

BEFORE THE
OHIO ENVIRONMENTAL PROTECTION AGENCY

OHIO E.P.A.

MAR 18 2004

ENTERED DIRECTOR'S JOURNAL

In the Matter of:

Northrop Grumman Space
and Mission Systems Corp.
1840 Century Park East
Los Angeles, CA 90067-2199

Respondent

Director's Final Findings
and Orders for Remedial
Design and Remedial Action

PREAMBLE

It is hereby agreed to by the Parties hereto as follows:

I. JURISDICTION

1. These Director's Final Findings and Orders ("Orders") are issued to Northrop Grumman Space and Mission Systems Corp. ("Respondent"), pursuant to the authority vested in the Director of Ohio EPA under Ohio Revised Code ("ORC") §§ 3734.13, 3734.20, 6111.03, and 3745.01. Respondent consents to and agrees not to contest Ohio EPA's jurisdiction to issue and enforce these Orders.

II. PARTIES BOUND

2. These Orders shall apply to and be binding upon Respondent and its successors in interest liable under Ohio law.

3. No change in ownership or corporate status of the Respondent including, but not limited to, any transfer of assets or real or personal property shall in any way alter Respondent's obligations under these Orders.

4. Respondent shall provide a copy of these Orders to all contractors, subcontractors, laboratories and consultants retained to perform any portion of the Work pursuant to these Orders. Respondent shall ensure by contractual requirement that all contractors, subcontractors, laboratories and consultants retained to perform Work pursuant to these Orders also comply with the applicable provisions of these Orders.

III. DEFINITIONS

5. Unless otherwise expressly provided herein, all terms used in these Orders or in any

Accepted and agreed to on behalf of the
Respondent, Northrop Grumman Space and Mission Systems Corp. of the Ohio
Environmental Protection Agency.
 dated 3-18-04

appendices shall have the same meaning as defined in ORC Chapters 3734 and 6111. Whenever the terms listed below are used in these Orders or in any appendices, attached hereto and incorporated herein, the following definitions shall apply:

- a. "Day" means a calendar day unless expressly stated to be a business day. "Business day" shall mean a day other than a Saturday, Sunday, or state holiday. In computing any period of time under these Orders, where the last day would fall on a Saturday, Sunday, or state holiday, the period shall run until the close of the next business day.
- b. "Decision Document" means the document describing the remedial action selected for the Site by Ohio EPA, and it is attached to these Orders as Appendix A.
- c. "NCP" means the National Oil and Hazardous Substances Pollution Contingency Plan, codified at 40 C.F.R. Part 300 (1990), as amended.
- d. "Ohio EPA" means the Ohio Environmental Protection Agency and its designated representatives.
- e. "Paragraph" means a portion of these Orders identified by an arabic numeral or an uppercase or lowercase letter.
- f. "Party" or "Parties" means Respondent and Ohio EPA.
- g. "Remedial Action" ("RA") means those activities to be undertaken by Respondent to implement and maintain the effectiveness of the final plans and specifications submitted by Respondent pursuant to the Remedial Design and Remedial Action Work Plan.
- h. "Remedial Design" ("RD") means those activities to be undertaken by Respondent to develop the final plans and specifications for the Remedial Action pursuant to the Remedial Design and Remedial Action Work Plan.
- i. "Remedial Design and Remedial Action Work Plan" ("RD/RA Work Plan") means the document submitted by Respondent pursuant to the Performance of the Work by Respondent Section of these Orders.
- j. "Respondent" means Northrup Grumman Space and Mission Systems Corp.
- k. "Response Costs" means all costs including, but not limited to, payroll costs, contractor costs, travel costs, direct costs, indirect costs, legal and enforcement related costs, oversight costs, laboratory costs, and the costs of reviewing or developing plans, reports, and other items pursuant to these Orders, verifying the Work, or otherwise implementing or enforcing these Orders.

- l. "Section" means a portion of these Orders identified by a Roman numeral.
- m. "Site" means the former Zeidrich Dump, which is owned by Northrop Grumman Space and Mission Systems Corp. and located north of East Line Street and east of the Village of Minerva, West Township, Columbiana County, Ohio where the treatment, storage, and/or disposal of hazardous waste, and/or the discharge into waters of the state of industrial waste or other waste have occurred, including any other area where such hazardous wastes, industrial wastes, and/or other wastes have migrated or threaten to migrate.
- n. "Statement of Work" ("SOW") means the statement of work for the implementation of the Remedial Design and Remedial Action at the Site, as set forth in Appendix B to these Orders. The SOW is not specific to this Site, and shall be used as an outline in developing Site-specific work plans.
- o. "Transferee" means any future owner of any interest in the Site, including, but not limited to, owners of an interest in fee simple, mortgagees, easement holders, and/or lessees.
- p. "Waste Material" means (1) any "hazardous waste" under ORC § 3734.01(J); (2) any "solid waste" under ORC § 3734.01(E); (3) any "industrial waste" under ORC § 6111.01(C); and (4) any "other wastes" under ORC § 6111.01(D) of the ORC.
- q. "Work" means all activities Respondent is required to perform under these Orders.

IV. FINDINGS

6. The Director of Ohio EPA has made the following findings:

- a. Zeidrich Dump is located in West Township, which is situated in the southwestern corner of Columbiana County. The property is located north of East Line Road and east of the Village of Minerva. The total property includes 6.8 acres; one and one-half (1 ½) to two (2) acres of which were used as a landfill.
- b. The property, owned originally by Andy Deitrich, was leased by Matthew Zeidrich in 1947 and was later purchased by Matthew Zeidrich in 1954. Following Matthew Zeidrich's death in 1978, his sons and daughter (Matthew Zeedrich [legal name change], Joseph Zeidrich, and Frances Elaine Zeidrich Baum) inherited the property. The Respondent purchased the property from the Zeidrich heirs a few years ago.
- c. Matthew Zeidrich began accepting municipal and household wastes from the

Village of Minerva in the early 1950's. Disposal of these wastes halted in the early 1960s.

- d. According to Matthew Zeedrich, Zeidrich Dump accepted industrial wastes from the Respondent during the period from 1963 to 1970. Materials accepted, according to Matthew Zeedrich, included: ceramic mold material (approximately 20 yards per day); stainless steel; full and empty drums (approximately six [6] per week) containing primarily caustic soda and baghouse dust (sludge).
- e. The Respondent's production from 1957 through 1968 involved a method which used elemental mercury. In 1968, wax replaced elemental mercury in this process. In this revised process, the Respondent used trichloroethylene (TCE) and 1,1,1-trichloroethane (TCA) as degreasers.
- f. Ohio EPA became aware of the Site in 1983 when the Minerva Village Service Director contacted Ohio EPA with a complaint that trees near the landfill were dying. Ohio EPA, Division of Hazardous Waste Management, inspected the property and noted the presence of numerous drums, including several labeled "trichloroethylene," on the surface of the landfill.
- g. Samples collected in 1986 from the surface of the landfill contained metals (notably arsenic, chromium, lead, mercury, and zinc), volatile organic compounds (VOCs) (acetone, 1,1-dichloroethene, trans-1,2-dichloroethene, TCE, and polychlorinated biphenyls (PCBs).
- h. Ohio EPA requested that U.S. EPA evaluate Zeidrich Dump for a time-critical removal. U.S. EPA determined that a removal was necessary and entered into an administrative order on consent with the Respondent on December 19, 1989. A total of 1,582 drums were collected and disposed of from the Site during the removal action, which took place in 1990 and 1991.
- i. On October 2, 1992, Ohio EPA entered into Director's Final Findings and Orders with the Respondent for the performance of a Remedial Investigation and Feasibility Study (RI/FS) at the Site. On September 17, 1996, Ohio EPA approved the RI report for the Site and on May 4, 1999, Ohio EPA approved the FS report for the Site.
- j. During the RI/FS, sediment samples were collected from the marshy area (wetlands) located down gradient from the landfill, soil samples were taken at the Site, and surface water samples were taken from below the landfill and from the intermittent stream immediately downgradient of the landfill. A list of the analytical results from these samples are found in Tables 6, 1 and 5, respectively, in the Decision Document (Appendix A).
- k. On July 15, 2002, Ohio EPA notified the public of its Preferred Plan, which

set forth the remedy preferred by Ohio EPA for the Site and solicited comments from the public on the selected remedy. Ohio EPA held a public hearing on August 14, 2002 to provide information, answer questions and receive oral and written comments on the Preferred Plan.

- i. On May 2, 2003, Ohio EPA issued a Decision Document based on analytical data presented in the RI and FS Reports and comments received from the public on the Preferred Plan. The Decision Document presents the selected remedy for the Site, which includes the following elements: excavation of contaminated sediments and soils and consolidation of these materials onto the surface of the landfill; installation of a low-permeability cap over the surface of the landfill; installation of a leachate collection and monitoring well system; wetland restoration; long-term monitoring of ground water; implementation of use restrictions; limiting access and stalling warning signs; implementation of a public education program; and development and implementation of an operation and maintenance plan. The Decision Document is attached hereto as Appendix A, and incorporated by reference herein.
- m. The volatile compounds, semivolatile compounds, pesticides, PCBs, and metals found in the soil, ground water, surface water, and sediments at the Site were either “hazardous waste,” as defined in ORC § 3734.01(J), or “industrial wastes” or “other wastes,” as defined in ORC § 6111.01(H).
- n. The ground and surface waters at the Site are “waters of the state” as defined in ORC § 6111.01(H).
- o. Conditions at the Site constitute a substantial threat to public health or safety or are causing or contributing or threatening to cause or contribute to air or water pollution or soil contamination in accordance with ORC § 3734.20(B).
- p. The migration and threatened migration of these industrial wastes, and/or hazardous wastes, into soil, ground water, and surface water at or from the Site constitutes a discharge of industrial wastes and/or hazardous wastes into waters of the state. The Work required pursuant to these Orders will contribute to the prohibition or abatement of the discharge of industrial wastes or other wastes into the waters of the state.
- q. In issuing these Orders, the Director has given consideration to, and based his determination on, evidence relating to both technical feasibility and economic reasonableness of complying with these Orders, and to evidence relating to conditions calculated to result from compliance with these Orders, and their relation to the benefits to the people of the state to be derived from such compliance.
- r. Respondent has agreed to undertake the actions in these Orders.

Respondent does not admit liability or any finding of fact, determination, or conclusion of law, and Respondent's agreement to undertake the activities in these Orders shall not constitute or be construed as an admission of liability or an admission of any finding of fact, determination, or conclusion of law.

V. GENERAL PROVISIONS

7. Objectives of the Parties

The objective of the Parties in entering into these Orders is to provide for the protection of public health and safety, and the environment from the disposal, discharge, or release of Waste Material at the Site through the design, construction, operation and maintenance of the remedy as set forth in the Decision Document (Appendix A).

8. Commitment of Respondent

Respondent shall perform the Work in accordance with these Orders including but not limited to the SOW (Appendix B), all relevant guidance documents (Appendix C), and all standards, specifications, and schedules set forth in or developed pursuant to these Orders. Respondent shall also reimburse Ohio EPA for Response Costs as provided in the Reimbursement of Costs Section of these Orders.

9. Compliance With Law

- a. All activities undertaken by Respondent pursuant to these Orders shall be performed in accordance with the requirements of all applicable federal and state laws and regulations.
- b. Respondent shall perform the activities required pursuant to these Orders in a manner that is not inconsistent with the NCP. Ohio EPA believes that activities conducted pursuant to these Orders, if approved by Ohio EPA, shall be considered consistent with the NCP.
- c. Where any portion of the Work requires a permit or approval, Respondent shall submit applications in a timely manner and take all other actions necessary to obtain such permits or approval. These Orders are not, and shall not be construed to be, a permit issued pursuant to any statute or regulation.

VI. PERFORMANCE OF THE WORK BY RESPONDENT

10. Supervising Contractor

All Work performed pursuant to these Orders shall be under the direction and supervision of a contractor with expertise in hazardous waste site investigation and remediation. Prior

to the initiation of the Work, Respondent shall notify Ohio EPA in writing of the name of the supervising contractor and any subcontractor to be used in carrying out the terms of these Orders.

11. Remedial Design and Remedial Action

- a. Within sixty (60) days after the effective date of these Orders, Respondent shall submit to Ohio EPA a work plan and schedule for implementation of the Remedial Design and Remedial Action for the Site ("RD/RA Work Plan"). The RD/RA Work Plan shall provide for the design, construction, operation and maintenance of the remedy as set forth in the Decision Document. The Respondent may provide additional information and request that Ohio EPA consider changes to the Decision Document in accordance with the Ohio EPA guidance (DERR-OO-RR-013), entitled "Preferred Plans and Decision Document Procedures" and dated June 10, 2003.
- b. The RD/RA Work Plan shall be developed in conformance with the SOW, Appendix B of these Orders, and the relevant guidance documents listed in Exhibit A of Appendix B of these Orders, attached hereto and incorporated herein. If Ohio EPA determines that any additional or revised guidance documents affect the Work to be performed in implementing the RD/RA, Ohio EPA will notify Respondent, and the RD/RA Work Plan and other affected documents shall be modified accordingly. Tasks required under the approved RD/RA Work Plan, which have already been implemented, shall not be subject to any revised or additional guidance documents.
- c. Should Respondent identify any inconsistency among any of the laws and regulations and guidance documents that Respondent is required to follow by these Orders, Respondent shall notify Ohio EPA in writing of each inconsistency and the effect of the inconsistencies upon the Work to be performed. Respondent shall also recommend, along with a supportable rationale justifying each recommendation, the requirement Respondent believes should be followed. Respondent shall implement the affected Work as directed by Ohio EPA.
- d. Ohio EPA will review the RD/RA Work Plan pursuant to the procedures set forth in the Review of Submittals Section of these Orders. Upon approval of the RD/RA Work Plan by Ohio EPA, Respondent shall implement the RD/RA Work Plan. Respondent shall submit all plans, reports, or other deliverables required under the approved RD/RA Work Plan, in accordance with the approved schedule, for review and approval pursuant to the Review of Submittals Section.
- e. Within seven (7) days of the effective date of these Orders, Respondent shall meet with Ohio EPA to discuss the requirements of the RD/RA Work Plan unless otherwise mutually agreed to by the Parties.

12. Health and Safety Plan

Within sixty (60) days of the effective date of these Orders, Respondent shall submit to Ohio EPA for review and comment a health and safety plan developed in conformance with the criteria listed in Appendix B.

VII. ASSURANCE OF ABILITY TO COMPLETE WORK

13. Within thirty (30) days of the effective date of these Orders, Respondent shall provide Ohio EPA with documentation that evidences Respondent has established and maintains financial security in the amount of \$ one (1) million in one of the forms listed below. If the Decision Document for the Site is amended, the amount to be maintained as financial security may be modified in accordance with the cost associated with the amended remedy.

- a. A surety bond guaranteeing performance of the Work;
- b. One or more irrevocable letters of credit equal to the total estimated cost of the Work;
- c. A fully funded trust fund;
- d. A guarantee to perform the Work by one or more parent corporations or subsidiaries, or by one or more corporations that have a substantial business relationship with Respondent; or
- e. Any other financial assurance mechanism approved by Ohio EPA.

VIII. LAND USE AND CONVEYANCE OF TITLE

14. Deed Notice

Within sixty (60) days of the effective date of these Orders, or after acquiring an interest in any property which is part of the Site, Respondent shall record a notice on the deed to the property which is part of the Site owned by the Respondent with the County Recorder's Office for Columbiana County, Ohio. The notice shall reference the existence of these Orders as well as any monitoring, treatment, or containment devices present on Respondent's property. A copy of the recorded notice shall be submitted to Ohio EPA within thirty (30) days of recording the notice. Thereafter, if Respondent conveys any interest in any property included in the Site, each deed, title, or other instrument of conveyance shall contain a notice stating that the property is subject to these Orders and shall reference any monitoring, treatment, or containment devices present on the property at the time of the conveyance.

15. Use Restriction Agreement

If required by the Decision Document in order to implement the final remedy, the

Respondent and Ohio EPA shall enter into a Use Restriction Agreement (Agreement) similar to that which is attached to these Orders as Appendix C within thirty (30) days after completion of the final survey of the landfill boundaries or such other time period agreed to by the Parties. The Respondent shall file the executed Agreement in the office of the County Recorder of Columbiana County, Ohio in the same manner as a deed for the affected property at the Site.

16. Proof of Filing Use Restriction Agreement

Within thirty (30) days after filing the executed Agreement with the County Recorder, Respondent shall certify to Ohio EPA that the Agreement has been filed for recording, and include with the certification a date-stamped copy of the recorded Agreement. Upon conveyance by Respondent of any interest in any portion of the Site, including but not limited to easements, deeds, leases and mortgages, Respondent shall include in the instrument of conveyance a recital acknowledging the Agreement and providing the recording location of the Agreement. The recital shall include a description of the use restrictions for the Site established in the Agreement. The terms and conditions of the Agreement are hereby incorporated into these Orders and shall be binding upon the Respondent. If the Agreement is violated or breached by Respondent, the Respondent shall be in violation of these Orders.

17. Land Use

Respondent shall ensure that no portion of the Site will be used in any manner that would adversely affect the integrity of any containment, treatment, or monitoring systems at the Site, or violate any use restrictions applicable to the Site under these Orders, including without limitation any institutional controls applicable to the Site. After execution of the Agreement, Respondent shall submit documentation to Ohio EPA on an annual basis demonstrating compliance with the use restrictions. Once the remedy for the Site has reached the Operation and Maintenance stage, the documentation demonstrating compliance with the use restrictions may be submitted as part of the annual Operation and Maintenance report that is required in the SOW.

18. Notice of Transfer of Property

Prior to executing any instrument conveying any interest in any portion of the Site, including but not limited to easements, deeds, leases and mortgages, Respondent shall notify the Transferee of the existence of the containment, treatment and monitoring systems and the use restrictions in the Agreement, and shall provide a copy of these Orders and the Agreement to the Transferee. Respondent shall notify Ohio EPA at least sixty (60) days in advance of each conveyance of an interest in any property which is part of the Site. Respondent's notice shall include the name and address of the grantee and a description of the provisions made for the continued access to and maintenance of the containment, treatment, and monitoring systems.

19. Submittal of Information upon Conveyance

Within thirty (30) days after conveyance of any interest in the Site, the Respondent shall submit to Ohio EPA, via certified mail, the following information:

- a. A copy of the deed or other documentation evidencing the conveyance;
- b. The name, address, and telephone number of the new property owner and the name, address, and telephone number of the contact person for the property owner;
- c. A legal description of the property being transferred;
- d. A survey map of the property being transferred; and
- e. The closing date of the transfer of ownership of the property.

IX. ADDITIONAL WORK

20. Ohio EPA or Respondent may determine that in addition to the tasks defined in the RD/DA Work Plan, additional work may be necessary to accomplish the Objectives of the Parties as set forth in these Orders. The Objectives of the Parties in entering into these Orders are to provide for the protection of public health and safety, and the environment from the disposal, discharge, or release of Waste Material at the Site through the design, construction, operation and maintenance of the remedy as set forth in the Decision Document (Appendix A).

21. Within thirty (30) days of receipt of written notice from Ohio EPA that additional work is necessary, unless otherwise specified in writing by Ohio EPA, Respondent shall submit a work plan and schedule for the performance of the additional work. The work plan shall conform to the standards and requirements set forth in the documents attached to these Orders as Appendix B and Exhibit A of Appendix B (SOW and relevant guidance documents). Upon approval of the work plan and schedule by Ohio EPA pursuant to the Review of Submittals Section, Respondent shall implement the work plan for additional work in accordance with the schedules contained therein.

22. In the event that Respondent determines that additional work is necessary, Respondent shall submit a work plan and schedule for the performance of additional work. The work plan shall conform to the standards and requirements set forth in the documents attached to these Orders as Appendices B and Exhibit A of Appendix B. Upon approval of the work plan and schedule by Ohio EPA pursuant to the Review of Submittals Section, Respondent shall implement the work plan for additional work in accordance with the schedules contained therein.

X. SAMPLING AND DATA AVAILABILITY

23. Unless otherwise agreed to by Ohio EPA's Site Coordinator, Respondent shall notify Ohio EPA not less than fifteen (15) days in advance of all sample collection activity. Upon

request, Respondent shall allow split and/or duplicate samples to be taken by Ohio EPA. Ohio EPA shall also have the right to take any additional samples it deems necessary. Upon request, Ohio EPA shall allow Respondent to take split and/or duplicate samples of any samples Ohio EPA takes as part of its oversight of Respondent's implementation of the Work.

24. Within seven (7) days of a request by Ohio EPA, Respondent shall submit to Ohio EPA copies of the results of all sampling and/or tests or other data, including raw data and original laboratory reports, and electronic reporting, if available, generated by or on behalf of Respondent with respect to the Site and/or the implementation of these Orders. Respondent may submit to Ohio EPA any interpretive reports and written explanations concerning the raw data and original laboratory reports. Such interpretive reports and written explanations shall not be submitted in lieu of original laboratory reports and raw data. Should Respondent subsequently discover an error in any report or raw data, Respondent shall promptly notify Ohio EPA of such discovery and provide the correct information.

XI. ACCESS

25. Ohio EPA shall have access at all times to the Site and any other property to which access is required for the implementation of these Orders, to the extent access to the property is controlled by Respondent. Access under these Orders shall be for the purposes of conducting any activity related to these Orders including but not limited to the following:

- a. Monitoring the Work;
- b. Conducting sampling;
- c. Inspecting and copying records, operating logs, contracts, and/or other documents related to the implementation of these Orders;
- d. Conducting investigations and tests related to the implementation of these Orders; and
- e. Verifying any data and/or other information submitted to Ohio EPA.

26. To the extent that the Site or any other property to which access is required for the implementation of these Orders is owned or controlled by persons other than Respondent, Respondent shall use its best efforts to secure from such persons access for Respondent and the Ohio EPA as necessary to effectuate these Orders. Copies of all access agreements obtained by Respondent shall be provided promptly to Ohio EPA. If any access required to effectuate these Orders is not obtained within thirty (30) days of the effective date of these Orders, or within thirty (30) days of the date Ohio EPA notifies Respondent in writing that additional access beyond that previously secured is necessary, Respondent shall promptly notify the Ohio EPA in writing of the steps Respondent has taken to attempt to obtain access. Ohio EPA may, as it deems appropriate, assist

Respondent in obtaining access.

27. Notwithstanding any provision of these Orders, the State of Ohio retains all of its access rights and authorities, including enforcement authorities related thereto, under any applicable statute or regulations, including but not limited to ORC §§ 3734.20 and 6111.05.

XII. DESIGNATED SITE COORDINATORS

28. Within five (5) days of the effective date of these Orders, the Respondent shall notify Ohio EPA, in writing, of the name, address and telephone number of its designated Site Coordinator and Alternate Site Coordinator. If a designated Site Coordinator or Alternate Site Coordinator is changed, the identity of the successor will be given to the other Party at least five (5) days before the changes occur, unless impracticable, but in no event later than the actual day the change is made.

29. To the maximum extent practicable, except as specifically provided in these Orders, communications between Respondent and Ohio EPA concerning the implementation of these Orders shall be made between the Site Coordinators. Respondent's Site Coordinator shall be available for communication with Ohio EPA regarding the implementation of these Orders for the duration of these Orders. Each Site Coordinator shall be responsible for assuring that all communications from the other Party are appropriately disseminated and processed. Respondent's Site Coordinator or Alternate Site Coordinator shall be present on the Site or on call during all hours of Work at the Site.

30. Without limitation of any authority conferred on Ohio EPA by statute or regulation, the Ohio EPA Site Coordinator's authority includes but is not limited to the following:

- a. Collecting samples and directing the type, quantity and location of samples to be collected by Respondent pursuant to an approved work plan;
- b. Observing, taking photographs, or otherwise recording information related to the implementation of these Orders, including the use of any mechanical or photographic device;
- c. Directing that the Work stop whenever the Site Coordinator for Ohio EPA determines that the activities at the Site may create or exacerbate a threat to public health or safety, or threaten to cause or contribute to air or water pollution or soil contamination;
- d. Conducting investigations and tests related to the implementation of these Orders;
- e. Inspecting and copying records, operating logs, contracts and/or other documents related to the implementation of these Orders; and

- f. Assessing Respondent's compliance with these Orders.

XIII. PROGRESS REPORTS AND NOTICE

31. Unless otherwise directed by Ohio EPA, Respondent shall submit a written progress report to Ohio EPA by the tenth (10th) day of every month. Upon completion of the construction of the remedy in accordance with the approved work plan, the Respondent may request a change in the frequency of the submittal of progress report. At a minimum, the progress reports submitted before remedy construction shall include items a-j listed below. Progress reports submitted after remedy construction shall include items a-m.

- a. A description of work performed during the reporting period and estimate of the percentage of the RD/RA completed.
- b. A list of all target and actual completion dates for each element of activity, including project completion.
- c. An explanation for any deviation from any applicable schedule.
- d. Summaries of all findings and sampling during the reporting period.
- e. Summaries of all changes made in the RD/RA during the reporting period, indicating consultation with Ohio EPA and approval by the Ohio EPA of those changes, when necessary.
- f. Summaries of all contacts with representatives of the local community, public interest groups or government agencies during the reporting period.
- g. Summaries of all problems or potential problems encountered during the reporting period, including those which delay or threaten to delay completion of project milestones with respect to the approved work plan schedule or Remedial Action Implementation Plan (RAIP) schedule.
- h. Summaries of actions taken and being taken to rectify problems.
- i. Changes in personnel during the reporting period.
- j. Projected work for the next reporting period.

Post construction items are listed below:

- k. Summaries of actions taken to achieve and maintain cleanup standards and performance standards.

- I. Copies of daily reports, inspection reports, sampling data, laboratory/monitoring data, etc.
- m. The quantity of media treated, removed or contained:
 - i. Soil treated or removed should be reported by volume and soil contained must be reported by area.
 - ii. Surface water load reduction - Load reduction must address contaminants of concern.
 - iii. Ground water treated, removed, or contained - Ground water treated must be reported by volume and ground water contained should be reported as an estimated area of the plume.
 - iv. Leachate treated, removed or contained - Leachate treated, removed or contained must be reported by volume.
 - v. Sediments treated, removed or contained - Sediments treated or removed should be reported by volume and sediments contained must be reported by area.
 - vi. Waste and debris treated, removed, or contained - Waste and debris will be defined as regulated materials not otherwise covered in a through e above. Waste debris treated or removed must be reported by volume and waste and debris contained should be reported by either volume or area, as appropriate.

32. Progress reports (one copy only) shall be sent either by e-mail (first name last name@epa.state.oh.us) or by U.S. Mail to the address listed below. All other documents (two copies) required to be submitted pursuant to these Orders shall be sent by U.S. Mail to the address listed below.

Ohio EPA
Northeast District Office
2110 East Aurora Road
Twinsburg, Ohio 44087
ATTN: Teri Phillips, DERR Site Coordinator, Zeidrich Dump

All correspondence to Respondent shall be directed to the following address:

Northrup Grumman Space and Mission Systems Corp.
1840 Century Park East
Los Angeles, CA 90067-2199
Attn: Joe Kwan
and

Paul Jack
Castle Bay, Inc.
1175 William Pitt Way
Pittsburgh, PA 15238

XIV. REVIEW OF SUBMITTALS

33. Ohio EPA shall review any work plan, report, or other item required to be submitted pursuant to these Orders. Upon review, Ohio EPA may in its sole discretion: (a) approve the submission in whole or in part; (b) approve the submission upon specified conditions; (c) modify the submission; (d) disapprove the submission in whole or in part, notifying Respondent of deficiencies; or (e) any combination of the above. The results of Ohio EPA's review shall be in writing and provided to the Respondent. The following Sections of these Orders shall be reviewed by Ohio EPA in accordance with this section: Performance of the Work by Respondent; Assurance of Ability to Complete Work; Land Use and Conveyance of Title; Additional Work; Periodic Review; and Termination and Satisfaction.

34. In the event of approval, approval upon condition, or modification of any submission by the Ohio EPA, Respondent shall proceed to take any action required by the submission as approved, conditionally approved, or modified by Ohio EPA.

35. In the event that Ohio EPA initially disapproves a submission, in whole or in part, and notifies Respondent in writing of the deficiencies, Respondent shall within fourteen (14) days, or such longer period of time as specified by Ohio EPA in writing, correct the deficiencies and resubmit the revised submission to Ohio EPA for approval. The revised submission shall incorporate all of the uncontested changes, additions, and/or deletions specified by Ohio EPA in its notice of deficiency. To the extent that Respondent contests any changes, additions, and/or deletions specified by the Ohio EPA, Respondent shall initiate the procedures for dispute resolution set forth in Dispute Resolution Section, within fourteen (14) days after receipt of Ohio EPA's notification of disapproval of a submission. Notwithstanding the notice of deficiency, Respondent shall proceed to take any action required by a non-deficient portion of the submission.

36. In the event that Ohio EPA disapproves a revised submission, in whole or in part, Ohio EPA may again require Respondent to correct the deficiencies and incorporate all changes, additions, and/or deletions within fourteen (14) days, or such period of time as specified by Ohio EPA in writing. If Respondent fails to submit a revised submission incorporating all changes, additions, and/or deletions within fourteen (14) days, or such period of time as specified by Ohio EPA in writing, Respondent shall be considered in breach and/or violation of these Orders. If Respondent is in breach and/or violation of these Orders, Ohio EPA retains the right to terminate these Orders, perform any additional remediation, conduct a complete or partial Remedial Design or Remedial Action and/or enforce the terms of these Orders as provided in the Reservation of Rights Section.

37. All work plans, reports, or other items required to be submitted to Ohio EPA under

these Orders shall, upon approval by Ohio EPA, be deemed to be incorporated in and made an enforceable part of these Orders. In the event that Ohio EPA approves a portion of a work plan, report, or other item, the approved portion shall be deemed to be incorporated in and made an enforceable part of these Orders.

XV. DISPUTE RESOLUTION

38. The Site Coordinators shall, whenever possible, operate by consensus. In the event that there is a dispute about the adequacy of any work plan, report, or other item required to be submitted pursuant to the Assurance of Ability to Complete Work, Additional Work, Review of Submittals, Unavoidable Delays, Reimbursement of Costs (limited to accuracy of invoices), Periodic Review, and Termination and Satisfaction Sections of these Orders, the Respondent's Site Coordinator shall have fourteen (14) days from the date the dispute arises to invoke the dispute resolution procedures of this Section by notifying the Ohio EPA Site Coordinator in writing. The written notification shall include the technical rationale supporting the Respondent's position. The dispute shall be considered to have arisen when the Respondent becomes aware of the disputed issue(s). If written notice is not provided within fourteen (14) days from the date the dispute arises, dispute resolution procedures may not be invoked for the disputed issue(s). The Ohio EPA Site Coordinator shall have forty-five (45) days from the date the dispute notice is received to reduce its position to writing. The writing shall include the technical rationale supporting Ohio EPA's position.

39. Following the exchange of written positions, the Site Coordinators shall have an additional fourteen (14) days to resolve the dispute. If Ohio EPA concurs with the position of Respondent, then the work plan, report, or other item required to be submitted pursuant to these Orders shall be modified accordingly.

40. If Ohio EPA does not concur with Respondent, the Ohio EPA Site Coordinator shall notify the Respondent in writing. Upon receipt of such written notice, the Respondent shall have fourteen (14) days to forward a written statement of the dispute to the Division of Emergency and Remedial Response ("DERR") Central Office Manager and request a formal resolution of the dispute. If the Respondent does not forward such a statement and request within fourteen (14) days, Ohio EPA will adopt the written position of its Site Coordinator and the work plan, report, other item required to be submitted pursuant to these Orders, or any other item subject to the dispute resolution procedures of this Section shall be modified accordingly. If the Respondent forwards such a statement and request within fourteen (14) days, the DERR Central Office Manager will resolve the dispute based upon and consistent with these Orders, the SOW, the RD/RA Work Plan, and other appropriate federal and state laws and regulations.

41. The pendency of a dispute under this Section shall not affect the time period for completion of the Work, except that upon mutual agreement of the Parties, any time period may be extended as appropriate under the circumstances. Such agreement shall not be unreasonably withheld by Ohio EPA. Elements of the Work not affected by the dispute

shall be completed in accordance with applicable schedules and time frames. The opportunity to invoke dispute resolution under this Section shall not be available to Respondent unless otherwise expressly stated with respect to an individual provision of these Orders.

XVI. UNAVOIDABLE DELAYS

42. Respondent shall cause all Work to be performed in accordance with applicable schedules and time frames unless any such performance is prevented or delayed by an event that constitutes an unavoidable delay. For purposes of these Orders, an "unavoidable delay" shall mean an event beyond the control of Respondent which prevents or delays performance of any obligation required by these Orders and which could not be overcome by due diligence on the part of Respondent. Increased cost of compliance shall not be considered an event beyond the control of Respondent.

43. Respondent shall notify Ohio EPA in writing within ten (10) days after the occurrence of an event which Respondent contends is an unavoidable delay. Such written notification shall describe the anticipated length of the delay, the cause or causes of the delay, the measures taken and to be taken by Respondent to minimize the delay, and the timetable under which these measures will be implemented. Respondent shall have the burden of demonstrating that the event constitutes an unavoidable delay.

44. If Ohio EPA does not agree that the delay has been caused by an unavoidable delay, Ohio EPA will notify the Respondent in writing. Ohio EPA reserves the right to terminate these Orders, perform any additional remediation, conduct a partial or complete Remedial Design and Remedial Action, and/or enforce the terms of these Orders in the event that Ohio EPA determines that the delay has not been caused by an unavoidable delay. If Ohio EPA agrees that the delay is attributable to an unavoidable delay, Ohio EPA will notify Respondent in writing of the length of the extension for the performance of the obligations affected by the unavoidable delay.

XVII. REIMBURSEMENT OF COSTS

45. Ohio EPA has incurred and continues to incur Response Costs in connection with the Site. Respondent shall reimburse Ohio EPA for all Response Costs incurred both prior to and after the effective date of these Orders.

46. Within sixty (60) days of receipt of an accounting of Response Costs incurred prior to the effective date of these Orders, Respondent shall remit a check to the Ohio EPA for the full amount claimed.

47. With respect to Response Costs incurred after the effective date of these Orders, Ohio EPA will submit to Respondent on an annual basis an itemized statement of its Response Costs for the previous year. Within sixty (60) days of receipt of such itemized statement, Respondent shall remit payment for all of Ohio EPA's response costs for the previous year. Respondent may dispute the accuracy of Ohio EPA's request for reimbursement by

initiating the process outlined in the Dispute Resolution Section of these Orders within fourteen (14) days of receipt of Ohio EPA's request for reimbursement of costs. If Respondent disputes a portion of the Response Costs in the itemized statement, but not all of the costs, Respondent shall pay the uncontested portion pursuant to the provisions of this section.

48. Respondent shall remit payments to Ohio EPA pursuant to this Section as follows:

- a. Payment shall be made by bank check payable to "Treasurer, State of Ohio" and shall be forwarded to Fiscal Officer, Ohio EPA, P.O. Box 1049, Columbus, Ohio 43216-1049.
- b. A copy of the transmittal letter and check shall be sent to the Fiscal Officer, DERR, Ohio EPA, P.O. Box 1049, Columbus, Ohio 43216-1049, ATTN: Patricia Campbell or her successor, and to the Site Coordinator.

XVIII. RESERVATION OF RIGHTS

49. Ohio EPA reserves the right to seek legal and/or equitable relief to enforce the terms and conditions of these Orders, including penalties against Respondent for noncompliance with these Orders. Except as provided herein, Respondent reserves any rights it may have to raise any legal or equitable defense in any action brought by Ohio EPA to enforce the terms and conditions of these Orders.

50. Ohio EPA reserves the right to terminate these Orders and/or perform all or any portion of the Work or any other measures in the event that the requirements of these Orders are not wholly complied with within the time frames required by these Orders.

51. Ohio EPA reserves the right to take any action, including but not limited to any enforcement action, action to recover costs, or action to recover damages to natural resources, pursuant to any applicable legal authority as a result of past, present, or future violations of state or federal laws or regulations or the common law, and/or as a result of events or conditions arising from, or related to, the Site. Except as provided herein, Respondent reserves any rights it may have to raise any legal or equitable defense in any action brought by Ohio EPA to enforce the terms and conditions of these Orders.

XIX. ACCESS TO INFORMATION

52. Respondent shall provide to Ohio EPA, upon request and within thirty (30) days, copies of all documents and information within its possession or control or that of its contractors or agents, relating to events or conditions at the Site including, but not limited to manifests, reports, correspondence, or other documents or information related to the Work.

53. Respondent may assert a claim that documents or other information submitted to Ohio EPA pursuant to these Orders is confidential under the provisions of OAC § 3745-50-30(A) or ORC § 6111.05(A). If no such claim of confidentiality accompanies the documents or

other information when it is submitted to Ohio EPA, it may be made available to the public without notice to Respondent.

54. Respondent may assert that certain documents or other information are privileged under the attorney-client or any other privilege recognized by state law. If Respondent makes such an assertion, it shall provide Ohio EPA with the following: (1) the title of the document or information; (2) the date of the document or information; (3) the name and title of the author of the document or information; (4) the name and title of each addressee and recipient; (5) a general description of the contents of the document or information; and (6) the privilege being asserted by Respondent.

55. No claim of confidentiality shall be made with respect to any data, including but not limited to, all sampling, analytical monitoring, or laboratory or interpretive reports.

56. Respondent shall preserve for the duration of these Orders and for a minimum of seven (7) years after termination of these Orders, all documents and other information within its possession or control, or within the possession or control of its contractors or agents, which in any way relate to the Work, notwithstanding any document retention policy to the contrary. Respondent may preserve such documents by microfiche, or other electronic or photographic device. At the conclusion of this document retention period, Respondent shall notify Ohio EPA at least sixty (60) days prior to the destruction of these documents or other information; and upon request, shall deliver such documents and other information to Ohio EPA.

XX. PERIODIC REVIEW

57. Respondent shall conduct studies and investigations as requested by Ohio EPA in order to permit Ohio EPA to conduct reviews at least every five years as described in section 121(c) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended, and any applicable regulations.

58. If Ohio EPA determines that information received, in whole or in part, during a review conducted pursuant to the Periodic Review Section, indicates that the Remedial Action is not protective of public health and safety and the environment, the Respondent shall undertake any further response actions Ohio EPA has determined are appropriate. Respondent shall submit a plan for such work to Ohio EPA for approval in accordance with the procedures set forth in the Review of Submittals Section, within thirty (30) days of receiving a request from Ohio EPA to submit such a work plan.

59. Respondent may invoke the procedures in the Dispute Resolution Section, to dispute (1) Ohio EPA's determination that the remedial action is not protective of human health and the environment or (2) Ohio EPA's selection of further response actions.

XXI. INDEMNITY

60. Respondent agrees to indemnify, save, and hold harmless Ohio EPA from any and all

claims or causes of action arising from, or related to, the implementation of these Orders or to events or conditions at the Site, including any acts or omissions of Respondent, its officers, employees, receivers, trustees, agents, or assigns. Said indemnification shall not apply to acts or omissions of the State of Ohio, its employees, agents or assigns at, on, upon, or related to the Site if said acts are negligent, performed outside the scope of employment or official responsibilities, or performed with malicious purpose, in bad faith, or in a wanton or reckless manner. Ohio EPA shall not be considered a party to and shall not be held liable under any contract entered into by Respondent in carrying out the activities pursuant to these Orders. Ohio EPA agrees to provide notice to Respondent within thirty (30) days of receipt of any claim that may be the subject of indemnity as provided in this Section, and to cooperate with Respondent in the defense of any such claim or action against Ohio EPA.

XXII. OTHER CLAIMS

61. Nothing in these Orders shall constitute or be construed as a release from any claim, cause of action, or demand in law or equity against any person, firm, partnership, or corporation, not a Party to these Orders for any liability arising from, or related to, events or conditions at the Site.

XXIII. MODIFICATIONS

62. These Orders may be modified by agreement of the Parties. Modifications shall be in writing, signed by the authorized representative of the Respondent and by the Director, and shall be effective on the date entered in the Journal of the Director of Ohio EPA.

XXIV. AGREEMENT NOT TO REFER

63. During the implementation of these Orders, and provided Respondent is considered by Ohio EPA to be in compliance with these Orders, Ohio EPA agrees not to refer Respondent to the Ohio Attorney General's Office or take administrative enforcement action against Respondent for Work required by these Orders. Upon termination of these Orders pursuant to the Termination Section, and during the term of these Orders so long as Respondent performs the Work pursuant to these Orders, Ohio EPA agrees not to refer Respondent to the Ohio Attorney General's Office, or take administrative enforcement action against Respondent for Work required under these Orders.

XXV. TERMINATION AND SATISFACTION

64. The obligations of the Respondent under these Orders shall terminate when Respondent demonstrates in writing and certifies to Ohio EPA's satisfaction that all activities required under these Orders (including any tasks required under the Performance of the Work and Reimbursement of Costs Section) have been completed and Ohio EPA concurs with such certification in writing. Ohio EPA concurrence with such certification shall release Respondent for those tasks completed pursuant to these Orders. Ohio EPA's

concurrence shall not, however, terminate the obligation of the Respondent to comply with the following Sections of the Orders: Land Use and Conveyance of Title; Reservation of Rights; Access to Information; and Periodic Review.

XXVI. WAIVER AND AGREEMENT

65. In order to resolve disputed claims, without admission of fact, violation or liability, Respondent consents to the issuance of these Orders, and agrees to perform all actions required by these Orders.

66. Respondent hereby waives the right to appeal the issuance, terms and conditions, and service of these Orders and hereby waives any and all rights that it may have to seek administrative or judicial review of the issuance, terms and conditions, and service of these Orders either in law or equity.

67. Notwithstanding the limitations herein on Respondent's right to appeal or seek judicial review, Ohio EPA and Respondent agree that in the event that these Orders are appealed by any other party to the Environmental Review Appeals Commission, or any court, Respondent retains the right to intervene and participate in such appeal. In such event, Respondent shall continue to comply with these Orders notwithstanding such appeal and intervention unless these Orders are stayed, vacated or modified.

XXVII. EFFECTIVE DATE

68. The effective date of these Orders shall be the date these Orders are entered in the Journal of the Director of Ohio EPA.

XXVIII. SIGNATORY AUTHORITY

69. Each undersigned representative of a Party to these Orders certifies that he or she is fully authorized to enter into these Orders and to legally bind such Party to these Orders.

IT IS SO ORDERED AND AGREED:

OHIO ENVIRONMENTAL PROTECTION AGENCY

Christopher Jones, Director
Ohio Environmental Protection Agency

Date

Christopher Jones
Christopher Jones, Director
Ohio Environmental Protection Agency

3-17-04
Date

IT IS SO AGREED:

NORTHROP GRUMMAN SPACE AND MISSION SYSTEMS CORP.

BY:

Kathleen M. Salmae 3/2/04
Name Date

Secretary
Title