September 4, 2012

Ms. Lora Fly
Remedial Project Manager (Code OPNEEV)
Facilities Engineering Command, Mid-Atlantic Naval Facilities
Engineering Command Building Z-144
9742 Maryland Avenue
Norfolk, VA 23511-3095

Re: Draft 373 Permit for NWIRP Calverton, New York.
EPA ID #NYD003995198
NYSDEC ID # 1-4730-00013/00045

Dear Ms. Fly:

Enclosed is a copy of the Part 373 Permit (revised in accordance with comments received during the public notice period and additional changes made by this Department).

If you have any questions concerning these documents, or submission of comments on the permit, please contact me at (631) 444-0359.

Sincerely,

John A. Wieland
Deputy Permit Administrator

ecc: A. Rapiejko, SCDHS
K. Murphy, Region 1
W. Parish, Region 1
H. Wilkie
E. Stein, USEPA Region II
S. Karpinski, NYSDOH
file

APPENDIX A

Responsiveness Summary
RESPONSIVENESS SUMMARY

Calverton NWIRP
State Superfund Project
Riverhead, Suffolk County
EPA ID No NYD003995198
Site No. 152136

The Proposed Remedial Action Plan/Statement of Basis (PRAP/SB) for the Calverton-NWRIP site, was prepared by the New York State Department of Environmental Conservation (the Department) in consultation with the New York State Department of Health (NYSDOH) and was issued to the document repositories on November 3, 2011. The SB outlined the remedial measure proposed for the Southern Area Groundwater Plume which extends from Site 6A and off site to the Peconic River at the Calverton NWIRP site.

The release of the PRAP/SB was announced by sending a notice to the public contact list, informing the public of the opportunity to comment on the proposed remedy.

Two public meetings were held on November 3, 2011 and December 13, 2011, which included a presentation of findings of the remedial investigation/RCRA facility investigation (RI/RFI), the feasibility study/corrective measure study (FS/CMS), and a summary of the proposed remedy for the Calverton-NWIRP. The meeting provided an opportunity for citizens to discuss their concerns, ask questions and comment on tbe proposed remedy. Tbese comments have become part of the Administrative Record for this site. The public comment period for the PRAP/SB ended on January 27, 2012.

This responsiveness summary responds to all questions and comments raised during tbe public comment period. The following are tbe comments received, with the Department's responses:

The following comments were submitted by members of tbe general public.

COMMENT 1:

We supported the proposed plan to clean up the southern area groundwater plume, in relation to the Calverton-NWRIP site in Riverhead, New York. We would also like to express our concern for the unaddressed portion of the plume that remains outside the fence line at Calverton-NWRIP site.

We are requesting that the Navy develop a remediation plan for the remainder of the plume as quickly as possible. This portion of the plume is moving through a very sensitive natural area, and could have a variety of negative impacts.

RESPONSE 1:

Concurrent with initiating pump and treat at their property line, the Navy will continue to evaluate the nature, extent, and appropriate remedies for the off-site plume.

The following comments were submitted by Mr. Frank S Anastasi, P.G. on behalf of the Calverton NWIRP Restoration Advisory Board (RAB):

COMMENT 1:

Page 3-4, Section 3.4.3. Listing the primary contaminants of concern (COCs) and one concentration level does not give the reader much of an appreciation for the significance of the ground water plume. Including a table of COCs, their MCLs, and their maximum concentrations in the various portions of the plume (and in the Peconic River) would help convey the significance of the Southern Area Plume.

RESPONSE 1:

The Navy did not make these revisions in their final Record of Decision (ROD). While the Department agrees with this comment, making the suggested change to the text does not change the recommended alternative. The Department chose not to require another round of document revision in favor of our higher priority of getting the remedy in place as soon as possible.

COMMENT 2:

Page 5-4, Section 5.1.7. The single sentence of this section on Short Term Effectiveness is inadequate and misleading. This section should discuss how remedies would be effective in the short term, not merely state that "no short-term effects are anticipated..." These are two entirely different concepts. [The Proposed Plan and previous CMS documents do present adequate evaluations of remedies against the Short-Term Effectiveness criteria. That material could be summarized in this section of the SB.]

RESPONSE 2:

(See response to Comment 1)

COMMENT 3:

The following statements in the November SB appear to be inconsistent with NYSDEC's recommendation that if intermediate remediation goals are not met, "...the Navy must implement a contingent remedial action but it should not be limited to the two remedial options proposed in the Statement of Basis and PRAP."

- Page 4-6, Section 4.1.8, second paragraph. This section states "if intermediate goals are not met, the Navy will determine the reason why they were not met, modify the system and/or implement additional remedial actions as needed to protect human health and the environment. The remedial alternatives considered will include the contingencies described above."

RESPONSE:

The Navy's reference to "including the contingencies described above" should not be interpreted as excluding the possibility that other options may be considered if necessary.

- Page 5-2, last sentence before Section 5.1.1. "Additional treatment would be considered in the down gradient areas, but only if monitoring data demonstrate that ecological receptors will be adversely impacted."

RESPONSE:

The basis for triggers in the Peconic area was stated by the Navy on page 11 of the PRAP to be impacts to ecological receptors. Given that the triggers will be designed to with this in mind their statement is not out of place.

- Page 5-3, Section 5.1.3, last sentence. "The need for these additional treatment remedies would be based on potential or actual sustained threats to ecological receptors in the Peconic River." As the NYSDEC noted in its November l, 2011 comment letter, NYSDEC and the New York State Health Department are concerned that these threats will be difficult to detect or to predict. While flexibility may be appropriate, reaching consensus on the meaning of the relatively subjective criteria of "potential or actual sustained threats to ecological receptors" would likely be extremely difficult.

RESPONSE:

The Department agrees that this has the potential to be a very difficult call to make. However, this type of difficult decision is a routine part of the regulatory process.

- Page 5-5, Section 5.1.10, last two sentences. "If intermediate goals are not met, the Navy will determine the reason why they were not met; and confer with the Department and other involved agencies to determine if further action is necessary. If further action is necessary an evaluation will be undertaken to consider whether to modify the system

APPENDIX B

Administrative Record

Administrative Record

Calverton NWIRP
State Superfund Project
Riverhead, Suffolk County
EPA ID No NYD003995198
Site No. 152136

Proposed Remedial Action Plan/Statement of Basis for the Calverton-NWIRP site, for the Southern Area Groundwater Plume which extends from Site 6A and off site to the Peconic River at the Calverton NWIRP site, dated November 2011, prepared by the Department.

For RFI/CMS (RI/FS) was done by US Navy, in accordance with a 6NYCRR Part 373 Hazardous Waste Management Permit.

REFERENCES

Halliburton NUS (HNUS), 1995. Resource Conservation and Recovery Act Facility Investigation for Sites 1, 2, 6A, and 7 Naval Weapons Industrial Reserve Plant (NWIRP), Calverton, New York, April.

Tetra Tech NUS, Inc. (Tetra Tech), 2001. Phase 2 Remedial Investigation, Site 6A – Fuel Calibration Area, Site 10B – Engine Test House, Southern Area, Naval Weapons Industrial Reserve Plant (NWIRP), Calverton, New York. Prepared for Northern Division, Naval Facilities Engineering Command, Lester, Pennsylvania. King of Prussia, Pennsylvania.

Tetra Tech NUS, Inc. (Tetra Tech), 2005. Data Summary Report for Site 6A – Fuel Calibration Area and Southern Area, Naval Weapons Industrial Reserve Plant (NWIRP), Calverton, New York. Prepared for Engineering Field Activity Northeast, Naval Facilities Engineering Command, Lester, Pennsylvania. King of Prussia, Pennsylvania.

Tetra Tech NUS, Inc. (Tetra Tech), 2007. Results of October 2006 Groundwater, Surface Water, and Sediment Testing Southern Area, Naval Weapons Industrial Reserve Plant (NWIRP), Calverton, New York, January.

Tetra Tech NUS, Inc. (Tetra Tech), 2008. Data Summary Report for Pre-Design Groundwater Investigation at Site 6A-Fuel Calibration Area, Site 10B-Engine Test House, and Southern Area, Naval Weapons Industrial Reserve Plant (NWIRP), Calverton, New York. June.

Tetra Tech NUS, Inc. (Tetra Tech), 2010. Data Summary Report for 2009 Groundwater Investigation Activities Site2, 6A, 10B, and Southern Area NWIRP, Calverton, New York. February.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Facility DEC ID 1-4730-00013/00045

PERMIT

Under the Environmental Conservation Law (ECL)

Permittee and Facility Information

Permit Issued To:
Northern Division NAVFAC,
Facilities Engineering Command,
Mid Atlantic Naval Facilities
Engineering Command Building Z-144
9742 Maryland Avenue
Norfolk, VA 23511-3095

Facility:
NWIRP CALVERTON
(Formerly Grumman Aerospace Corp -Calverton)
Grumman Boulevard,
Calverton NY 11933

Facility Application Contact:
Ms. Lora Fly
Remedial Project Manager
Facilities Engineering Command, Mid-Atlantic Naval Facilities
Engineering Command Building Z-144
9742 Maryland Avenue
Norfolk, VA 23511-3095

Facility Permit Contact:

AL Taormina (on site Rep (631) 346-0344)

Facility Location: in Riverhead, Suffolk County
Facility Principal Reference Point: E:658.8 N:4 530.9

Authorized Activity: Permit renewal is for the corrective measures for the Southern Area Groundwater Plume which extends from Site 6A and off site to the Peconic River.

To conduct investigations, studies and interim measures at solid waste management units and areas of concern pursuant to the corrective action requirements contained in Module II.

Permit Authorizations
Resource Conservation and Recovery Act - Under Article 27, Title 9

Permit ID 1-4730-00013/00045 (RCRA ID NYD003995198)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Facility DEC ID 1-4730-00013/00045

Renewal Proposed Effective Date: 09/04/2012 Proposed Expiration Date: 09/02/2022

NYSDEC Approval

By acceptance of this permit, the Permittee agrees that the permit is contingent upon strict compliance with the ECL, all applicable regulations, and all conditions included as part of this permit.

Permit Administrator: John Wieland, Deputy Permit Administrator
Address: NYSDEC, Division of Environmental Permits
SUNY Campus, Building 40
Stony Brook, NY 11790-2356

Authorized Signature: _____ Date 09/04/2012

Distribution List

Lora Fly
T. Killeen, DER Albany
H. Wilkie, DER Albany
W. Parish, DER Stony Brook
Chief, EPA Region 2 RCRA Programs Branch

Permit Components

RESOURCE CONSERVATION AND RECOVERY ACT PERMIT CONDITIONS
NON-RCRA HAZARDOUS WASTE MANAGEMENT PERMIT CONDITIONS
GENERAL CONDITIONS, APPLY TO ALL AUTHORIZED PERMITS
NOTIFICATION OF OTHER PERMITTEE OBLIGATIONS

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Facility DEC ID 1-4730-00013/00045

RESOURCE CONSERVATION AND RECOVERY ACT PERMIT CONDITIONS

1. **Conformance With Application** This permit is based on the February 2010 application submission (herein referred to as the application) and that the facility will be operated as specified in the application. Any inaccuracies or incompleteness found in this information may be grounds for the suspension, revocation or modification of this permit and potential enforcement action. The Permittee must inform DEC 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.

2. **Comply With Permit** The permittee must comply with all terms and conditions of this permit. This permit consists of the conditions contained herein (including this and any attachments) and the applicable regulations contained in 6NYCRR (parts 370 through 373-2, 376 and 621 and 624). The Permittee must comply with all State Regulations which pertain to the management of Toxicity Characteristic (TC) wastes as specified in Part 371.

3. **Quality Control/Assurance Program** The Permittee is responsible to verify that the Quality Control/Assurance Program (QA/QC) used by laboratories contracted by the Permittee to carry out analysis of the waste streams conform to the QA/QC procedures approved in this permit and thus, ensure the validity of the analytical data provided by these contract laboratories. Only laboratories which are certified by the New York State Department of Health Environmental Laboratory Approval Program (ELAP) must be used for analysis performed by outside laboratories.

4. **Hazardous Waste Manifests** The Permittee is responsible for completion of all required hazardous waste manifest documentation.

5. **Groundwater Remediation** The Permittee is responsible for the groundwater remediation programs.

6. **Annual Hazardous Waste Report** The Permittee is responsible for the Annual Hazardous Waste Report.

7. **Specified Modules and Attachments** The permittee must operate the facility in strict accordance with the modules and attachments of this permit as specified below:
   Modules
   I General Provisions, pages 1-9
   II Corrective Action Requirements, pages 1-22;
   and Appendixes II-A, II-B, II-C, II-D and II-E

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Facility DEC ID 1-4730-00013/00045

GENERAL CONDITIONS - Apply to ALL Authorized Permits:

1. Facility Inspection by The Department The permitted site or facility, including relevant records, is subject to inspection at reasonable hours and intervals by an authorized representative of the Department of Environmental Conservation (the Department) to determine whether the permittee is complying with this permit and the ECL. Such representative may order the work suspended pursuant to ECL 71- 0301 and SAPA 401(3).

The permittee shall provide a person to accompany the Department's representative during an inspection to the permit area when requested by the Department.

A copy of this permit, including all referenced maps, drawings and special conditions, must be available for inspection by the Department at all times at the project site or facility. Failure to produce a copy of the permit upon request by a Department representative is a violation of this permit.

2. Relationship of this Permit to Other Department Orders and Determinations Unless expressly provided for by the Department, issuance of this permit does not modify, supersede or rescind any order or determination previously issued by the Department or any of the terms, conditions or requirements contained in such order or determination.

3. Applications For Permit Renewals, Modifications or Transfers The permittee must submit a separate written application to the Department for permit renewal, modification or transfer of this permit. Such application must include any forms or supplemental information the Department requires. Any renewal, modification or transfer granted by the Department must be in writing. Submission of applications for permit renewal,modification or transfer shall be submitted to:

Regional Permit Administrator
NYSDEC, Division of Environmental Permits
Stony Brook SUNY Campus
50 Circle Road
Stony Brook, NY 11790-3409

4. Submission of Renewal Application The permittee must submit a renewal application at least 180 days before permit expiration for the following permit authorizations: Resource Conservation and Recovery Act, Non-RCRA Hazardous Waste Management.

5. **Permit Modifications, Suspensions and Revocations by the Department** The Department reserves the right to exercise all available authority to modify, suspend or revoke this permit. The grounds for modification, suspension or revocation include:

a. materially false or inaccurate statements in the permit application or supporting papers;

b. failure by the permittee to comply with any terms or conditions of the permit;

c. exceeding the scope of the project as described in the permit application;

d. newly discovered material information or a material change in environmental conditions, relevant technology or applicable law or regulations since the issuance of the existing permit;

e. noncompliance with previously issued permit conditions, orders of the commissioner, any provisions of the Environmental Conservation Law or regulations of the Department related to the permitted activity.

6. **Permit Transfer** Permits are transferrable unless specifically prohibited by statute, regulation or another permit condition. Applications for permit transfer should be submitted prior to actual transfer of ownership.

NOTIFICATION OF OTHER PERMITTEE OBLIGATIONS

Item A: Permittee Accepts Legal Responsibility and Agrees to Indemnification.
The permittee, excepting state or federal agencies, expressly agrees to indemnify and hold harmless the Department of Environmental Conservation of the State of New York, its representatives, employees, and agents ("DEC") for all claims, suits, actions, and damages, to the extent attributable to the permittee's acts or omissions in connection with the permittee's undertaking of activities in connection with, or operation and maintenance of, the facility or facilities authorized by the permit whether in compliance or not in compliance with the terms and conditions of the permit. This indemnification does not extend to any claims, suits, actions, or damages to the extent attributable to DEC's own negligent or intentional acts or omissions, or to any claims, suits, or actions naming the DEC and arising under Article 78 of the New York Civil Practice Laws and Rules or any citizen suit or civil rights provision under federal or state laws.

Item B: Permittee's Contractors to Comply with Permit
The permittee is responsible for informing its independent contractors, employees, agents and assigns of their responsibility to comply with this permit, including all special conditions while acting as the permittee's agent with respect to the permitted activities, and such persons shall be

subject to the same sanctions for violations of the Environmental Conservation Law as those prescribed for the permittee.

Item C: Permittee Responsible for Obtaining Other Required Permits
The permittee is responsible for obtaining any other permits, approvals, lands, easements and rights-of- way that may be required to carry out the activities that are authorized by this permit.
Item D: No Right to Trespass or Interfere with Riparian Rights. This permit does not convey to the permittee any right to trespass upon the lands or interfere with the riparian rights of others in order to perform the permitted work nor does it authorize the impairment of any rights, title, or interest in real or personal property held or vested in a person not a party to the permit.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL REMEDIATION
PART 373 PERMIT MODULE I - GENERAL PROVISIONS

NWIRP CALVERTON
Formerly Grumman Aerospace Corp -Calverton
EPA ID No. NYD003995198

A. EFFECT OF PART 373 PERMIT

The Permittee must comply with all terms and conditions of this Permit. This Permit consists of the conditions contained herein; sections of the Permit Application referenced herein, including any subsequent Department approved changes to the referenced sections of that Application; and the applicable regulations contained in 6NYCRR Parts 370 through 374, 376, 621 and 624. The applicable regulations or requirements are those which are in effect prior to the date of final issuance of this Permit. However, the Permittee must also comply with the following requirements:

(1) requirements which become effective by statute, including amendments thereto;
(2) requirements of 6NYCRR Part 376, as modified (land disposal restrictions);and
(3) other requirements as required in 6NYCRR 373-1.6(c).

The Permittee is required to conduct corrective action in accordance with the conditions of this Permit. Any storage, treatment, or disposal of hazardous waste not authorized in this Permit is prohibited unless exempt from 6NYCRR Part 373. Issuance of this Permit does not authorize any injury to persons or property, any invasion of other private rights, or any infringement of federal, State or local laws or regulations.

The Permittee is authorized to manage only hazardous wastes which are generated during corrective action at the Permittee's facility. All remedial wastes shall be maintained in an area with secondary containment for less than ninety (90) days.

All plans, reports, specifications and schedules required by the terms of this Permit and all subsequent amendments to those documents are incorporated by reference into this Permit, upon approval, when required, or acceptance by the Department. Upon incorporation, the provisions of each such document will be binding upon the Permittee and have the same legal force and effect as the requirements of this Permit.

B. PERMIT APPLICATION

The Permittee's Hazardous Waste Part A Permit Application is attached to and incorporated by reference into this Permit. The Permit Application documents listed below are also incorporated by reference into this Permit. These documents are made part of this Permit, are binding upon the Permittee and have the same legal force and effect as the requirements of this Permit.

Proposed modifications to this Permit, including modifications to the Permit Application documents incorporated into this Permit, shall be addressed according to 6NYCRR 373-1.7. The Permittee shall place a revision date on all pages of the proposed Permit modification application.

The Permittee must provide and maintain a log of all modifications made to this Permit, including modifications made to the Permit Application documents that are made part of this Permit. The log shall contain at a minimum the following information regarding an approved modification: (1) the name of the specific document being modified (e.g., contingency plan, security requirements, hazardous waste unit operations, etc.); (2) the effective date of the modification to the Permit; (3) the pertinent pages, sections, and/or attachments of the Permit and Permit Application documents subject to the modifications; (4) the revision date of the modifications; and (5) a brief statement regarding the nature of the modifications. The Permittee shall place the log at the beginning of this Permit along with a copy of the Department=s approval letters, when applicable. The Permittee must replace the pages, sections, and/or attachments in the Permit and Permit Application with the modified pages, sections, and/or attachments.

C. GENERAL REQUIREMENTS FOR THIS PART 373 PERMIT

The Permittee must comply with 6NYCRR Subpart 373-1 as follows:

1. General 6NYCRR 373-1.1

a) 6NYCRR 373-1.1(b) - Applicability;
b) 6NYCRR 373-1.1(c) - Safeguarding Information;
c) 6NYCRR 373-1.1(f) - Uniform Procedures;
d) 6NYCRR 373-1.1(g) - Enforcement;
e) 6NYCRR 373-1.1(h) - Severability; and
f) 6NYCRR 373-1.1(i) - Terms Used.

2. Signatories to Permit Applications and Reports 6NYCRR 373-1.4(a)(5)

a) 6NYCRR 373-1.4(a)(5)(i) - Applications;
b) 6NYCRR 373-1.4(a)(5)(ii) - Reports;
c) 6NYCRR 373-1.4(a)(5)(iii) - Changes to Authorization; and
d) 6NYCRR 373-1.4(a)(5)(iv) - Certification.

3. Recordkeeping 6NYCRR 373-1.4(g)

4. Permit Conditions 6NYCRR 373-1.6

a) 6NYCRR 373-1.6(a) - Conditions Applicable to All Permits;
b) 6NYCRR 373-1.6(a)(1) - Duty to Comply;
c) 6NYCRR 373-1.6(a)(2) - Duty to Reapply;
d) 6NYCRR 373-1.6(a)(3) - Need to Halt or Reduce Activity not a Defense;
e) 6NYCRR 373-1.6(a)(4) - Duty to Mitigate;
f) 6NYCRR 373-1.6(a)(5) - Proper Operation and Maintenance;
g) 6NYCRR 373-1.6(a)(6) - Permit Actions;
h) 6NYCRR 373-1.6(a)(7) - Property Rights;
i) 6NYCRR 373-1.6(a)(8) - Duty to Provide Information;
j) 6NYCRR 373-1.6(a)(9)(i) through (iv) - Inspection and Entry;
k) 6NYCRR 373-1.6(a)(10)(i) through (iii) - Monitoring and Records;
l) 6NYCRR 373-1.6(a)(11) - Signatory Requirements;
m) 6NYCRR 373-1.6(a)(12)(i) through (xi) - Reporting Requirements;
n) 6NYCRR 373-1.6(d)(1)(i) through (iii) - Schedules of Compliance; and
o) 6NYCRR 373-1.6(d)(2)(i) through (iv) - Alternative Schedules of Compliance.

5. Requirements for Recording and Reporting of Monitoring Results 6NYCRR 373-1.6(b)

6NYCRR 373-1.6(b)(1) - The Permittee must use, maintain and install monitoring equipment and methods as specified in this Permit (including the permit application) and 6NYCRR Subpart 373-2.

6NYCRR 373-1.6(b)(2) - The Permittee must conduct required monitoring with the type, intervals and frequency sufficient to yield data which are representative of the monitoring activity including, when appropriate, continuous monitoring.

6NYCRR 373-1.6(b)(3) - The Permittee must report monitoring results as specified in this

Permit (including the Permit Application and 6NYCRR Subpart 373-2).

6. Permit Modifications 6NYCRR 373-1.7

a) 6NYCRR 373-1.7(a) - Transfer of Permits;
b) 6NYCRR 373-1.7(b) - Modification of Permits;
c) 6NYCRR 373-1.7(c) - Minor Modifications of RCRA Delegated Permits;
d) 6NYCRR 373-1.7(d) - Major Modifications;
e) 6NYCRR 373-1.7(e) - Announcement of Determinations;
f) 6NYCRR 373-1.7(f) - Temporary Authorizations; and
g) 6NYCRR 373-1.7(g) - Newly Regulated Wastes and Units.

7. Expiration and Continuation of Permits 6NYCRR 373-1.8

Complete applications for permit renewal must be submitted at least 180 days before the expiration date of this Permit pursuant to 6NYCRR 373-1.8(b). Renewal applications with a significant change (as defined in paragraph 373-1.10(a)(1) of this Subpart) are subject to 373-1.10 of this Subpart.

Prior to processing the renewal application the Department will determine whether the application is complete. In order for the renewal application to be complete the Permittee must:

Satisfy the general requirements for complete application contained in 6 NYCRR Part 621 (Uniform Procedure Regulations)

2. Include all information required, both general and specific to the type of the facility

At any time during the review of the renewal application the Department may request in writing any additional information which is necessary for determining the completeness of the application. Failure to provide such information by the date specified in the request may be grounds for denial of the application and the extension allowed pursuant to section 401(2) of the State Administrative Procedures Act.

The Permittee must continue to comply with the applicable corrective action conditions and requirements stipulated in this Permit. In addition, the Permittee shall submit a renewal application pursuant to 6NYCRR Subpart 373-1.8(b) prior to this Permit's expiration unless and until all the Permittee's corrective action obligations have been completed. In the alternative, the Permittee may execute an order on consent for corrective action pursuant to Environmental

Conservation Law (ECL) Section 71-2727(3) with the Commissioner at least 180 days prior to the expiration date of this Permit.

D. FINAL STATUS STANDARDS FOR THIS PART 373 PERMIT

The Permittee must comply with 6NYCRR Subpart 373-2, and the referenced sections of the Permit Application, as follows:

1. General 6NYCRR 373-2.1

a) 6NYCRR 373-2.1(a) - Purpose, Scope and Applicability; and
b) 6NYCRR 373-2.1(c) - Imminent Hazard Action.

2. General Facility Standards 6NYCRR 373-2.2

a) 6NYCRR 373-2.2(a) - Applicability; and
b) 6NYCRR 373-2.2(b) - Facility Ownership Transfer

4. Manifest System, Recordkeeping and Reporting 6NYCRR 373-2.5

a) 6NYCRR 373-2.5(a) - Applicability;
b) 6NYCRR 373-2.5(b) - Manifest Requirements;
c) 6NYCRR 373-2.5(c)(vi) - Operating Record;
d) 6NYCRR 373-2.5(d) - Availability, Retention, and Disposition of Records; and
e) 6NYCRR 373-2.5(f) - Unmanifested Waste Report.

The Permittee must retain for inspection by the Department the permit modification log required by Section B, the operating record, documentation to demonstrate compliance with the financial requirements of this Permit, the referenced sections of the Permit Application that are made part of this Permit, and any subsequent Department approved changes to the contents of that Application. These documents include, but are not limited to reports, for all ongoing corrective action remedies pertinent to solid waste management units and areas of concern either remediated or being remediated pursuant to this Permit.

5. Releases from Solid Waste Management Units 6NYCRR 373-2.6

The Permittee must comply with all the applicable provisions stipulated in 6NYCRR 373-2.6 (l) for corrective action at solid waste management units; comply with the conditions stipulated in

Module II - Corrective Action Requirements for Solid Waste Management Units and Areas of Concern; and comply with the groundwater monitoring plan approved by the Department, including all subsequent revisions approved by the Department that address the means to implement and achieve compliance with the aforementioned conditions for site-wide contaminated groundwater.

E. LAND DISPOSAL RESTRICTIONS

The Permittee must comply with all applicable provisions in the current 6NYCRR Part 376 for the land disposal of hazardous waste except for hazardous waste generated by remediation or corrective action activities for placement in an on-site corrective action management unit (CAMU) approved by the Commissioner, or other alternate management of remediation waste, as allowed by Department Regulation..

F. WASTE ANALYSIS AND QUALITY ASSURANCE

The Permittee must obtain representative samples of wastes and other materials to be analyzed pursuant to this Permit. The Permittee must perform the sampling and analysis required by this Permit in accordance with ATest Methods for Evaluating Solid Waste, Physical/Chemical Methods,@ EPA Publication SW-846 most recent revision; Appendix 19 of 6NYCRR Part 371; or an equivalent method approved by the Department.

The Permittee shall conduct a quality assurance program to ensure that the sampling, analysis and monitoring data are technically accurate and statistically valid. The quality assurance program must be in accordance with Chapter One and applicable subsections of ATest Methods for Evaluating Solid Waste, Physical/Chemical Methods,@ EPA Publication SW-846 most recent revision or an equivalent method approved by the Department.

As required by ECL 03-0119, any laboratory (Permittee or contract) used by the Permittee to perform analysis pursuant to this Permit must be certified by the New York State Department of Health Environmental Laboratory Approval Program (ELAP) in the appropriate categories of analysis, if ELAP issues certifications in such categories. If the Permittee uses a contract laboratory to perform analysis required by this Permit, then the Permittee shall inform the laboratory in writing that it must operate under the waste analysis and quality assurance provisions of this Permit.

G. ORAL REPORTS

The oral reports required by 6NYCRR 373-1.6(a)(12)(vi) and 373-2.4(g)(4)(ii) must be made to both the Department using the New York State 24-hour oil and hazardous material spill notification number (800) 457-7362 and the National Response Center using its 24-hour number (800) 424-8802, or any designated telephone numbers which may subsequently replace those listed above.

H. PLANS, REPORTS, SPECIFICATIONS, IMPLEMENTATION SCHEDULES AND OTHER SUBMITTALS

1. All submittals required by the Permit must be submitted to the addresses listed below.

a) One (1) hardcopy and one (1) electronic copy of all submittals to:

Remedial Bureau A
Division of Environmental Remediation
New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233-7015

b) One (1) electronic copy of all submittals to:

Regional Hazardous Waste Remediation Engineer
New York State Department of Environmental Conservation
Region 1Office
SUNY Campus
Loap Road, Building 40
Stony Brook, NY 11794

Chief, RCRA Programs Branch
Division of Environmental Planning and Protection
U.S. Environmental Protection Agency, Region II
290 Broadway
New York, NY 10007-1866

c) One hard copy of Applications to renew or modify this Permit must be submitted to the following, in addition to the above addresses:

Regional Permit Administrator
NYS Department of Environmental Conservation
Region 1 Office
Division of Environmental Permits
SUNY Campus, Building 40
Stony Brook, NY 11790-2356

The Permittee shall submit plans, reports, specifications, implementation schedules and any subsequent amendments required by this Permit to the Department for review and comment. If the Department determines that any plan, report, specification, schedule or respective amendment required by this Permit is deficient either in whole or in part, the Permittee shall either promptly respond to the comments or make revisions to the submission consistent with the Department's comments. Within a reasonable time frame specified by the Department, a final plan, report, specification, schedule or respective amendment shall be submitted to the Department for approval. An extension of the due date for any submittal may be granted by the Department based on the Permittee's documentation that sufficient justification for the extension exists.

I. DEFINITIONS

For the purpose of this Permit, terms used herein shall have the same meaning as those in 6NYCRR 370 through 374 and 376 and the terms defined in this Permit, unless this Permit specifically states otherwise. Where terms are not otherwise defined, the meaning associated with such terms shall be as 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 for a specific environmental medium which if exceeded indicate a potential threat to human health or the environment. The exceedance of action levels may trigger further investigations, studies, and corrective measures. Where available, action levels are based on appropriate promulgated standards established for a specific environmental medium. When promulgated standards are not available, action levels can be media-specific hazardous constituent concentrations derived from non-promulgated human health risk data or environmental risk data with 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. Areas of Concern (AOC). Pursuant to the authority granted by 6NYCRR 373-1.6(c)(2), an area of concern has been 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), 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 areas 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 apply to areas of concern.

3. Environment. Pursuant to ECL Article 27, Title 9, Section 27-0901, environment means any water, water vapor, any land including land surface or subsurface, air, fish, wildlife, biota and all other natural resources.

4. Release. For purposes of this Permit, 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, including hazardous constituents, unless expressly authorized under the terms of this Permit or otherwise permitted under law (e.g., SPDES permitted discharges).

5. Solid Waste Management Unit (SWMU). For purposes of this Permit, SWMU includes any discernible 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. Such units include any area at the facility at which solid wastes have been routinely and systematically released.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL REMEDIATION
MODULE II - CORRECTIVE ACTION REQUIREMENTS
FOR SOLID WASTE MANAGEMENT UNITS AND
AREAS OF CONCERN

NWIRP CALVERTON
Formerly Grumman Aerospace Corp -Calverton
EPA ID No. NYD003995198

A. APPLICABILITY

1. Statute and Regulations. Article 27, Title 9, Section 27-0913, and 6NYCRR 373-2.6(l) requires corrective action, including corrective action beyond the facility boundary where necessary to protect human health and the environment, for all releases of hazardous wastes, including hazardous constituents, from any solid waste management unit ("SWMU") at a storage, treatment or disposal facility seeking a 6NYCRR Part 373 permit, regardless of the time at which waste was placed in such unit. Pursuant to 6NYCRR 373-1.6(c)(2) the Commissioner may impose permit conditions as the Commissioner determines necessary to protect human health and the environment (i.e., Areas of Concern (AOC(s))).

2. Solid Waste Management Units and Areas of Concern. The conditions of this Module apply to:

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

   (b) Any additional SWMU(s) and AOCs 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 known SWMUs and AOCs located on-site and/or off-site:

Table II-1

SOLID WASTE MANAGEMENT UNITS/ AREAS OF CONCERN			
SOLID WASTE MANAGEMENT UNITS			
Class	Name	RCRA Status	RCRA Determination
Landfills	Northeast Pond Disposal Area (IR Site 1)	Remediation Complete (Soil Removal) Construction Complete Report Approved 11/15/06	No Further Action
	Picnic Ground Disposal Area (IR Site 4)	RFA Report Approved 09/30/92	No Further Action
	Gun Range Disposal Area (IR Site 5)	RFA Report Approved 09/30/92	No Further Action
Storage Area	Old Drum Storage Area	RFA Report Approved 03/30/92	No Further Action
	Waste Oil Storage Tank	RFA Report Approved 03/30/92 Closure Report Approved 05/21/96	No Further Action
	New Drum Storage Area	RFA Report Approved 03/30/92 Closure Report Approved 05/21/96	No Further Action
Transfer Station	Paint Waste Transfer Area	RFA Report Approved 03/30/92	No Further Action
Treatment Facility	Industrial Wastewater Treatment facility (a) 4 Treatment tanks (6,000 gallon Cap. Each) (b) 1 Decanter Water Tank (6,000 gallon Cap.) (c) 1 Sludge Thickening Tnk (3,400 gallon Cap) (d) 1 Decanted Liquid Sump (7,000 gallon Cap.) (f) 1 Waste Holding Tank	RFA Report Approved 03/30/92	No Further Action

SOLID WASTE MANAGEMENT UNITS/ AREAS OF CONCERN			
SOLID WASTE MANAGEMENT UNITS			
Class	Name	RCRA Status	RCRA Determination
	(5,175 gallon Cap.)		
	Fuel Test Laboratory (IR Site 10A)	RFI Work Plan Approved 09/20/95 CMI Complete Report Approved 07/07/06	No Further Action
Incinerator	Incinerator	RFA Report Approved 03/30/92	No Further Action
Injection Well	46 Drainage Wells along the Runways	RFA Report Approved 03/30/92	No Further Action
	27 Cesspool Receiving Sanitary Waste from Plant 8	RFA Report Approved 03/30/92	No Further Action
Spill/ Leakage	Fire Rescue Training Area (IR Site 2)	ICM Work Plan Approved (Soil and Concrete Ring Removal) 05/07/2008	Construction Oversight and Confirmation Soil Sampling Report is under review by the Department
		Supplemental Groundwater Investigation Work Plan 10/05/2011	Still under Investigation
	Ammunition Demolition Area (IR Site 3)	RFA Report Approved 03/30/92	No Further Action

SOLID WASTE MANAGEMENT UNITS/ AREAS OF CONCERN			
SOLID WASTE MANAGEMENT UNITS			
Class	Name	RCRA Status	RCRA Determination
AREAS OF CONCERN			
Spill/ Leakage Areas	Old Fuel Calibration Area (IR Site 6A)	Construction Completion Report (Soil Removal) 11/30/2010	Construction Oversight and Confirmation Soil Sampling Report is under review by the Department
	Old Fuel Calibration Area (IR Site 6A)	The CMS was approved 5/13/2012 (Appendix E). Land Use Controls, monitoring, and the installation and operation of a groundwater extraction, treatment, and discharge system	The Remedial System Design would be submitted in Summer 2012 and would be in operation late Fall 2012
	Engine Runup Area (IR Site 6B)	RFA Report Approved 09/30/92	No Further Action
	Runway Apron Area	RFA Report Approved 09/30/92	No Further Action
	South End of Runway 32 (IR Site 6C)	RFA Report Approved 09/30/92	No Further Action
Recharge Basin	Mckay Lake	RFI Report Approved 04/16/96	No Further Action
Misc	Fuel Depot Area (IR Site 7)	CMI Workplan (Air Sparging /Vapor Extraction System) Approved 12/01/05	Still Under CMI Phase
	Coal Pile Storage Area (IR Site 8)	RFA Report Approved 01/30/97	No Further Action

SOLID WASTE MANAGEMENT UNITS/ AREAS OF CONCERN			
SOLID WASTE MANAGEMENT UNITS			
Class	Name	RCRA Status	RCRA Determination
	Electronic Countermeasures Area (IR Site 9)	Remediation Complete (Soil Removal) Construction Complete Report Approved 07/07/06	No Further Action
	Various Cesspools/Leachfields (IR Site 10)	RFI Report Approved 04/16/96	No Further Action (excluding the Engine Test House-Site 10-B)
	Engine Test House (IR Site 10-B)	Construction Completion Report (Soil Removal) 08/27/2010	Construction Oversight and Confirmation Soil Sampling Report is under review by the Department
		The CMS was approved 5/13/2012 (Appendix II-E). Land Use Controls, monitoring, and the installation and operation of a groundwater extraction, treatment, and discharge system	The Remedial System Design would be submitted in Summer 2012 and would be in operation late Fall 2012
	Fixture Storage Area (IR Site 11)	RFA Report Approved 01/30/97	No Further Action
	Southern Area (On-Site Groundwater)	The CMS was approved 5/13/2012 (Appendix E). Land Use Controls, monitoring, and the installation and operation of a groundwater extraction, treatment, and discharge system system	The Remedial System Design would be submitted in Summer 2012 and would be in operation late Fall 2012

SOLID WASTE MANAGEMENT UNITS/ AREAS OF CONCERN			
SOLID WASTE MANAGEMENT UNITS			
Class	Name	RCRA Status	RCRA Determination
	Southern Area (Off-Site Groundwater)	The CMS was approved 5/13/2012 (Appendix II-E). Land Use Controls, monitoring, and the installation and operation of a groundwater extraction, treatment, and discharge system	The Remedial System Design would be submitted in Summer 2012 and would be in operation late Fall 2012
	Agricultural Outlease Parcel [Discovered after issuance of Part 373 Permit dated 04/18/00 pursuant to module II Section A2(b)]	Remediation Complete (Soil Removal) Construction Complete Report Approved 07/07/06	No Further Action

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. Quality Assurance/Quality Control

   (a) Any laboratory to be used pursuant to such work plans required by this Module must be approved by the Commissioner prior to work plan implementation. Certification by the New York State Department of Health Environmental Laboratory Approval Program in the relevant analytical services is required.

(b) The minimum Quality Assurance/Quality Control data and information, that shall be delivered with all sample analyses required by this Module, are tabulated in Appendix II-A of this Permit Module.

3. Health/Safety Plans. The Permittee shall develop, according to applicable Federal, State and local requirements, and submit to the Commissioner, 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 Commissioner.

4. Guidance Documents. When preparing the submissions described in this Permit Module, the Permittee shall take account all applicable guidance documents issued by the U.S. Environmental protection Agency 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 Commissioner pursuant to the terms of previous applications, consent orders, or plans. For those items the Permittee contends were submitted to the Commissioner, 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 Commissioner, 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 Commissioner will notify the Permittee and the Permittee shall submit the referenced documents within the time frame specified within the notification.

6. Compliance Schedule For Interim Corrective Measures.

(a) If at any time it is determined by the Commissioner that a release or, based on site-specific circumstances, a threatened release of hazardous wastes, including hazardous constituents from a SWMU, a combination of SWMUs, or an AOC 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 Commissioner 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 Commissioner, the Permittee shall implement the required interim corrective measures as specified by the Commissioner. Nothing herein shall preclude the Permittee from taking immediate action to address the conditions described herein and promptly notifying the Commissioner.

(b) In the event the Permittee discovers, a release or, based on site-specific circumstances, a threatened release of hazardous waste, including hazardous 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 Commissioner. Within thirty (30) calendar days of notifying the Commissioner, the Permittee shall submit to the Commissioner, for approval, an interim corrective measures work plan for the interim measures. The Permittee shall implement the measures specified by the Commissioner. Nothing herein shall preclude the Permittee from taking immediate action to address the conditions described herein and promptly notifying the Commissioner.

(c) The following factors may be considered by the Commissioner or the Permittee 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, including hazardous constituents, in containers that may pose a threat of release;

(vi) Presence and concentration of hazardous waste, including hazardous constituents, in soils that have the potential to migrate to groundwater or surface water;

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

(viii) Risks of fire, explosion, or potential for exposure to hazardous

wastes, including hazardous constituents, 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 an RFI for a particular SWMU, or combination of SWMUs, and/or AOC, and other relevant information, the Permittee may submit an application to the Commissioner for a permit modification under 6NYCRR 373-1.7(b) and 621.13 to terminate the subsequent corrective action requirements of this Module. This permit modification application must contain information demonstrating no release(s) of hazardous wastes, including hazardous constituents, from the SWMU(s) and/or AOC(s) that pose a threat to human health or the environment, as well as information required in 6NYCRR 373-1 and 621.4(n), which incorporates by reference 6NYCRR 373-1 and 373-2.

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 forty-five (45) calendar day public comment period required for permit modifications, the Commissioner 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 Commissioner may grant the requested modification.

(b) A determination of no further action shall not preclude the Commissioner 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/AOCs that may pose a threat to human health or the environment; and

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

8. Compliance Schedule For Reporting.

(a) The Permittee shall submit, to the Commissioner, 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 Compliance Schedules of this Permit Module, 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 periods

(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 Module Condition B.8.(a) shall be made available to the Commissioner.

(c) The Commissioner 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 Module Condition B.8(a) above, or upon other supporting information.

(d) All plans and schedules required by the conditions of this Permit Module and Appendix II-D are upon approval of the Commissioner, incorporated into this Permit by reference and become an enforceable part of this Permit. Any noncompliance with such approved plans and schedules shall constitute noncompliance with this Permit. Extensions of the due dates for submittals

may be granted by the Commissioner in accordance with the permit modification processes stipulated in Module I.

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.

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 or area of concern 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 Commissioner 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 or area of concern 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 Commissioner, 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 hazardous constituents in solid waste management units or areas of concern, or which have been released from solid waste management units or areas of concern, will remain in or on the land, including groundwater, after the term of the permit has expired, the Commissioner 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 title 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 Commissioner may require such notice as part of the corrective measures selection process.

C. **COMPLIANCE SCHEDULE FOR ASSESSMENT OF NEWLY IDENTIFIED SWMUS AND AOCS.**

1. Notification of Assessment. The Permittee shall notify the Commissioner, in writing, of any additional SWMU(s) and/or AOC(s) 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 after discovery.

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

   (a) Type of unit/area;

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

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

   (d) Function of unit/area;

   (e) Dates that the unit/area was operated;

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

   (g) Description of any known releases from the unit/area (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 wastes, including hazardous constituents, have occurred, are occurring, or are likely to occur from the unit/area; and

   (i) Whether this unit/areas, individually or in combination with other units/areas described in Module Condition A.2. is a significant source of contaminant

release.

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

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

   (a) Meeting between the Permittee, and the New York State Department of Environmental Conservation (Department) to discuss Plan comments, as appropriate;

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

   (c) Begin implementation of the SWMU/AOC Sampling and Analysis Plan within thirty (30) calendar days following written approval from the Commissioner for the Plan.

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

6. Assessment Conclusions. Based on the results of the SWMU/AOC Sampling and

Analysis Report, the Commissioner shall determine the need for further investigations at the specific unit(s) covered in the SWMU/AOC Assessment Report. If the Commissioner determines that such investigations are needed, the Commissioner shall, by written notification, require the Permittee to prepare and submit for approval a RCRA Facility Investigation Work Plan.

D. **COMPLIANCE SCHEDULE AND NOTIFICATION REQUIREMENTS FOR NEWLY-DISCOVERED RELEASES AT SWMUS AND AOCS.**

The Permittee shall notify the Commissioner, in writing, of any release(s) of hazardous wastes, including hazardous constituents, discovered during the course of groundwater monitoring, field investigation, environmental auditing, or other activities no later than fifteen (15) calendar days after discovery. Such newly-discovered release(s) may be from the newly-identified unit(s)/area(s), from the unit(s)/area(s) for which, based on the findings of the RFA, the Commissioner had previously determined that no further investigation was necessary, or from the unit(s)/area(s) investigated as part of an RFI. Based on the information provided in the notification, the Commissioner shall determine the need for further investigation of the release(s). If the Commissioner determines that such investigations are needed, the Commissioner shall, by written notification, require the Permittee to prepare a RCRA Facility Investigation Work Plan.

E. **CORRECTIVE ACTION REQUIREMENTS.**

1. Compliance Schedule For 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 Plan, the Permittee shall submit to the Commissioner for approval the RFI Final and Summary Reports. The RFI Final Report must contain adequate information to support further corrective action decisions at the facility and/or off-site, should such actions be necessary. The RFI Final Report shall describe the procedures, methods, and results of all facility investigations of SWMUs and AOCs and their releases, including information on the type and extent of contamination at the facility and/or off-site, sources and migration pathways, and actual or potential receptors. It shall 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 Summary Report shall describe more briefly the procedures, methods, and results of the RFI.

   (b) Following submission of the Reports set forth in Module Condition E.1.(a), subsequent activities for the Report shall proceed in accordance with the following schedule:

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

(ii) Submission of a revised Report to the Commissioner for approval within forty-five (45) calendar days of the above-described meeting. (If the above-referenced meeting is determined not to be necessary, the Permittee shall submit a revised Report to the Commissioner, according to a schedule specified by the Department, not to exceed forty-five (45) calendar days after Permittee's receipt of Report comments from the Commissioner).

(c) After the Commissioner 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 by the Permittee, 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 II-B of this Permit Module shall be submitted, as a separate document, at the same time as the RFI Final Report.

2. Compliance Schedule For Corrective Measures Study ("CMS") Scope of Work.

(a) Should a CMS be required, the Commissioner shall notify the Permittee in writing. This notice shall identify the hazardous constituent(s) which have exceeded the action level(s) 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 Commissioner 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; or

(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 constituent in groundwater, surface

water/sediment, soil, or air do not exceed corresponding individual action levels, but still pose a threat to human health or the environment, given site-specific exposure conditions.

(c) The Permittee shall submit for approval a CMS Plan to the Commissioner Within sixty (60) calendar days after a notification required by Module condition E.2.(a) unless such a plan will not to be required, and the Permittee shall instead submit a focused CMS that identifies a presumptive remedy for implementation.

(i) The CMS Plan shall provide:

A description of the general approach to investigating and evaluating potential corrective measure;

A definition of the overall objectives of the study;

The specific plans for evaluating corrective measure to ensure compliance with corrective measure standards;

The schedules for conducting the study; and

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 required by the CMS Scope of Work included in Appendix C of this Module.

(d) The CMS will be considered complete upon completion of Tasks I through IV required by the CMS Scope of Work included in Appendix II-C of this Permit Module. Within sixty (60) calendar days after a notification required by Module Condition E.2.(a) the Permittee shall complete Task I and submit to the Commissioner a Task I report and documents, if any, relevant to other Tasks.

(e) Following submission of the CMS Plan set forth in Module Condition E.2.(c), subsequent activities for the Plan shall proceed in accordance with the following schedule:

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

(ii) Submission of a revised Plan to the Commissioner for approval within thirty (30) calendar days of the above-described meeting. (If

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

3. Compliance Schedule For Corrective Measures Study Implementation. No later than thirty (30) calendar days after the Permittee has received written approval from the Commissioner 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 Module Condition E.2.

4. Compliance Schedule For Corrective Measures Study Final Report.

   (a) Within forty-five (45) calendar days after the completion of the CMS, the Permittee shall submit for approval a CMS Final Report (Task IV) to the Commissioner. 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 meets the standards set forth in Module Condition E.5.(a).

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

      (iv) Contain any additional information to support the Commissioner in the corrective measure selection decision-making process, described under Module Condition E.4.

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

   (c) Following submission of the CMS Report set forth in Module Condition E.4(a), subsequent activities for the Report shall proceed in accordance with the following schedule:

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

      (ii) Submission of a revised Report to the Commissioner for approval

within thirty (30) calendar days of the above-described meeting. (If the above referenced meeting is determined not to be necessary the Permittee shall submit a revised Report to the Commissioner, according to a schedule specified by the Department, not to exceed forty-five (45) calendar days after Permittee's receipt of Report comments from the Commissioner.)

(d) As specified under Module Condition E.2.(a), based on preliminary results and the CMS Final Report, the Commissioner may require the Permittee to evaluate additional corrective measures or particular elements of one or more proposed corrective measures.

5. Corrective Measure(s) Selection.

(a) Based on the results of the documents submitted under Module Condition E.2. for the RFI, under Module Condition E.3. for the CMS, and any further evaluations of additional corrective measures under this study, the Commissioner shall select the corrective measure(s) 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 Commissioner 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, including hazardous 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 corrective measures established under Module Condition E.4.(a), the Commissioner 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, including hazardous constituents, remaining following implementation of the corrective measure(s), considering the persistence, toxicity, mobility and propensity to bioaccumulate of such hazardous wastes, including hazardous 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, including hazardous 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, including hazardous constituents, and their residuals; and

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

(ii) Reduction of toxicity, mobility or volume. A potential corrective measure(s) may be assessed as to the degree to which it employs treatment that reduces toxicity, mobility or volume of hazardous wastes, including hazardous 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, including hazardous 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, including hazardous constituents; and

(5) All concentration levels of hazardous waste, including hazardous constituents, in each medium that the 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 and 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 include the following:

(1) Capital costs;

(2) Operation and maintenance costs;

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

(4) Potential future corrective measure costs.

6. Permit Modification for Corrective Measure(s).

(a) Based on information the Permittee submits in the RFI and Summary Reports, under Module Condition E.1., the CMS Final Report under Module Condition E.4., and other information, the Commissioner will select the corrective measure(s) and initiate a permit modification to this Permit, pursuant to 6NYCRR 373-1.7(b) and 6NYCRR 621.14. 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 measures established under Module Condition E.5.(a), 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 Commissioner, 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 Commissioner financial assurance for completing the approved corrective measures.

7. Modification of the Compliance Schedules.

(a) If at any time the Permittee determines that modification of any Compliance Schedule of this Permit Module, including Appendix II-D, is necessary because such schedules cannot be met, the Permittee must:

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

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

(b) The Commissioner shall notify the Permittee in writing of the final decision regarding the Permittee's proposed modification to the Compliance Schedule.

(c) Modifications to the Compliance Schedule pursuant to their procedure does not constitute a reissuance of this Permit.

(d) All other modifications to this Permit Module must be made in accordance with Module I.

373 Part Module II Appendix A

NWIRP CALVERTON

Formerly Grumman Aerospace Corp -Calverton

EPA ID No. NYD003995198

COMPONENTS REQUIRED FOR RCRA-C ANALYTICAL DATA SUBMITTED TO NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

A data deliverables package is to be supplied with all analytical data, as specified in the approved Quality Assurance Project Plan (QAPP) or work plan. Category B or CLP data deliverables, as specified in the latest version of the NYSDEC Analytical Services Protocol (ASP), are required unless otherwise specified in an approved QAPP or work plan. The category B and CLP data deliverables packages are specified in Exhibit B of the NYSDEC ASP. Copies of the ASP, on CD, are available from the Standards and Analytical Support Section in the Bureau of Water Assessment and Management in the Division of Water. The data package shall be provided to the Department on a CD in ASP format as a PDF or other read only document. In addition, the laboratory must be certified by NYSDOH ELAP for the category and parameters of interest as per 6 NYCRR 370.1(f). A list of commercial laboratories can be found at http://www.wadsworth.org/labcert/elap/comm.html.

Category B or CLP data deliverables are generally expected for corrective action sampling, characterization groundwater monitoring and closures. For long term groundwater monitoring, an abbreviated data package may suffice, with prior Department quality assurance approval, since the variability of the data with time can be used as a quality control check. A facility may request a change to the data deliverables package, and may propose modifications to the QAPP accordingly. Modifications to the data deliverables criteria must be approved by the Department prior to implementation.

373 Appendix II-B

Scope of Work For A
RCRA Facility Investigation

NWIRP CALVERTON
Formerly Grumman Aerospace Corp -Calverton
EPA ID No. NYD003995198

I. INTRODUCTION

The Permittee shall undertake a RCRA Facility Investigation ("RFI") that should include the development of several component plans and supporting reports relevant to the specific investigations to be undertaken pursuant to this Permit. Component plans and reports must be prepared and submitted in accordance with the Compliance Schedules in Module II Condition E. and Appendix II-D of this Permit Module.

The purpose of this RFI is to characterize the nature, extent, direction, rate, movement and concentration of releases of hazardous waste and/or constituents from Solid Waste Management Units and Areas of Concern 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. This Appendix is to serve as guidance for conducting an RFI. Therefore, all of the material addressed in this Appendix may not apply to the units or areas to be investigated by the Permittee. The Permittee should consult with Department representatives before beginning the RFI process regarding which Appendix items need to be addressed during the investigations. The Permittee shall furnish all personnel, materials, and services necessary for, or incidental to, performing the RCRA Facility Investigation.

The RFI Scope of Work includes several tasks. However, for the purpose of this Permit only Task V, Task VII and possibly Task VI apply:

Task I: A report on the Description of Current Conditions.

Task II: A report on the Pre-Investigation Evaluation of Corrective Measures.

Task III: RFI Management Plans including:

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

Task IV: The Facility Investigation.

Task V: Investigative Analysis.
Task VI: Laboratory, Bench Scale, and Pilot Studies.

Task VII: Reports.

The report on Description of Current Conditions should comprise all available and relevant information and data on the facility's background, SWMU(s) and AOC(s) characterization, nature and extent of contamination, potential receptors, and prevailing corrective action implementation. Data and information gathered during any previous investigations, remediations, or inspections and other relevant data should be included in the submittal. That information and data may then be used to focus subsequent field investigations and development of the respective work plans for the SWMU(s) and AOC(s) to be investigated as part of this Permit. If the Permittee maintains that relevant information and data has been submitted, the Permittee should cite such submittal(s). The Permittee shall refer to Module Condition II.B.5. on addressing prior submittals.

The report on Pre-Investigation Evaluation of Corrective Measures will identify potential technologies that may be considered by the Permittee for subsequent implementation. These alternative technologies will focus the RFI to collect the necessary data for their proper evaluation.

The RFI Management Plans shall provide the necessary information that will assure that the following objectives are met:

- Proper management of all aspects of the RFI project including tracking of project milestones. Schedules and tracking methods shall be established for RFI tasks and report submittals (Project Management Plan);

- Satisfactory presentation of data and results developed by the RFI. Data management procedures shall be established to effectively process data such that relevant data descriptions are readily accessible and accurately maintained (Data Management Plan);

- Generation of valid data during the RFI investigation. QA/QC procedures shall be established to describe and document data quality (Quality Assurance Project Plan);

- Implementation of appropriate health and safety measures during the RFI. Health and safety procedures shall be established to ensure the health and safety of the investigative team(s) and the general public during the RFI (Health and Safety Plan); and

- Provision for informing the community of the results of the RFI (Community Relations Plan).

The Facility Investigation shall focus on procedures and techniques that will be utilized

during field investigations to characterize the environmental setting and the contaminant release(s) from the SWMU(s) and AOC(s). Characterization of the environmental setting will be necessary to determine monitoring locations and to aid in defining the boundaries of the contaminated unit(s) and area(s). The Permittee shall characterize each environmental media, as deemed necessary by the Department, to provide information that can be used to determine the rate and extent of the contaminant release(s). Characterization of the contaminant release(s) from the SWMU(s) and AOC(s) will be necessary to determine the nature, extent, direction, rate, movement and concentration of the contaminant plume(s).

Since a potentially broad spectrum of situations involving information on a specific release(s) may exist at the beginning of the RFI, a flexible, phased approach for the release investigation may be necessary. The Permittee may begin with an evaluation of existing data and propose the collection of additional data as necessary to characterize the release. The Permittee may consider incorporating appropriate screening techniques, i.e., soil gas, geophysical methods, as the initial phase of field investigation for the RFI.

Based on existing data and/or data collected by appropriate screening techniques, the Permittee may develop a conceptual model of the release. This model may then be used to plan and develop subsequent investigations. The Permittee shall then develop work plans for the subsequent investigative program(s), as deemed necessary by the Department, utilizing conventional monitoring techniques capable of release(s) verification and/or characterization.

An Investigative Analysis shall be carried-out on the data generated by the Facility Investigation. The analysis shall focus on the quality of data generated and on establishing the nature, extent, direction, rate, movement and concentration of contamination.

Laboratory and/or Bench Scale Studies shall be performed to assess corrective measure technologies that may be applicable for remediating the SWMU(s), the AOC(s), and the environmental contamination investigated by the Permittee. The information gathered from such studies will assist the Permittee in selecting the alternative technologies for evaluation during the Corrective Measures Study.

Progress reports on the Facility Investigation and Laboratory Bench Scale Studies shall be submitted quarterly in addition to a final RFI Report and Summary Report.

II. TASK V: INVESTIGATION ANALYSIS

The Permittee shall prepare an analysis and summary of all facility investigations 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, rate, 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 nature, rate, and extent of contamination at the facility including sources and migration pathways. The report shall describe the nature and 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 and action levels (e.g., health based guidance values) for the protection of human health and the environment.

III. 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 type(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.

IV. TASK VII: REPORTS

A. Progress Reports

The Permittee shall provide signed progress reports as required by Condition B.8.(a) of Module II of this Permit.

B. Draft and Final Reports

The Permittee shall prepare a RCRA Facility Investigation ("RFI") Report as required by Condition E.1 of Module II of this Permit. The RFI Report shall present all information gathered under the approved RFI Workplan.

373 Appendix II-C

SCOPE OF WORK FOR A CORRECTIVE MEASURE STUDY
NWIRP CALVERTON
Formerly Grumman Aerospace Corp -Calverton
EPA ID No. NYD003995198

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. This Appendix serves as guidance for developing a CMS and much of its content may not be applicable, especially when developing a focused CMS addressing a presumptive remedy. Permittee should consult with Department representatives before beginning the CMS process regarding which items need to be addressed during the study. 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. Human Health
C. Environmental

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 II-B), 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 Commissioner 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 the Department, 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 and New York State guidance, and the requirements of any applicable federal and state statutes. At a minimum, all corrective actions concerning groundwater releases from regulated units must be consistent with, and as stringent as, those required under 6NYCRR 373-2.6.

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. 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

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 Appendix II-C and evaluate each corrective measure alternative and it's 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 the reliability 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.

(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 of 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 of 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.

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;

(iii) Land and site-development costs: Expenses associated with purchase of land and development of existing property; and

(iv) Buildings and services costs: Costs of process and nonprocess buildings, utility connections, purchased services, and disposal costs.

(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 Commissioner will select the corrective measure alternative or alternatives to be implemented based on the results of Tasks II and III of Appendix II-C. 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 and/or State 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 Reports

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

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

The Permittee shall prepare a CMS Final Report as required by Condition E.4. of Module II 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 and 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, pilot 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).

373 Appendix II-D
Compliance Schedule

NWIRP CALVERTON
Formerly Grumman Aerospace Corp -Calverton
EPA ID No. NYD003995198

I. Compliance Schedule For Interim Corrective Measures.

A. Pursuant to Module 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 Commissioner requiring implementation of interim corrective measures.

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

II. Compliance Schedule For Reporting.

A. Pursuant to Module Condition B.8.(a), Permittee shall submit signed progress reports as specified in approved work plans 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 II 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 Commissioner and off-site owners or residents on land overlying such contamination.

B. Pursuant to Module II 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 Commissioner and off-site individuals subject to such long-term exposure.

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OU-3 – Southern Area Groundwater

NYSDEC Concurrence Letter

NWIRP CALVERTON

Formerly Grumman Aerospace Corp -Calverton

EPA ID No. NYD003995198

New York State Department of Environmental Conservation
Division of Environmental Remediation
Office of the Director, 12th Floor
625 Broadway, Albany, New York 12233-7011
Phone: (518) 402-9706 • **Fax:** (518) 402-9020
Website: www.dec.ny.gov

MAY 1 1 2012

Joe Martens
Commissioner

Ms. Lora Fly (lora.fly@navy.mil)
Remedial Project Manager (Code OPNEEV)
Facilities Engineering Command, Mid-Atlantic Naval Facilities
Engineering Command Building Z-144
9742 Maryland Avenue
Norfolk, VA 23511-3095

RE: Calverton NWIRP, OU-3 - Site 6A Southern Area
Site No. 152136
Draft-Final Record of Decision
Dated April 2012

Dear Ms. Fly:

The New York State Department of Environmental Conservation (Department) and the New York State Department of Health (NYSDOH) have reviewed the April 2012 Draft-Final Record of Decision for Site 6A – Southern Area Groundwater at NWIRP Calverton, Suffolk County, NY. The Department concurs with the Navy's preferred alternative for the Southern Area Groundwater Plume. The preferred alternative (Alternative 8) consists of land use conditions, monitoring, and the installation and operation of a groundwater extraction, treatment, and discharge system at the NWIRP southern property line (Fence Line Treatment System). Also, based on monitoring data and trend analysis, the preferred alternative includes contingencies to install additional treatment options at the Source Area, in the Offsite Southern Area (VOCs greater than 500 µg/L), and at the Peconic River Area.

Based on a review by the Department, the selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective. This remedy utilizes permanent solutions and alternative treatment or resource recovery technologies to the maximum extent practicable, and satisfies the preference for remedies that reduce toxicity, mobility, or volume as a principal element.

If you have any questions, please contact Mr. Henry Wilkie at (518) 402-9625.

Sincerely,

Robert W. Schick, P.E.
Acting Director
Division of Environmental Remediation

ec: Charlotte Bethoney, NYSDOH
Steve Karpinski, NYSDOH
Andrew Rapiejko, SCDHS (andrew.rapiejko@suffolkcountyny.gov)
Jim Harrington
Walter Parish
Daniel Evans
Henry Wilkie

IV. Compliance Schedule for Previously Identified SWMUs and AOCs

A. Pursuant to Module Condition C.1., Permittee shall submit a Current Conditions Report within ninety (90) calendar days of the effective date of this Permit to the Commissioner.

V. Compliance Schedule For Assessment of Newly Identified SWMUs and AOCs.

A. Pursuant to Module Condition D.1., Permittee shall notify the Commissioner, in writing, of any additional SWMU(s) and/or AOC(s) within fifteen (15) calendar days after discovery.

B. Pursuant to Module Condition D.2., Permittee shall submit a SWMU/AOC Assessment Report within thirty (30) calendar days after notifying the Commissioner of any additional SWMU(s) and/or AOC(s).

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

D. Pursuant to Module Condition D.4.(b), Permittee shall submit for approval revisions of the SWMU/AOC Sampling and Analysis Plan within thirty (30) calendar days after meeting with the Department 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 Condition D.4.(c), Permittee shall begin to implement the SWMU/AOC Sampling and Analysis Plan within thirty (30) calendar days following written approval of the Plan.

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

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

A. Pursuant to Module Condition E.1.(a)., Permittee shall submit for approval the RFI Final and Summary Reports within sixty (60) calendar days after receipt by the Permittee of validated analytical data generated under the approved work plan.

B. Pursuant to Module Condition E.1.(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 Department to discuss Report comments, or within forty-five (45) calendar days when no meeting is scheduled.

C. Pursuant to Module Condition E.1.(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.

VII. Compliance Schedule For Corrective Measures Study ("CMS") Scope of Work.

A. Pursuant to Module Condition E.2.(c), Permittee shall submit for approval a CMS Plan within sixty (60) calendar days after the written notification by the Commissioner for a CMS.

B. Pursuant to Module Condition E.2.(d), Permittee shall submit a Task I Report and documents within sixty (60) calendar days after the written notification by the Commissioner for a CMS.

C. Pursuant to Module Condition E.2.(e)(ii), Permittee shall submit for approval revisions to the CMS Plan within thirty (30) calendar days after meeting with the Department to discuss Plan comments, or within forty-five (45) calendar days when no meeting is scheduled.

XIV. Compliance Schedule For CMS Implementation.

A. Pursuant to Module Condition E.3., Permittee shall begin to implement the CMS Plan within thirty (30) calendar days following written approval of the Plan.

XV. Compliance Schedule For CMS Final Report.

A. Pursuant to Module Condition E.4.(a), Permittee shall submit for approval a CMS Final Report within forty-five (45) calendar days after completion of the CMS.

B. Pursuant to Module Condition E.4.(c)(ii), Permittee shall submit for approval revisions to the CMS Final Report within thirty (30) calendar days after meeting with the Department to discuss Report comments or within forty-five (45) calendar days when no meeting is scheduled.

XVI. Compliance Schedule For Financial Assurance for Corrective Measure(s).

A. Pursuant to Module Condition E.5.(b), Permittee shall demonstrate financial assurance for completing the approved corrective measure(s) within thirty (30) calendar days after this Permit has been modified.

XVII. Modification of the Compliance Schedules.

A. Pursuant to Module Condition E.7.(a)(i), Permittee shall submit proposed modification of any Compliance Schedule within fifteen (15) calendar days of determining that a schedule cannot be met.