container that previously held an incompatible waste or material.
- III.K.3. The Permittee shall separate containers of incompatible wastes as described in Part D-1(c) of the approved permit application.

MODULE IV - SOLID WASTE MANAGEMENT UNITS

IV.A. APPLICABILITY

- IV.A.1. The Conditions of this Part apply to the solid waste management units (SWMU's) identified in Appendix A, Paragraph I and Paragraph II.
- IV.A.2. The Conditions of this Part apply to any additional SWMUs discovered during the course of groundwater monitoring, field investigations, environmental audits, or by any other means.

IV.B. RCRA Facility Assessment (RFA)

- IV.B.1. The Permittee shall notify the Department of any additional SWMUs as discovered under in Condition IV.A.2 within fifteen (15) days of discovery.
- IV.B.2. The Permittee shall prepare and submit to the Department (SC DHEC) the following information for each SWMU identified under Condition IV.B.1. within ninety (90) days of notification:
- (1) Location of unit(s) on a topographic map of appropriate scale as required under R.61-79.270.14(b)(19).
 - (2) Designation of type and function of unit(s).
 - (3) General dimensions, capacities and structural description of unit(s) (supply any available plans/drawings).
 - (4) Dates that the unit(s) was operated.
 - (5) Specification of all wastes that have been managed at/in the unit(s) to the extent available. Include any available data on R.61-79.261, Appendix VIII, constituents in the wastes.
 - (6) All available information pertaining to any release of hazardous waste or hazardous constituents from such unit(s) (to include groundwater data, soil analyses, air, and/or surface water data).

IV.C. RCRA Facility Investigation (RFI)

- IV.C.1. The Permittee shall prepare and submit to the Department (SC DHEC) within 120 days of the effective date of this permit a RCRA Facility Investigation (RFI) Plan for those units indicated in Appendix A Paragraph I as subject to the RFI. The RFI Plan shall be developed to meet the requirements of Condition IV.C.4.
- IV.C.2. The Permittee shall prepare and submit to the Department within ninety (90) days of submission of the RFA information in Condition IV.B.2. a RCRA Facility Investigation (RFI) Plan for those units identified under Condition IV.B.1. This Plan shall be developed to meet the requirements of Condition IV.C.4.

- IV.C.3. The Permittee shall notify the Department of any release of a hazardous waste or hazardous constituent from any SWMU listed in Appendix A, Paragraph II within 15 days of discovery. The Permittee shall submit to the Department an RFI Plan for these units within 90 days of notification. This Plan shall be developed to meet the requirements of Condition IV.C.4.
- IV.C.4. The RFI Plan(s) shall meet the requirements of Appendix B at a minimum. This Plan(s) shall include schedules of implementation and completion of specific actions necessary to determine the nature and extent of releases and the potential pathways of contaminant releases to the air, land, surface water, and groundwater and subsurface gases. The Permittee must provide sufficient justification and/or documentation that a release is not probable if a unit or a media/pathway associated with a unit (groundwater, surface water, soil, air or subsurface gas) is not included in the RFI plan. Such deletions of a unit, media or pathway from the RFI(s) are subject to the approval of the Department. The RFI(s) shall be conducted in accordance with the approved RFI Plan(s) and Appendix B. The Permittee shall provide sufficient written justification for any omissions or deviations from the minimum requirements of Appendix B. Such omissions or deviations are subject to the approval of the Department. The scope of the RFI Plan(s) shall include all investigations necessary to ensure compliance with R.61-79.264.101.
- IV.C.5. If the time required to conduct the RFI(s) is greater than 180 days, the Permittee shall provide the Department (SC DHEC) with quarterly Progress Reports (90 day intervals) beginning ninety (90) days from implementation of the approved plan containing:
- a. A description of the portion of the RFI completed;
 - b. Summaries of findings;
 - c. Summaries of all deviations from the approved RFI Plan during the reporting period;
 - d. Summaries of all problems or potential problems encountered during the reporting period;
 - e. Projected work for the next reporting period; and
 - f. Copies of daily reports, inspection reports, laboratory/monitoring data, etc.

IV.C.6. The Permittee shall prepare and submit to the Department Draft and Final RCRA Facility Investigation Report(s) for the investigation conducted pursuant to the Plan(s) submitted under Condition IV.C.1., IV.C.2, or IV.C.3. The draft RFI Report(s) shall be submitted to the Department for review ninety (90) days after completion of the RFI. The final RFI Report(s) shall be submitted to the Department within thirty (30) days of receipt of the Departments comments on the draft RFI Report. The RFI Report(s) shall include an analysis and summary of all required investigations of solid waste management units and their results. The summary shall describe the type and extent of contamination at the facility, including sources and migration pathways, and a description of actual or potential receptors. The Report(s) shall also describe the extent of contamination (qualitative/quantitative) in relation to background levels indicative for the area. The objective of this task shall be to ensure that the investigation data are sufficient in quality (e.g., quality assurance procedures have been followed) and quantity to describe the nature and extent of contamination, potential threat to human health and/or the environment, and to support a Corrective Action Study and/or Plan, if necessary.

IV.D. Interim Measures

IV.D.1. The Permittee, (upon approval by the Department), may conduct interim measures to contain, remove or treat contamination resulting from the release of hazardous constituents from a solid waste management unit in order to protect public health and the environment. Such interim measures may be conducted concurrently with investigations required under the terms of this permit.

IV.D.2. The Permittee shall notify the Department of any proposed interim/corrective measures at least thirty (30) days prior to implementation. The notice shall include a description and a schedule of implementation of any proposed interim measures.

IV.D.3. The Permittee shall give notice to the Department as soon as possible of any planned changes, reduction or additions to the interim measures.

- IV.G.2. The results of all plans and reports shall be submitted in accordance with the approved schedule. Extensions of the due date for submittals may be granted by the Department based on the Permittee's demonstration that sufficient justification for the extension exists.
- IV.G.3. If the Permittee at any time determines that the RFA information required under Conditions IV.B. or RFI plan(s) required under Condition IV.C. no longer satisfy the requirements of R.61-79.264.101 or this permit for prior or continuing releases of hazardous waste or hazardous constituents from solid waste management units, he shall submit an amended RFI plan(s) to the Department within ninety (90) days of such determination.
- IV.G.4. All reports must be signed and certified in accordance with R.61-79.270.11.
- IV.G.5. Three (3) copies of all reports shall be provided by the Permittee to S.C. DHEC at the following address:

Director
Division of Facility Engineering
Bureau of Solid and Hazardous Waste Management
South Carolina Department of Health and Environmental
Control
2600 Bull Street
Columbia, South Carolina 29201

MODULE V - WASTE MINIMIZATION

- V.A. Pursuant to R.61-79.264.73(b) (9), and Section 3005(h) of RCRA, 42 U.S.C. 6925(h), the permittee must certify, no less often than annually, that:
 - V.A.1. The permittee has a program in place to reduce the volume and toxicity of hazardous waste to the degree determined by the permittee to be economically practicable; and
 - V.A.2. The proposed method of treatment, storage or disposal is the most practicable method available to the permittee which minimizes the present and future threat to human health and the environment.
 - V.A.3. The permittee shall also maintain copies of certification in the facility operating record as required by R.61-79.264.73 (b) (9).
- V.B. The Waste Minimization program required under V.A.1 and V.A.2 above should as a minimum address the following topics:
 - V.B.1. Identify each hazardous waste stream with the source of generation.
 - V.B.2. Types and amounts of hazardous waste that is generated at the facility.
 - V.B.3. Present and proposed method of treatment, storage or disposal that is available to the permittee.
 - V.B.4. Description of technique implemented in the past for hazardous waste reduction and their effectiveness.
 - V.B.5. An evaluation of technically and economically feasible hazardous waste reduction techniques.
 - V.B.6. A program and schedule for implementing the selected hazardous waste reduction technique.

MODULE VI - LAND DISPOSAL RESTRICTIONS

General Restrictions

- VI.A.1. R.61-79.268 identifies hazardous wastes that are restricted from land disposal and defines those limited circumstances which an otherwise prohibited waste may continue to be placed on or in a land treatment, storage or disposal unit. The Permittee shall maintain compliance with the requirements of R.61-79.268. Where the Permittee has applied for an extension, waiver or variance under R.61-79.268 the Permittee shall comply with all restrictions on land disposal under this Part once the effective date for the waste has been reached pending final approval of such application.
- VI.A.2. For the purposes of R.61-79.268 "Land Disposal" means placement in or on the land and includes, but is not limited to, placement in a landfill, surface impoundment, waste pile, injection well, land treatment facility, salt dome formation, underground mine or cave, or concrete vault or bunker intended for disposal purposes
- IV.B. Land Disposal Prohibitions and Treatment Standards
- IV.B.1. After August 7, 1988, the Permittee shall not place wastes listed in R.61-79.268.10 in a land disposal unit unless and until the Department promulgates treatment standards for such wastes and the waste meets the applicable treatment standards or the Permittee has received a waiver, variance or extension under R.61-79.268 allowing land disposal of the waste.
- IV.B.2. After June 7, 1989, the Permittee shall not place wastes listed in R.61-79.268.11 in a land disposal unit unless and until the Department promulgates treatment standards for such waste and the waste meets the applicable treatment standards or the Permittee has received a waiver, variance or extension under R.61-79.268 allowing land disposal of the waste.
- IV.B.3. After May 7, 1990, the Permittee shall not place wastes listed in R.61-79.268.12 in a land disposal unit unless and until the Department promulgates treatment standards for such waste and the waste meets the applicable treatment standards or the Permittee has received a waiver, variance or extension under R.61-79.268 allowing land disposal of the waste.
- IV.B.4. A restricted waste identified in R.61-79.268 Subpart C may not be placed in a land disposal unit without further treatment unless the requirements of R.61-79 Part 268 Subparts C and/or D are met.
- IV.B.5. The storage of hazardous wastes restricted from land disposal under R.61-79.268 is prohibited unless the requirements of R.61-79.268 Subpart E are met.

APPENDIX A

SOLID WASTE MANAGEMENT UNIT SUMMARY

APPENDIX A

Solid Waste Management Unit Summary

I. List of Solid Waste Management Units requiring an RFI:

<u>SWMU No.</u>	<u>Description</u>
1	DRMO (formerly DPDO) Staging Area
2	Lead Contaminated Area
3	Pesticide Mixing Area
5	Battery Electrolyte Treatment Area
6	Public Works Storage Yard (Old Corral)
7	PCB Transformer Storage Yard
8	Oil Sludge Pit Area
9	Closed Landfill
11	Caustic Pond
12	Old Fire Fighter Training Area
14	Chemical Disposal Area
17	Oil Spill Area
21	Old Paint Storage Area
22	Old Plating Shop WWTG

II. List of Solid Waste Management Units with no known releases:

<u>SWMU No.</u>	<u>Description</u>
4	Pesticide Storage Building
10	Hazardous Waste Storage Facility
13	Current Fire Fighting Training Area
15	Incinerator
16	Paint Storage Bunker
18	PCB Spill Area
19	Solid Waste Transfer Station
20	Waste Disposal Area
23	New Plating Shop WWTS
24	Waste Oil Reclamation Facility

III. List of Solid Waste Management Units with a known release to groundwater regulated by State permit:

None

APPENDIX B

RCRA FACILITY INVESTIGATION (RFI) WORKPLAN OUTLINE

APPENDIX B

RCRA FACILITY INVESTIGATION (RFI) WORKPLAN OUTLINE

I. RFI WORKPLAN REQUIREMENTS

The Permittee shall prepare a RCRA Facility Investigation (RFI) Workplan that meets the requirements of Part II of this document and the RFI Guidance, EPA-530/SW-87-001. This Workplan shall also include the development of the following plans, which shall be prepared concurrently:

A. Project Management Plan

The Permittee shall prepare a Project Management Plan which will include a discussion of the technical approach, schedules, and personnel. The Project Management Plan will also include a description of qualifications of personnel performing or directing the RFI, including contractor personnel. This plan shall also document the overall management approach to the RCRA Facility Investigation.

B. Sampling and Analysis Plan(s)

The Permittee shall prepare a plan to document all monitoring procedures: field sampling, sampling procedures and sample analysis performed during the investigation to characterize the environmental setting, source, and releases of hazardous constituents, so as to ensure that all information and data are valid and properly documented. The Sampling Strategy and Procedures shall be in accordance with Characterization of Hazardous Waste Sites A Methods Manual: Volume II. Available Sampling Methods, EPA-600/4-84-076, or EPA Region IV Engineering Support Branch's Standard Operating Procedure and Quality Assurance Manual (SOP). Any deviations from these references must be requested by the applicant and approved by EPA. The Sampling and Analysis Plan must specifically discuss the following unless the EPA-600/4-84-076 or SOP procedures are specifically referenced.

1. Sampling Strategy

- a. Selecting appropriate sampling locations, depths, etc.;
- b. Obtaining all necessary ancillary data;
- c. Determining conditions under which sampling should be conducted;
- e. Determining which media are to be sampled (e.g., groundwater, air, soil, sediment, etc.);
- f. Determining which parameters are to be measured and where;

- g. Selecting the frequency of sampling and length of sampling period;
- h. Selecting the types of samples (e.g., composites vs. grabs) and number of samples to be collected.

2. Sampling Procedures

- a. Documenting field sampling operations and procedures, including:
 - i) Documentation of procedures for preparation of reagents or supplies which become an integral part of the sample (e.g., filters, preservatives, and absorbing reagents);
 - ii) Procedures and forms for recording the exact location and specific considerations associated with sample acquisition;
 - iii) Documentation of specific sample preservation method;
 - iv) Calibration of field instruments;
 - v) Submission of field-biased blanks, where appropriate;
 - vi) Potential interferences present at the facility;
 - vii) Construction materials and techniques, associated with monitoring wells and piezometers;
 - viii) Field equipment listing and sampling containers;
 - ix) Sampling order; and
 - x) Decontamination procedures.
- b. Selecting appropriate sample containers;
- c. Sampling preservation; and
- d. Chain-of-custody, including:
 - i) Standardized field tracking reporting forms to establish sample custody in the field prior to shipment; and
 - ii) Pre-prepared sample labels containing all information necessary for effective sample tracking.

3. Sample Analysis

Sample analysis shall be conducted in accordance with SW-846: "Test Methods for Evaluating Solid Waste - Physical/Chemical Methods" (third edition). The sample analysis section of the Sampling and Analysis Plan shall specify the following:

- a. Chain-of-custody procedures, including:
 - i) Identification of a responsible party to act as sampling custodian at the laboratory facility authorized to sign for incoming field samples, obtain documents of shipment, and verify the data entered onto the sample custody records;
 - ii) Provision for a laboratory sample custody log consisting of serially numbered standard lab-tracking report sheets; and
 - iii) Specification of laboratory sample custody procedures for sample handling, storage, and dispersment for analysis.
- b. Sample storage;
- c. Sample preparation methods;
 - i) Scope and application of the procedure;
 - ii) Sample matrix;
 - iii) Potential interferences;
 - iv) Precision and accuracy of the methodology; and
 - v) Method detection limits.
- d. Analytical procedures, including:
 - i) Scope and application of the procedure;
 - ii) Sample matrix;
 - iii) Potential interferences;
 - iv) Precision and accuracy of the methodology; and
 - v) Method detection limits.
- e. Calibration procedures and frequency;
- f. Data reduction, validation and reporting;

- g. Internal quality control checks, laboratory performance and systems audits and frequency, including:
 - i) Method blank(s);
 - ii) Laboratory control sample(s);
 - iii) Calibration check samples(s);
 - iv) Replicate sample(s);
 - v) Matrix-spiked sample(s);
 - vii) Control charts;
 - viii) Surrogate samples;
 - ix) Zero and span gases; and
 - x) Reagent quality control checks.
- h. Preventive maintenance procedures and schedules;
- i. Corrective action (for laboratory problems); and
- j. Turnaround time.

C. Data Management Plan

The Permittee shall develop and initiate a Data Management Plan to document and track investigation data and results. This plan shall identify and set up data documentation materials and procedures, project file requirements, and project-related progress reporting procedures and documents. The plan shall also provide the format to be used to present the raw data and conclusions of the investigation.

1. Data Record

The data record shall include the following:

- a. Unique sample or field measurement code;
- b. Sampling or field measurement location and sample or measurement type;
- c. Sampling or field measurement raw data;
- d. Laboratory analysis ID number;
- e. Property or component measured; and
- f. Result of analysis (e.g. concentration).

2. Tabular Displays

The following data shall be presented in tabular displays:

- a. Unsorted (raw) data;
- b. Results for each medium, or for each constituent monitored;
- c. Data reduction for statistical analysis, as appropriate;
- d. Sorting of data by potential stratification factors (e. g., location, soil layer, topography); and
- e. Summary data

3. Graphical Displays

The following data shall be presented in graphical formats (e. g., bar graphs, line graphs, area or plan maps, isopleth plots, cross-sectional plots or transects, three dimensional graphs, etc.):

- a. Display sampling location and sampling grid;
- b. Indicate boundaries of sampling area, and area where more data are required;
- c. Display geographical extent of contamination;
- d. Illustrate changes in concentration in relation to distances from the source, time, depth or other parameters; and
- e. Indicate features affecting intramedia transport and show potential receptors.

II. RCRA Facility Investigation (RFI) Requirements

RCRA Facility Investigation:

The Permittee shall conduct those investigations necessary to: characterize the facility (Environmental Setting); define the source (Source Characterization); define the degree and extent of release of hazardous constituents (Contamination Characterization); and identify actual or potential receptors.

The investigations should result in data of adequate technical content and quality to support the development and evaluation of the corrective action plan if necessary. The information contained in a RCRA Part B permit application and/or RCRA Section 3019 Exposure Information Report may be referenced as appropriate.

All sampling and analyses shall be conducted in accordance with the Sampling and Analysis Plan. All sampling locations shall be documented in a log and identified on a detailed site map.

A. Environmental Setting

- The Permittee shall collect information to supplement and/or verify Part B information on the environmental setting at the facility. The Permittee shall characterize the following as they relate to identified sources, pathways and areas of releases of hazardous constituents from Solid Waste Management Units.

1. Hydrogeology

The Permittee shall conduct a program to evaluate hydrogeologic conditions at the facility. This program shall provide the following information:

- a. A description of the regional and facility specific geologic and hydrogeologic characteristics affecting ground-water flow beneath the facility, including:
 - i) Regional and facility specific stratigraphy: description of strata including strike and dip, identification of stratigraphic contacts;
 - ii) Structural geology: description of local and regional structural features (e. g., folding, faulting, tilting, jointing, etc.);
 - iii) Depositional history;
 - iv) Regional and facility specific ground-water flow patterns; and
 - v) Identification and characterization of areas and amounts of recharge and discharge.
- b. An analysis of any topographic features that might influence the ground water flow system.
- c. Based on field data, tests, and cores, a representative and accurate classification and description of the hydrogeologic units which may be part of the migration pathways at the facility (i. e., the aquifers and any intervening saturated and unsaturated units), including:
 - i) Hydraulic conductivity and porosity (total and effective);
 - ii) Lithology, grain size, sorting, degree of cementation;

- iii) An interpretation of hydraulic interconnections between saturated zones; and
 - iv) The attenuation capacity and mechanisms of the natural earth materials (e. g., ion exchange capacity, organic carbon content, mineral content etc.).
- d. Based on data obtained from groundwater monitoring wells and piezometers installed upgradient and downgradient of the potential contaminant source, a representative description of water level or fluid pressure monitoring including:
- i) Water-level contour and/or potentiometric maps;
 - ii) Hydrologic cross sections showing vertical gradients;
 - iii) The flow system, including the vertical and horizontal components of flow; and
 - iv) Any temporal changes in hydraulic gradients, for example, due to tidal or seasonal influences.
- e. A description of manmade influences that may affect the hydrology of the site, identifying:
- i) Local water-supply and production wells with an approximate schedule of pumping; and
 - ii) Manmade hydraulic structures (pipelines, french drains, ditches, etc.).

2. Soils

The Permittee shall conduct a program to characterize the soil and rock units above the water table in the vicinity of contaminant release(s). Such characterization may include, but not be limited to, the following types of information as appropriate:

- a. Surface soil distribution;
- b. Soil profile, including ASTM classification of soils;
- c. Transects of soil stratigraphy;
- d. Hydraulic conductivity (saturated and unsaturated);
- e. Relative permeability;
- f. Bulk density;
- g. Porosity;
- h. Soil sorptive capacity;
- i. Cation exchange capacity (CEC);
- j. Soil organic content;
- k. Soil pH;
- l. Particle size distribution;
- m. Depth of water table;

- n. Moisture content;
- o. Effect of stratification on unsaturated flow;
- p. Infiltration;
- q. Evapotranspiration;
- r. Storage capacity;
- s. Vertical flow rate; and
- t. Mineral content.

3. Surface Water and Sediment

The Permittee shall conduct a program to characterize the surface water bodies in the vicinity of the facility. Such characterization may include, but not be limited to, the following activities and information:

- a. Description of the temporal and permanent surface water bodies including:
 - i) For lakes and estuaries: location, elevation, surface area, inflow, outflow, depth, temperature stratification, and volume;
 - ii) For impoundments: location, elevation, surface area, depth, volume, freeboard, and construction and purpose;
 - iii) For streams, ditches, and channels: location, elevation, flow, velocity, depth, width, seasonal fluctuations, flooding tendencies (i. e., 100 year event), discharge point(s), and general contents.
 - iv) Drainage patterns; and
 - v) Evapotranspiration.
- b. Description of the chemistry of the natural surface water and sediments. This includes determining the pH, total dissolved solids, total suspended solids, biological oxygen demand, alkalinity, conductivity, dissolved oxygen profiles, nutrients (NH_3 , $\text{NO}_3^-/\text{NO}_2^-$, PO_4^{3-}), chemical oxygen demand, total organic carbon, specific contaminant concentrations, etc.
- c. Description of sediment characteristics including:
 - i) Deposition area;
 - ii) Thickness profile; and
 - iii) Physical and chemical parameters (e. g., grain size, density, organic carbon content, ion exchange capacity, pH, etc.)

4. Air

The Permittee shall provide information characterizing the climate in the vicinity of the facility. Such information may include, but not be limited to:

- a. A description of the following parameters:
 - i) Annual and monthly rainfall averages;
 - ii) Monthly temperature averages and extremes;
 - iii) Wind speed and direction;
 - iv) Relative humidity/dew point;
 - v) Atmospheric pressure;
 - vi) Evaporation data;
 - vii) Development of inversions; and
 - viii) Climate extremes that have been known to occur in the vicinity of the facility, including frequency of occurrence. (i. e. Hurricanes)
- b. A description of topographic and manmade features which affect air flow and emission patterns, including:
 - i) Ridges, hills or mountain areas;
 - ii) Canyons or valleys;
 - iii) Surface water bodies (e. g. rivers, lakes, bays, etc.);
 - iv) Buildings.

B. Source Characterization

For those sources from which releases of hazardous constituents have been detected the Permittee shall collect analytic data to completely characterize the wastes and the areas where wastes have been placed, to the degree that is possible without undue safety risks, including: type, quantity; physical form; disposition (containment or nature of deposits); and facility characteristics affecting release (e. g., facility security, and engineering barriers). This shall include quantification of the following specific characteristics, at each source area:

1. Unit/Disposal Area Characteristics:

- e. Period of operation;
- f. Age of unit/disposal area;
- g. General physical conditions; and
- h. Method used to close the unit/disposal area.

2. Waste Characteristics:

- a. Type of wastes placed in the unit;
 - i) Hazardous classification (e. g., flammable, reactive, corrosive, oxidizing or reducing agent);
 - ii) Quantity; and
 - iii) Chemical composition.
- b. Physical and chemical characteristics such as;
 - i) Physical form (solid, liquid, gas);
 - ii) Physical description (e. g., powder, oily sludge);
 - iii) Temperature;
 - iv) pH;
 - v) General chemical class (e. g., acid, base, solvent);
 - vi) Molecular weight;
 - vii) Density;
 - viii) Boiling point;
 - ix) Viscosity;
 - x) Solubility in water;
 - xi) Cohesiveness of the waste; and
 - xii) Vapor pressure.
- c. Migration and dispersal characteristics of the waste such as;
 - i) Sorption capability;
 - ii) Biodegradability, bioconcentration, biotransformation;
 - iii) Photodegradation rates;

- iv) Hydrolysis rates; and
- v) Chemical transformations.

The Permittee shall document the procedures used in making the above determinations.

C. Characterization of Releases of Hazardous Constituents

The Permittee shall collect analytical data on groundwater, soils, surface water, sediment, and subsurface gas contamination in the vicinity of the facility in accordance with the sampling and analysis plan as required above. These data shall be sufficient to define the extent, origin, direction, and rate of movement of contamination. Data shall include time and location of sampling, media sampled, concentrations found, conditions during sampling, and the identity of the individuals performing the sampling and analysis. The Permittee shall address the following types of contamination at the facility:

1. Groundwater Contamination

The Permittee shall conduct a groundwater investigation to characterize any plumes of contamination detected at the facility. This investigation shall at a minimum provide the following information:

- a. A description of the horizontal and vertical extent of any plume(s) of hazardous constituents originating from the facility;
- b. The horizontal and vertical direction of contamination movement;
- c. The velocity of contaminant movement;
- d. The horizontal and vertical concentration profiles of hazardous constituents in the plume(s);
- e. An evaluation of factors influencing the plume movement; and
- f. An extrapolation of future contaminant movement.

The Permittee shall document the procedures used in making the above determinations (e. g., well design, well construction, geophysics, modeling, etc.).

2. Soil Contamination

The Permittee shall conduct an investigation to characterize the contamination of the soil and rock units above the saturated zone in the vicinity of any contaminant release. The investigation may include the following information:

- a. A description of the vertical and horizontal extent of contamination;
- b. A description of appropriate contaminant and soil chemical properties within the contaminant source area and plume. This may include contaminant solubility, speciation, absorption, leachability, exchange capacity, biodegradability, hydrolysis, photolysis, oxidation and other factors that might affect contaminant migration and transformation;
- c. Specific contaminant concentrations;
- d. The velocity and direction of contamination movement; and
- e. An extrapolation of future contaminant movement.

The Permittee shall document the procedures used in making the above determinations.

3. Surface Water and Sediment Contamination

The Permittee shall conduct a surface water investigation to characterize contamination in surface water bodies resulting from releases of hazardous constituents at the facility.

The investigation may include, but not be limited to, the following information:

- a. A description of the horizontal and vertical extent of any plume(s) originating from the facility, and the extent of contamination in underlying sediments;
- b. The horizontal and vertical direction of contaminant movement;
- c. The contaminant velocity;
- d. An evaluation of the physical, biological and chemical factors influencing contaminant movement;
- e. An extrapolation of future contaminant movement; and

- f. A description of the chemistry of the contaminated surface waters and sediments. This includes determining the pH, total dissolved solids, specific contaminant concentrations, etc.

4. Air Contamination

The Permittee shall conduct an investigation to characterize gaseous releases of hazardous constituents into the atmosphere or any structures or buildings. This investigation may provide the following information:

- a. A description of the horizontal and vertical direction and velocity of contaminant movement;
- b. The rate and amount of the release; and
- c. The chemical and physical composition of the contaminants(s) released, including horizontal and vertical concentration profiles.

The Permittee shall document the procedures used in making the above determinations.

D. Potential Receptors

The Permittee shall collect data describing the human populations and environmental systems that are susceptible to contaminant exposure from the facility. Chemical analysis of biological samples and/or data on observable effects in ecosystems may also be obtained as appropriate. The following characteristics shall be identified:

- 1. Current local uses and planned future uses of groundwater:
 - a. Type of use (e. g., drinking water source: municipal or residential, agricultural, domestic/non-potable, and industrial); and
 - b. Location of ground water users, to include withdrawal and discharge wells, within one mile of the impacted area.

The above information should also indicate the aquifer or hydrogeologic unit used and/or impacted for each item.

- 2. Current local uses and planned future uses of surface waters directly impacted by the facility:
 - a. Domestic and municipal (e. g., potable and lawn/gardening watering);
 - b. Recreational (e. g. swimming, fishing);

- c. Agricultural;
 - d. Industrial; and
 - e. Environmental (e. g., fish and wildlife propagation).
3. Human use of or access to the facility and adjacent lands, including but not limited to:
- a. Recreation;
 - b. Hunting;
 - c. Residential;
 - d. Commercial; and
 - e. Relationship between population locations and prevailing wind direction.
4. A general description of the biota in surface water bodies on, adjacent to, or affected by the facility.
5. A general description of the ecology within and adjacent to the facility.
6. A general demographic profile of the people who use or have access to the facility and adjacent land, including, but not limited to: age; sex; and sensitive subgroups.
7. A description of any known or documented endangered or threatened species near the facility.

APPENDIX C

Facility Submission Summary

APPENDIX C

Facility Submission Summary

A summary of the planned reporting requirements contained in the EPA HSWA permit is presented below:

<u>Facility Submission Requirements</u>	<u>Due Date</u>
RFA Information Condition IV.B.2.	Within 90 days of notification
RFI Plan for SWMU(s) identified in Appendix A, Paragraph I Condition IV.C.1.	120 days after effective date of permit
RFI Progress Reports Condition IV.C.5.	Quarterly, beginning 90 days from implementation of RFI plan*
Draft RFI Report Condition IV.C.6.	Ninety (90) days after RFI completion
Final RFI Report Condition IV.C.6.	Thirty (30) days after receipt of Department comments on Draft RFI Report
Interim Measures Progress Reports Condition IV.D.5.	Semi-annually, beginning 180 days from implementation of Interim Measures*
Interim Measure Report Condition IV.D.6.	Within ninety (90) days of completion
Imminent Hazard Report Condition IV.F.1. and IV.F.2.	Oral within 24 hours; Written within 15 days.
Corrective Action Study/Plan Condition IV.E.2.	As determined by the Department after review of RFI and permit modification.

The above reports must be signed and certified in accordance with R.61-79.270.11.

* This applies to Plan execution that requires more than 180 days.

APPENDIX D

Hazardous Wastes Permitted to be Stored at

Charleston Naval Shipyard and DRMO

Hazardous Waste Storage Buildings

Table 1
 Hazardous Wastes
 Charleston Naval Shipyard

<u>WASTE</u>	<u>WASTE NUMBER</u>
Acetic acid	D002
Acetone	F003/U002
Aluminum phosphide	D003/P006
Aminopyridine	P008
Ammonium bisulfate (scale remover)	D002
Ammonium hydrogen fluoride	D002
Ammonium hydroxide	D002
Ammonium persulfate	D001
Anhydrous ammonia	D002
Barium chloride	D005
Battery	D002/9999
Battery, lithium-sulfur dioxide	D003
Battery, silver and zinc with KOH electrolyte	D002/D011
Beryllium dust	P015
Bromine	D002
Cadmium fluoroborate	D006
Carbon tetrachloride	U211
Catalyst (manganese dioxide, cupric oxide, lithium hydroxide-oxidizers)	D001
Calcium hypochlorite	D001
Chloroform	U044
Chlorine	D003
Chromic acid	D002/D007
Cleaning compound (petroleum distillates)	D001
Cleaning compound (naphtha)	D001
Cleaning compound (amine)	D002
Cleaning compound (petroleum naphtha)	D001
Copper cyanide	P029
Cresol	U052
Cresylic acid	U052
Cyclohexylamine	D001
Dichlorodifluoromethane	U075
Diethyl ether	U117
Diethylenetriamine	D002
Ethylenedichloride	U077
Electroplating sludge (chromium hydroxide)	F006
Ethyl alcohol	D001
Ethylene glycol diethyl ether	D001
Ethylene glycol monoethyl ether	D001
Ethylene glycol monoethyl ether acetate	D001
Ethylene oxide	U115
Ferric chloride	D002
Formaldehyde	U122
Hydrazine	U133

WASTEWASTE
NUMBER

Hydrazine (aqueous solution)	D002
Hydrochloric acid	D002
Hydrofluoric acid	D002
Hydrogen peroxide	D001/D003
Hydrogen sulfide	U135
Isopropanol	D001
Kerosene	D001
Lead compounds (lead oxide, red-lead lead tetroxide)	D008
Lead-dross	D008
Lead fluoroborate	D008
Lithium bromide	D002
Lithium hydroxide	D002
Medicines	D001
Mercuric bromide	D009
Mercuric nitrate, solid	D001/D009
Mercuric nitrate, liquid	D009
Mercury (metal)	U151
Methyl alcohol	U154
Methylene chloride	U080
Methyl ethyl ketone	U139
Methyl ethyl ketone peroxide	U160
Methyl isobutyl ketone	U161
Mineral spirits (cleaning compound)	D001
Monoethanolamine	D002
Morpholine	D001
Morpholine (aqueous solution)	D002
Nickel chloride/Hydrochloric acid mixture	D002
Nickel sulfamate	D002
Nitric acid	D002
Oxygen breathing apparatus cannisters (OBAs)	D003
Paint waste	D001/F003/F005/D007/D008
Pentachlorophenol	U242
Petroleum naphtha	D001
Petroleum oil	D001
Petroleum tar	D001
Phosphoric acid	D002
Potassium chromate, solid	D001/D007
Potassium chromate, liquid	D007
Potassium dichromate, liquid	D007
Potassium dichromate, solid	D001/D007
Potassium hydroxide	D002
Potassium nitrate	D001
Propane	D001
Pyridine	U196
Pyrogallol	D011
Selenious acid	U204
Silver cyanide	F104
Silver nitrate	D011
Sodium bifluoride	D002
Sodium chlorate	D011

WASTE

Sodium chromate
Sodium cyanide
Sodium dichromate, liquid
Sodium dichromate, solid
Sodium Hydroxide
Sodium nitrite
Sulfamic acid
Sulfuric acid
Sulfuric acid (4%)/sodium dichromate
(2%) solution, spent
tert-Butyl Peroxy-Benzoate
Tetrachloroethylene
Thiourea
Toluene
1,1,1-Trichloroethane
Trichloroethylene
Trichlorofluoromethane
Trichlorotrifluoroethane
Turpentine
Xylene

WASTE
NUMBER

D011/D007
P106
D007
D001/D007
D002
D001/D003
D002
D002
D002/D007

D001
U210
U219
U220
U226
U228
F002
F002
D001
F003

Table 2

Hazardous Wastes

DRMO - Charleston

<u>WASTE</u>	<u>WASTE NUMBER</u>
Chromium trioxide	D002/D007
Copper cyanide	P029
Diazinon	6666
Isopropyl alcohol	D001
Lithium chloride	D002
Magnesium chloride	D002
Methyl ethyl ketone	U159
Nitric acid	D002
Paint	D001
Paint thinner	D001
Paint stripper	D002
Potassium chromate crystals	D001/D007
Pyridine	U196
Sodium nitrate	D003
Acetic acid	D002
Acetone	U002
Acrylco striper	D002
Alcohol octyl	D001
Alcohol waste	D001
Alkaline cleaner	D002
Alodine	D002/D007
Aluminum phosphate	D002
4-Aminopyridine	P008
Ammonium hydrogen bifluoride	D002
Ammonium hydroxide	D002
Ammonium nitrate	D001
Ammonium persulfate	D001
Asbestos	6666
Barium hydroxide	D005
Batteries, electrolyte	D002/9999
Batteries, lead acid	D002/D008
Batteries, lithium	D003
Batteries, magnesium	D001
Batteries, depleted, non-rechargeable, (zinc, mercury (mercurous chloride) electrolyte (approx 40% aqueous solution of potassium hydroxide), potassium zincate, calcium hydroxide, calcium zincate, zinc oxide, modified acrylic type MKP-20 (casing) carbon cathode)	D002/D009
Beryllium wastes	P015
Brass cleaner, lumniox	D001
Bromine solution	D002
2-Butanone peroxide	U160
Cadmium fluoroborate	D006

WASTEWASTE
NUMBER

Calcium cyanide, solid	P021
Calcium hypochlorite	D001
Carbon remover	D002
Catalyst carbon monoxide	D001
Chlorine cylinders, empty	D003
Chromic acid	D002/D007
Chromic hydroxide solution	D002/D007
Cleaning compound	D001
Cresylic acid	U052
Corrosion inhibitor & Anti-Foulant	D001
Diocetyl phthalate	U017
DS-2 decontaminating agent	D002
Ethylenediamine	D001
Ethyl alcohol	D001
Ethyl butanol	D001
Ethylene glycol waste	D001
Ethylene oxide	U115
Extract quebracho	D001
Fluorescent penetrant	D001
Formaldehyde	U122
Fuel waste	D001
Glycerol waste	D001
Hardness solution	D001
Hydrochloric acid	D002
Insecticides (chlordane, and panothrin)	U036/6666
Inspection penetrant	D001
Isocyanate	D003
Kepone	U142
Kerosene waste	D001
Lacquer/thinner	D001
Lead Acid from batteries	D002/D008
Lead contaminated waste	D008
Lithium bromide	D002
Lithium hydroxide	D002
Malathion	6666
Marine insectrol (contains NA 2902 poison)	6666
Mercuric nitrate waste	D003/D009
Mercuric sulfate	D009
Mercury fluorescent bulbs	D009
Mercury wastes	D009
Methyl alcohol	U154
Methyl ethyl ketone and PD 680	D001/U159
Methyl isobutyl ketone	U161
Methylene chloride	U080
Molybdenum	D001
Monoethanolamine	D002
Morpholine	D001
Naphtha	D001

WASTEWASTE
NUMBER

Paint, waste (may be contaminated with oil, lead polyurethane, enamel, strippers, dirt, thinners, oil, solvents)	D001/D002/D008
Paint stripper (may be contaminated with methylene chloride, phenol approx. 15%, sodium chromate, rust)	D001/D002/D007
PD-680 (may be contaminated with freon, hydraulic fluid, solvents, water)	D001
Pentachlorophenol	U242
Pesticides (chlordane, diazinon, malathion, pyrethrum, baygon)	6666
Petroleum ether	D001
Petroleum naptha	D001
Phosphoric acid	D002
Plating, stripping, cleaning solution spent (may be contaminated with cadmium, cadmium oxide, potassium cyanide)	F009
Plating wastes (contaminated with various metals)	F008
Potassium chromate	D007
Potassium cyanide	P098
Potassium hydroxide	D002
Pyrogallol	D001
Rosin gum	D001
Salts (K-15, K-60, K-17)	D002
Scale control compound treatment for cooling tower	D002
Silver nitrate	D011
Sodium bifuoride	D002
Sodium bisulfate	D002
Sodium carbonate	D002
Sodium chromate	D001/D007
Sodium cyanide	P106
Sodium dichromate	D007
Sodium hydroxide	D002
Sodium nitrite	D001/D003
Solvent, dry cleaning (contaminated with hydrocarbon, grease, dirt, water)	D001
Solvent, cleaning (contaminated w/stoddard solvents, dichloromethane, tetrachloroethylene)	D001
Solvents, halogenated	F002
Solvents, non-halogenated	F003
Sulfamic acid	D002
Sulfuric acid	D002
T-Butyl perbenzoate	D001
Thiourea	U129
Toluene	U220
Tetrachloroethylene	U210
Thiourea contaminated waste	U219
Thioureamaterma poison	6666

WASTE

Trichloroethane
Trichloroethylene
Trichlorotrifluoroethane
Trichlorofluoromethane
Tricresyl phosphate
Turco acid
Varnish
Xylene

WASTE
NUMBER

U226
U228
F002
U121
D001
D002
D001
U239