UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II
JACOB K. JAVITS FEDERAL BUILDING
NEW YORK, NEW YORK 10278

APR 8 1992

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

APR 10 1992

Mr. J. Ohlmann, P.E.
Director
Corporate Environmental Protection
Grumman Corporation
Mail Stop: D08-GHQ
Bethpage, New York 11714-3580

Re: Notice of Issuance of Final Permit Decision
HSWA Permit Nos. **NYD002047967 - Grumman Aerospace Corp., Bethpage, NY**
NYD003995198 - Grumman Aerospace Corp., Calverton, NY

Dear Mr. Ohlmann:

Pursuant to authority granted by **Section 3005 of the Resource Conservation and Recovery Act (RCRA)**, as amended by the **Hazardous and Solid Waste Amendments (HSWA) of 1984**, you are hereby served with these Notices of Issuance of Final HSWA Permits for the above referenced facilities.

Please read the final permits carefully, since it may contain changes from the draft permits which you received. If comments were submitted in a timely manner as a result of EPA's Public Notices of its preparation of the draft permits, they have been considered in making this final permit decision. A copy of a memorandum is enclosed which explains EPA's position on issues raised by any comments submitted.

EPA will not subject the changes from the draft to the final HSWA permits to another public review. However, these changes may be challenged under the Consolidated Permit Regulations, codified at 40 CFR Part 124 (45 FR 33405) which apply to the EPA processing of these final permits. Specifically, Title 40 Section 124.19 established the following procedures for administrative appeal of final RCRA decisions. Any person who filed comments on the draft permits or participated in the public hearing may petition the EPA Administrator in Washington, D.C., to review any conditions of the permit decision. In addition, any person who failed to file comments or failed to participate in the public hearing on the draft permit may petition for administrative review only to the extent of the changes from the draft to the final permit decision. Any petition for review under this part must be made

within thirty (30) days of service of notice of the final permit decision by the Regional Administrator.

The petition for review shall include a statement of the reasons supporting that review, including:

(1) A demonstration that any issues being raised were raised during the public comment period and the public hearing, as required; and when appropriate,

(2) A showing that the contested portion of the permit is based on:

(a) A finding of fact or conclusion of law which is clearly erroneous; or

(b) An exercise of discretion or an important policy consideration which the Administrator should, in his or her discretion, review.

All requests for administrative review must be addressed to:

Office of the Administrator
United States Environmental Protection Agency
401 M Street, SW
Washington, D.C. 20460
Attention: Mr. Ronald McCallum
Chief Judicial Officer, A101, Rm. 1139
(202) 382 - 4076

A copy of the request must be sent to:

Ms. Laura J. Livingston, Chief
Permits Administration Branch
United States Environmental Protection Agency
Region II
26 Federal Plaza
New York, New York 10278
(212) 264 - 9880

These final permits, a copy of which is enclosed, becomes effective in its entirety on the date indicated on the first page of the permits, unless any interested party files a petition for review to the Administrator within those 30 days. In the event that administrative appeal is sought, the final permit decision will become effective:

(i) When the Administrator issues notice to the parties that review has been denied;

(ii) When the Administrator issues a decision on the merits of the appeal and the decision does not include a remand of the proceedings;

(iii) Upon the completion of remand proceedings if the proceedings are remanded, unless the Administrator's remand order specifically provides that appeal of the remand decision will be required to exhaust administrative remedies.

Once it has become effective, the final permit decision will be final Agency action. Under Section 7006(b) of RCRA, judicial review of this final action is available by the filing of a petition for review in the United States Court of Appeals for the appropriate circuit within 90 days of the date of this permit's final issuance. The 90-day judicial review period is available only when the administrative appeal procedures have been exhausted. This final action shall not be subject to later judicial review in civil or criminal proceedings for enforcement.

Please be advised that violation of any of the conditions of the enclosed permits may subject you and your facilities to the civil and criminal penalties provided for in **Section 3008 of the Resource Conservation and Recovery Act.**

Your cooperation in the RCRA program is appreciated.

Sincerely yours,

Laura Livingston

Laura J. Livingston, Chief
Permits Administration Branch

Enclosures

cc: Mr. Paul R. Counterman, P.E.
NYSDEC
Director
Bureau of Hazardous Waste Facility Management
Division of Hazardous Substances Regulation

Mr. John Middelkoop, P.E.
Director
Division of Hazardous Substances Regulation
Bureau of Hazardous Waste Facility Compliance
NYSDEC

Mr. Robert Becherer, P.E.
Regional Hazardous Substances Engineer
New York State Department of
Environmental Conservation, Region 1

NOTICE OF ISSUANCE OF A FINAL HSWA PERMIT TO GRUMMAN AEROSPACE CORPORATION BETHPAGE, NEW YORK EPA I.D. No.: NYD002047967

The United States Environmental Protection Agency (EPA) Region II has decided to issue a permit, implementing the Hazardous and Solid Waste Amendments (HSWA) of 1984, to Grumman Aerospace Corporation, located in Bethpage, New York. The permit requires the Permittee to:

1. Comply with HSWA corrective action requirements for investigating releases from solid waste management unit(s);

2. Comply with waste minimization requirements;

3. Comply with the land disposal restrictions; and

4. Comply with organic air emissions standards.

Enclosed is a copy of the final HSWA permit. No comments were received by EPA on the draft HSWA permit during the public comment period of December 4, 1991 through January 18, 1992.

A revision was made by EPA to Module III-Corrective Action Requirements for Solid Waste Management Units, page III-28 of this permit after public noticing of the draft permit. The revision clarifies the HSWA permit condition that although corrective action activities for the Waste Recycling Unit and the Recharge Basins are regulated under this permit, the New York State Department of Environmental Conservation (NYSDEC), Division of Hazardous Waste Remediation is the lead authority for oversight of corrective action activities for these areas. These units are presently being remediated under an Order on Consent between the Permittee and NYSDEC.

Any appeal to the decision must follow the procedures set forth in 40 C.F.R. § 124.19. Within 30 days after the date of this Notice, any person who failed to file comments on the draft HSWA permit may petition for administrative review only to the extent of the changes from the draft to the final permit decision (40 C.F.R. § 124.19).

The 30 day period to request review of this final permit decision shall begin with the service of this Notice. (Note, for those parties receiving this Notice by mail, three additional days will be added as per 40 C.F.R. § 124.20(d).)

Kathleen Callahan for
Conrad Simon, Director
Air and Waste Management Division
U.S. Environmental Protection Agency
Region II

March 30, 1992
Date

April 8, 1992
Date Served

PERMIT

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

HAZARDOUS AND SOLID WASTE AMENDMENTS OF 1984 PERMIT

Permittee: Grumman Aerospace Corp.
and Naval Weapons Industrial
Reserve Plant (NWIRP)
Mail Stop: B08/30
Bethpage, New York 11714-3580

I.D.Number: NYD002047967
Effective Date: May 11, 1992
Expiration Date: February 28, 1994

This Permit is issued by the United States Environmental Protection Agency ("EPA" or "Agency") under authority of the Resource Conservation and Recovery Act ("RCRA") of 1976, Subtitle C, 42 U.S.C. Sections 6921-6931, the Hazardous and Solid Waste Amendments ("HSWA") of 1984, and EPA regulations promulgated pursuant thereto, to Grumman Aerospace Corporation and Naval Weapons Industrial Reserve Plant (NWIRP) (hereafter called the "Permittee"), to operate a hazardous waste management facility located at Bethpage, New York, Nassau County.

In accordance with HSWA, this Permit requires the Permittee to:

1. Determine the nature, extent, direction, and rate of migration of hazardous waste, including hazardous constituents, in soils, groundwater, surface water/sediments, subsurface gas and/or air at any solid waste management unit(s) at the facility regardless of the time waste was placed in such unit, and to develop appropriate corrective action for any such releases;

2. Certify annually that the generation of hazardous waste is minimized to the extent practicable and submit a waste reduction impact statement;

3. Comply with the land disposal restrictions;

4. Comply with the organic air emission standards for process vents and equipment leaks in accordance with the HSWA regulations promulgated on June 21, 1990; and

5. Comply with any other applicable statutory or regulatory requirements imposed pursuant to RCRA and HSWA.

This Permit, in conjunction with the 6NYCRR Part 373 Permit to be issued by the State of New York, constitutes the RCRA permit for this facility.

The Permittee must comply with all terms and conditions of this Permit. This Permit consists of the conditions contained herein (Module I pages I-1 to I-13, Module II pages II-1 to II-2, Module III pages III-1 to III-29, Module IV page IV-1 to IV-2, Module V page V-1 to V-2, Module VI page VI-1, and appendices: Appendix A, Appendix B, Appendix C, Appendix D, Appendix E and Appendix F, and the applicable regulations contained in 40 C.F.R. Parts 124, 260 through 264, 268, and 270 as specified in this Permit. Applicable regulations are those which are in effect on the date of issuance of this Permit, except as provided in 40 C.F.R. § 124.86(c) for RCRA permits being processed under Subpart E or F of Part 124 (see 40 C.F.R. § 270.32(c)). A permit may be modified, however, to incorporate new regulations pursuant to 40 C.F.R. § 270.41(a)(3) and 40 C.F.R. § 270.32(c).

This Permit is based on the assumption that the information provided in the Permittee's Part B application, submitted on August 1, 1982, and all succeeding revisions and data submissions, is accurate. Further, this Permit is based, in part, on the provisions of Sections 206, 212, and 224 of HSWA, which modify Sections 3002, 3004 and 3005 of RCRA. The Permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the Permittee's misrepresentation of any relevant facts at any time may be grounds for the termination, revocation and reissuance, or modification of this Permit (see 40 C.F.R. §§ 270.41, 270.42 and 270.43) and potential enforcement action. The Permittee must inform EPA of any deviation from or changes in the information in the application which would affect the Permittee's ability to comply with the applicable regulations or permit conditions.

This Permit is effective as of May 11, 1992, and shall remain in effect until February 28, 1994 unless revoked and reissued, modified or terminated in accordance with 40 C.F.R. §§ 270.41, 270.42 or 270.43, or continued in accordance with 40 C.F.R. § 270.51(a).

Shelley Erlua Holm for Conrad Simon, Director
Air and Waste Management
United States Environmental Protection Agency
Region II

March 30, 1992
Date

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MODULE III - CORRECTIVE ACTION REQUIREMENTS

MODULE IV - WASTE MINIMIZATION

MODULE VI - ORGANIC AIR EMISSION STANDARDS FOR PROCESS VENTS AND EQUIPMENT LEAKS

MODULE I - STANDARD CONDITIONS

A. EFFECT OF PERMIT. This Permit authorizes only the management of hazardous waste expressly described in this Permit and does not authorize any other activities. Compliance with the terms of this Permit constitutes compliance, for purposes of enforcement with Subtitle C ("Hazardous Waste Management") of RCRA. Issuance of this Permit does not convey any property rights of any sort, or any exclusive privilege; nor does it authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local laws or regulations. Compliance with the terms of this Permit does not constitute a defense to any action brought under Sections 3013, 3008(h) or 7003 of RCRA (42 U.S.C. Sections 6934, 6928(h), 6973), Sections 106(a), 104, 107 and/or 122 of the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA") of 1980 (42 U.S.C. Section 9601 et seq.), as amended, or any other law and corresponding regulations governing protection of public health and the environment. (40 C.F.R. §§ 270.4, 270.30(g)).

B. PERMIT ACTIONS. This Permit may be modified, revoked and reissued, or terminated for cause as specified in 40 C.F.R. §§ 270.41, 270.42 and 270.43. The filing of a request for a permit modification, revocation and reissuance, termination the notification of planned changes, anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any condition of this Permit. (40 C.F.R. § 270.30(f)). 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.

C. PERMIT CONDITIONS. Pursuant to Section 3005(c)(3) of RCRA, 42 U.S.C. Section 6925(c)(3), (Section 212 of HSWA), promulgated as regulation 40 C.F.R. § 270.32(b), this Permit contains those terms and conditions the Regional Administrator determines necessary to protect human health and the environment. If not otherwise specified in this Permit, all the requirements of 40 C.F.R. §§ 270.30, 270.31, 270.32 and 270.33 are hereby incorporated into this Permit by reference.

D. PERMIT SUBMITTALS.

1. Effect of Permit. All plans, reports and schedules required by the terms of this Permit are, upon approval by EPA, except as otherwise noted in this Permit where approval is not required, incorporated by reference into this Permit. Upon incorporation, the provisions of each such document shall be binding upon Permittee and have the same legal force and effect as the requirements of this Permit.

2. Submittal Modifications. Permittee shall submit plans and reports required by this Permit to EPA for review and comment. Unless otherwise specified, EPA shall review any plan, report, specification or schedule submitted pursuant to, or required by this Permit, and provide its written approval/disapproval, comments and/or modifications to the Permittee. Unless otherwise specified by EPA, the Permittee shall submit a revised proposal within thirty (30) calendar days of its receipt of EPA's written comments and/or modifications. Any such revised proposal submitted by the Permittee shall incorporate EPA's comments and/or modifications. EPA will then approve the revised proposal or modify the proposal and approve it with any such modifications. The revised proposal, as approved by EPA, shall become final. All final approvals shall be given to the Permittee in writing.

E. 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 stayed or held invalid, the application of such provision to other circumstances and the remainder of this Permit shall not be affected thereby. (40 C.F.R. § 124.16(a))

F. DUTIES AND REQUIREMENTS.

1. Duty to Comply. The Permittee shall comply with all conditions of this Permit, except that the Permittee need not comply with the conditions of this Permit to the extent and for the duration such noncompliance is authorized in an emergency permit (see 40 C.F.R. § 270.61). Any noncompliance with this Permit, except under the terms of an emergency permit, constitutes a violation and is grounds for: 1) an enforcement action; 2) permit termination, revocation and reissuance, modification; or 3) denial of a permit renewal application. (40 C.F.R. § 270.30(a)).

2. Duty to Reapply. If the Permittee wishes to continue an activity regulated by this Permit after the expiration date of this Permit, the Permittee shall submit a complete application for a new permit at least one hundred and eighty (180) days before this Permit expires, unless the Regional Administrator grants permission for a later date which is not later than the expiration date of the existing permit. (40 C.F.R. §§ 270.10(h) and 270.30(b)).

3. Permit Expiration and Continuation. This Permit will be in effect for the time period stated on page ii, which must not exceed ten (10) years. Each permit for a land disposal facility shall be reviewed by the Regional

Administrator five (5) years after the date of permit issuance or reissuance and shall be modified as necessary, as provided in 40 C.F.R. § 270.41 (40 C.F.R. § 270.50). However, as set forth in 40 C.F.R. § 270.51, as long as EPA is the permit issuing authority for HSWA, this Permit and all conditions herein will remain in effect beyond this Permit's expiration date if the Permittee has submitted a timely, complete application (40 C.F.R. §§ 270.13 through 270.23 and 270.10) and through no fault of the Permittee, the Regional Administrator has not issued a new permit as set forth in 40 C.F.R. § 124.15.

If the State, at the time of permit renewal, has permitting authority under 40 C.F.R. Part 271 for HSWA, and if the Permittee has submitted a timely and complete application under State law and regulations, the terms and conditions of this Permit continue in force beyond the expiration date of the Permit, but only until the effective date of the State's issuance or denial of a State permit which includes measures pursuant to HSWA.

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. (40 C.F.R. § 270.30(c)).

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. (40 C.F.R. § 270.30(d)).

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 procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this Permit. (40 C.F.R. § 270.30(e)).

7. Duty to Provide Information. The Permittee shall furnish to the Regional Administrator, within a reasonable time, any relevant information which the Regional Administrator

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 Regional Administrator, upon request, copies of records required to be kept by this Permit. (40 C.F.R. §§ 270.30(h) and 264.74(a)).

8. Inspection and Entry. The Permittee shall allow the Regional Administrator, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

   (a) Enter at reasonable times upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Permit;

   (b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Permit;

   (c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Permit; and

   (d) Sample or monitor, at reasonable times, for the purposes of assuring compliance with this Permit or as otherwise authorized, any substances or parameters at any location. (40 C.F.R. §§ 270.30(i) and 264.74(a)).

9. Monitoring and Records.

   a) Representativeness of Samples and Measurements. Samples and measurements taken for the purpose of monitoring all media shall be representative of the monitored activity. (40 C.F.R. § 270.30(j)). The method used to obtain a representative sample of the waste or environmental media to be analyzed must be the appropriate method from Appendix I of 40 C.F.R. Part 261 or an equivalent method approved by the Regional Administrator. Laboratory methods must be those specified in Test Methods for Evaluating Solid Waste: Physical/Chemical Methods (EPA Publication SW-846, as currently amended), or an equivalent method approved by the Regional Administrator. (40 C.F.R. § 270.6)

   (b) Quality Assurance Program. The Permittee shall conduct a quality assurance program to ensure that the monitoring data are technically accurate and

statistically valid. The quality assurance program shall be in accordance with Test Methods for Evaluating Solid Waste: Physical/Chemical Methods (EPA Publication SW-846, as currently amended) and other requirements specified in this Permit and approved by EPA. (40 C.F.R. §§ 270.30(e) and 270.6).

(c) Minimum QA/QC Submittals. The minimum Quality Assurance/Quality Control data and information that shall be delivered with all sample analyses required by this Permit are tabulated in Appendix D of this Permit.

(d) Retention of Records. The Permittee shall retain, for the effective term of this Permit, all records and data used to complete the application for this Permit.

The Permittee shall also retain records from all groundwater monitoring wells and associated groundwater surface elevations, for the active life of the facility, and for land disposal facilities, for the post-closure care period as well. (40 C.F.R. § 270.30(j)).

In addition the Permittee shall also retain records of all other media monitoring, if required, including calibration and maintenance records and all original strip chart recordings for continuous air monitoring instrumentation, copies of all reports and records required by this Permit, and the certification required by 40 C.F.R. § 264.73(b)(9), for the life of the facility.

Records to be kept for the active life of the facility include only raw data (i.e., laboratory and field measurements) results. QA/QC data validation records need only be kept for the effective term of this Permit. This period may be extended by request of the Regional Administrator at any time and is automatically extended during the course of any unresolved enforcementaction regarding this facility.

(e) Contents of Monitoring Records. Records for monitoring information shall include:

(i) The date, exact place, and time of sampling or measurements;

(ii) The individual(s) who performed the sampling or measurements;

(iii) The date(s) analyses were performed;

(iv) The individual(s) who performed the analyses;

(v) The sampling techniques or methods used;

(vi) The analytical techniques or methods used; and

(vii) The results of such analyses. (40 C.F.R. § 270.30(j)).

(f) Monitoring Reports. Monitoring results must be reported at the intervals specified elsewhere in this Permit. (40 C.F.R. § 270.30(l)(4)).

10. Reporting Planned Changes. The Permittee shall give notice to the Regional Administrator as soon as possible of any planned physical alterations or additions to the permitted facility. (40 C.F.R. § 270.30(l)(1)).

11. Anticipated Noncompliance. The Permittee shall give advance notice to the Regional Administrator of any planned changes in the permitted facility or activity which may result in noncompliance with this Permit's requirements. This notice must include a description of all incidents of noncompliance reasonably expected to result from the proposed changes. (40 C.F.R. § 270.30(l)(2)).

12. Transfer of Permit. This Permit is not transferable to any person unless notice has been given to the Regional Administrator and this Permit has been modified, or revoked and reissued, or a minor modification made to identify the new permittee and to incorporate such other requirements as may be necessary. (40 C.F.R. §§ 270.30(l)(3) and 270.40).

13. Compliance Schedules. Reports of compliance or noncompliance with interim and/or final requirements contained in any compliance schedule of this Permit shall be submitted no later than fourteen (14) calendar days following each schedule date. (40 C.F.R. § 270.33).

The Permittee shall comply with all parts of the Compliance Schedule included in Appendix C of this Permit.

14. Immediate Reporting of Releases.

(a) Whenever there is an imminent or actual emergency situation, the emergency coordinator as designated in the contingency plan (or a designee when the emergency coordinator is on call) must immediately:

(i) Activate internal facility alarms or communication systems, where applicable, to notify all facility personnel; and

(ii) Notify appropriate State or local agencies with designated response roles if their help is needed. (40 C.F.R. § 264.56(a)(1) and (2)).

(b) If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health or the environment outside the facility, the coordinator must report the findings as follows:

(i) If the coordinator's assessment indicates that evacuation of local areas may be advisable, she/he must immediately notify appropriate local authorities. She/he must be available to help appropriate officials decide whether local areas should be evacuated; and

(ii) The coordinator must immediately notify either the government official designated as the on-scene coordinator for that geographical area in the applicable regional contingency plan or the National Response Center (using their 24-hour toll free number 800/424-8802). The report must include:

(1) Name and telephone number of reporter;

(2) Name and address of facility;

(3) Time and type of incident (e.g., release, fire);

(4) Name and quantity of material(s) involved, to the extent known;

(5) The extent of injuries, if any; and

(6) The possible hazards to human health or the environment outside the facility (40 C.F.R. §264.56(d)).

15. Twenty-four Hour Reporting.

(a) The Permittee shall orally report to the Regional Administrator any noncompliance with this Permit which may endanger health or the environment within 24 hours from the time the Permittee becomes aware of the circumstances, including:

(i) Information concerning the release of any hazardous waste or constituent that may cause an endangerment to public drinking water supply sources;

(ii) Any information of a release or discharge of hazardous waste or constituent, or a fire or explosion at the facility, which could threaten the environment or human health outside the facility. The description of the occurrence and its cause shall include:

(1) Name, address, and telephone number of the owner or operator;

(2) Name, address, and telephone number of the facility;

(3) Date, time, and type of incident;

(4) Name and quantity of material(s) involved;

(5) The extent of injuries, if any;

(6) An assessment of actual or potential hazards to the environment and human health outside the facility, where this is applicable; and

(7) Estimated quantity and disposition of recovered material that resulted from the incident. (40 C.F.R. § 270.30(l)(6)).

(b) A written submission shall also be provided to the Regional Administrator within five (5) calendar 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 of noncompliance including exact dates and times; and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. The Permittee need not comply with the 5-day written notice requirement if the Regional Administrator waives that requirement in favor of a written report within fifteen (15) calendar days of the time the Permittee becomes aware of the circumstances. (40 C.F.R. § 270.30(l)(6)).

(i) Information concerning the release of any hazardous waste or constituent that may cause an endangerment to public drinking water supply sources;

(ii) Any information of a release or discharge of hazardous waste or constituent, or a fire or explosion at the facility, which could threaten the environment or human health outside the facility. The description of the occurrence and its cause shall include:

(1) Name, address, and telephone number of the owner or operator;

(2) Name, address, and telephone number of the facility;

(3) Date, time, and type of incident;

(4) Name and quantity of material(s) involved;

(5) The extent of injuries, if any;

(6) An assessment of actual or potential hazards to the environment and human health outside the facility, where this is applicable; and

(7) Estimated quantity and disposition of recovered material that resulted from the incident. (40 C.F.R. § 270.30(l)(6)).

(b) A written submission shall also be provided to the Regional Administrator within five (5) calendar 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 of noncompliance including exact dates and times; and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. The Permittee need not comply with the 5-day written notice requirement if the Regional Administrator waives that requirement in favor of a written report within fifteen (15) calendar days of the time the Permittee becomes aware of the circumstances. (40 C.F.R. § 270.30(l)(6)).

16. Additional Noncompliance Reporting. The Permittee shall report all instances of noncompliance not required to be reported under Module I, Conditions F.13 or F.15. Such additional noncompliance shall be reported at the time monitoring and noncompliance reports are submitted. The reports shall contain the information listed in Module I, Condition F.15(a)(ii)(1-7), and all other relevant information. (40 C.F.R. § 270.30(1)(10)).

17. Other Information. Whenever the Permittee becomes aware that it failed to submit any relevant facts in the permit application, or submitted incorrect information in a permit application or in any report to the Regional Administrator, the Permittee shall promptly submit such new or correct facts or information to the Regional Administrator. (40 C.F.R. § 270.30(1)(11)).

G. DOCUMENTS TO BE MAINTAINED AT THE FACILITY. The Permittee shall maintain at the facility all documents required by this Permit, and amendments, revisions and modifications to these documents.

H. REPORTS, NOTIFICATIONS AND SUBMISSIONS TO THE REGIONAL ADMINISTRATOR. All reports, notifications or other submittals required by this Permit are to be submitted to the Regional Administrator unless otherwise directed in this Permit and sent certified mail or given to:

Two (2) copies:

United States Environmental Protection Agency
Air and Waste Management Division
Hazardous Waste Facilities Branch
Region II
26 Federal Plaza
New York, New York 10278

Copies shall also be sent to the following addresses:

One (1) copy:

United States Environmental Protection Agency
Office of Policy and Management
Permits Administration Branch
Region II
26 Federal Plaza
New York, New York 10278

Two (2) copies, except submittals required by Module IV of this Permit:

New York State Department of Environmental Conservation
Division of Hazardous Substances Regulation
Director, Bureau of Hazardous Waste Facility Management
50 Wolf Road
Albany, New York 12233-7251

Three (3) copies of only those submittal required by Module IV of Permit:

New York State Department of Environmental Conservation
Division of Hazardous Substances Regulation
Director, Bureau of Pollution Prevention
50 Wolf Road
Albany, New York 12233-7253

One (1) copy:

New York State Department of Environmental Conservation
Hazardous Substances Engineer
Region 1
SUNY Campus, Bldg 40
Stony Brook, New York 11794

I. SIGNATORY REQUIREMENTS. All reports, or information submitted to the Regional Administrator shall be signed and certified in accordance with 40 C.F.R. §§ 270.11, and 270.30(k).

J. CONFIDENTIAL INFORMATION. The Permittee may claim confidential any information required to be submitted by this Permit in accordance with 40 C.F.R. § 270.12 and 40 C.F.R. Part 2, Subpart B.

K. PERMIT MODIFICATION. This Permit may be modified as allowed under 40 C.F.R. §§ 270.41 and 270.42, or as specified in Conditions E.9 and E.10 of Module III of this Permit. Modifications to this Permit may be made by the Regional Administrator for cause in accordance with 40 C.F.R. § 270.41. Modifications to this Permit may also be requested by the Permittee as is provided for in 40 C.F.R. § 270.42.

L. DEFINITIONS. For the purpose of this Permit, terms used herein shall have the same meaning as those set forth in 40 C.F.R. Parts 260 through 270, unless this Permit specifically states otherwise; where terms are not otherwise defined, 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.

1. Action Levels. For purposes of this Permit, action levels are hazardous constituent concentrations that are protective of human health or the environment. Where available, action levels are based on appropriate promulgated standards established for a specific environmental medium. When such promulgated standards are not available, action levels are media specific, hazardous constituent concentrations derived from non-promulgated human health-based levels or environmental health-based levels, the latter levels being protective of aquatic life or wildlife. An action level may be set at the background level for a hazardous constituent for which data are inadequate to set a human health or environmental health-based level.

2. Area of Concern (AOC). Pursuant to the authority granted by 40 C.F.R. § 270.32(b)(2), an area of concern is hereby defined for purposes of this Permit to mean an area at the facility or an off-site area, which is not at this time known to be a solid waste management unit (SWMU), but where hazardous waste and/or hazardous constituents are present or are suspected to be present as a result of a release from the facility. The term shall include area(s) of potential or suspected contamination as well as actual contamination. Such area(s) may require study and a determination of what, if any corrective action may be necessary. All permit references to, and conditions for SWMUs shall also apply to areas of concern.

3. EPA. The United States Environmental Protection Agency and, for the purposes of this permit, the New York State Department of Environmental Conservation ("NYSDEC") in those instances where New York will be authorized by EPA to act in lieu of EPA.

4. Facility. All contiguous land, structures, other appurtenances, and improvements on the land used for treating, storing, or disposing of hazardous waste. A facility may consist of several treatment, storage, or disposal operational units (e.g., one or more landfills, surface impoundments or combination of them). For the purposes of implementing Corrective Action "Facility" means all contiguous property under the control of the owner or operator seeking a permit under Subtitle C of RCRA.

5. Hazardous Constituents. Those constituents identified in Appendix VIII of 40 CFR Part 261, or any constituent identified in Appendix IX of 40 CFR Part 264.

6. Hazardous Waste. Hazardous waste means a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or

infectious characteristics may cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.

7. Regional Administrator. The Regional Administrator of the United States Environmental Protection Agency for Region II, his designee or authorized representative.

8. Release. Release includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment of any hazardous waste or constituent unless expressly authorized under the terms of this Permit.

9. Solid Waste Management Unit (SWMU). A SWMU includes any discernible waste management unit at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of hazardous or solid wastes as those terms are defined in §1004(5) and (27) of RCRA, 42 U.S.C. §6903(5) and (27) and in 40 C.F.R. §§ 261.2 and 261.3. These units include, but are not limited to: landfills, surface impoundments, waste piles, land treatment units, tanks, elementary neutralization units, transfer stations, container storage areas, incinerators, injection wells, recycling units, and closed and abandoned units. Certain areas associated with production processes which have become contaminated as a result of routine, and systematic releases of wastes, or hazardous constituents from wastes, are also considered SWMUs. All permit references to, and conditions for SWMUs shall also apply to AOC.

M. DISPUTE RESOLUTION. The Permittee shall use its best efforts to informally and in good faith resolve all disputes or differences of opinion. If, however, disputes arise concerning submissions required under this Permit, including, but not limited to, implementation of any plans, approval of documents, scheduling of any of the work, selection, performance or completion of any corrective action, or any other obligation required under this Permit, the Permittee shall notify EPA immediately of such disputes and, within thirty (30) calendar days of notification, the Permittee shall submit a written statement to the EPA, that argues its position. The written argument shall set forth the Permittee's specific points of contention; the Permittee's position and reason for its position; and any additional matters that the Permittee considers necessary or relevant for the EPA's determination. If the dispute cannot be

resolved informally within sixty (60) calendar days of EPA receipt of the written argument, EPA will provide the Permittee its decision on the dispute which shall be incorporated into this Permit.

MODULE II - FACILITY DESCRIPTION

Facility Description

Grumman Aerospace Corporation, and the Naval Weapons Industrial Reserve Plant (NWIRP), is a major defense contractor in the manufacturing of aircraft, aircraft parts and associated equipment. This facility is located in Bethpage, Nassau County, New York and has been in operation since 1937. As a result of the activities associated with the manufacturing of aircraft and related avionics equipment, the facility generates the following hazardous wastes:

A.	Chromium Waste Water	: D007
B.	Waste Concentrate	: D002
C.	Industrial Waste Treatment Sludge	: D019
D.	Waste Halogenated Solvents	: F001, F002, D001, D004, D006, D007, D008
E.	Waste Non-Halogenated Solvents	: F002, F003, F005, D006, D007, D008
F.	Cadmium Rinse Waste Water	: D006
G.	Waste Paints, Sludge Dusts and Filters	: D006,D007
H.	Descale Salts	: D003
I.	Oil and Water Waste	: F002, F005, D001, D006, D007, D008
J.	PCB Wastes	: B001, B002, B003, B004, B005, B006, B007

The facility has an Industrial Waste Water Treatment Plant (IWWTP) designed to treat waste water generated by manufacturing process prior to discharge to the Nassau County Publicly Owned Treatment Work located at Cedar Creek, New York. The sludge from the waste water treatment plant and waste destined for off-site disposal are stored in a drum area having a storage capacity of 50,000 gallons. The facility operates exempt accumulation centers for collection of hazardous waste at various production units which are transferred to the drum storage area as required by 6NYCRR 373-1.1(d)(1)(iv). The facility has a Part B hazardous waste permit in compliance with the requirements of the Resource Conservation and Recovery Act of 1976. This Federal RCRA Permit expires on February 28, 1994. There is no on-site disposal of hazardous waste at the facility. The accumulated wastes are transported to authorized off-site disposal facilities by licensed transporters.

The Grumman facility is situated on approximately 500 acres in Northeastern Nassau County, in the Hamlet of Bethpage, Town of Oyster Bay, New York. The site is underlain by four major unconsolidated geologic layers, which, in descending order from the land surface, are as follows: (1) the Pliestocene Series or Upper Glacial Formation; (2) the Magothy Formation; (3) the Raritan Clay Member of the Raritan Formation; and (4) the Lloyd Sand Member of the Raritan Formation. The groundwater reservoir of the Northeastern Nassau County is divided into three main aquifers: (1) the Upper Glacial aquifer, (2) the Magothy aquifer, and (3) the Lloyd Sand aquifer. The Upper Glacial aquifer and underlying Magothy aquifer are of principal interest in this investigation because they lie directly beneath land surface and the latter is the principal source of public water supply in Nassau County. Due to its low permeability, the Raritan Clay acts as a confining unit, thereby minimizing any potential contamination of the underlying Lloyd Sand aquifer.

In general, there is widespread contamination of both the Upper Glacial and Magothy aquifers throughout Nassau County, and in the particular in the Hicksville-Bethpage area. The following types of chemical are the primary ground-water contaminants in Nassau County: nitrates, chlorides, heavy metal, and synthetic organic chemicals. Preliminary results from a study conducted by the United State Geological Survey (USGS) and the Nassau County Department of Health in the Bethpage-Hicksville-Levittown area indicate the presence of a shallow plume and a deep plume of volatile organic compounds beneath the Grumman Facility. The exact source of contamination is unknown.

NYSDEC has signed an Order on Consent for a Remedial Investigation/Feasibility Study to address the groundwater contamination at Grumman Aerospace Corporation, Bethpage. This Order on Consent is carried out by the Division of Hazardous Waste Remediation. Module III of this Permit includes all the substantive corrective action requirements of this consent order.

MODULE III - CORRECTIVE ACTION REQUIREMENTS FOR SOLID WASTE MANAGEMENT UNITS

A. APPLICABILITY

1. Statute and Regulations. Section 3004(u) of the Act, 42 U.S.C. § 6924(u), and its corresponding regulations published in 40 C.F.R. § 264.101 require corrective action for all releases of hazardous wastes and hazardous constituents, from any solid waste management unit ("SWMU") at a storage, treatment or disposal facility seeking a permit, regardless of the time at which waste was placed in such unit. Section 3004(v) of the Act, 42 U.S.C. § 6924(v) requires that corrective action be taken beyond the facility boundary where necessary to protect human health and the environment. Pursuant to Section 3005(c) of the Act, 42 U.S.C. § 6925(c), and its corresponding regulations published in 40 C.F.R. § 270.32(b)(2), the Regional Administrator may impose terms and conditions as the Administrator determines necessary to protect human health and the environment.

2. Summary of the Corrective Action Process. Corrective action implementation authorized by Section 3004(u) of the Act includes: (a) the RCRA Facility Assessment ("RFA"); (b) the RCRA Facility Investigation ("RFI"); and (c) the Corrective Measures ("CM"). The RFA is a three phase process that includes: (a) the Preliminary Review ("PR"); (b) the Visual Site Inspection ("VSI"); and (c) the Sampling Visit ("SV"). The PR is a review of all available information on the individual SWMU(s). During the PR, and in subsequent phases of the RFA, all of the media (i.e., soil, groundwater, surface water/sediment, air and subsurface gas) that could potentially be impacted by the release(s) of hazardous wastes and hazardous constituents, are evaluated. Based on this review, the SWMUs are characterized as to their release potentials.

   Following the PR, a VSI is conducted during which all of the SWMUs, either previously or newly discovered, are observed. While performing this reconnaissance, any signs of spills or leakage, stained soil, stressed vegetation, unit deterioration, or any other conditions that may be indicative of a release are assessed. By means of these observations and the findings of the PR, EPA may require the facility to conduct a Sampling Visit at the areas where releases are suspected.

The SV can involve any or all of the previously described media at any given SWMU. For those units where releases are clearly demonstrated in the PR and/or VSI, the SV can be avoided leaving the unit(s) to be addressed in the RFI.

The RFA includes preparing the RFA report. This report includes the findings of the various RFA activities and recommendations for further action at those units with demonstrated releases of hazardous wastes or constituents. In some cases, where an immediate threat to human health or the environment exists, interim corrective measures may be required.

If the RFA report concludes that there is a need for further investigative work the Permittee shall be required to pursue phase two of corrective action, an RFI. The purpose of the RFI is to determine the nature, extent, direction, and rate of migration of hazardous wastes or constituents in soils, groundwater, surface water/sediment, subsurface gas and/or air. Based on these multimedia analyses, the types and concentrations of contaminants present, the boundaries of any contamination (e.g., plumes), and the rate and direction of contaminant movement can be determined in each of the impacted media. Sufficient data shall be generated during the RFI to allow proper assessment of corrective measure alternatives. This may require bench and/or pilot studies to be implemented as part of the RFI. Once all these analyses are reviewed, a RFI report is prepared that provides a summation of the data and recommendations for any needed corrective measures.

The culmination of the Corrective Action Program is Corrective Measures ("CM"). The initial stage of the Corrective Measures phase is the preparation of a Corrective Measures Study ("CMS"). A CMS may be required if concentrations of hazardous constituents in an aquifer, in surface water/sediment, in soils, or in air exceed their action levels for any contaminated medium. Such a study may also be required if individual concentrations of hazardous constituents are at or below action levels, but nevertheless may pose a threat to human health or the environment due to site specific exposure conditions. The CMS will address alternative corrective measure strategies that are technologically feasible and reliable and which effectively mitigate and minimize damage to, and provides adequate protection of, human health and the environment. The Permittee will develop the CMS using target cleanup levels chosen by the Regional Administrator to be protective of human health and the environment. Where available, they may

be promulgated health-based standards, such as Maximum Contaminant Levels ("MCLs") established under the Safe Drinking Water Act. Where promulgated standards are not available, EPA may use other health-based levels, based on Risk-Specific Doses ("RSD") for carcinogens, and Reference Doses ("RfD") for systemic toxicants, or concentration levels protective of the environment, that have undergone scientific review. The CMS report should provide a discussion of the alternative corrective measure strategies studied, addressing technical, institutional, public health, and environmental issues, and the conceptual engineering for the alternative action selected by the facility. Where a solution is straight forward or if few solutions exist, the Permittee may present fewer alternatives or a single alternative. Such situations could require the Permittee to submit a highly focused CMS.

Following completion of the CMS, the Regional Administrator will select the corrective measure(s) from the corrective measures evaluated in the CMS. The Regional Administrator will then initiate a permit modification for the selected corrective measure(s). Subsequent to the permit modification, the owner or operator of the facility will be required to demonstrate financial assurance for completing the approved corrective measure(s).

Permit modification for the approved corrective measure(s) will initiate the final stage of corrective measures, Corrective Measures Implementation ("CMI"). The CMI will include the final design, construction, operation, maintenance, and monitoring of the corrective measure or measures selected.

3. Solid Waste Management Units. The conditions of this Module apply to:

   (a) All the SWMUs listed in this Module individually or in combinations;

   (b) Any additional SWMUs identified during the course of groundwater monitoring, field investigations, environmental audits or other means as described in Module Condition C. below; and

   (c) The following SWMUs identified by the RCRA Facility Assessment dated March 19 1991, as revised. The descriptions below of the SWMUs and recommended actions to be required under the RFI are taken from the RFA:

SWMU Class	Units (Quantity)	Media to be Investigated				
		GW*	Soil	SW/S*	Air	SS/G*
Surface Impoundment	1.Sludge Drying Beds (4)	no	no	no	no	no
Former Container Storage Area	2.CSA No. 1	yes	yes	no	no	no
	3.CSA No. 2	yes	yes	no	no	no
	4.CSA No. 3	yes	yes	no	no	no
Wastewater Treatment Unit (Cyanide Treatment Unit)	5.IWWT No. 1	no	no	no	no	no
	6.IWWT No. 2	no	no	no	no	no
	7.IWWT No. 3	no	no	no	no	no
	8.IWWT No. 4	no	no	no	no	no
	9.IWWT No. 5	no	no	no	no	no
Waste Recycling Operation	10.Waste Recycling Operation**	yes	yes	no	no	yes
Active Wastewater Treatment Unit	11.Industrial Waste Treatment Facility (2)	no	no	no	no	no
Active Container Area	12.Main Drum Marshalling Area	no	no	no	no	no
	13.Mini Drum Marshalling Areas (3)	no	no	no	no	no
	14.New Material Storage Shed	no	no	no	no	no
	15.Salvage Storage Area	yes	yes	no	no	no
Storage / Treatment Tank	16.S/TT Area No. 1 (15 Tanks)	no	no	no	no	no
	17.S/TT Area No. 2 (30 Tanks)	no	no	no	no	no
	18.S/TT Area No. 3 (3 Tanks)	no	no	no	no	no
	19.S/TT Area No.4 (15 Tanks)	no	no	no	no	no

SWMU Class	Units (Quantity)	Media to be Investigated				
Storage / Treatment Tank	20.S/TT Area No.5 (1 Tank)	no	no	no	no	no
	21.S/TT Area No.6 (1 Tank)	no	no	no	no	no
	22.Underground Photo Waste Storage Tanks (2) at Plant 14	no	no	no	no	no
Area of Concern		Media to be Investigated				
		GW*	soil	SW/S*	Air	SS/G*
Recharge Basin	1.Recharge Basins (3) at Navy Property	yes	no	yes	no	no
	2.Recharge Basins (9)** see pg III-24	yes	no	yes	no	no

*GW:Groundwater;SW/S:Surface Water/Sediment;SS/G:Subsurface Gas
** see Condition E.13.(a) of this Module

A first phase RFI pursuant to the work plan outline in Appendix E is required for SWMUs # 2, 3, 4 and # 15 and Areas of Concern # 1. The purpose of the first phase RFI is to confirm any releases from these SWMUs. The first phase RFI differs from a full RFI in the extent and degree of investigations required. Its purpose is for confirmatory sampling, to identify if releases have occurred. The Permittee shall follow Conditions C.3, C.4, C.5, and C.6 of this Module for the first-phase RFI.

B. STANDARD CONDITIONS FOR CORRECTIVE ACTION

1. Work Plans. All work plans submitted pursuant to this Module shall include:

   (a) Quality Assurance/Quality Control protocols to ensure that data generated is valid and supported by documented procedures;

   (b) Other plans, specifications and protocols, as applicable;

(c) A schedule for starting specific tasks, completing the work and submitting progress and final reports; and

(d) Plans for the treatment, storage, discharge or disposal of wastes to be generated by activities described therein.

2. Monitoring and Records. Requirements for monitoring and records shall be in accordance with Permit Condition F.9. of Module I of this Permit.

3. Health/Safety Plans. The Permittee shall develop, according to applicable Federal, State and local requirements, and submit to the Regional Administrator, health and safety plans that will be implemented to ensure that the health and safety of project personnel, plant personnel and the general public are protected. These plans are not subject to approval by the Regional Administrator.

4. Guidance Documents. When preparing the submissions described in this Module, the Permittee shall follow applicable guidance documents issued by EPA and the New York State Department of Environmental Conservation in a manner reflecting reasonable technical considerations.

5. Prior Submittals. The Permittee may have already submitted portions of information, plans, or reports required by this Permit Module and its Appendices to the Regional Administrator pursuant to the terms of previous applications, consent orders, or plans. For those items the Permittee contends were submitted to the Regional Administrator, the Permittee may cite the specific document(s) and page(s) it believes adequately addresses each of the individual items requested by this Permit Module and its Appendices. The references, by document(s) and page(s), shall be placed in the appropriate sections of the submittals that require the referenced information and data. If the Regional Administrator, after a file search, determines that it does not possess any of the referenced information, plans, or reports that the Permittee claims were previously submitted, the Regional Administrator will notify the Permittee and the Permittee shall submit the referenced documents within the time frame specified within the notification.

6. Interim Corrective Measures.

(a) If at any time it is determined by the Regional Administrator that a release or a threatened release of hazardous waste or constituents, from a SWMU, or a combination of SWMUs, poses a threat to human health or the environment, or that such condition jeopardizes the Permittee's ability to comply with any governmental permit, a draft interim corrective measures study shall be submitted to the Regional Administrator for approval within thirty (30) calendar days of notice of such a determination. This study shall consider, among other relevant factors, the character, the extent, direction, the rate of release, the proximity to population, the exposure pathways, the effects of delayed action, and the evaluations of appropriate interim corrective measures. Upon approval of the study by the Regional Administrator, the Permittee shall implement the required interim corrective measures as specified by the Regional Administrator. Nothing herein shall preclude the Permittee from taking immediate action to address the conditions described herein and promptly notifying the Regional Administrator.

(b) In the event the Permittee discovers a release or a threatened release of hazardous wastes or constituents, from a SWMU, or a combination of SWMUs, that poses a threat to human health or the environment, the Permittee shall identify interim corrective measures to mitigate this threat. The Permittee shall immediately summarize the nature and magnitude of the actual or potential threat and nature of the interim measures being considered and notify the Regional Administrator. Within thirty (30) calendar days of notifying the Regional Administrator, the Permittee shall submit to the Regional Administrator, for approval, an interim corrective measures work plan for the interim measures. The Permittee shall implement the measures specified by the Regional Administrator. Nothing herein shall preclude the Permittee from taking immediate action to address the conditions described herein and promptly notifying the Regional Administrator.

(c) The following factors may be considered by the Regional Administrator in determining the need for interim corrective measures:

(i) Time required to develop and implement a final corrective measure;

(ii) Actual and potential exposure of human and environmental receptors;

(iii) Actual and potential contamination of drinking water supplies and sensitive ecosystems;

(iv) The potential for further degradation of any impacted medium;

(v) Presence of hazardous waste or constituent in containers that may pose a threat of release;

(vi) Presence and concentration of hazardous waste or constituent in soils that have the potential to migrate to ground water or surface water;

(vii) Weather conditions that may affect the current levels of contamination;

(viii) Risks of fire, explosion, or potential exposure to hazardous waste or constituent as a result of an accident or failure of container or handling system; and

(ix) Other situations that may pose threats to human health and the environment.

7. Determination of No Further Action.

(a) Based on the results of the RFI for a particular SWMU, or combination of SWMUs, and other relevant information, the Permittee may submit an application to the Regional Administrator for a Class III permit modification under 40 C.F.R. § 270.42(c) to terminate the subsequent corrective action requirements of this Module. This permit modification application must contain information demonstrating that there are no releases of hazardous wastes or hazardous constituents from SWMUs that pose a threat to human health or the environment, as well as information required in 40 C.F.R. § 270.42(c), which incorporates by reference 40 C.F.R. §§ 270.13 through 270.21, 270.62, and 270.63.

If, based upon review of the Permittee's request for a permit modification, the results of the RFI, and other information, including comments received during the sixty (60) calendar day public comment period required for Class III permit modifications, the Regional Administrator determines that the release(s) or the suspected release(s) investigated either are non-existent or do not pose a threat to human health or the environment, the Regional Administrator may grant the requested modification.

(b) A determination of no further action shall not preclude the Regional Administrator from implementing the following actions:

(i) Modifying this Permit at a later date to require the Permittee to perform such investigations as necessary to comply with the requirements of this Permit Module and its Appendices if new information or subsequent analysis indicates that there are, or are likely to be, releases from SWMUs that may pose a threat to human health or the environment; and

(ii) Requiring continued or periodic monitoring of air, soil, groundwater, surface water/sediment or subsurface gas, if necessary to protect human health and the environment, when circumstances indicate that release(s) of hazardous waste or constituents are likely to occur from any SWMU.

8. Reporting.

(a) The Permittee shall submit to the Regional Administrator signed progress reports, as specified in approved work plans pursuant to this Permit, of all activities (i.e., SWMU Assessment, Interim Measures, RCRA Facility Investigation, Corrective Measures Study) conducted pursuant to the provisions of the Corrective Action Schedule of Compliance, beginning no later than thirty (30) calendar days after the Permittee is first required to begin implementation of any requirement herein. These reports shall contain:

(i) A description of the work completed during the reporting period;

(ii) Summaries of all findings made during the reporting period, including summaries of laboratory data;

(iii) Summaries of all changes made during the reporting period;

(iv) Summaries of all contacts made with representatives of the local community and public interest groups during the reporting period;

(v) Summaries of all problems or potential problems encountered during the reporting period and actions taken to rectify problems;

(vi) Changes in personnel conducting or managing the corrective action activities during the reporting period;

(vii) Projected work for the next reporting period; and

(viii) Copies of daily reports, inspection reports, laboratory/monitoring data, etc., generated during the reporting period.

(b) Upon request, copies of other relevant reports and data not identified in Condition B.8.(a) of this Module shall be made available to the Regional Administrator.

(c) The Regional Administrator may require the Permittee to conduct new or more extensive assessments, investigations, or studies, based upon information provided in the progress reports referred to in Condition B.8(a) of this Module above, or upon other supporting information.

(d) All plans and schedules required by the conditions of this Permit Module and Appendix C of this Permit are, upon approval of the Regional Administrator, incorporated into this Permit by reference and become an enforceable part of this Permit. Any noncompliance with such approved plans and schedules shall be termed noncompliance with this Permit. Extensions of the due dates for submittals may be granted by the Regional Administrator in accordance with the permit modification processes under 40 C.F.R. § 270.41.

9. Compliance with Governmental Requirements. During investigative activities, interim corrective measures, and final corrective measures (including, but not limited to, equipment decommissioning, excavation and unit demolition) required under this Module, the Permittee shall ensure that the transportation, treatment, storage, discharge, and disposal of all contaminated materials generated as a result of such activities (including, but not limited to, soils, sediments, liquids, tanks, pipes, pumps, rubble, debris, and structural materials) are performed in an environmentally sound manner pursuant to all applicable Federal, State and local requirements and that is protective of public health and the environment. Nothing in this Module shall be construed to require the Permittee to proceed in a manner which is in violation of any such requirements.

10. Notifications.

(a) Notification of Groundwater Contamination. If at any time the Permittee discovers that hazardous constituents in groundwater that may have been released from a solid waste management unit at the facility have migrated beyond the facility boundary in concentrations that exceed action levels the Permittee shall, within fifteen (15) calendar days of discovery, provide written notice to the Regional Administrator and any person who owns or resides on the land which overlies the contaminated groundwater.

(b) Notification of Air Contamination. If at any time the Permittee discovers that hazardous constituents in air that may have been released from a solid waste management unit at the facility have or are migrating to areas beyond the facility boundary in concentrations that exceed action levels and that residences or other places at which continuous, long-term exposure to such constituents might occur are located within such areas, the Permittee shall, within fifteen (15) calendar days of such discovery.

(i) Provide written notification to the Regional Administrator; and

(ii) Initiate any actions that may be necessary to provide notice to all individuals who have or may have been subject to such exposure.

(c) Notification of Residual Contamination. If hazardous wastes or constituents in solid waste management units, or which have been released from solid waste management units, will remain in or on the land, including groundwater, after the term of the permit has expired, the Regional Administrator may require the Permittee to record, in accordance with State law, a notation in the deed to the facility property or in some other instrument which is normally examined during titled search that will, in perpetuity, notify any potential purchaser of the property of the types, concentrations, and locations of such hazardous wastes or hazardous constituents. The Regional Administrator may require such notice as part of the corrective measures selection process.

C. ASSESSMENT OF NEWLY IDENTIFIED SWMUS

1. Notification. The Permittee shall notify the Regional Administrator, in writing, of any additional SWMUs not listed in this Module, which are identified during the course of groundwater monitoring, field investigations, environmental audits, or other means within fifteen (15) calendar days of discovery.

2. SWMU Assessment Report. Within thirty (30) calendar days after notifying of the Regional Administrator, the Permittee shall submit a SWMU Assessment Report. This Report must provide, at a minimum, the following information for each newly identified SWMU:

(a) Type of unit;

(b) Location of each unit on a topographic map of appropriate scale;

(c) Dimensions, capacities and structural description of the unit (supply available engineering drawings);

(d) Function of unit;

(e) Dates that the unit was operated;

(f) Description of the wastes that were placed or spilled at the unit;

(g) Description of any known releases from the unit (to include groundwater data, soil analyses, air monitoring data, and/or surface water/sediment data);

(h) The results of any sampling and analysis required for the purpose of determining whether releases of hazardous waste or constituents have occurred, are occurring, or are likely to occur from the unit; and

(i) Whether this unit, individually or in combination with other units listed in Module Condition A.3. of this Module is a significant source of contaminant release.

3. SWMU Sampling and Analysis Plan. Within thirty (30) calendar days after submittal of the SWMU Assessment Report required in Condition C.2 of this Module, the permittee shall submit a Plan in accordance with most recent version of the NYSDEC RCRA Quality Assurance Project Plan Guidance, for any sampling and analysis of ground water, land surface and subsurface strata, surface waters/sediment or air, as necessary to determine whether a release of hazardous waste or constituents from such unit(s) has occurred, is likely to have occurred, or is likely to occur. The SWMU Sampling and Analysis Plan must demonstrate that the sampling and analysis program, if applicable, is capable of yielding representative samples and must include parameters sufficient to identify migration of hazardous waste or constituents from the newly-discovered SWMU(s) to the environment.

4. Subsequent Assessment Actions. Following submission of the SWMU Assessment Sampling and Analysis Plan set forth in Condition C.3. of this Module, subsequent activities for the Plan shall proceed in accordance with the following schedule:

(a) Meeting between the Permittee, the Agency and the Department to discuss Plan comments, as appropriate.

(b) Submission of a revised Plan to the Regional Administrator within thirty (30) calendar days of the above-described meeting. (If the Regional Administrator determines that the above referenced meeting is not necessary, the Permittee shall submit a revised Plan to the Regional Administrator, according to a schedule specified by the Agency, not to exceed forty-five (45) calendar days after Permittee's receipt of Plan comments from the Regional Administrator.); and

(c) Begin implementation of the Plan within thirty (30) days following written approval from the Regional Administrator for the Plan.

5. SWMU Sampling and Analysis Report. Within thirty (30) calendar days of receipt by the Permittee of validated analytical data generated under the approved SWMU Sampling and Analysis Plan, the Permittee shall submit a SWMU Sampling and Analysis Report to the Regional Administrator. The Report shall follow reporting requirements in the approved Plan and describe all results obtained from the implementation of the approved Plan.

6. Assessment Conclusions. Based on the results of the SWMU Sampling and Analysis Report, the Regional Administrator shall determine the need for further investigations at specific unit(s) covered in either the SWMU Assessment Report or the SWMU Sampling and Analysis Report. If the Regional Administrator determines that such investigations are needed, the Regional Administrator shall by written notification require the Permittee to prepare and submit for approval a RCRA Facility Investigation Work Plan in accordance with Condition E.1. of this Module.

D. NOTIFICATION REQUIREMENTS FOR NEWLY-DISCOVERED RELEASES AT SWMUS

The Permittee shall notify the Regional Administrator, in writing, of any release(s) of hazardous waste or constituents discovered during the course of ground-water monitoring, field investigation, environmental auditing, or other activities no later than fifteen (15) calendar days after discovery. Such newly-discovered releases may be from newly-identified units, from units for which, based on the findings of the RFA, the Regional Administrator had previously determined that no further investigation was necessary, or from units investigated as part of an RFI. Based on the information provided in the notification the Regional Administrator shall determine the need for further investigation of the release(s). If the Regional Administrator determines that such investigations are needed, the Regional Administrator shall, by written notification, require the Permittee to prepare and submit for approval a RCRA Facility Investigation Work Plan in accordance with Condition E.1. et. seq. of this Module.

E. CORRECTIVE ACTION REQUIREMENTS

1. RCRA Facility Investigation ("RFI") Work Plan.

(a) The Permittee shall submit to the Regional Administrator, for approval a RCRA Facility Investigation Task I Report or Current Conditions required by Task I of the RFI Scope of Work included in this Permit as Appendix A. A Task I Report shall be submitted for approval within sixty (60) calendar days after the written notification by the Regional Administrator that an RFI is required pursuant to Conditions C.6. and/or D. of this Module.

(b) The Permittee shall submit to the Regional Administrator for approval a RCRA Facility Investigation Task II Report on the Pre-Investigation Evaluation of Corrective Measures Technologies required by RFI Scope of Work included in this Permit as Appendix A. A Task II Report shall be submitted for approval within ninety (90) calendar days after the written notification by the Regional Administrator that an RFI is required pursuant to Condition C.6. and/or D. of this Module.

(c) The Permittee shall submit for approval a RFI Work Plan to the Regional Administrator to address those units, releases of hazardous waste or constituents, and media of concern which require the further investigations. A RFI Work Plan shall be submitted within ninety (90) calendar days after written notification by the Regional Administrator that an RFI is required pursuant to Conditions C.6. and/or D. of this Module.

(i) The Work Plan shall describe the objectives of the investigation and the overall technical and analytical approach to completing all actions necessary to characterize the nature, direction, rate, movement, and concentration of releases of hazardous waste or constituents from specific SWMUs or groups of SWMUs, and their actual or potential receptors. The Work Plan shall detail all proposed activities and procedures to be conducted at the facility and/or off-site, the schedule for implementing and completing such investigations, the

qualifications of personnel performing or directing the investigations, including contractor personnel, and the overall management of the RFI.

(ii) The Work Plan shall discuss sampling, data collection strategy, methods of sample analysis, as well as quality assurance and data management procedures, including formats for documenting and tracking data and other results of investigations, and health and safety procedures.

(iii) The Work Plan must, at a minimum, address all necessary activities or include descriptions to meet the requirements specified in Tasks III through Task V of the Scope of Work for a RCRA Facility Investigation included in this Permit as Appendix A and its attachments.

(iv) The Permittee may determine that any of the items required by Tasks III through V of the Scope of Work in Appendix A of this Permit have already been submitted or completed, and therefore, the items are not necessary for completing the RFI of this Permit. The Permittee shall request, within thirty (30) calendar days of the effective date of this Permit, and/or within thirty (30) calendar days of any notification by the Regional Administrator that an RFI is required, that the Administrator review for approval the Permittee's determination. At the time of the request, the Permittee must provide the following information: (1) description of the items and/or summary of findings; (2) description of investigations addressing the items, documents/ reports of the investigations with dates, and summary of the findings; and (3) copies of the documents/reports.

Upon EPA's approval of any previously performed items, the Permittee may delete these from the RFI Work Plan. However, upon EPA's disapproval of items, all activities necessary for the

items must be included in the RFI Work Plan.

(d) Following submission of the RFI Work Plan set forth in Condition E.1.(c) of this Module, subsequent activities for the Plan shall proceed in accordance with the following schedule:

(i) Meeting between the Permittee, the Agency and the Department to discuss Plan comments, as appropriate.

(ii) Submission of a revised Plan to the Regional Administrator, for approval, within thirty (30) calendar days of the above-described meeting. (If the Regional Administrator determines that the above referenced meeting is not necessary, the Permittee shall submit a revised Plan to the Regional Administrator, according to a schedule specified by the Agency, not to exceed forty-five (45) calendar days after Permittee's receipt of Plan comments from the Regional Administrator.)

(e) The Regional Administrator shall review, for approval as part of the RFI Work Plan, any plans developed pursuant to Condition C.6 of this Module, addressing further investigations of newly-identified SWMUs, or Condition D of this Module, addressing newly discovered releases from SWMUs. The Regional Administrator shall modify the Schedule of Compliance according to the permit modification procedures under 40 C.F.R. § 270.41, to incorporate these units and releases into the RFI Workplan.

2. RCRA Facility Work Plan Implementation. No later than thirty (30) calendar days after notification by the Regional Administrator approving the RFI Workplan, the Permittee shall begin implementation of the RFI according to the schedules specified in the RFI Workplan. The RFI shall be conducted in accordance with the approved RFI Workplan.

3. RCRA Facility Investigation Final Report and Summary Report.

(a) Within sixty (60) calendar days of receipt by the Permittee of validated analytical data generated under the approved RFI Work Plans, the Permittee

shall submit, to the Regional Administrator, RFI Final and Summary Reports, Task VII of the Scope of Work for RFI in Appendix A of this Permit. The RFI Final Report must contain adequate information to support further corrective action decisions at the facility, should such actions be necessary. The RFI Final Report shall describe the procedures, methods, and results of all facility investigations of SWMUs and their releases, including information on the type and extent of contamination at the facility, sources and migration pathways, and actual or potential receptors. It shall also present all information gathered under the approved RFI Work Plan. The RFI final report will include a comparison of media specific hazardous constituents with their corresponding action levels. The RFI Summary Report shall describe more briefly the procedures, methods, and results of the RFI.

(b) Following submission of the Reports set forth in Condition E.3.(a) of this Module, subsequent activities for the Reports shall proceed in accordance with the following schedule:

(i) Meeting between the Permittee, the Agency and the Department to discuss Report comments, as appropriate.

(ii) Submission of a revised Report to the Regional Administrator within forty-five (45) calendar days of the above-described meeting. (If the Regional Administrator determines that the above referenced meeting is not necessary, the Permittee shall submit a revised Report to the Regional Administrator, according to a schedule specified by the Agency, not to exceed forty-five (45) calendar days after Permittee's receipt of Report comments from the Regional Administrator.)

(c) After the Regional Administrator approves the RFI Final Report and Summary Report, the Permittee shall mail the approved Summary Report to all individuals on the facility mailing list established pursuant to 40 CFR §124.10(c)(1), within thirty (30) calendar days of receipt of approval.

(d) A report summarizing the testing program required by Task VI of the Scope of Work for RFI in Appendix A to this Permit shall be submitted, as a separate document, at the same time as the RFI Final Report.

4. Current Interim Corrective Measures.

Not Aplicable

5. Corrective Measures Study ("CMS") Plan.

(a) Should a CMS be required, the Regional Administrator shall notify the Permittee in writing. This notice shall identify the hazardous constituent(s) which have exceeded action levels as well as those which have been determined to threaten human health and the environment given site specific exposure conditions or due to additive exposure risk. The notification shall specify target cleanup levels for hazardous constituents detected in each medium of concern, and may also specify corrective measure alternatives to be evaluated by the Permittee during the CMS.

(b) The Regional Administrator may require a Corrective Measures Study ("CMS") under the following conditions:

(i) If the concentrations of hazardous constituents in groundwater, surface water/sediment, soil, or air exceed their corresponding individual action levels;

(ii) If the concentrations of hazardous constituents in groundwater, surface water/sediment, soil, or air do not exceed their corresponding individual action levels, but additive exposure risk due to the presence of multiple constituents is not protective of human health; or

(iii) If the concentrations of hazardous constituents in groundwater, surface water/sediment, soil, or air do not exceed corresponding individual action levels, but nevertheless pose a threat to human health or the environment, given site-specific exposure conditions.

(c) The CMS will be considered complete upon completion of Tasks I through IV of the Appendix B of this Permit. Within sixty (60) calendar days after the notification required by Condition E.5.(a) of this Module, the Permittee shall complete Task I and submit to EPA a Task I report and documents, if any, relevant to other Tasks.

(d) The Permittee shall submit CMS Plan to the Regional Administrator within sixty (60) calendar days after the notification required by Condition E.5.(a) of this Module.

(i) The CMS Plan shall provide:

(1) A description of the general approach to investigating and evaluating potential corrective measures;

(2) A definition of the overall objectives of the study;

(3) The specific plans for evaluating corrective measures to ensure compliance with corrective measure standards;

(4) The schedule for conducting the study; and

(5) The proposed format for the presentation of information.

(ii) The CMS Plan must address, at a minimum, all necessary activities to complete Tasks II and III of Appendix B of this Permit.

(e) Following submission of the CMS Plan set forth in Condition E.5.(d) of this Module, subsequent activities for the Plan shall proceed in accordance with the following schedule:

(i) Meeting between the Permittee, the Agency and the Department to discuss Plan comments, as appropriate.

(ii) Submission of a revised Plan to the Regional Administrator within thirty (30) calendar days of the above-described meeting. (If the Regional Administrator determines that the above

referenced meeting is not necessary, the Permittee shall submit a revised Plan to the Regional Administrator, according to a schedule specified by the Agency, not to exceed forty-five (45) calendar days after Permittee's receipt of Plan comments from the Regional Administrator.)

6. Corrective Measures Study Implementation. No later than thirty (30) calendar days after the Permittee has received written approval from the Regional Administrator for the CMS Plan, the Permittee shall begin to implement the CMS according to the schedules specified in the CMS Plan. The CMS shall be conducted in accordance with the approved plan submitted pursuant to Condition E.5 of this Module.

7. Corrective Measures Study Final Report.

   (a) Within forty-five (45) calendar days after the completion of the CMS, the Permittee shall submit a CMS Final Report (Task IV). The CMS Final Report shall:

      (i) Summarize the results of the investigations and, if applicable, of any bench-scale or pilot tests conducted;

      (ii) Provide a detailed description of the corrective measures evaluated and include an evaluation of how each corrective measure alternative meet the standards set forth in Condition E.8.(a) of this Module;

      (iii) Present all information gathered under the approved CMS Plan; and

      (iv) Contain any additional information to support the Regional Administrator in the corrective measure selection decision-making process, described under Condition E.8. of this Module.

   (b) The CMS Final Report (Task IV) must address, at a minimum, all items necessary to demonstrate completion of Task II and III required by the CMS Scope of Work included in Appendix B of this Permit.

(c) Following submission of the CMS Report set forth in Module Condition E.7.(a), subsequent activities for the Report shall proceed in accordance with the following schedule:

(i) Meeting between the Permittee, the Agency, and the Department to discuss the Report comments, as appropriate.

(ii) Submission of a revised Report to the Regional Administrator within thirty (30) days of the above-described meeting. (If the Regional Administrator determines that the above referenced meeting is not necessary, the Permittee shall submit a revised Report to the Regional Administrator, according to a schedule specified by the Agency, not to exceed forty-five (45) calendar days after Permittee's receipt of Report comments from the Regional Administrator.)

(d) Based on preliminary results and/or the CMS Final Report, the Regional Administrator may require the Permittee to evaluate additional corrective measures or particular elements of one or more proposed corrective measures.

8. Corrective Measures Selection.

(a) Based on the results of the documents submitted under Condition E.3 of this Module for the RFI, under Condition E.7 of this Module for the CMS, and any further evaluations of additional corrective measures under this study, the Regional Administrator shall select a corrective measures that, at a minimum, will meet the following standards:

(i) Be protective of human health and the environment;

(ii) Attain media cleanup standards selected by the Regional Administrator during the corrective measures selection process;

(iii) Control the source(s) of release(s) so as to reduce or eliminate, to the maximum extent practicable, further releases of hazardous waste or

constituents that might pose a threat to human health and the environment; and

(iv) Meet all applicable waste management requirements.

(b) In selecting the corrective measure(s) which meets the standards for remedies established under Module Condition E.8.(a)., the Regional Administrator shall consider the following evaluation factors, as appropriate:

(i) Long-term reliability and effectiveness. Any potential corrective measure(s) may be assessed for the long-term reliability and effectiveness it affords, along with the degree of certainty that the corrective measure(s) will prove successful. Factors that shall be considered in this evaluation include:

(1) Magnitude of residual risks in terms of amounts and concentrations of hazardous waste or constituents remaining following implementation of a corrective measure(s), considering the persistence, toxicity, mobility and potential to bioaccumulate of such hazardous wastes or constituents;

(2) The type and degree of long-term management required, including monitoring and operation and maintenance;

(3) Potential for exposure of humans and environmental receptors to remaining hazardous wastes or constituents considering the potential threat to human health and the environment associated with excavation, transportation, redisposal or containment;

(4) Long-term reliability of the engineering and institutional controls, including uncertainties associated with land disposal of untreated hazardous wastes or

constituents, and their residuals; and

(5) Potential need for replacement of the corrective measure(s).

(ii) Reduction of toxicity, mobility, or volume. A potential remedy(s) may be assessed as to the degree to which it employs treatment that reduces toxicity, mobility or volume of hazardous wastes or constituents. Factors that shall be considered in such assessments include:

(1) The treatment processes the corrective measure(s) employs and materials it would treat;

(2) The amount of hazardous wastes or constituents that would be destroyed or treated;

(3) The degree to which the treatment is irreversible;

(4) The residuals that will remain following treatment, considering the persistence, toxicity, mobility and propensity to bioaccumulate of such hazardous wastes or constituents; and

(5) All concentration levels of hazardous waste or constituents in each medium that corrective measure(s) must achieve to be protective of human health and the environment.

(iii) The short-term effectiveness of a potential corrective measure(s) may be assessed considering the following:

(1) Magnitude of reduction of existing risks;

(2) Short-term risks that might be posed to the community, workers, or the environment during implementation of such a corrective measure(s), including potential threats to human health and the

environment associated with excavation, transportation, and redisposal or containment; and

(3) Time until full protection is achieved.

(iv) Implementability. The ease or difficulty of implementing a potential corrective measure(s) may be assessed by considering the following types of factors:

(1) Degree of difficulty associated with constructing the technology;

(2) Expected operational reliability of the technologies;

(3) Need to coordinate with and obtain necessary approvals and permits from other agencies;

(4) Availability of necessary equipment and specialists;

(5) Available capacity and location of needed treatment, storage, disposal services; and

(6) Requirements for removal, decontamination, closure, or post-closure of units, equipment, devices or structures that will be used to implement the corrective measure(s).

(v) Cost. The types of costs that may be assessed including the following:

(1) Capital costs;

(2) Operational and maintenance costs;

(3) Net present value of capital and operation and maintenance costs; and

(4) Potential future corrective action costs.

9. Permit Modification for Corrective Measure(s).

(a) Based on the information the Permittee submits in the RFI Final and Summary Reports, under Condition E.3 of this Module; the CMS Final Report, under Condition E.7 of this Module; and other information: the Regional Administrator will select a corrective measure(s) and initiate a permit modification to this Permit, pursuant to 40 C.F.R. § 270.41. The modification will specify the selected corrective measure(s) and include, at a minimum, the following:

(i) Description of all technical features of the corrective measure(s) that are necessary for achieving the standards for corrective measure(s) established under Condition E.8.(a) of this Module, including length of time for which compliance must be demonstrated at specified points of compliance;

(ii) All media cleanup standards for hazardous constituents, selected by the Regional Administrator, that the corrective measure(s) must achieve to be protective of human health and the environment;

(iii) All requirements for achieving compliance with these cleanup standards;

(iv) All requirements for complying with the standards for management of wastes;

(v) Requirements for removal, decontamination, closure, or post-closure of units, equipment, devices or structures that will be used to implement the corrective measure(s);

(vi) A schedule for initiating and completing all major technical features and milestones of the corrective measure(s); and

(vii) Requirements for submission of reports and other information.

(b) Within thirty (30) calendar days after this Permit has been modified, the Permittee shall demonstrate in writing to the Regional Administrator that

financial assurance for completing the approved corrective measure(s).

10. Modification of Compliance Schedule.

(a) Upon [prior] request of the Permittee, the Regional Administrator may extend a compliance deadline set forth in Appendix C of this Permit by a period not to exceed ninety (90) days. Subsequent compliance deadlines that are determined by a deadline for which an extension under this Condition III.E.10.(a) shall not exceed one hundred and eighty (180) days.

(b) If at any time the Permittee determines that modification of any Compliance Schedule of Appendix C of this Permit (as modified pursuant to Condition III.E.10.(a)) cannot be met, the Permittee must:

(i) Notify the Regional Administrator in writing within fifteen (15) calendar days of such determination; and

(ii) Provide, an explanation why the current schedule cannot be met.

(c) If the Permittee submits a notification and explanation pursuant to Condition III.E.10.(b), above, or if at any time the Regional Administrator determines that the Compliance Schedule set forth in Appendix C of this Permit (as modified by Condition III.E.10.(a)) cannot be met, the Regional Administrator shall notify the Permittee and all persons on the facility mailing list in writing of the modification to the Compliance Schedule deemed necessary by the Regional Administrator. Such notice will:

(i) Describe the exact change(s) to be made to the Permit conditions;

(ii) Provide an explanation of why the modification is needed;

(iii) Provide notification that supporting documentation or data may be available for inspection at the Regional office; and

(iv) Specify the date on which the modification will become effective.

(d) Any modification to the Compliance Schedule set forth in Appendix C of this Permit (as modified pursuant to Condition III.E.10.(a)) initiated pursuant to Condition III.E.10.(b), shall become effective no less than fifteen (15) days after the notification pursuant to Condition III.E.10.(c) has been provided.

(e) Modification to the Compliance Schedule set forth in Appendix C of this Permit pursuant to this Condition III.E.10 does not constitute a reissuance of this Permit.

(f) All other modifications to this Permit must be made in accordance with Module I, Condition K, of this Permit.

11. Corrective Action Through Post-Closure.

Not Applicable

12. Corrective Action Through Closure.

Not Applicable

13. Corrective Action Through Orders-on-Consent.

New York State Department of Environmental Conservation Order on Consent (Index # W1-0018-81-01) is found in Appendix F of Permit. The Agreement stipulates the remedial program which the Permittee shall implement for releases from the following SWMU(s) and/or AOC(s) identified in Module Condition A.3:

SWMU(s):

Waste Recycling Unit

AOC(s):

Recharge Basins [Nine (9) Recharge Basins not on Navy Property]

The geographical locations of the Waste Recycling Unit and the Recharge Basins listed above may be found in Appendix F of the Permit. Corrective Action for any releases from these areas is required under the permit. However, as there already is an existing Order on Consent for investigation and remediation of these areas, the New York State Department of Environmental Conservation, Division of Hazardous Waste Remediation is the lead authority for oversight of corrective

action activities at the Waste Recycling Unit and Recharge Basins. Reference to the Order on Consent in this Permit shall not be construed as a waiver or modification of any party's rights, duties, or obligations under their Permit, including the release(s) provided therein.

MODULE IV - WASTE MINIMIZATION

A. SUBMITTAL REQUIREMENTS. Pursuant to 40 C.F.R. §264.73(b)(9), and Section 3005(h) of RCRA, 42 U.S.C. §6925(h), the Permittee must submit to the Regional Administrator, at least annually, a waste minimization report by the owner or operator. This report and all accompanying documentation will be submitted by July 1 of each year after the effective date of this Permit.

B. WASTE MINIMIZATION REPORT. The Permittee must certify that:

(1) A program is in place to reduce the volume and toxicity of hazardous waste generated to the degree determined by the Permittee to be economically practicable; and

(2) The proposed method of treatment, storage or disposal is that practicable method currently available to the Permittee which minimizes the present and future threat to human health and the environment.

C. HAZARDOUS WASTE REDUCTION PLAN (HWRP). The Permittee shall submit a HWRP by July 1 of the first year following permit issuance. The HWRP shall be updated at least biennially to reflect changes in the HWRP, and submitted by July 1 of that year. The HWRP shall include at a minimum, the following information:

(1) Identify, by waste stream, amounts and types of all acute hazardous waste generated.

(2) Identify, by waste stream, amounts and types of non-acute hazardous waste for streams greater than five (5) tons and,

(3) Identify at least 90% of all non-acute hazardous waste generated at the facility.

(4) Describe source of generation and waste management method for each waste stream.

(5) Provide list of technically feasible and economically practicable waste reduction measures.

(6) Provide a program plan and schedule for implementing technically feasible and economically practicable waste reduction over time.

The following guidance documents should be used in developing the HWRP:

Waste Minimization Opportunity Assessment Manual, EPA/625/7-88/003, July 1988. Available through: EPA, Office of Research and Development, Cincinnati, Ohio 45268, tel. 513/569-7562 or NTIS, 5285 Port Royal Road, Springfield, VA 22161, tel. 703/487-4600.

Region II HWRP Requirements.
Available through EPA Region II, Hazardous Waste Facilities Branch, Andrew Bellina, tel. 212/264-0505.

New York State Waste Reduction Guidance Manual
March 1989.

New York State Waste Reduction Guidance Manual Supplement, December 1990. Available through the New York State Department of Environmental Conservation, Bureau of Pollution Prevention, 50 Wold Road, Albany, New York 12233-7253, tel. 518/485-8400.

D. RELATIONSHIP TO NEW YORK STATE DEPARTMENT OF CONSERVATION REQUIREMENTS, Submittal of a complete HWRP required by Article 27, Title 9, Section 27-0908 of the New York State Environmental Conservation Law shall be considered as compliance with conditions A, B and C above.

E. IMPLEMENTATION OF WASTE REDUCTION TECHNIQUES. The Permittee shall implement the feasible waste reduction techniques in accordance with the schedule in the HWRP.

MODULE V - LAND DISPOSAL RESTRICTIONS

A. BACKGROUND. HSWA prohibits the continued land disposal of untreated hazardous wastes beyond specified dates, "unless the Administrator determines that the prohibition ... is not required in order to protect human health and the environment for as long as the wastes remain hazardous..." (RCRA Sections 3004(d)(1), (e)(1), (g)(5), 42 U.S.C. §6924(d)(1), (e)(1), (g)(5).

Pursuant to 40 C.F.R. § 264.13(a)(1), before an owner or operator treats, stores, or disposes of any hazardous waste, he must obtain a detailed chemical and physical analysis of a representative sample of the waste. At a minimum, this analysis must contain all the information which must be known to treat, store or dispose of the waste in accordance with the requirements of 40 C.F.R. Parts 264 and 268 or with the conditions of a permit issued under 40 C.F.R. Parts 270 and 124.

The Permittee shall comply with the waste analysis, notification, certification, and recordkeeping requirements of 40 C.F.R. § 268.7 whenever generating, treating, or managing a restricted waste.

B. STORAGE OF RESTRICTED WASTES. The Permittee may store such wastes to which the land disposal prohibition applies for up to one year unless the Agency can demonstrate that such storage was not solely for the purpose of accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment, or disposal. (40 C.F.R. § 267.50(b)).

The Permittee may store wastes to which the land disposal prohibition applies beyond one year; however, the Permittee bears the burden of proving that such storage was solely for the purpose of accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment, or disposal. (40 C.F.R. § 268.50(c)).

C. LAND DISPOSAL OF RESTRICTED WASTES. The land disposal of restricted waste is prohibited unless the applicable treatment standard is met, or the waste is exempt under 40 C.F.R. § 268.1(c).

D. RESTRICTION DATES. The above restrictions become effective and are phased in for specific hazardous wastes over a period which began November 8, 1986.

The Permittee is required to comply with the restrictions and applicable dates which are specified in 40 C.F.R. Part 268 for all hazardous waste regulated under this Permit and the NYSDEC 6NYCRR 373-2 Permit.

MODULE VI - ORGANIC AIR EMISSION STANDARDS FOR PROCESS VENTS AND EQUIPMENT LEAKS

A. BACKGROUND: Under the authority of Section 3004(n), 42 U.S.C. § 6924, of the 1984 Hazardous Solid Waste Amendments (HSWA) to the Resource Conservation and Recovery Act (RCRA), on June 21, 1990, EPA promulgated standards for monitoring and control of organics air emissions from hazardous waste treatment, storage and disposal facilities requiring a permit under Subtitle C of RCRA. These standards became effective on December 21, 1990.

B. COMPLIANCE SCHEDULE: The Permittee shall comply with 40 C.F.R. Part 264, Subpart AA - Air Emission Standards for Process Vents - and Part 264, Subpart BB - Air Emission Standards for Equipment Leaks, as applicable.

APPENDIX A

SCOPE OF WORK FOR A RCRA FACILITY INVESTIGATION

Grumman Aerospace Corporation
and
Naval Weapons Industrial Reserve Plant (NWIRP)
Mail Stop: B08/30
Bethpage, New York 11714-3580
EPA I.D. No. NYD002047967

Appendix A

SCOPE OF WORK FOR A RCRA FACILITY INVESTIGATION (RFI) AT GRUMMAN AEROSPACE CORPORATION AND NAVAL WEAPONS INDUSTRIAL RESERVE PLANT (NWIRP)

I. PURPOSE

The purpose of this RCRA Facility Investigation is to determine the nature rate, direction and extent of releases of hazardous waste, including hazardous constituents, from solid waste management units and other source areas at the facility including areas off-site impacted by the release(s) from the facility, and to gather all necessary data to support the Corrective Measures Study. The Permittee shall furnish all personnel, materials, and services necessary for, or incidental to, performing the RCRA remedial investigation.

II. SCOPE

The RCRA Facility Investigation consists of seven tasks:

Task I: Description of Current Conditions

- A. Facility Background
- B. Nature and Extent of Contamination
- C. Implementation of Interim Measures

Task II: Pre-Investigation Evaluation of Corrective Measure Technologies

Task III: RFI Management Plans

- A. Project Management Plan
- B. Data Collection Quality Assurance Plan
- C. Data Management Plan
- D. Health and Safety Plan
- E. Community Relations Plan

Task IV: Facility Investigation

- A. Environmental Setting
- B. Source Characterization
- C. Contamination Characterization
- D. Potential Receptor Identification

Task V: Investigation Analysis

A. Data Analysis
B. Protection Standards

Task VI: Laboratory and Bench-Scale Studies

Task VII: Reports

A. Progress
B. Draft and Final

III. TASK I: DESCRIPTION OF CURRENT CONDITIONS

The Permittee shall submit for EPA approval a report providing the background information pertinent to the facility, contamination and interim measures as set forth below. The data gathered during any previous investigations or inspections and other relevant data shall be included. The report must include, at a minimum, the following information:

A. Facility Background

The Permittee's report shall summarize the regional location, pertinent boundary features, general facility physiography, hydrogeology, and historical use of the facility for the treatment, storage or disposal of solid and hazardous waste. The Permittee's report shall include:

1. Map(s) depicting the following:

   (a) General geographic location;

   (b) Property lines, with the owners of all adjacent property clearly indicated;

   (c) Topography and surface drainage (with a contour interval of two (2) feet and a scale of 1 inch = 100 feet) depicting all waterways, wetlands, floodplains, water features, drainage patterns, and surface-water containment areas;

   (d) All tanks, buildings, utilities, paved areas, easements, rights-of-way, and other features;

   (e) All solid or hazardous waste treatment, storage or disposal areas active after November 19, 1980;

(f) All known past solid or hazardous waste treatment, storage or disposal areas regardless of whether they were active on November 19, 1980;

(g) All known past and present product and waste underground tanks or piping;

(h) Surrounding land uses (residential, commercial, agricultural, recreational); and

(i) The location of all production and groundwater monitoring wells. These wells shall be clearly labeled and ground and top of casing elevations and construction details included (these elevations and details may be included as an attachment).

All maps shall be consistent with the requirements set forth in 40 CFR 270.14 and be of sufficient detail and accuracy to locate and report all current and future work performed at the site;

2. A history and description of ownership and operation, solid and hazardous waste generation, treatment, storage and disposal activities at the facility;

3. Approximate dates or periods of past product and waste spills, identification of the materials spilled, the amount spilled, the location where spilled, and a description of the response actions conducted (local, state, or federal response units or private parties), including any inspection reports or technical reports generated as a result of the response; and

4. A summary of past permits requested and/or received, any enforcement actions and their subsequent responses and a list of documents and studies prepared for the facility.

B. Nature and Extent of Contamination

1. The Permittee's report shall summarize all possible source areas of contamination. This, at a minimum, should include all regulated units, solid waste management units, spill areas, and other suspected source areas of contamination. For each area, the Permittee shall identify the following:

(a) Location of unit/area (which shall be depicted on a facility map);

(b) Quantities of solid and hazardous wastes;

(c) Hazardous waste or constituents, to the extent known; and

(d) Identification of areas where additional information is necessary.

2. The Permittee shall prepare an assessment and description of the existing degree and extent of contamination. This should include:

(a) Available monitoring data and qualitative information on locations and levels of contamination at the facility;

(b) All potential migration pathways including information on geology, petrology, hydrogeology, physiography, hydrology, water quality, meteorology, and air quality; and

(c) The potential impact(s) on human health and the environment, including demography, groundwater and surface-water use, and land use.

C. Implementation of Interim Measures

The Permittee's report shall document interim measures which were or are being undertaken at the facility. This shall include:

1. Objectives of the interim measures: how the measure is mitigating a potential threat to human health and the environment and/or is consistent with and integrated into any long term solution at the facility;

2. Design, construction, operation, and maintenance requirements;

3. Schedules for design, construction and monitoring; and

4. Schedule for progress reports.

IV. TASK II: PRE-INVESTIGATION EVALUATION OF CORRECTIVE MEASURE TECHNOLOGIES

The Permittee shall submit a report that identifies the potential corrective measure technologies that may be used on-site or off-site for the containment, treatment, remediation, and/or disposal of contamination. This report shall also identify any field data that needs to be collected in the facility investigation to facilitate the evaluation and selection of the final corrective measure or measures (e.g., compatibility of waste and construction materials, information to evaluate effectiveness, treatability of wastes, etc.).

V. TASK III: RFI MANAGEMENT PLANS

The Permittee shall submit RFI Management Plans. These Plans shall be followed during the implementation of RFI, and will be part of the RFI Workplan. During the RFI, these Management Plans may be necessary for revisions depending on the detail of information collected to accommodate the facility specific situation. The RFI Management Plans include the following:

A. Project Management Plan

The Permittee shall prepare a Project Management Plan which will include a discussion of the technical approach, schedules, budget, 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. Data Collection Quality Assurance Plan

The Permittee shall prepare a plan to document all monitoring procedures: sampling, field measurements, and sample analysis performed during the investigation to characterize the environmental setting, source, and contamination, so as to ensure that all information, data and resulting decisions are technically sound, statistically valid, and properly documented.

1. Data Collection Strategy

The strategy section of the Data Collection Quality Assurance Plan shall include but not be limited to the following:

(a) Description of the intended uses for the data, and the necessary level of precision and accuracy for these intended uses;

(b) Description of methods and procedures to be used to assess the precision, accuracy and completeness of the measurement data;

(c) Description of the rationale used to assure that the data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, a process condition or an environmental condition. Examples of factors which shall be considered and discussed include:

(i) Environmental conditions at the time of sampling;

(ii) Number of sampling points;

(iii) Representativeness of selected media; and

(iv) Representativeness of selected analytical parameters.

(d) Description of the measures to be taken to assure that the following data sets can be compared to each other:

(i) RFI data generated by the Permittee over some time period;

(ii) RFI data generated by an outside laboratory or consultant versus data generated by the Permittee;

(iii) Data generated by separate consultants or laboratories; and

(iv) Data generated by an outside consultant or laboratory over some time period.

(e) Details relating to the schedule and information to be provided in quality assurance reports. The reports should include but not be limited to:

(i) Periodic assessment of measurement data accuracy, precision, and completeness;

(ii) Results of performance audits;

(iii) Results of system audits;

(iv) Significant quality assurance problems and recommended solutions; and

(v) Resolutions of previously stated problems.

2. Sampling

The Sampling section of the Data Collection Quality Assurance Plan shall discuss:

(a) Selecting appropriate sampling locations, depths, etc.;

(b) Providing a statistically sufficient number of sampling sites;

(c) Measuring all necessary ancillary data;

(d) 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 sample (e.g., composites vs. grabs) and number of samples to be collected;

(i) Measures to be taken to prevent contamination of the sampling equipment and cross contamination between sampling points;

(j) 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, and adsorbing 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 devices;

(v) Collection of replicate samples;

(vi) Submission of field-biased blanks, where appropriate;

(vii) Potential interferences present at the facility;

(viii) Construction materials and techniques, associated with monitoring wells and piezometers;

(ix) Field equipment listing and sample containers;

(x) Sampling order; and

(xi) Decontamination procedures.

(k) Selecting appropriate sample containers;

(l) Sample preservation; and

(m) Chain-of-custody, including:

(i) Standardized field tracking reporting forms to establish sample custody in the field prior to and during shipment; and

(ii) Pre-prepared sample labels containing all information necessary for effective sample tracking.

3. Field Measurements

The Field Measurements section of the Data Collection Quality Assurance Plan shall discuss:

(a) Selecting appropriate field measurement locations, depths, etc.;

(b) Providing a statistically sufficient number of field measurements;

(c) Measuring all necessary ancillary data;

(d) Determining conditions under which field measurements should be conducted;

(e) Determining which media are to be addressed by appropriate field measurements (e.g., groundwater, air, soil, sediment, etc.);

(f) Determining which parameters are to be measured and where;

(g) Selecting the frequency of field measurement and length of field measurements period; and

(h) Documenting field measurement operations and procedures, including:

(i) Procedures and forms for recording raw data and the exact location, time, and facility-specific considerations associated with the data acquisition;

(ii) Calibration of field devices;

(iii) Collection of replicate measurements;

(iv) Submission of field-biased blanks, where appropriate;

(v) Potential interferences present at the facility;

(vi) Construction materials and techniques associated with monitoring wells and piezometers used to collect field data;

(vii) Field equipment listing;

(viii) Order in which field measurements were made; and

(ix) Decontamination procedures.

4. Sample Analysis

The Sample Analysis section of the Data Collection Quality Assurance Plan shall specify the following:

(a) Chain-of-custody procedures, including:

(i) Identification of a responsible party to act as sample 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 dispersement for analysis.

(b) Sample storage procedures and storage times;

(c) Sample preparation methods;

(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 sample(s);

(iv) Replicate sample(s);

(v) Matrix-spiked sample(s);

(vi) "Blind" quality control 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;

(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 transacts, three dimensional graphs, etc.):

(a) Display sampling location and sampling grid;

(b) Indicate boundaries of sampling area, and areas where more data are required;

(c) Display levels of contamination at each sampling location;

(d) Display geographical extent of contamination;

(e) Display contamination levels, averages, and maxima;

(f) Illustrate changes in concentration in relation to distance from the source, time, depth or other parameters; and

(g) Indicate features affecting intramedia transport and show potential receptors.

D. Health and Safety Plan

The Permittee shall prepare a facility Health and Safety Plan.

1. Major elements of the Health and Safety Plan shall include:

   (a) Facility description including availability of resources such as roads, water supply, electricity and telephone service;

   (b) Describe the known hazards and evaluate the risks associated with the incident and with each activity conducted;

   (c) List key personnel and alternates responsible for site safety, response operations, and for protection of public health;

   (d) Delineate work areas;

   (e) Describe levels of protection to be worn by personnel in work areas;

   (f) Establish procedures to control site access;

   (g) Describe decontamination procedures for personnel and equipment;

   (h) Establish site emergency procedures;

   (i) Address emergency medical care for injuries and toxicological problems;

   (j) Describe requirements for an environmental surveillance program;

   (k) Specify any routine and special training required for responders; and

   (l) Establish procedures for protecting workers from weather-related problems.

2. The Facility Health and Safety Plan shall be consistent with:

   (a) NIOSH Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities (1985);

   (b) EPA Order 1440.1 - Respiratory Protection;

(c) EPA Order 1440.3 - Health and Safety Requirements for Employees engaged in Field Activities;

(d) Facility Contingency Plan;

(e) EPA Standard Operating Safety Guide (1984);

(f) OSHA regulations particularly in 29 CFR 1910 and 1926;

(g) State, local, and other federal agency (e.g., DOD, DOE) regulations; and

(h) Other EPA guidance as provided.

E. Community Relations Plan

The Permittee shall prepare a plan, for the dissemination of information to the public regarding investigation activities and results.

VI. TASK IV: 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 contamination (Contamination Characterization); and identify actual or potential receptors.

The investigations should result in data of adequate technical quality to support the development and evaluation of the corrective measure alternative or alternatives during the Corrective Measures Study ("CMS").

The site investigation activities shall follow the plans set forth in Task III. All sampling and analyses shall be conducted in accordance with the Data Collection Quality Assurance 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 verify existing information on the environmental setting at the facility. The Permittee shall characterize the following:

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 groundwater 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) Identification and characterization of areas and amounts of recharge and discharge;

(v) Regional and facility specific groundwater flow patterns; and

(vi) Characterize seasonal variations in the groundwater flow regime.

(b) An analysis of any topographic features that might influence the groundwater flow system. (Note: Stereographic analysis of aerial photographs may aid in this analysis).

(c) Based on field data, test, 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 field studies and cores, structural geology, and hydrogeologic cross sections showing the extent (depth, thickness, lateral extent) of hydrogeologic units which may be part of the migration pathways identifying:

(i) Sand and gravel deposits in unconsolidated deposits;

(ii) Zones of fracturing or channeling in consolidated or unconsolidated deposits;

(iii) Zones of higher permeability or low permeability that might direct and restrict the flow of contaminants;

(iv) The uppermost aquifer: geologic formation, group of formations, or part of a formation capable of yielding a significant amount of groundwater to wells or springs; and

(v) Water-bearing zones above the first confining layer that may serve as a pathway for contaminant migration including perched zones of saturation.

(e) 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.

(f) A description of manmade influences that may affect the hydrogeology of the site, identifying:

(i) Active and inactive local water-supply and production wells with an approximate schedule of pumping; and

(ii) Manmade hydraulic structures (pipelines, french drains, ditches, unlined ponds, septic tanks, NPDES outfalls, retention areas, etc.).

2. Soils

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

(a) SCS soil classification;

(b) Surface soil distribution;

(c) Soil profile, including ASTM classification of soils;

(d) Transacts of soil stratigraphy;

(e) Hydraulic conductivity (saturated and unsaturated);

(f) Relative permeability;

(g) Bulk density;

(h) Porosity;

(i) Soil sorptive capacity;

(j) Cation exchange capacity (CEC);

(k) Soil organic content;

(l) Soil pH;

(m) Particle size distribution;

(n) Depth of water table;

(o) Moisture content;

(p) Effect of stratification on unsaturated flow;

(q) Infiltration

(r) Evapotranspiration;

(s) Storage capacity;

(t) Vertical flow rate; and

(u) 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 shall 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 purpose of impoundment;

(iii) For streams, ditches, drains, swamps and channels: location, elevation, flow, velocity, depth, width, seasonal fluctuations, and flooding tendencies (i.e., 100 year event);

(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 (NH3, NO3-/NO2-, PO4-3), 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.)

B. Source Characterization

The Permittee shall collect analytical data to completely characterize the wastes and the areas where wastes have been placed, collected or removed including: type; quantity; physical form; disposition (contain- ment or nature of deposits); and facility characteristics affecting release (e.g., facility security, and engineered barriers). This shall include quantification of the following specific characteristics at each source area:

1. Unit/Disposal Area characteristics:

(a) Location of unit/disposal area;

(b) Type of unit/disposal area;

(c) Design features;

(d) Operating practices (past and present);

(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 waste 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;

(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;

(xii) Vapor pressure.

(xiii) Flash point

(c) Migration and dispersal characteristics of the waste;

(i) Sorption;

(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. Contamination Characterization

The Permittee shall collect analytical data on groundwater, soils, and/or surface water/sediment contamination in the vicinity of the facility. This data shall be sufficient to define the extent, origin, direction, and rate of movement of contaminant plumes. Data shall include time and location of sampling, media sampled, concentrations found, and 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 at the facility. This investigation shall, at a minimum, provide the following information:

(a) A description of the horizontal and vertical extent of any immiscible or dissolved plume(s) 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 chemical contaminants;

(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 above the water table in the vicinity of the contaminant release(s). The investigation shall include the following information:

(a) A description of the vertical and horizontal extent of contami-nation.

(b) A description of contaminant and soil chemical properties within the contaminant source area and plume. This includes contaminant solubility, specification, adsorption, 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 contaminant movement.

(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 and sediment investigation to characterize potential contamination in surface-water bodies and sediments resulting from the contaminant release(s) by the facility. The investigation shall include, but not be limited to, the following information:

(a) A description of the horizontal and vertical extent of any immiscible or dissolved 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.;

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 may be needed. Data on observable effects in ecosystems may also be obtained. The following characteristics shall be identified:

1. Local uses and possible 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 groundwater users including wells and discharge areas.

2. Local uses and possible future uses of surface waters draining 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;

   (e) Zoning; and

   (f) Relationship between population locations and prevailing wind direction.

4. A description of the biota in surface water bodies on, adjacent to, or affected by the facility.

5. A description of the ecology overlying and adjacent to the facility.

6. A 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 endangered or threatened species near the facility.

VII. TASK V: INVESTIGATION ANALYSIS

The Permittee shall prepare an analysis and summary of all facility investi-gations and their results. 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 the Corrective Measures Study.

A. Data Analysis

The Permittee shall analyze all facility investigation data outlined in Task IV and prepare a report on the type and extent of contamination at the facility including sources and migration pathways. The report shall describe the extent of contamination (qualitative/quantitative) in relation to background levels indicative for the area.

B. Protection Standards

The Permittee shall identify all relevant and applicable standards for the protection of human health and the environment (e.g., National Ambient Air Quality Standards, federally-approved water quality standards, etc.).

VIII. TASK VI: LABORATORY AND BENCH-SCALE STUDIES

The Permittee shall conduct laboratory and/or bench scale studies to determine the applicability of a corrective measure technology or technologies to facility conditions. The Permittee shall analyze the technologies, based on literature review, vendor contracts, and past experience to determine the testing requirements.

The Permittee shall develop a testing plan identifying the types(s) and goal(s) of the study(s), the level of effort needed, and the procedures to be used for data management and interpretation.

Upon completion of the testing, the Permittee shall evaluate the testing results to assess the technology or technologies with respect to the site-specific questions identified in the test plan.

The Permittee shall prepare a report summarizing the testing program and its results, both positive and negative.

IX. TASK VII: REPORTS

A. Progress

The Permittee shall provide the EPA with signed, quarterly progress reports as required by Condition B.8.(a) of Module III of this permit.

B. Draft and Final

The Permittee shall prepare a RCRA Facility Investigation ("RFI") Report as required by Condition E.3. of Module III of this Permit. The RFI Report shall present all information gathered under the approved RFI Workplan.

APPENDIX B
SCOPE OF WORK FOR
A CORRECTIVE MEASURE STUDY

Grumman Aerospace Corporation
and
Naval Weapons Industrial Reserve Plant (NWIRP)
Mail Stop: B08/30
Bethpage, New York 11714-3580
EPA I.D. No. NYD002047967

Appendix B

SCOPE OF WORK FOR A CORRECTIVE MEASURE STUDY
AT
GRUMMAN AEROSPACE CORPORATION
AND
NAVAL WEAPONS INDUSTRIAL RESERVE PLANT (NWIRP)

I. PURPOSE

The purpose of this Corrective Measure Study (CMS) is to develop and evaluate the corrective action alternative or alternatives and to recommend the corrective measure or measures to be taken. The Permittee will furnish the personnel, materials, and services necessary to prepare the corrective measure study, except as otherwise specified.

II. SCOPE

The Corrective Measure Study consists of four tasks:

Task I: Identification and Development of the Corrective Measure Alternative or Alternatives

A. Description of Current Situation
B. Establishment of Corrective Action Objectives
C. Screening of Corrective Measures Technologies
D. Identification of the Corrective Measure Alternative or Alternatives

Task II: Evaluation of the Corrective Measure Alternative or Alternatives

A. Technical/Environmental/Human Health/Institutional
B. Cost Estimate

Task III: Justification and Recommendation of the Corrective Measure or Measures

A. Technical
B. Environmental
C. Human Health

Task IV: Reports

A. Progress
B. Final

III. TASK I: IDENTIFICATION AND DEVELOPMENT OF THE CORRECTIVE ACTION ALTERNATIVE OR ALTERNATIVES

Based on the results of the RCRA Facility Investigation and consideration of the identified Preliminary Corrective Measure Technologies (Task II of Appendix A of this Permit), the Permittee shall identify, screen, and develop the alternative or alternatives for removal, containment, treatment and/or other remediation of the contamination based on the objectives established for the corrective action.

A. Description of Current Situation

The Permittee shall submit an update to the information describing the current situation at the facility and the known nature and extent of the contamination as documented by the RCRA Facility Investigation Report. The Permittee shall provide an update to information presented in Task I of the RFI to the Agency regarding previous response activities and any interim measures which have or are being implemented at the facility. The Permittee shall also make a facility-specific statement of the purpose for the response, based on the results of the RCRA Facility Investigation ("RFI"). The statement of purpose should identify the actual or potential exposure pathways that should be addressed by corrective measures.

B. Establishment of Corrective Action Objectives

The Permittee, in conjunction with EPA, shall establish site specific objectives for the corrective action. These objectives shall be based on public health and environmental criteria, information gathered during the RFI, EPA guidance, and the requirements of any applicable federal statutes. At a minimum, all corrective actions concerning groundwater releases from regulated units must be consistent with, and as stringent as, those required under 40 CFR §264.100.

C. Screening of Corrective Measure Technologies

The Permittee shall review the results of the RFI and reassess the technologies specified in Task II and identify additional technologies which are applicable at the facility. The Permittee shall screen the preliminary corrective measure technologies identified in Task II of the RFI and any supplemental technologies to eliminate those that may prove infeasible to

implement, that rely on technologies unlikely to perform satisfactorily or reliably, or that do not achieve the corrective measure objective within a reasonable time period. This screening process focuses on eliminating those technologies which have severe limitations for a given set of waste and site-specific conditions. The screening step may also eliminate technologies based on inherent technology limitations. Site, waste, and technology characteristics which are used to screen inapplicable technologies are described in more detail below:

1. Site Characteristics

   Site data should be reviewed to identify conditions that may limit or promote the use of certain technologies. Technologies whose use is clearly precluded by site characteristics should be eliminated from further consideration;

2. Waste Characteristics

   Identification of waste characteristics that limit the effectiveness or feasibility of technologies is an important part of the screening process. Technologies clearly limited by these waste characteristics should be eliminated from consideration. Waste characteristics particularly affect the feasibility of in-situ methods, direct treatment methods, and land disposal (on/off-site); and

3. Technology Limitations

   During the screening process, the level of technology development,performance record, and inherent construction, operation, and maintenance problems should be identified for each technology considered. Technologies that are unreliable, perform poorly, or are not fully demonstrated may be eliminated in the screening process. For example, certain treatment methods have been developed to a point where they can be implemented in the field without extensive technology transfer or development.

D. <u>Identification of the Corrective Measure Alternative or Alternatives</u>

The Permittee shall develop the corrective measure alternative or alternatives based on the corrective action objectives and analysis of the Preliminary Corrective Measure Technologies, as presented in Task II of the RFI and as supplemented following the preparation of the RFI Final Report. The Permittee shall rely on engineering practice to determine which of the previously identified technologies appear most suitable for the site. Technologies can be combined to form the overall corrective action alternative or alternatives. The alternative or alternatives developed should represent a workable number of option(s) that each appear to adequately address all site problems and corrective action objectives. Each alternative may consist of an individual technology or a combination of technologies. The Permittee shall document the reasons for excluding technologies, identified in Task II, as supplemented in the development of the alternative or alternatives.

IV. TASK II: EVALUATION OF THE CORRECTIVE MEASURE ALTERNATIVE OR ALTERNATIVES

The Permittee shall describe each corrective measure alternative that passes through the Initial Screening in Task I of this appendix and evaluate each corrective measure alternative and its components. The evaluation shall be based on technical, environmental, human health and institutional concerns. The Permittee shall also develop cost estimates of each corrective measure.

A. Technical/Environmental/Human Health/Institutional

The Permittee shall provide a description of each corrective measure alternative which includes but is not limited to the following: preliminary process flow sheets; preliminary sizing and type of construction for buildings and structures; and rough quantities of utilities required. The Permittee shall evaluate each alternative in the four following areas:

1. Technical

The Permittee shall evaluate each corrective measure alternative based on performance, reliability, implementability and safety.

(a) The Permittee shall evaluate performance based on the effectiveness and useful life of the corrective measure:

(i) Effectiveness shall be evaluated in terms of the ability to perform intended functions, such as containment, diversion, removal, destruction, or treatment. The effectiveness of each corrective measure shall be determined either through design specifications or by performance evaluation. Any specific waste or site characteristics which could potentially impede effectiveness shall be considered. The evaluation should also consider the effectiveness of combinations of technologies; and

(ii) Useful life is defined as the length of time the level of effectiveness can be maintained. Most corrective measure technologies, with the exception of destruction, deteriorate with time. Often, deterioration can be slowed through proper system operation and maintenance, but the technology eventually may require replacement. Each corrective measure shall be evaluated in terms of the projected service lives of its component technologies. Resource availability in the future life of the technology, as well as appropriateness of the technologies, must be considered in estimating the useful life of the project.

(b) The Permittee shall provide information on there liability of each corrective measure including their operation and maintenance requirements and their demonstrated reliability:

(i) Operation and maintenance requirements include the frequency and complexity of necessary operation and maintenance. Technologies requiring frequent or complex operation and maintenance activities should be regarded as less reliable than technologies requiring little or straight forward operation and maintenance. The availability of labor and materials to meet these requirements shall also be considered; and

(ii) Demonstrated and expected reliability is a way of measuring the risk and effect of failure. The Permittee should evaluate

whether the technologies have been used effectively under analogous conditions; whether the combination of technologies have been used together effectively; whether failure of any one technology has an immediate impact on receptors; and whether the corrective measure has the flexibility to deal with uncontrollable changes at the site.

(c) The Permittee shall describe the implementability of each corrective measure including the relative ease of installation (constructability) and the time required to achieve a given level of response:

(i) Constructability is determined by conditions both internal and external to the facility conditions and include such items as location of underground utilities, depth to water table, heterogeneity of subsurface materials, and location of the facility (i.e., remote location vs. a congested urban area). The Permittee shall evaluate what measures can be taken to facilitate construction under these conditions. External factors which affect implementation include the need for special permits or agreements, equipment availability, and the location of suitable off-site treatment or disposal facilities; and

(ii) Time has two components that shall be addressed: (1) the time it takes to implement a corrective measure and (2) the time it takes to actually see beneficial results. Beneficial results are defined as the reduction of contaminants to some acceptable, pre-established level.

(d) The Permittee shall evaluate each corrective measure alternative with regard to safety. This evaluation shall include threats to the safety of nearby communities and environments as well as those to workers during implementation. Among the factors to consider are fire, explosion, and exposure to hazardous substances.

2. Environmental

The Permittee shall perform an Environmental Assessment for each alternative. The Environmental Assessment shall focus on the facility conditions and pathways of contamination actually addressed by each alternative. The Environmental Assessment for each alternative will include, at a minimum, an evaluation of: the short and long term beneficial and adverse effects of the response alternative; any adverse effects on environmentally sensitive areas; and an analysis of measures to mitigate adverse effects.

3. Human Health

The Permittee shall assess each alternative in terms of the extent to which it mitigates short and long term potential exposure to any residual contamination and protects human health both during and after implementation the corrective measure. The assessment will describe the levels and characterizations of contaminants on-site, potential exposure routes, and potentially affected populations. Each alternative will be evaluated to determine the level of exposure to contaminants and the reduction over time. For management of mitigation measures, the relative reduction of impact will be determined by comparing residual levels of each alternative with existing criteria, standards, or guidelines acceptable to EPA.

4. Institutional

The Permittee shall assess relevant institutional needs for each alternative. Specifically, the effects of Federal, State, and local environmental and public health standards, regulations, guidance, advisories, ordinances, or community relations on the design, operation, and timing of each alternative.

B. Cost Estimate

The Permittee shall develop an estimate of the cost of each corrective measure alternative (and for each phase or segment of the alternative). The cost estimate shall include both capital, operation and maintenance costs.

1. Capital costs consist of direct (construction) and indirect (nonconstruction and overhead) costs.

(a) Direct capital costs include:

(i) Construction costs: Costs of materials, labor (including fringe benefits and worker's compensation), and equipment required to install the corrective measure.

(ii) Equipment costs: Costs of treatment, containment, disposal and/or service equipment necessary to implement the action; these materials remain until the corrective action is complete;

(b) Indirect capital costs include:

(i) Engineering expenses: Costs of administration, design,construction supervision, drafting, and testing of corrective measure alternatives;

(ii) Legal fees and license or permit costs: Administrative and technical costs necessary to obtain licenses and permits for installation and operation;

(iii) Startup and shakedown costs: Costs incurred during corrective measure startup; and

(iv) Contingency allowances: Funds to cover costs resulting from unforeseen circumstances, such as adverse weather conditions, strikes, and inadequate facility characterization.

2. Operation and maintenance costs are post-construction costs necessary to ensure continued effectiveness of a corrective measure. The Permittee shall consider the following operation and maintenance cost components:

(a) Operating labor costs: Wages, salaries, training, overhead, and fringe benefits associated with the labor needed for post-construction operations;

(b) Maintenance materials and labor costs: Costs for labor, parts, and other resources required for routine maintenance of facilities and equipment;

(c) Auxiliary materials and energy: Costs of such items as chemicals and electricity for treatment plant operations, water and sewer service, and fuel;

(d) Purchased services: Sampling costs, laboratory fees, and professional fees for which the need can be predicted;

(e) Disposal and treatment costs: Costs of transporting, treating,and disposing of waste materials, such as treatment plant residues, generated during operations;

(f) Administrative costs: Costs associated with administration of corrective measure operation and maintenance not included under other categories;

(g) Insurance, taxes, and licensing costs: Costs of such items as liability and sudden accidental insurance; real estate taxes on purchased land or rights-of-way; licensing fees for certain technologies; and permit renewal and reporting costs;

(h) Maintenance reserve and contingency funds: Annual payments into escrow funds to cover (1) costs of anticipated replacement or rebuilding of equipment and (2) any large unanticipated operation and maintenance costs; and

(i) Other costs: Items that do not fit any of the above categories.

V. TASK III: JUSTIFICATION AND RECOMMENDATION OF THE CORRECTIVE MEASURE OR MEASURES

The Permittee shall justify and recommend a corrective measure alternative using technical, human health, and environmental criteria. This recommendation shall include summary tables which allow the alternative or alternatives to be understood easily. Tradeoffs among health risks, environmental effects, and other pertinent factors shall be highlighted. The EPA will select the corrective measure alternative or alternatives to be implemented based on the results of Tasks II and III of this appendix. At a minimum, the following criteria will be used to justify the final corrective measure or measures.

A. Technical

1. Performance - corrective measure or measures which are most effective at performing their intended functions and maintaining the performance over extended periods of time will be given preference;

2. Reliability - corrective measure or measures which do not require frequent or complex operation and maintenance activities and that have proven effective under waste and facility conditions similar to those anticipated will be given preference;

3. Implementability - corrective measure or measures which can be constructed and operated to reduce levels of contamination to attain or exceed applicable standards in the shortest period of time will be preferred; and

4. Safety - corrective measure or measures which pose the least threat to the safety of nearby residents and environments as well as workers during implementation will be preferred.

B. Human Health

The corrective measure or measures must comply with existing EPA criteria, standards, or guidelines for the protection of human health. Corrective measures which provide the minimum level of exposure to contaminants and the maximum reduction in exposure with time are preferred.

C. Environmental

The corrective measure or measures posing the least adverse impact (or greatest improvement) over the shortest period of time on the environment will be favored.

VI. TASK IV:REPORTS

A. Progress

The Permittee shall provide the EPA with signed, progress reports as required by Condition B.8.(a) of Module III of this Permit.

B. Corrective Measures Study ("CMS") Final Report

The Permittee shall prepare a CMS Final Report as required by Condition E.7 of Module III of this Permit. The CMS Final Report shall include all information gathered under the approved CMS Workplan. The CMS Final Report shall at a minimum include:

1. A description of the facility;

    (a) Site topographic map & preliminary layouts.

2. A summary of the corrective measure or measures;

    (a) Description of the corrective measure or measures and rationale for selection;

    (b) Performance expectations;

    (c) Preliminary design criteria and rationale;

    (d) General operation and maintenance requirements; and

    (e) Long-term monitoring requirements.

3. A summary of the RCRA Facility Investigation and impact on the selected corrective measure or measures;

    (a) Field studies (groundwater, surface-water, soil, air); and

    (b) Laboratory studies (bench scale, pick scale).

4. Design and Implementation Precautions;

    (a) Special technical problems;

    (b) Additional engineering data required;

    (c) Permits and regulatory requirements;

    (d) Access, easements, right-of-way;

    (e) Health and safety requirements; and

    (f) Community relations activities.

5. Cost Estimates and Schedules;

   (a) Capital cost estimate;

   (b) Operation and maintenance cost estimate; and

   (c) Project schedule (design, construction, operation).

APPENDIX C

COMPLIANCE SCHEDULE

Grumman Aerospace Corporation
and
Naval Weapons Industrial Reserve Plant (NWIRP)
Mail Stop: B08/30
Bethpage, New York 11714-3580
EPA I.D. No. NYD002047967

APPENDIX C
COMPLIANCE SCHEDULE
AT
GRUMMAN AEROSPACE CORPORATION
AND
NAVAL WEAPONS INDUSTRIAL RESERVE PLANT (NWIRP)

I. Compliance Schedule For Interim Corrective Measures.

A. Pursuant to Module III Condition B.6.(a), Permittee shall submit for approval an interim corrective measures study within thirty (30) calendar days following the date of the notification by the Regional Administrator requiring implementation of interim corrective measures.

B. Pursuant to Module III Condition B.6.(b), Permittee shall submit for approval an interim corrective measures work plan within thirty (30) calendar days after notifying the Regional Administrator of the actual or potential threat to human health or the environment.

II. Compliance Schedule For Reporting.

A. Pursuant to Module III Condition B.8.(a), Permittee shall submit signed progress reports of all activities conducted in accordance with the provisions of this Permit Module, beginning no later than thirty (30) calendar days after the Permittee is first required to begin implementation of any such requirement.

III. Compliance Schedule for Notification

A. Pursuant to Module III Condition B.10.(a), Permittee within fifteen (15) calendar days; after discovering facility releases of hazardous constituents in groundwater have migrated off-site, shall notify the Regional Administrative and off-site owners or residents on land overlying such contamination.

B. Pursuant to Module III Condition B.10.(b), Permittee within fifteen (15) calendar days; after discovering facility releases of hazardous constituents in air have or are migrated off-site, exceeding action levels, shall notify the Regional Administrator and off-site individuals subject to such long term exposure.

IV. Compliance Schedule For Assessment of Newly Identified SWMUs.

A. Pursuant to Module III Condition C.1., Permittee shall notify the Regional Administrator, in writing, of any additional SWMU(s) within fifteen (15) calendar days after discovery.

B. Pursuant to Module III Condition C.2, Permittee shall submit a SWMU Assessment Report within thirty (30) calendar days after notifying the Regional Administrator of any additional SWMU(s).

C. Pursuant to Module III Condition C.3, Permittee shall submit for approval a SWMU Sampling and Analysis Plan within thirty (30) calendar days after submittal of the SWMU Assessment Report.

D. Pursuant to Module III Condition C.4.(b), Permittee shall submit for approval revisions of the SWMU Sampling and Analysis Plan within thirty (30) calendar days after meeting with the Agency to discuss Plan comments, or within forty-five (45) calendar days after Permittee's receipt of Plan comments when no meeting is scheduled.

E. Pursuant to Module III Condition C.4.(c), Permittee shall begin to implement the SWMU Sampling and Analysis Plan within thirty (30) calendar days following written approval of the Plan.

F. Pursuant to Module III Condition C.5, Permittee shall submit a SWMU Sampling and Analysis Report within thirty (30) calendar days of receipt by the Permittee of validated analytical data generated under the approved SWMU Sampling and Analysis Plan.

V. Compliance Schedule and Notification Requirements For Newly-Discovered Releases At SWMUs.

A. Pursuant to Module III Condition D, Permittee shall notify the Regional Administrator, in writing, of any newly-discovered releases at SWMUs, no later than fifteen (15) calendar days after such discovery.

VI. Compliance Schedule For RCRA Facility Investigation ("RFI") Work Plan.

A. Pursuant to Module III Condition E.1.(a), Permittee shall submit for approval a RFI Task I Report for the SWMU(s) identified in Module Condition A.3.(c), within sixty (60) calendar days after the effective date of this Permit, if applicable, and within sixty (60) calendar days after written notification that an RFI is required pursuant to Conditions C.6. and/or D. of Module III.

B. Pursuant to Module III Condition E.1.(b), Permittee shall submit for approval a RFI Task II Report for the SWMU(s) identified in Module Condition A.3.(c)., within ninety (90) calendar days after the effective date of this Permit, if applicable, and within ninety (90) calendar days after written notification that an RFI is required pursuant to Condition C.6. and/or D. of Module III.

C. Pursuant to Module III Condition E.1.(c), Permittee shall submit for approval a RFI Work Plan for the SWMU(s) identified in Module Condition A.3.(c). within one-hundred and twenty (120) calendar days after the effective date of this Permit, if applicable, and within ninety (90) calendar days after written notification that an RFI is required pursuant to Condition C.6. and/or D. of Module III.

D. Pursuant to Module III Condition E.1.(c)(iv) Permittee may request, within thirty (30) calendar days of the effective date of this Permit, EPA to review for approval the Permittee's determination that any items required by Task III through V of the Scope of Work in

Appendix A have been submitted or completed.

E. Pursuant to Module III Condition E.1.(d)(ii), Permittee shall submit for approval revisions to the RFI Work Plan within thirty (30) calendar days after meeting with the Agency to discuss Plan comments, or within forty-five (45) calendar days after Permittee's receipt of Plan comments when no meeting is scheduled.

VII. Compliance Schedule For RFI Work Plan Implementation.

A. Pursuant to Module III Condition E.2, Permittee shall begin to implement the RFI Work Plan within thirty (30) calendar days following written approval of the Plan.

VIII. Compliance Schedule For RFI Final Report And Summary Report.

A. Pursuant to Module III Condition E.3.(a), Permittee shall submit for approval the RFI Final and Summary Reports within sixty (60) calendar days of receipt by the Permittee of validated analytical data generated under an approved work plan.

B. Pursuant to Module III Condition E.3.(b)(ii), Permittee shall submit for approval revisions to the RFI-Final and Summary Reports within forty-five (45) calendar days after meeting with the Regional Administrator to discuss Report comments or within forty-five (45) calendar days after Permittee's receipt of Report comments when no meeting is scheduled.

C. Pursuant to Module III Condition E.3.(c), Permittee shall mail the approved Summary Report to all individuals on the facility mailing list within thirty (30) calendar days of receipt of Report approval.

IX. Compliance Schedule For Current Interim Corrective Measures.

Not Applicable

X. Compliance Schedule For Corrective Measures Study ("CMS")

Scope of Work.

A. Pursuant to Module III Condition E.5.(c), Permittee shall submit a Task I Report and documents within sixty (60) calendar days after the written notification by the Regional Administrator for a CMS.

B. Pursuant to Module III Condition E.5.(d), Permittee shall submit for approval a CMS Plan within sixty (60) calendar days after the written notification by the Regional Administrator for a CMS.

C. Pursuant to Module III Condition E.5.(e)(ii), Permittee shall submit for approval revisions to the CMS Plan within thirty (30) calendar days after meeting with the Agency to discuss Plan comments, or within forty-five (45) calendar days after Permittee's receipt of Plan comments when no meeting is scheduled.

XI. Compliance Schedule For CMS Implementation.

A. Pursuant to Module III Condition E.6., Permittee shall begin to implement the CMS Plan within thirty (30) calendar days following written approval of the Plan.

XII. Compliance Schedule For CMS Final Report.

A. Pursuant to Module III Condition E.7.(a), Permittee shall submit for approval a CMS Final Report within forty-five (45) days after completion of the CMS.

B. Pursuant to Module III Condition E.7.(c)(ii), Permittee shall submit for approval revisions to the CMS Final Report within thirty (30) calendar days after meeting with the Agency to discuss Report comments, or within forty-five (45) calendar days after Permittee's receipt of report comments, when no meeting is scheduled.

XIII. Compliance Schedule For Financial Assurance.

A. Pursuant to Module III Condition E.9.(b), Permittee shall demonstrate financial assurance for completing the approved corrective measure(s) within thirty (30)

calendar days after this Permit has been modified.

XIV. Modification of the Compliance Schedules.

A. Pursuant to Module III Condition E.10.(a)(i), Permittee shall submit proposed modifications of any Compliance Schedule within fifteen (15) calendar days of determining that a schedule cannot be met.

APPENDIX D

COMPONENTS REQUIRED FOR RCRA ANALYTICAL DATA SUBMITTED TO UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Grumman Aerospace Corporation
and
Naval Weapons Industrial Reserve Plant (NWIRP)
Mail Stop: B08/30
Bethpage, New York 11714-3580
EPA I.D. No. NYD002047967

APPENDIX D

COMPONENTS REQUIRED FOR RCRA ANALYTICAL DATA SUBMITTED TO UNITED STATES ENVIRONMENTAL PROTECTION AGENCY* AT GRUMMAN AEROSPACE CORPORATION AND NAVAL WEAPONS INDUSTRIAL RESERVE PLANT (NWIRP)

A Report Narrative should accompany each submission, summarizing the contents, data and QA/QC results and all relevant circumstances of the work.

A. Parameter requested.

B. Sample Number or Numbers, Matrix, and:

1. Date and time collected;
2. Date extracted and/or digested;
3. Date and time analyzed; and
4. Chain of custody report and/or form, including confirmation of unbroken chain of custody, intact sample packaging and container seals and adequate temperature and/or other preservation.

C. Results [b,e,f,]

1. Sample results;
2. Duplicate;
3. Blanks;[a]
4. Matrix spike; matrix spike duplicate; blank spike; and
5. Surrogate recoveries, if applicable.

D. Supporting QA/QC[b]

1. Methodology;
2. Method detection limits, instrument detection limits[c]
3. Linear curves;
4. Percent solids for soils, sludges, sediments, and where otherwise applicable;
5. Calculations[d];
6. Cleanup procedures;
7. Data validation procedures, results, and completed data validation checklists; and
8. Documentation which illustrates how blank water is determined to be analyte-free.

In addition to submitting the above, all sample data and its QA/QC data as specified in SW-846, 3rd edition, Chapter 1, must be maintained accessible to USEPA either in hard copy or on magnetic tape or disk (computer data files). The data, if

requested by USEPA, should be formatted as described in SW-846, 3rd edition, Chapter 1. This requirement may be changed in the future to mandate computer data files, accessible to USEPA on request.
This does not obviate the requirement to do the QA/QC specified in each individual EPA-approved method.

* Components for RCRA submissions for non-contract Lab Protocols. If CLP, then CLP deliverables are required, unless otherwise stated in the approved plan.

a The data should include all blanks (trip, equipment rinse, method and instrument blanks) as specified in the sampling and analysis plan, guidance and regulation.

b Supporting QA/QC should be specific to the RCRA samples analyzed.

c Every effort practicable must be made to achieve detection limits below regulatory limits and comparable to or better than the Practical Quantification Limits specified in the EPA-approved methods. In no case, will reporting limits above the specified PQL's be accepted without extensive and complete documentation to USEPA.

d These may not need to be submitted if adequate QA/QC summaries validating the data, including calibration control charts, correlation coefficients, etc. The Report Narrative should describe the data validation and explain discrepancies. The supporting data should be provided to USEPA upon request, without restriction. Calibration data must include date and time of analysis.

e Frequencies of blanks, duplicates, spikes, surrogates, calibrations, standard reference materials, etc., should be as stated in the approved sampling and analysis plan, the approved analytical methods and the SW-846 3rd edition, Chapter 1, requirements. If there are any perceived conflicts, these should be resolved with USEPA in advance of sampling.

f Spiking for metals, organics or other parameters must be done before sample preparation (i.e. before digestions, extractions etc.) unless otherwise stated in the approved plan. Furnace Analysis for metals will still require post-digestion spikes on all samples analyzed by this technique.

APPENDIX E

PHASE I RCRA FACILITY INVESTIGATION WORK PLAN OUTLINE

Grumman Aerospace Corporation
and
Naval Weapons Industrial Reserve Plant (NWIRP)
Mail Stop: B08/30
Bethpage, New York 11714-3580
EPA I.D. No. NYD002047967

Appendix E

PHASE I RCRA FACILITY INVESTIGATION
WORK PLAN OUTLINE
AT
GRUMMAN AEROSPACE CORPORATION
AND
NAVAL WEAPONS INDUSTRIAL RESERVE PLANT (NWIRP)

Bethpage, New York

Based on the Preliminary Review dated March 19, 1991 and Visual Site Inspection of August 1990, sampling will be conducted at Former Container Storage Area, Salvage Storage Area and Recharge Basin at Navy Property (see Table E-1).

Sampling Rationale

A. Soil Sampling

Soil sampling shall be conducted at the SWMUs/AOCs listed above in order to detect suspected and potential soil contamination.

B. Groundwater Sampling

Groundwater sampling shall be performed at the SWMUs/AOCs listed above in order to help determine if there are hazardous constituents in the groundwater which may have originated from or been contributed by these SWMUs/AOCs.

Required Detection Level

A. The expected detection level for each parameter shall be specified by the Permittee in the Work Plan.

B. The detection level for each parameter in each sample should be as close as possible to the analytical method detection limit, if one is specified.

C. The detection levels for the soil samples collected around each SWMU/AOC shall be the same as those for the background samples, if background samples are collected.

D. For the parameters which are included in Table E-1, the detection levels must be no greater than 1/5 of the corresponding health-based criteria or action level. For those parameters which are both carcinogens and systemic toxicants, the detection level shall be based upon the lower of the two.

All soil sampling and groundwater sampling and analysis will follow the protocols established in SW-846, Test Methods for Evaluating Solid Waste (3rd edition or most current). Also sampling and analysis will be performed in accordance with the most current version of the NYSDEC Quality Assurance Project Plan (QAPjP) Guidance.

TABLE E-1

SWMUs	Sample Location	Sample Matrix	Number of Sample Locations	Sample Parameter	Analytical Method SW846[1]
Former Container Storage Area	see site map	Soil[3]	10 (5 per CSA)	VOC's Cadmium Cyanide	8240 7131 9010
		Groundwater[6]	16		
Salvage Storage Area	see site map	Soil[4]	5	VOC's POL's[2]	8240 418.1[5]
		Groundwater[6]	9		
AOCs					
Recharge Basins (NWIRP)	see site map	Groundwater[6]	5	Aluminum Chromium (iv) Chromium, total Cyanide pH	7202 7196 7191 9010 9040
		Sediments	6 (2 per recharge basin)		

1. Most Current Version SW846
2. POL's - Petroleum, Oil and Lubricants
3. Soil samples should be representative of first 12 to 15 inches of soil.
4. Soil samples should be collected from the first 12 inches of the surface soil and from 2nd and 3rd foot of soil.
5. The Permittee may propose another analytical method, subject to NYSDEC approval.
6. One sample taken quarterly from each well.

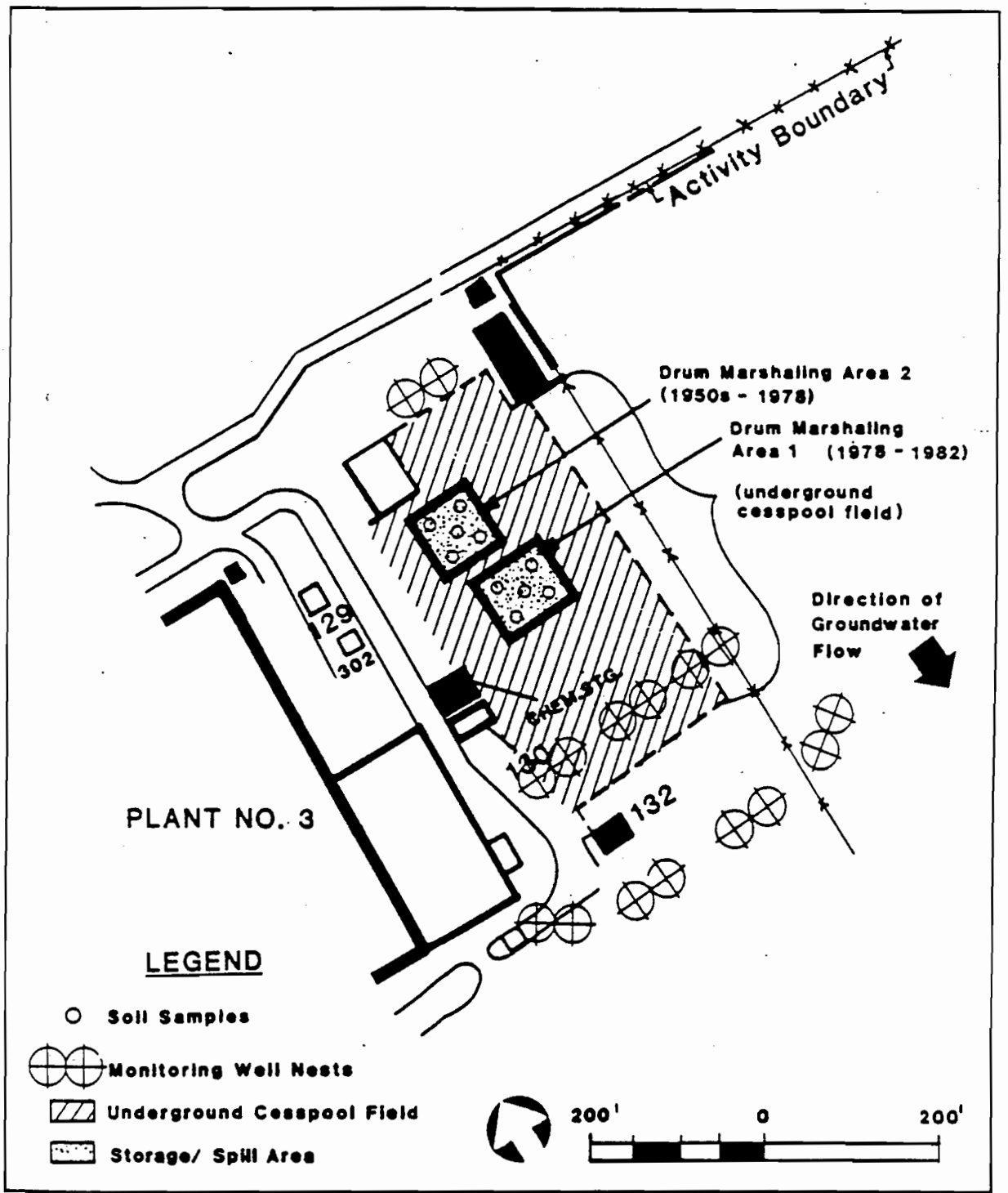


Figure 3-5

Site 7, Former Drum Marshaling Areas' Monitoring Well and Sampling Locations, NWIRP Bethpage, New York

Initial Assessment Study
Naval Weapons Industrial Reserve Plant
Bethpage and Calverton
Long Island, New York

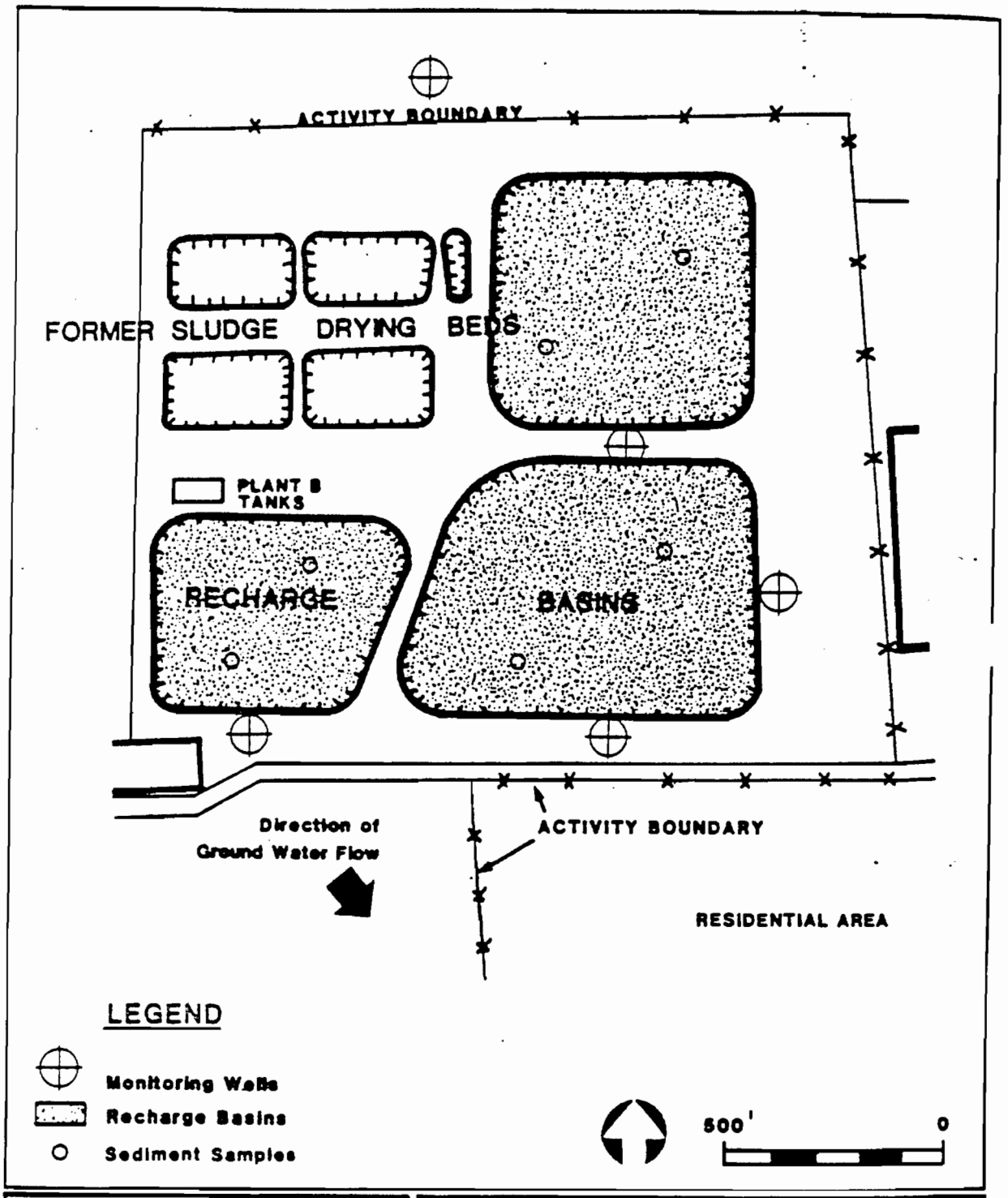


Figure 3-6

Site 8, Recharge Basins' Monitoring Well and Sampling Locations, NWIRP Bethpage, New York

Initial Assessment Study
Naval Weapons Industrial Reserve Plant
Bethpage and Calverton
Long Island, New York

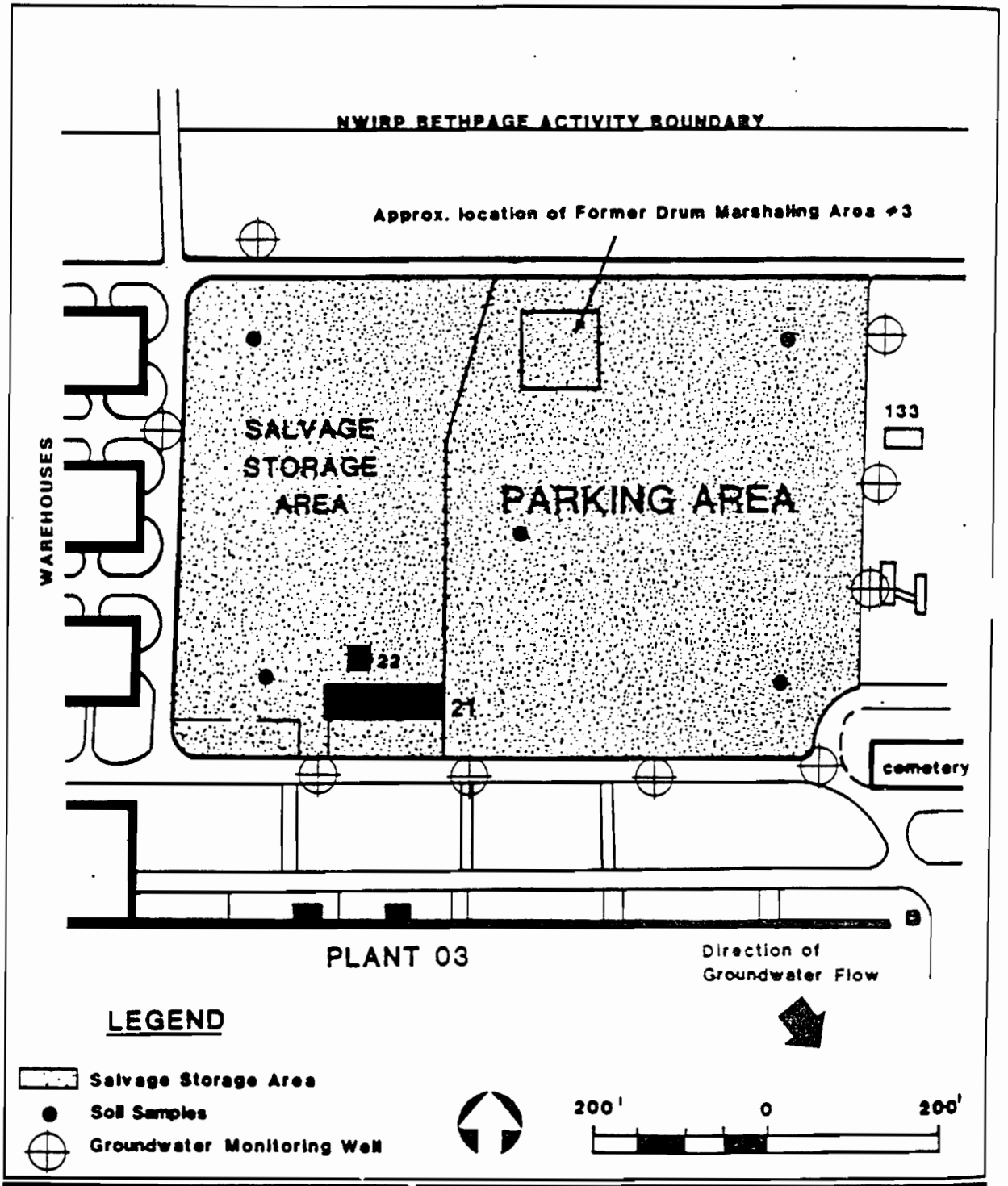


Figure 3-7

Site 9, Salvage Storage Area Monitoring Well and Sampling Locations, NWIRP Bethpage, New York

Initial Assessment Study
Naval Weapons Industrial Reserve Plant
Bethpage and Calverton
Long Island, New York

Appendix F

Order on Consent
(Under Article 27, Title 13 of New York's ECL)

Grumman Aerospace Corporation
and
Naval Weapons Industrial Reserve Plant (NWIRP)
Mail Stop: B08/30
Bethpage, New York 11714-3580
EPA I.D. No. NYD002047967

New York State Department Of Environmental Conservation
Division of Environmental Enforcement
202 Mamaroneck Avenue - Room 304
White Plains, N.Y. 10601-5381
Telephone: (914) 761-3575

John - FYI + central file

Thomas C. Jorling
Commissioner

November 1, 1990

CERTIFIED MAIL/RRR

John Ohlmann
Environmental Protection
Grumman Aerospace Corporation
Mail Stop: B08/30
Bethpage, NY 11714-3580

NOV 6 1990

Re: ORDER ON CONSENT
GRUMMAN AEROSPACE CORP.
Site # 1-30-003

Dear Mr. Ohlmann:

Enclosed is a fully executed Order on Consent providing for a Remedial Investigation/Feasibility Study at the Grumman Aerospace Corporation site. The Order was signed by Deputy Commissioner Edward O. Sullivan on October 25, 1990.

Thus, October 25, 1990, the effective date of the Order, should be used to calculate the timing of all submissions and activities pursuant to this Order on Consent unless otherwise specifically stated.

Thank you for your courtesy and cooperation in this project. The Department anticipates working harmoniously with you to implement the remediation of the site.

B.E.R.A.
FOILABLE Y-N
SITE NAME
SITE CODE
SUB SECTIONS
ELEMENT
UNIT NO. DESC.
FINAL
FILE SECTION
B
I
II
III
IV
V
VI

Very truly yours,

Alice M. McCarthy
Assistant Counsel

AMcC/jg

Enclosure: Consent Order

NOV - 6 1990

bcc: M. O'Toole/John Barnes (w/enclosures)
Ron Tramontano
Harold Berger/Tony Candela
Site File (w/blue indicator)

Encs: Memo to Ned Sullivan
Consent Order

AMcC-I-\ALICE.LTR\GRUMMAN.FEO/jg

New York State
Department of Environmental Conservation

MEMORANDUM

TO: Deputy Commissioner Edward O. Sullivan
FROM: David L. Markell through Marc S. Gerstman
DATE: October 14, 1990
SUBJECT: Grumman Aerospace Corporation, Order on Consent

==========

Attached for your signature are two originals of an Order on Consent for a Remedial Investigation/Feasibility Study for the inactive hazardous waste site owned by the Grumman Aerospace Corporation (Grumman). This Region 1 site is located in Bethpage, Nassau County, Long Island. A plume of volatile organic contaminants, including trichlorethylene (TCE) at concentrations of 4,798 ppb, emanates from the site creating a significant threat to the environment.

Grumman has been one of the largest employers on Long Island. It continues as did its predecessor in interest, Grumman Aircraft Engineering Corporation, to engage in the design and production of aircraft and space vehicles for the federal government and private parties. For national security purposes, a portion of the Grumman property is owned and operated by the United States Government. The federal government is currently performing an environmental study to determine the appropriate remediation of their property.

Grumman was among one of the few aircraft and aerospace manufacturers to have its own airport for testing new products. Post-war population growth on Long Island has forced Grumman to close its airport as a test grounds. The once remote airstrip is now surrounded by residential and commercial neighbors. Thus Grumman desires to develop the former airport as a commercial park.

A Workplan has been submitted by Grumman and it will be approved concurrent with your signing of this Order. The technical lead for this project is John Barnes of DHWR's Bureau of Eastern Remedial Action.

The Order was negotiated by Alice M. Mc Carthy, Field Unit Leader Designee for the White Plains Field Unit.

She will continue to act as case attorney for this matter and provide any post execution management needed.

cc: M. O'Toole
H. Berger
A. McCarthy

Attachment

STATE OF NEW YORK: DEPARTMENT OF ENVIRONMENTAL CONSERVATION

In the Matter of the
Development and Implementation
of a Remedial Investigation/
Feasibility Study for an Inactive
Hazardous Waste Disposal Site,
Under Article 27, Title 13, of
the Environmental Conservation
Law of the State of New York
by

GRUMMAN AEROSPACE CORPORATION

Respondent.

ORDER
ON
CONSENT
Index # W1-0018-81-01
Site # 1-30-003

WHEREAS,

1. The New York State Department of Environmental Conservation (the "Department") is responsible for enforcement of Article 27, Title 13 of the Environmental Conservation Law of the State of New York ("ECL"), entitled "Inactive Hazardous Waste Disposal Sites".

2. Grumman Aerospace Corporation ("Respondent"), a corporation organized and existing under the laws of the State of New York, is doing business in the State of New York. From approximately 1937 to present, Respondent/or its predecessor in interest, Grumman Aircraft Engineering Corporation (now Grumman Corporation), operated facilities on real property at Stewart Avenue, Bethpage, Town of Oyster Bay, County of Nassau

(the "Site"). A map of the Site as it currently exists is attached to this Order as "Appendix A". When used herein the word "Site" does not include any portions of said property owned by the United States Government and Respondent's obligations hereunder do not extend to such Government owned property.

3. The Site is an inactive hazardous waste disposal site, as that term is defined at ECL Section 27-1301(2) and has been listed in the Registry of Inactive Hazardous Waste Disposal Sites in New York State as Site Number 1-30-003. Pursuant to ECL Section 27-1305(4)(b) the Department has classified the Site as a "2": significant threat to the public health or environment - Action Required.

4. The Site has been classified as a "2" because a plume of volatile organic contaminants including trichlorethylene (TCE), a hazardous waste as the term is defined at ECL Section 27-1301(1), was detected at the Site in the groundwater at a concentration level of 4,798 ppb.

5. Pursuant to ECL Section 27-1313(3)(a), whenever the Commissioner of Environmental Conservation (the "Commissioner") "finds that hazardous wastes at an inactive hazardous waste disposal site constitute a significant threat to the environment, he may order the owner of such site and/or any person responsible for the disposal of hazardous wastes at such site (i) to develop an inactive hazardous waste disposal site remedial program, subject to the approval of the Department, at such site, and (ii) to implement such program within reasonable

time limits specified in the order."

6. The Department and Respondent agree that the goals of this Order shall be the development and implementation of a Remedial Investigation/Feasibility Study for the Site by Respondent.

7. Respondent, having waived its right to a hearing herein as provided by law, and having consented to the issuance and entry of this Order, agrees to be bound by its terms.

NOW, having considered this matter and being duly advised, IT IS ORDERED THAT:

I. All activities and submittals required by this Order shall address both on-Site and off-Site contamination attributable to Respondent's Site and shall be in accordance with Requisite Remedial Technology. As used in this Order, Requisite Remedial Technology means the proper application of scientific and engineering principles and practices, subject to the Department's approval, which will identify and mitigate or eliminate any present or potential threat to the public health or environment posed by the presence of hazardous waste at the Site and any release or threatened release of hazardous waste at or from the Site.

II. Respondent shall retain professional consultants, contractors and laboratories acceptable to the Department to perform the technical, engineering and analytical obligations required by this Order. The experience, capabilities and qualifications of the firms or individuals

selected by Respondent shall be submitted within 30 days after the effective date of this order, consultant selection or contract execution, whichever is later, to the Department for approval prior to initiation of any activities for which the Respondent and their consultants will be responsible.

III. Within 60 days after the effective date of this Order, Respondent shall submit to the Department its scoping effort completed in accordance with EPA's "Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA", dated October 1988, and any subsequent revisions thereto, and appropriate technical and administrative guidelines.

Respondent shall, within the same 60 days, submit all data within its possession or control regarding environmental conditions on-Site and off-Site, and other information described below, to the extent that such data have not previously been provided to the Department. The data and other information shall include:

a. A brief history and description of the Site, including the types, quantities, physical state, location and dates of disposal of hazardous waste including methods of disposal and spillage of such wastes;

b. A concise summary of information held by the Respondent and its attorneys with respect to all persons responsible for such disposal of hazardous wastes. Person responsible or responsible party means any or all of the following:

(1) the current owner and operator of the Site;

(2) the owner and operator of the Site at the time or subsequent to the time any hazardous waste disposal occurred;

(3) any person who generated any hazardous waste that was disposed of at the Site;

(4) any person who transported any hazardous waste to the Site;

(5) any person who disposed of any hazardous waste at the Site;

(6) any person who by contract, agreement or otherwise arranged for the transportation of any hazardous waste to the Site or the disposal of any hazardous waste at the Site;

(7) any other person determined to be responsible according to applicable principles of statutory or common law liability.

Such information shall include, but not be limited to, names, addresses, dates of disposal and any proof linking each such person responsible with hazardous wastes identified pursuant to Paragraph III (a) herein;

c. A comprehensive list and copies of all existing relevant reports with titles, authors and subject matter, as well as a description of the results of all previous investigations of the Site and areas in the vicinity of the Site, including copies of all available property surveys and engineering studies. Respondent will

provide a complete inventory, listing title dates and subject matter, of all topographical and aerial photographs of the Site. Additionally Respondent shall submit representative copies of the topographical and aerial photographs listed. The Respondent will provide copies of any document covered by this paragraph if the Department so requests.

IV. Within 60 days after the effective date of this Order, Respondent shall submit to the Department a Work Plan for a Remedial Investigation/Feasibility Study.

The Work Plan shall address all elements of a Remedial Investigation/Feasibility Study as set forth in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. Sections 9601 et seq., as amended ("CERCLA"), the National Contingency Plan then in effect ("NCP"), the USEPA draft guidance document entitled "Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA" dated October 1988, and any subsequent revisions thereto, and appropriate technical and administrative guidelines. In addition, the Work Plan shall include:

a. A Work Plan which shall consist of a chronological description of the anticipated RI/FS activities together with an anticipated schedule for the performance of these activities.

b. A Sampling and Analysis Plan which shall include:

(i) A Quality Assurance Project Plan that describes the quality assurance and quality control ("QAQC") protocols necessary to achieve the initial data quality objectives.

(ii) A Field Sampling Plan that defines the sampling and data gathering methods in a manner consistent with the "Compendium of Superfund Field Operations Method" (EPA/540/P-87/001, OSWER Directive 9355.0-14, December 1987) as supplemented by the Department.

c. A Health and Safety Plan for the protection of persons at and in the vicinity of the Site during the performance of the Remedial Investigation which shall be prepared in accordance with 29 C.F.R. Section 1910 by a certified health and safety professional.

d. A Citizen Participation Plan which is prepared in a manner consistent with the Department's publication "New York State Inactive Hazardous Waste Site Citizen Participation Plan".

V. The Department shall notify Respondent in writing of its approval or disapproval of the Work Plan.

If the Department disapproves the Work Plan, the Department shall notify Respondent in writing of the Department's objections. Within 45 days after receipt of notice of disapproval, Respondent shall revise the Work Plan in accordance with the Department's specific comments and submit a Revised Work Plan.

The Department shall notify Respondent in writing

of its approval or disapproval of the Revised Work Plan.

If the Department disapproves the Revised Work Plan, the Respondent shall be deemed to be in violation of this Order.

The Work Plan or the Revised Work Plan, whichever the Department approves (the "Approved Work Plan"), shall be attached as "Appendix B" and incorporated into this Order.

VI. In accordance with the time schedule contained in the Approved Work Plan, Respondent shall perform the Remedial Investigation and submit status reports and other deliverables (as defined in the Work Plan) and in the Remedial Investigation Report. During the Remedial Investigation, Respondent shall have on-Site, full-time, a representative who is qualified to inspect the work. The Report shall include all data generated and all other information obtained during the Remedial Investigation, provide all of the assessments and evaluations set forth in CERCLA, the NCP then in effect, and in the guidance documents referred to above and identify any additional data that must be collected, The Remedial Investigation Report shall be prepared and certified by an engineer licensed to practice by the State of New York, approved by the Department. This engineer may be an employee of Respondent, or an individual or member of a firm which is authorized to offer engineering services in accordance with Article 145 of the New York State Education Law. The engineer shall certify that all activities that comprised the Remedial

Investigation were performed in full accordance with the Approved Work Plan.

VII. After receipt of the Remedial Investigation Report, the Department shall determine if the Remedial Investigation was conducted and the Report prepared in accordance with the Approved Work Plan and this Order, and shall notify Respondent in writing of its approval or disapproval of the Report.

If the Department disapproves the Report, the Department shall notify Respondent in writing of the Department's objections. Respondent shall revise the Report and/or reperform or supplement the Remedial Investigation in accordance with the Department's specific comments and shall submit a revised Report. The period of time within which the Report must be revised or the Remedial Investigation reperformed or supplemented shall be specified by the Department in its notice of disapproval.

After receipt of the Revised Report, the Department shall notify the Respondent in writing of its approval or disapproval of the Revised Report.

If the Department disapproves the Revised Report, the Respondent shall be deemed to be in violation of this Order.

The Report or the Revised Report, whichever the Department approves (the "Approved Report"), shall be attached as "Appendix C" and incorporated into this Order.

VIII. The Department reserves the right to require a

modification and/or an amplification and expansion of the Remedial Investigation and Report by Respondent if the Department determines, as a result of reviewing data generated by the Remedial Investigation or as a result of reviewing any other data or facts, that further work is necessary.

IX. Within 90 days after receipt of the Department's approval of the Report, Respondent shall submit a Feasibility Study evaluating on-Site and any necessary off-Site remedial actions to eliminate, to the maximum extent practicable, all health and environmental hazards and potential hazards attributable to the Site. The Feasibility Study shall be prepared and certified by an engineer licensed to practice by the State of New York, and approved by the Department. This engineer may be an employee of Respondent, or an individual or member of a firm which is authorized to offer engineering services in accordance with Article 145 of the New York State Education Law.

The Feasibility Study shall be performed in a manner that is consistent with CERCLA, the NCP then in effect, the USEPA draft guidance document entitled "Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA," dated October 1988 and any subsequent revisions thereto and appropriate technical and administrative guidelines.

X. After receipt of the Feasibility Study, the Department shall determine if the Feasibility Study was

prepared in accordance with this Order, and shall provide written notification of its approval, or disapproval if it was not so prepared.

If the Department disapproves the Feasibility Study, the Department shall notify Respondent in writing of the Department's objections. Within 45 days after receipt of notice of disapproval, Respondent shall revise the Feasibility Study in accordance with the Department's specific comments and submit a Revised Feasibility Study.

After receipt of the Revised Feasibility Study, the Department shall notify Respondent in writing of its approval or disapproval of the Revised Feasibility Study.

If the Department disapproves the Revised Feasibility Study, the Respondent shall be deemed to be in violation of this Order.

The Feasibility Study or the Revised Feasibility Study, whichever the Department approves (the "Approved Feasibility Study"), shall be attached as "Appendix D" and incorporated into this Order.

XI. Within 60 days after the Department's approval of the Feasibility Study, the Department and Respondent shall solicit public comment on the Remedial Investigation/ Feasibility Study and the Recommended Remedial Program in accordance with CERCLA, the NCP, any other applicable law, and any relevant Department policy and guidance documents in effect at the time the public comment period is initiated. After the close of the public comment period, the Department

shall select a final remedial program for the Site in a Record of Decision ("ROD"). The ROD shall be attached as "Appendix E" and incorporated into this Order.

XII. If Respondent has complied with the terms of this Consent Order, after the Department's selection of the final remedial program and issuance of its ROD, the Department shall provide a 60-day period for negotiation of an Administrative Order on Consent covering a Remedial Program including the design and implementation of the ROD. If agreement is not reached during this period, the Department reserves the right to implement the corrective measures or other remedial response and to take any other appropriate actions under the New York Environmental Conservation Law, CERCLA, or any other available legal authority.

XIII. The Department shall have the right to obtain split samples, duplicate samples, or both, of all substances and materials sampled by Respondent and the Department shall also have the right to take its own samples.

XIV. Respondent shall provide notice to the Department at least 10 working days in advance of any field activities to be conducted pursuant to this Order.

XV. Respondent shall obtain whatever permits, easements, rights-of-way, rights-of-entry, approvals or authorizations that are necessary to perform Respondent's duties.

If the Respondent is unable to obtain access to lands, other than those owned by the Respondent, to perform its duties under this Order, the Respondent will immediately

give written notification to the Department. The Respondent will then make all reasonable efforts to obtain access. Reasonable efforts shall include the payment of money or the indemnification of third parties. If the Respondent is unable to secure access, it will provide the Department with full documentation of all efforts it has taken. The Department, after reviewing the efforts of the Respondent, may take any legal action within its power to secure access to the properties concerned.

XVI. Respondent shall permit any duly designated employee, consultant, contractor or agent of the Department or any State agency to enter upon the Site or areas in the vicinity of the Site which may be under the control of Respondent for purposes of inspection, sampling and testing and to assure Respondent's compliance with this Order. During implementation of the Field Activities, Respondent shall provide the Department with suitable office space at the Site, including access to a telephone, and shall permit the Department full access to all records and job meetings.

XVII. a) Within 30 days after the Department's approval of the Remedial Investigation Report, and after receipt of a detailed invoice from the Department, Respondent shall pay to the Department a sum of money which shall be determined by the Department. This sum shall represent reimbursement for the expenses including, but not limited to, direct labor, overhead, analytical costs, contractor costs, for any work incurred under Paragraph XV

by the State of New York for reviewing the Report, overseeing the Remedial Investigation, and for collecting and analyzing samples or securing Site access.

b) The invoice shall include itemization of the Department's expenses in the form of personal services indicating the employee name, title, biweekly salary and time spent (in hours) on the project during the billing period, as identified by an assigned time and activity code. This information shall be documented by the Department's quarterly reports of Direct Personal Service. The Department's approved fringe benefit and indirect cost rates shall be applied. Non-personal service costs shall be summarized by category of expense (supplies, materials, travel, contractual) and shall be documented by the New York State Office of the State Comptroller's quarterly expenditure reports."

c) Such payment shall be made to:

David L. Markell, Esq.
Director, Div. of Env. Enforcement
Department of Environmental Conservation
50 Wolf Road - Room 422
Albany, N.Y. 12233-5500

A photocopy of the check shall be sent to:

Alice M. McCarthy, Esq.
Division of Environmental Enforcement
Department of Environmental Conservation
202 Mamaroneck Avenue Room 304
White Plains, N.Y. 10601-5381

XVIII. Respondent shall not suffer any penalty under this Order, or be subject to any proceeding or action, if it cannot comply with any requirements hereof because of an act

of God, war or riot. Respondent shall immediately notify the Department in writing when it obtains knowledge of any such condition and request an appropriate extension or modification of this Order.

XIX. The failure of the Respondent to comply with any term of this Order shall be a violation of this Order and the ECL.

XX. Nothing contained in this Order shall be construed as barring, diminishing, adjudicating or in any way affecting:

a. the Department's right to bring any action or proceeding against anyone other than Respondent, its directors, officers, employees, servants, agents, successors and assigns;

b. the Department's right to enforce this Order against Respondent, its directors, officers, employees, servants, agents, successors and assigns in the event that Respondent shall fail to satisfy any of the terms hereof;

c. the Department's right to bring any action or proceeding against Respondent, its directors, officers, employees, servants, agents, successors and assigns with respect to claims for natural resources damages. These damages are for injury to, destruction, or loss of natural resources at the Site or in the vicinity of the Site resulting from the release or threatened release of hazardous wastes or constituents at the Site. Damages also include the reasonable costs of assessing such injury,

destruction, or loss resulting from such a release;

d. the Department's right to bring any action or proceeding against Respondent, its directors, officers, employees, servants, agents, successors and assigns with respect to hazardous wastes that are present at the Site or that have migrated from the Site and present a significant threat to human health or the environment.

XXI. This Order shall not be construed to prohibit the Commissioner or his duly authorized representative from exercising any summary abatement powers.

XXII. Respondent shall indemnify and hold the Department, the State of New York, and their representatives and employees harmless for all claims, suits, actions, damages and costs of every name and description arising out of or resulting from the fulfillment or attempted fulfillment of this Order by Respondent, its directors, officers, employees, servants, agents, successors or assigns.

XXIII. The effective date of this Order shall be the date it is signed by the Commissioner or his designee.

XXIV. If Respondent desires that any provision of this Order be changed, it shall make timely written application for the Commissioner's consideration, setting forth reasonable grounds for the relief sought. Such written application shall be delivered or mailed to:

(1) Alice M. McCarthy, Esq.
Division of Environmental Enforcement
NYS Dept. of Environmental Conservation
202 Mamaroneck Avenue Room 304
White Plains, N.Y. 10601-5381

(2) and to the Project Manager as designated by the Department.

XXV. Within 30 days after the effective date of this Order, Respondent shall file a Declaration of Covenants and Restrictions with the Nassau County Clerk to give all parties who may acquire any interest in the Site notice of this Order.

XXVI. In the event Respondent proposes to convey the whole or any part of its ownership interest in the Site, Respondent shall, not fewer than 30 days prior to the proposed conveyance, notify the Department in writing of the identity of the transferee and of the nature and date of the proposed conveyance and shall notify the transferee in writing, with a copy to the Department, and the parties named in Paragraphs XXIX of the applicability of this Order.

XXVII. All written communications required by this Order shall be transmitted by United States Postal Service, by private courier service, or hand delivered.

XXVIII. All communications, correspondence and documents from Respondent to the Department shall be addressed to the Department's attorney:

Alice M. McCarthy, Esq.
Division of Environmental Enforcement
NYS Dept. of Environmental Conservation
202 Mamaroneck Avenue Room 304
White Plains, N.Y. 10601-5381

with a copy to the Project Manager as designated by the Department.

XXIX. Copies of Work Plans, Reports, and technical

documents required to be submitted under the order shall be sent to the following:

One copy to:
David L. Markell, Esq.
Director, Div. of Environmental Enforcement
NYS Dept. of Environmental Conservation
50 Wolf Road - Room 422
Albany, New York 12233-5500

Six copies to:
Michael J. O'Toole, Jr., P.E., Director
Div. of Hazardous Waste Remediation
NYS Department of Environmental Conservation
50 Wolf Road - Room 212
Albany, New York 12233-7010

Two copies to:
Ronald Tramontano, P.E.
Director, Bureau of Environmental
Exposure Investigation
NYS Department of Health
2 University Place
Albany, New York 12203

One copy to:
Alice M. McCarthy, Esq.
Division of Environmental Enforcement
NYS Department of Environmental Conservation
Division of Environmental Enforcement
202 Mamaroneck Avenue Room 304
White Plains, N.Y. 10601-5381

One copy to:
Harold Berger, Regional Director, Reg. 1
For: Anthony Candela, P.E.
SUNY Campus, Bldg. # 40
Stony Brook, NY 11794

XXX. Communication to be made from the Department to the Respondent shall be made as follows:

John Ohlmann, Director
Environmental Protection
Grumman Aerospace Corporation
Mail Stop: B08/30
Bethpage, NY 11714-3580

XXXI. Respondent, its officers, directors, agents, servants, employees, successors and assigns shall be bound

by this Order.

XXXII. The terms hereof shall constitute the complete and entire Order between Respondent and the Department concerning the Site. No terms, conditions, understandings or agreements purporting to modify or vary the terms hereof shall be binding unless made in writing and subscribed by the party to be bound. No informal advice, guidance, suggestions or comments by the Department regarding reports, proposals, plans, specifications, schedules or any other submittals shall be construed as relieving Respondent of its obligations to obtain such formal approvals as may be required by this Order.

DATED: Albany, New York
October 25, 1990

THOMAS C. JORLING
Commissioner
New York State Department of
Environmental Conservation

By: EDWARD O. SULLIVAN
Deputy Commissioner
New York State Department of
Environmental Conservation

TO: John Ohlmann
Environmental Protection
Grumman Aerospace Corporation
Mail Stop B08/30
Bethpage, New York 11714-3580

CONSENT BY RESPONDENT

GRUMMAN AEROSPACE CORPORATION

Respondent hereby consents to the issuing and entering of this Order, waives its right to a hearing herein as provided by law, and agrees to be bound by this Order.

By: _____
(Print Name) D.G. Cassell

Title: Vice President, Grumman Corporation for Grumman Aerospace Corporation
(Print Title)

Date: August 22, 1990

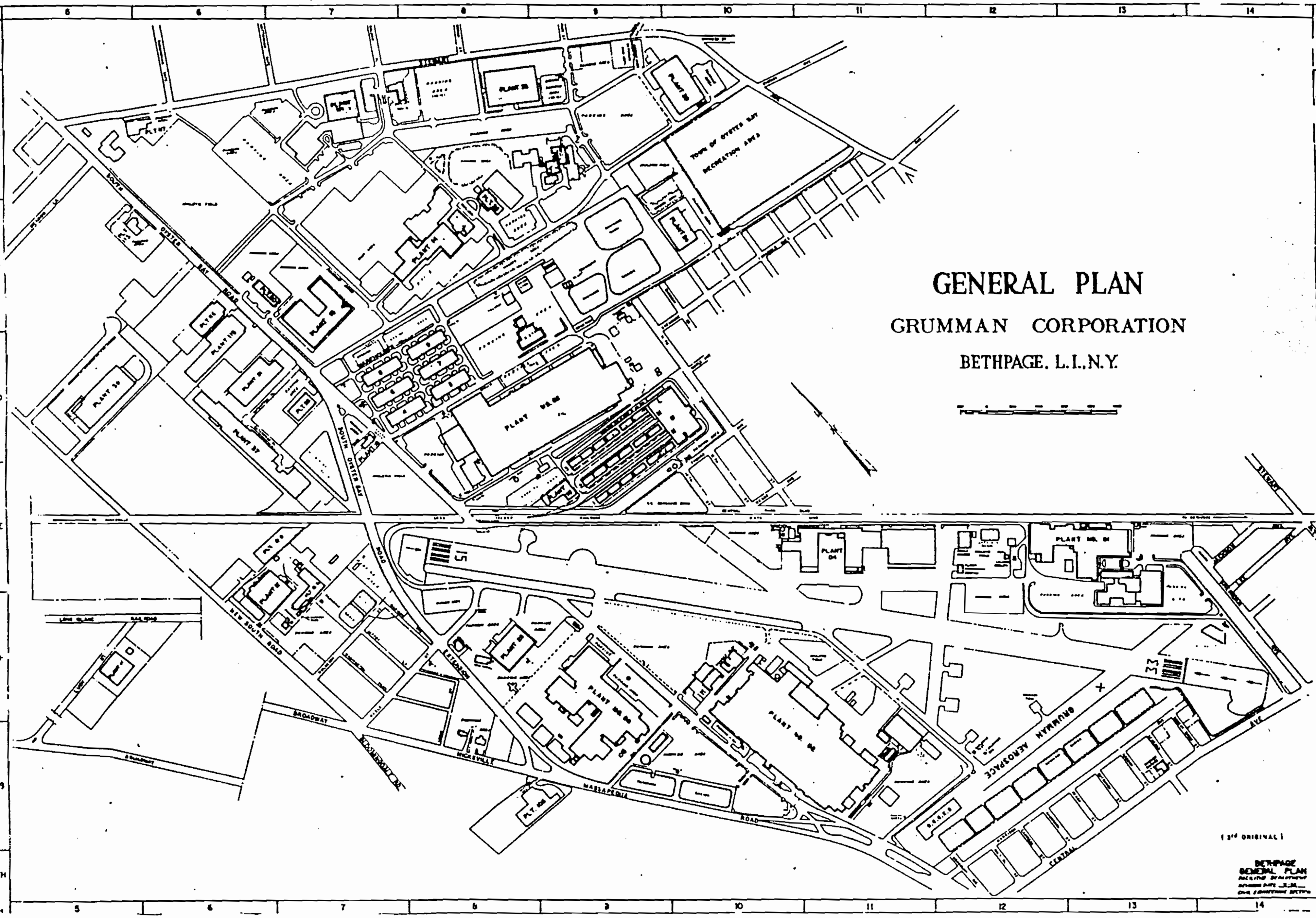
STATE OF NEW YORK)
) s.s.:
COUNTY OF NASSAU)

On this 22nd day of August, 1990, before me personally came Dean G. Cassell, to me known, who being duly sworn, did depose and say that he resides in West Islip, New York; that he is the Vice President of Grumman Corporation for Grumman Aerospace Corporation, the corporation described herein and which executed the foregoing instrument; that he knew the seal of said corporation; that the seal affixed to this instrument was such corporate seal; that it was so affixed by the order of the Board of Directors of said corporation, and that he signed his name thereto by like order.

_____
Notary Public

(AM-ORD-1/7 08/01/90)

MADELINE ZEBROWSKI
NOTARY PUBLIC, State of New York
No. 4643419
Qualified in Nassau County
Commission Expires


GENERAL PLAN
GRUMMAN CORPORATION
BETHPAGE, L.I., N.Y.
TOWN OF OYSTER BAY RECREATION AREA
SOUTH OYSTER BAY ROAD
NEW SOUTH ROAD
BROADWAY
MASSAPEQUA ROAD
CENTRAL AVE
GRUMMAN AEROSPACE
PLANT 39
PLANT 37
PLANT 14
PLANT NO. 01
PLANT NO. 02
PLANT NO. 03
PLANT 04
15
33
(3rd ORIGINAL)
BETHPAGE GENERAL PLAN

APPENDIX "A"