

Issuance Date: _____

Effective Date: _____

**BEFORE THE
OHIO ENVIRONMENTAL PROTECTION AGENCY**

In the Matter of:

National Aeronautics and Space Administration	:	
John H. Glenn Research Center	:	<u>Director's Final</u>
Lewis Field	:	<u>Findings and Orders</u>
Plum Brook Station	:	
Sandusky, Ohio 44870	:	

PREAMBLE

It is agreed by the Parties hereto as follows:

I. JURISDICTION

These Director's Final Findings and Orders ("Orders") are issued to the National Aeronautics and Space Administration ("NASA") pursuant to the authority vested in the Director of the Ohio Environmental Protection Agency ("Ohio EPA") under Ohio Revised Code ("ORC") Sections 3714.04 and 3745.01.

II. PARTIES BOUND

These Orders shall apply to and be binding upon NASA and successors in interest liable under Ohio law. No change in ownership of NASA or of PBRF, as hereinafter defined, shall in any way alter NASA's obligations under these Orders.

III. DEFINITIONS

Unless otherwise stated, all terms used in these Orders shall have the same meaning as defined in ORC Chapter 3714. and the rules promulgated thereunder.

IV. FINDINGS

The Director of Ohio EPA has determined the following findings:

1. NASA is the owner of the Plum Brook Reactor Facility ("PBRF") under a "possess, but not operate" license from the Nuclear Regulatory Commission ("NRC").

2. PBRF is a twenty-seven (27) acre portion of the larger, overall Plum Brook Station, a six thousand four hundred (6,400) acre site located in Sandusky, Ohio. PBRF contains a Reactor Building on site, as well as other facility structures.
3. The Reactor Building houses a Containment Vessel ("CV"), which is a one hundred (100) foot diameter, twenty-five (25) foot deep, cylindrically shaped shell within a concrete structure. The CV wall consists of a 3/4-inch thick steel outer layer lined with structural concrete varying in thickness from six (6) to twelve (12) inches. The floor of the CV is comprised of heavily reinforced structural concrete, which at the thinnest point is six (6) feet thick.
4. On September 30, 1996, Ohio Administrative Code ("OAC") Chapter 3745-400 and amendments to OAC Chapter 3745-37 (collectively the "C&DD Rules") became effective. Together, these OAC Chapters regulate the design, construction, licensing, operation, and closure of construction and demolition debris ("C&DD") landfills.
5. In March 2002, NRC approved NASA's Decommissioning Plan for PBRF and modified its "possess, but not operate" license. Under the Decommissioning Plan, NASA will clean the site to the level required to achieve unrestricted release of the license, undergo an NRC final site survey ("FSS"), achieve license termination, and demolish the PBRF structures. NASA has represented to Ohio EPA that all solid waste, hazardous waste, and radioactive materials will be removed from PBRF and properly managed prior to license termination and demolition and that after license termination, the C&DD resulting from the demolition of the PBRF structures could be disposed of at any licensed C&DD facility.
6. NASA has represented to Ohio EPA that the demolition of the PBRF structures will consist of removal of all structures to approximately three (3) feet below surface grade.
7. NASA estimates that approximately fifty thousand cubic yards (~50,000 yd³) of material will be needed to backfill the basements and crawl spaces remaining after demolition.
8. NASA has represented to Ohio EPA that the demolition of the PBRF structures will generate approximately eleven thousand, seven hundred cubic yards (~11,700 yd³) of C&DD, which will include approximately four thousand one hundred cubic yards (~4,100 yd³) of general C&DD, approximately seven thousand cubic yards (~7,000 yd³) of clean hard fill, and approximately six hundred cubic yards (~600 yd³) of ferrous materials.

9. NASA has represented to Ohio EPA that the general C&DD will include rubble consisting of, but not limited to, the following types of material: wood, plaster, drywall, acoustical ceiling tile, electric metallic tubing, water pipe, electrical switchgear, paper, and insulation. NASA proposes to dispose of the general C&DD in the CV and anticipates that the general C&DD will fill the CV up to a level about six (6) feet below ground surface.
10. Clean hard fill, as defined in OAC Rule 3745-400-01(E), means "construction and demolition debris which consists only of reinforced or nonreinforced concrete, asphalt concrete, brick, block, tile, and/or stone which can be reutilized as construction material. Brick in clean hard fill includes, but is not limited to, refractory brick and mortar. Clean hard fill does not include materials contaminated with hazardous wastes, solid wastes, or infectious wastes."
11. Pursuant to OAC Rule 3745-400-05(A), clean hard fill may be used in legitimate fill operations for construction purposes or to bring a site up to a consistent grade. NASA proposes to use the clean hard fill, in combination with naturally occurring earthen material, to bring the CV and remaining basements and crawl spaces up to a level about three (3) feet below ground surface.
12. Ferrous materials will include structural steel shapes and sections, and where possible, NASA proposes to segregate this material out for recycling.
13. Pursuant to OAC Rule 3745-400-04(A), C&DD shall be disposed of only by the following methods or combination thereof: disposal in a licensed C&DD facility; disposal in a solid waste disposal facility, as defined in OAC Rule 3745-27-01 and licensed in accordance with OAC Chapter 3745-37; disposal by means of open burning, as defined in OAC Chapter 3745-19, if permitted as provided therein; or other methods not prohibited by OAC Chapter 3745-400 provided such methods are demonstrated to the satisfaction of the licensing authority to be capable of disposing of C&DD without creating a nuisance or a health hazard, without causing water pollution, and without violating these regulations and any regulation adopted by the Director pursuant to ORC Chapters 3704. and 3734.
14. Pursuant to OAC Rule 3745-400-04(B), no person shall conduct or allow illegal disposal of C&DD, as defined in OAC Rule 3745-400-01. "Illegal disposal" means the disposal of C&DD at any place other than a C&DD disposal facility operated in accordance with ORC Chapter 3714. and OAC Chapters 3745-400 and 3745-37; a solid waste disposal facility operated in accordance with OAC Chapter 3745-27, and licensed in accordance with OAC Chapter 3745-37; or as otherwise authorized by OAC Chapter 3745-400.

15. On July 10, 2003, NASA submitted a request to Ohio EPA, Northwest District Office ("NWDO") for an exemption from the requirements of ORC Chapter 3714. and the C&DD Rules in order to allow general C&DD resulting from the demolition of PBRF structures to be disposed in the remaining subsurface space of the CV up to a level approximately three (3) feet below surface elevation. The exemption request was submitted pursuant to ORC Section 3714.04.
16. Pursuant to ORC Section 3714.04, the director of environmental protection or the board of health having territorial jurisdiction may, by order, exempt any person disposing of or proposing to dispose of construction and demolition debris in such quantities or under such circumstances that, in the determination of the director or the board of health, are unlikely to adversely affect public health or safety or the environment, or to create a fire hazard, from any provision of ORC Chapter 3714. or a rule adopted or order issued under it.
17. Based upon a review of the July 10, 2003, request, granting NASA an exemption from the requirements of ORC Chapter 3714. and the C&DD Rules in order to allow disposal of general C&DD resulting from the demolition of PBRF structures on site in the manner proposed in the July 10, 2003, request, is unlikely to adversely affect public health or safety or the environment or to create a fire hazard, provided NASA complies with the following orders.

V. ORDERS

1. Pursuant to ORC Section 3714.04, NASA is hereby exempted from the requirements of ORC Chapter 3714. and the C&DD Rules, except as specified herein, in order to allow disposal of general C&DD resulting from the demolition of PBRF structures on site in accordance with these Orders and the July 10, 2003, request.
2. The on-site interment of general C&DD at PBRF is limited solely to the disposal of general C&DD generated by the demolition of PBRF structures in the CV, as detailed in the July 10, 2003, request.
3. NASA shall not dispose of any asbestos or asbestos-containing waste material that is subject to the provisions of NESHAP, 40 CFR Part 61, Subpart M at PBRF. No such asbestos or asbestos-containing waste material may be accepted without first obtaining the necessary permits from Ohio EPA.

4. Not later than seven (7) days prior to commencing demolition of PBRF structures, NASA shall provide Ohio EPA, NWDO written notification of the anticipated demolition start date.
5. Clean hard fill, as defined in OAC Rule 3745-400-01(E), generated by the demolition of PBRF structures may be placed in the remaining basements and crawl spaces of the demolished structures up to a level approximately three (3) feet below surface elevation.
6. If disposed on site, the general C&DD generated by the demolition of PBRF structures shall only be placed within the confines of the post-demolition residual portion of the CV up to a level approximately three (3) feet below surface elevation.
7. Any general C&DD generated by the demolition of PBRF structures, but not disposed of within the post-demolition residual portion of the CV, shall be managed in accordance with OAC Rule 3745-400-04(A).
8. NASA shall not use any additional material, other than naturally occurring earthen material, to make final grade after the demolition of PBRF structures, unless it obtains concurrence from Ohio EPA, NWDO.
9. Not later than one (1) year after the effective date of these Orders, NASA shall prepare a final cap system design plan for a "standard cap system," which meets the requirements of OAC Rule 3745-400-07(G), and submit it to Ohio EPA, NWDO for review and concurrence.
10. NASA shall not commence demolition of the PBRF structures until Ohio EPA, NWDO concurs with its final cap system design plan as specified in Order Number 9, above.
11. Not later than ninety (90) days after completion of the demolition of PBRF structures, NASA shall initiate construction of the final cap system.
12. Not later than ninety (90) days after completing construction of the final cap system, NASA shall prepare a certification report, which includes the information detailed in OAC Rule 3745-400-08(A)(3), and submit it to Ohio EPA, NWDO for review and concurrence.

13. Not later than one hundred eighty (180) days after completing all closure activities for the on-site interment of general C&DD in the CV at PBRF, NASA shall prepare and submit a final closure certification report to Ohio EPA, NWDO, verifying that a copy of the plat was filed with the Erie County recorder as detailed in OAC Rule 3745-400-08(D)(5), and that a notation was placed on the deed to the facility property as detailed in OAC Rule 3745-400-08(D)(6).
14. The Director may revoke these Orders if he determines that the activities detailed in the request referenced in Finding Number 15, above, adversely affect the public health or safety or the environment or create a fire hazard, or if the on-site disposal of the general C&DD generated from the demolition of PBRF structures has not been conducted in accordance with these Orders.
15. Nothing in these Findings or Orders shall be construed to authorize any waiver from the requirements of any other applicable state solid waste laws or regulations, except as specified herein. These Orders shall not be interpreted to release NASA from responsibility under ORC Chapters 3704., 3734., or 6111.; under the Federal Clean Water Act, the Resource Conservation and Recovery Act, or the Comprehensive Environmental Response, Compensation, and Liability Act; or from other applicable requirements for remedying conditions resulting from any release of contaminants to the environment.

VI. OTHER CLAIMS

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, PBRF.

VII. OTHER APPLICABLE LAWS

All actions required to be taken pursuant to these Orders shall be undertaken in accordance with the requirements of all applicable local, state, and federal laws and regulations, except as specified herein. These Orders do not waive or compromise the applicability and enforcement of any other statutes or regulations applicable to NASA and/or PBRF.

VIII. MODIFICATIONS

These Orders may be modified by agreement of the parties hereto. Modifications shall be in writing and shall be effective on the date entered in the journal of the Director of Ohio EPA.

IX. NOTICE

All documents required to be submitted by NASA pursuant to these Orders shall be addressed to:

Ohio Environmental Protection Agency
Northwest District Office
Division of Solid and Infectious Waste Management
347 North Dunbridge Road
Bowling Green, Ohio 43402
Attn: Supervisor, DSIWM

or to such persons and addresses as may hereafter be otherwise specified in writing by Ohio EPA.

X. RESERVATION OF RIGHTS

Ohio EPA and NASA each reserve all rights, privileges, and causes of action, except as specifically waived in Section XI. of these Orders. Nothing contained herein shall be construed to prevent Ohio EPA from seeking legal or equitable relief to enforce the terms of these Orders or from taking other administrative, legal, or equitable action as deemed appropriate and necessary, including seeking penalties against NASA for noncompliance with these Orders and/or for violations at PBRF.

XI. WAIVER

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

Notwithstanding the preceding, Ohio EPA and NASA agree that if these Orders are appealed by any other party to the Environmental Review Appeals Commission, or any court, NASA retains the right to intervene and participate in such appeal. In such an event, NASA shall continue to comply with these Orders notwithstanding such appeal and intervention unless these Orders are stayed, vacated, or modified.

XII. EFFECTIVE DATE

The effective date of these Orders is the date these Orders are entered into the Ohio EPA Director's journal.

XIII. SIGNATORY AUTHORITY

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

Joseph P. Koncelik
Director

IT IS SO AGREED:

National Aeronautics and Space Administration

Signature

Date

Printed or Typed Name

Title