

**NATIONAL AERONAUTICS AND SPACE  
ADMINISTRATION**

**WHITE SANDS TEST FACILITY**

**DRAFT**

**RCRA PERMIT**

**March 19, 2007**

**DRAFT  
RESOURCE CONSERVATION AND RECOVERY ACT  
PERMIT  
EPA ID No. NM 8800019434**

**to**

**UNITED STATES ARMY AND NATIONAL AERONAUTICS AND SPACE  
ADMINISTRATION**

**for the**

**NATIONAL AERONAUTICS AND SPACE ADMINISTRATION WHITE  
SANDS TEST FACILITY**

**Located in**

**DONA ANA COUNTY, NEW MEXICO**

**March 19, 2007**

**Prepared by the**

**New Mexico Environment Department  
Hazardous Waste Bureau  
2905 Rodeo Park Drive East Building 1  
Santa Fe, New Mexico, 87505**

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1 **I. GENERAL PERMIT CONDITIONS**

2 **I.A PERMITTEE**

3 The New Mexico Environment Department (NMED) issues this Permit to the United States,  
4 National Aeronautic and Space Administration (NASA) White Sands Test Facility (WSTF),  
5 hereinafter referred to as the Permittee, the owner and operator of NASA WSTF (the Facility), with  
6 EPA ID No. NM8800019434, located in Doña Ana County, New Mexico.

7 **I.B PERMITTED ACTIVITY**

8 This Permit authorizes the Permittee to treat hazardous waste generated on-site at the Facility in two  
9 treatment facilities: the Evaporation Treatment Unit and the Fuel Treatment Unit. The Permit  
10 establishes the general and specific standards for these activities, pursuant to the New Mexico  
11 Hazardous Waste Act (HWA) as amended, NMSA 1978, §§ 74-4-1 to 74-4-14, and the New Mexico  
12 Hazardous Waste Management Regulations (HWMR), 20.4.1 NMAC. This Permit also establishes  
13 standards for closure and post-closure care of hazardous waste management units at NASA pursuant  
14 to the HWA and HWMR.

15 **I.C PERMIT CITATIONS**

16 Whenever the Permit cites a provision of 20.4.1 NMAC or 40 CFR the Permit shall be deemed to  
17 incorporate the citation by reference, including all subordinate provisions of the cited provision, and  
18 make binding the full text of the cited provision.

19 Hazardous waste management regulations are frequently cited throughout this Permit. The federal  
20 Hazardous Waste Management Regulations, 40 CFR Parts 260 through 273, are generally cited  
21 rather than the New Mexico Hazardous Waste Management Regulations, 20.4.1 NMAC. The federal  
22 regulations are cited because only the federal regulations set forth the detailed regulatory  
23 requirements; the State regulations incorporate by reference, with certain exceptions, the federal  
24 regulations in their entirety. Citing only the federal regulations also serves to avoid encumbering  
25 each citation with references to two sets of regulations. However, it is the State regulations that are  
26 legally applicable and enforceable. Therefore, for the purpose of this Permit, and enforcement of its  
27 terms and conditions, all references to provisions of federal regulations that have been incorporated  
28 into the State regulations shall be deemed to include the State incorporation of those provisions.

29 **I.D EFFECT OF PERMIT**

30 Compliance with this Permit during its term constitutes compliance, for purposes of enforcement,  
31 with 20.4.1.500, 700 and 800 NMAC (incorporating 40 CFR parts 264, 266 and 268), except for  
32 those requirements not included in this permit under 40 CFR 270.4(a), only for those management  
33 practices specifically authorized by this Permit. The Permittee must also comply with all applicable  
34 self-implementing provisions imposed by statute or rule, including 20.4.1.100, 200, 300, 400, 500,  
35 700, and 800 NMAC (incorporating 40 CFR parts 260, 261, 262, 263, 264, 266, and 268).  
36 Compliance with this Permit shall not constitute a defense to any order issued or any action brought  
37 under Sections 74-4-10, 74-4-10.1 or 74-4-13 of the HWA; Sections 3008(a), 3008(h), 3013, 7002(a)

1 or 7003 of the Resource Conservation and Recovery Act (RCRA), as amended, 42 U.S.C. 6901 to  
2 6922k; Sections 104, 106(a), and 107 of the Comprehensive Environmental Response,  
3 Compensation, and Liability Act of 1980 (CERCLA), 42 U.S.C. 9601 to 9675.; or any other law  
4 providing for protection of public health or the environment. This Permit does not convey any  
5 property rights of any sort or any exclusive privilege, nor authorize any injury to persons or property,  
6 any invasion of other private rights, or any infringement of State or local laws or regulation.  
7 Compliance with this Permit does not relieve the Permittee from the responsibility of complying  
8 with all applicable state or federal laws and regulations. [20.4.1.900 NMAC (incorporating 40 CFR  
9 270.4, 270.30(g) and 270.32(b)(1)); 20.4.1.901.A(11); and 1100 NMAC]

10 **I.E EFFECT OF INACCURACIES IN PERMIT APPLICATION**

11 This Permit is based on the information submitted in the Part B Permit application dated November  
12 2005 and consequential information, collectively referred to as the Application. Any inaccuracies  
13 found in the Application may be grounds for the termination, revocation and reissuance, or  
14 modification of this Permit pursuant to 40 CFR 270.43(a)(2) which is incorporated herein by  
15 reference. Where and when the Permittee becomes aware that it failed to submit any relevant facts in  
16 the Application, or submitted incorrect information in the Application or in any report to the NMED,  
17 it shall promptly submit such facts or information pursuant to 40 CFR 270.30(l)(11) which is  
18 incorporated herein by reference.

19 **I.F ENFORCEMENT**

20 Any violation of a condition of this Permit may subject the Permittee, and its officers, employees,  
21 successors, and assigns, to a compliance order under section 74-4-10 of the HWA or section 3008(a)  
22 of RCRA, 42 U.S.C. § 6928(a); to an injunction under section 74-4-10 of the HWA, section 3008(a)  
23 of RCRA, 42 U.S.C. § 6928(a), or section 7002(a) of RCRA, 42 U.S.C. § 6972(a); to civil penalties  
24 under section 74-4-10 of the HWA, section 3008(a) and (g) of RCRA, 42 U.S.C. § 6928(a) and (g),  
25 or section 7002(a) of RCRA, 42 U.S.C. § 6972(a), to criminal penalties under section 74-4-11 of the  
26 HWA or section 3008(d), (e), and (f) of RCRA, 42 U.S.C. § 6928(d), (e), and (f), or to some  
27 combination of the foregoing. The list of authorities in this Paragraph is not exhaustive, and the  
28 NMED reserves the right to take any action authorized by law to enforce the requirements of this  
29 Permit.

30 **I.G PERMIT COMPONENTS**

31 This Permit consists of the regulations incorporated by reference into this Permit, the Permit  
32 Conditions in Permit Parts 1 through VII and Permit Attachments 1 through Attachment 21.

33 **I.H PERMIT ACTIONS**

34 **I.H.1 Term of Permit**

35 This Permit shall be effective for a fixed period of ten years from the effective date. The effective  
36 date of this Permit shall be 30 calendar days after a copy of the final Permit has been served on the  
37 Permittee, or such later time as the NMED may specify. [40 CFR 270.50(a) and 20.4.1.901.A(10)  
38 NMAC]

1 **I.H.2 Permit Modification, Suspension, Revocation, or Termination**

2 This Permit may be modified, suspended, revoked and reissued, or terminated for cause as specified  
3 in Section 74-4-4.2 of the HWA, 40 CFR 270.41 through 270.43, and 20.4.1.901.B NMAC. The  
4 filing of a request by the Permittee for a permit modification, or the notification of planned changes  
5 or anticipated noncompliance, shall not stay the applicability and enforceability of any permit  
6 condition in accordance with 40 CFR 270.30(f), which is incorporated herein by reference.

7 **I.H.3 Unclassified Permit Modifications**

8 Unless a permit modification is explicitly listed in Appendix I of 40 CFR 270.42 as a Class 1 or 2  
9 permit modification, the Permittee shall not submit the permit modification request as a Class 1 or 2  
10 permit modification request. The Permittee may only make such a permit modification request as a  
11 Class 3 modification request, or may request a determination from the NMED that the proposed  
12 permit modification request be reviewed and approved as a Class 1 or 2 modification request  
13 pursuant to the requirements 40 CFR 270.42(d)(1), which is incorporated herein by reference.

14 **I.H.4 Transfer of Land Ownership**

15 The Permittee shall submit a permit modification request, in compliance with all requirements of 40  
16 CFR 270.42, at least 180 calendar days prior to the proposed effective date of transfer of ownership  
17 of any land which is part of the Facility. The permit modification request may be submitted as a  
18 Class 3 permit modification request, or the Permittee may request a determination that the  
19 modification is a Class 1 or 2 pursuant to the requirements of 40 CFR 270.42(d) which is  
20 incorporated herein by reference. In addition to the requirements of 40 CFR 270.42, a permit  
21 modification request for transfer of land that is part of the Facility shall:

- 22 1. Identify the boundaries of the land proposed for transfer;
- 23 2. Identify the new owner;
- 24 3. Describe the location and identity of any existing or prior SWMU, AOC, or hazardous waste  
25 management unit on the land proposed for transfer;
- 26 4. Describe any known or suspected presence of hazardous waste or hazardous constituents in  
27 soil or ground water at any depth within the boundaries of the land proposed for transfer;
- 28 5. Describe the status of any past, present, or planned investigations or remediation of any  
29 release of hazardous waste or hazardous constituents within the boundaries of the land  
30 proposed for transfer;
- 31 6. Include a revised map of the Facility (e.g., a revised Permit Attachment 2);
- 32 7. Propose and describe all provisions necessary to ensure that the Permittee can meet the  
33 corrective action obligations, the HWA, and the Hazardous Waste Management Regulations  
34 (e.g., covenants, deed restrictions, proposed replacement of monitoring wells or enforceable

1 agreements for access to monitoring wells on transferred land). [40-CFR 264.101; 40 CFR  
2 270.30(l)(1), 270.32(b) and 270.42); and 20.4.1.901 NMAC]; and

- 3 8. Describe all measures taken to comply with Section 120(h) of the Comprehensive  
4 Environmental Response, Compensation and Liability Act, 42 USC 9629(h)

5 **I.H.5 Permit Renewal**

6 The Permittee shall submit an application for a new permit at least 180 calendar days before the  
7 expiration date of this Permit, unless permission for a later date has been granted by the NMED,  
8 pursuant to 40 CFR 270.10(h) and 270.30(b), which are incorporated herein by reference. In  
9 reviewing any application for a permit renewal, the NMED shall consider improvements in the state  
10 of control and measurement technology and changes in applicable regulations. [40 CFR 270.10(h)  
11 and 270.30(b); 42 U.S.C. 6925(c)(3)]

12 **I.H.6 Continuation of Expiring Permit**

13 The terms and conditions in this Permit shall continue in force and effect until the effective date of a  
14 new permit if:

15 1. The Permittee has submitted a timely application under 40 CFR 270.14, and the applicable  
16 sections in 40 CFR 270.15 through 270.29, which is a complete application 40 CFR 270.10(c) for a  
17 new permit; and

18 2. NMED, through no fault of the Permittee, does not issue a new permit with an effective  
19 date on or before the expiration date of the previous permit.

20 While this Permit is continued under this condition, it remains fully effective and enforceable. [40  
21 CFR 270.51(b)]

22 **I.I PERMIT CONSTRUCTION**

23 **I.I.1 Severability**

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

27 **I.I.2 Conflict in Language**

28 If there is a conflict between the language of a Permit Condition and the language of a Permit  
29 Attachment, where the Attachment includes text provided by the Permittee that is not expressly  
30 written by NMED, then the language of the Permit Condition shall control the language in the Permit  
31 Attachment. This Permit and 40 CFR 264, 266 and 268 establish the minimum requirements for the  
32 design, construction, operation, and maintenance of the Facility. Any language in an attachment,  
33 which states or implies discretion to not comply with the minimum requirements of this Permit or 40

1 CFR 270.32(b)(1) is not effective and the requirements of this Permit and 40 CFR 270.32(b)(1) shall  
2 control.

3 **I.J DEFINITIONS**

4 For the purposes of this Permit, terms used herein shall have the same meanings as those in the  
5 Hazardous Waste Act and the Resource Conservation and Recovery Act of 1976, and their  
6 implementing regulations, unless this Permit specifically provides otherwise. Where a term is not  
7 defined in the Hazardous Waste Act, RCRA, or pursuant regulations, EPA guidelines or  
8 publications, or this Permit, the meaning associated with such a term shall be defined by a standard  
9 dictionary reference or the generally accepted scientific or industrial meaning of the term.

10 *Acceptable Knowledge* means generator knowledge of the process that generated a waste,  
11 including but not limited to process knowledge, waste analysis data from generators of similar  
12 wastes, and facility records of analysis performed before the effective date of RCRA, that is used  
13 by a generator to characterize wastes. Acceptable knowledge includes process knowledge,  
14 whereby detailed information on the wastes is obtained from existing published or documented  
15 wastes analysis data or studies conducted on hazardous wastes generated by processes similar to  
16 that which generated the waste; waste analysis data obtained from generators of similar wastes,  
17 which send wastes off-site for treatment, storage or disposal, and facility records of analysis  
18 performed before the effective date of RCRA.

19 *Area of Concern (AOC)* means any area having a known or suspected release of hazardous waste or  
20 hazardous constituents that is not from a solid waste management unit and that NMED has  
21 determined may pose a current or potential threat to human health or the environment. An area of  
22 concern may include buildings, structures or other locations at which releases of hazardous waste or  
23 constituents have not been remediated, including releases resulting from one time and accidental  
24 events.

25 *Corrective Action* means any activity related to assessment, investigation, remediation,  
26 characterization or monitoring of contaminated or potentially contaminated sites including all related  
27 reporting and document submittal activities.

28 *Department* means the New Mexico Environment Department.

29 *Discharge* means the accidental or intentional spilling, leaking, pumping, pouring, emitting,  
30 emptying, or dumping of hazardous waste into or onto any land or water.

31 *Disposal* means the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid  
32 waste or hazardous waste into or on any land or water so that such solid waste or hazardous waste or  
33 any constituent thereof may enter the environment or be emitted into the air or discharged into any  
34 waters, including groundwater.

35 *Extent of contamination* means the horizontal and vertical area in which the concentrations of  
36 hazardous waste or constituents in the environmental media being investigated are above detection  
37 limits or background concentrations indicative of the region, whichever is appropriate, as determined  
38 by the NMED.

1 *Facility* means National Aeronautics and Space Administration (NASA) White Sands Test Facility  
2 (WSTF), EPA ID Number NM 8800019434, owned by the U.S. Department of Defense, Department  
3 of the Army White Sands Missile Range, and located in Doña Ana County, approximately 18 miles  
4 northeast of Las Cruces, New Mexico and 65 miles north of El Paso, Texas, including all contiguous  
5 land, and structures, other appurtenances, and improvements on the land, used for treatment, storage,  
6 or disposal of hazardous waste as designated on Permit Attachment 2. For the purpose of  
7 implementing corrective action, "Facility" means all contiguous property under the control of the  
8 owner or operator as designated on Permit Attachment 2.

9 *Foreign source* means hazardous waste generated outside the United States.

10 *Hazardous Waste*, for the purposes of corrective action for solid waste management units and areas  
11 of concern conducted pursuant to 74-4-4.2(B) of the HWA, 40 CFR part 264, subpart F, or 40 CFR  
12 270.32(b)(2), means a hazardous waste as defined in Section 74-4-3(I) of the HWA. Hazardous  
13 waste, for the purposes of corrective action, includes, without limitation, any hazardous waste as  
14 defined in 40 CFR 261.3, any groundwater contaminant listed in the Water Quality Control  
15 Commission (WQCC) Regulations in 20.6.2.3103 NMAC, any toxic pollutant listed in 20.6.2.7  
16 NMAC, any contaminant for which the EPA has promulgated a maximum contaminant level (MCL)  
17 at 40 CFR parts 141 and 143, perchlorate, methyl tertiary butyl ether, polychlorinated biphenyls  
18 (PCBs), dioxins, furans, and munitions constituents as defined in 10 U.S.C. 2710(e)(3).

19 *Hazardous Waste*, for all other purposes of this Permit, means a hazardous waste as defined in 40  
20 CFR 261.3.

21 *Hazardous constituent* means any constituent identified in 40 CFR part 261 Appendix VIII and any  
22 constituent identified in 40 CFR part 264 Appendix IX.

23 *NMED* means the New Mexico Environment Department.

24 *Off-site source* means a generator of hazardous waste located within the United States, but outside  
25 the Permittee's Facility boundary.

26 *Operator* means the person responsible for the overall operation of the Facility. NASA is the  
27 operator of White Sands Test Facility.

28 *Owner* means the person who owns the Facility or part of a Facility. The U.S. Department of Army,  
29 White Sands Missile Range is the owner of NASA White Sands Test Facility.

30 *Permittee* means the NASA, the operator of the White Sands Test Facility.

31 *Post-Closure Care Unit* means any hazardous waste management unit subject to the post-closure  
32 care requirements of 40 CFR Part 264, Subpart G.

33 *Release* means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting,  
34 escaping, leaching, dumping, or disposing of any hazardous waste or hazardous constituent into the  
35 environment (including the abandonment or discarding of barrels, containers, and other closed  
36 receptacles containing hazardous waste or constituents).

1 *Secretary* means the Secretary of the New Mexico Environment Department or his or her designee or  
2 authorized representative.

3 *Solid waste management unit (SWMU)* means any discernable unit or area at the Facility at which  
4 solid waste has been placed at any time, and from which the NMED determines there may be a risk  
5 of a release of hazardous waste or constituents, irrespective of whether the unit was intended for the  
6 management of solid waste. Placement of solid waste includes, but is not limited to, any unit or area  
7 at which solid waste has been routinely and systematically placed.

8 *Watercourse* shall have the meaning defined in 20.6.2.7 NMAC.

9 **I.K GENERAL REQUIREMENTS**

10 **I.K.1 Duty to Comply**

11 The Permittee shall comply with all conditions in this Permit, except to the extent and for the  
12 duration such noncompliance is authorized in an emergency permit, pursuant to which is  
13 incorporated herein by reference CFR 270.61. Any Permit noncompliance, except under the terms of  
14 an emergency permit, constitutes a violation of the Hazardous Waste Act and RCRA and may  
15 subject the Permittee, its successors and assigns, officers, directors, employees, parents, or  
16 subsidiaries, to an enforcement action. [40 CFR 270.30(a), which is incorporated herein by  
17 reference]

18 **I.K.2 Transfer of Permit**

19 The Permittee shall not transfer this Permit to any person except after written approval of the  
20 NMED.

21 This Permit may be transferred by the Permittee to a new owner or operator only if the Permit has  
22 been modified or revoked and reissued under 40 CFR 270.40(b) or 270.41(b)(2) to identify the new  
23 Permittee and incorporate such other requirements as may be necessary under HWA and RCRA. [40  
24 CFR 270.30(1)(3) and 270.40(a), which are incorporated herein by reference]

25 The Permittee may make changes in ownership or operational control of the Facility as a Class 1  
26 modification after obtaining prior written approval of the NMED in accordance with 40 CFR 270.42.  
27 The new owner or operator must submit a revised permit application no later than 90 calendar days  
28 prior to the scheduled change including a written agreement, between the current and new Permittee,  
29 containing a specific date for transfer of permit responsibility to the new Permittee.

30 The new owner or operator shall demonstrate compliance with 40 CFR 264 subpart H (Financial  
31 Requirements) within 6 months of the date of the change of ownership or operational control of the  
32 Facility. [40 CFR 270.40(b), which is incorporated herein by reference]

33 Before transferring ownership or operation of the Facility, the Permittee shall notify the new owner  
34 or operator in writing of the requirements of 40 CFR part 264 and 40 CFR part 270 which are  
35 incorporated herein by reference, and the HWA and shall provide NMED with a copy of this notice.  
36 [40 CFR 264.12(c), which is incorporated herein by reference]

1    **I.K.3                            Need to Halt or Reduce Activity Not a Defense**

2    It shall not be a defense for the Permittee in an enforcement action that it would have been necessary  
3    to halt or reduce the permitted activity in order to maintain compliance with the conditions of this  
4    Permit. [40 CFR 270.30(c), which is incorporated herein by reference]

5    **I.K.4                            Duty to Mitigate**

6    In the event of noncompliance with this Permit, the Permittee shall take all reasonable steps to  
7    minimize releases to the environment, and shall carry out such measures as are reasonable to prevent  
8    significant adverse impacts on human health or the environment. [40 CFR 270.30(d), which is  
9    incorporated herein by reference]

10   **I.K.5                            Proper Operation and Maintenance**

11   The Permittee shall at all times properly operate and maintain all facilities and systems of treatment,  
12   control, and related appurtenances which are installed or used by the Permittee to achieve  
13   compliance with the conditions of this Permit. Proper operation and maintenance include effective  
14   performance, adequate funding, adequate operator staffing and training, and adequate laboratory and  
15   process controls, including appropriate quality assurance and quality control procedures. This  
16   provision requires the operation of back-up or auxiliary facilities or similar systems only when  
17   necessary to achieve compliance with the conditions of this Permit [40 CFR 270.30(e), which is  
18   incorporated herein by reference].

19   **I.K.6                            Duty to Provide Information**

20   The Permittee shall furnish to NMED, within a reasonable time as specified by NMED, any relevant  
21   information which NMED may request to determine whether cause exists for modifying, revoking  
22   and reissuing, or terminating this Permit, or to determine compliance with this Permit.

23   The Permittee shall also furnish to NMED, upon request, copies of records required to be kept by  
24   this Permit in accordance with the requirements of 40 CFR 264.74(a) and 40 CFR 270.30(h) which  
25   are incorporated herein by reference.

26   Information and records requested by NMED pursuant to this condition shall be provided in paper  
27   form or in an electronic format acceptable to NMED or both as NMED may specify.

28   This Permit Condition shall not be construed to limit in any manner NMED's authority under § 74-4-  
29   4.3 of HWA, 3007(a) of RCRA, or any other applicable law or regulation.

30   **I.K.7                            Inspection and Entry**

31   The Permittee shall allow authorized representatives of NMED, upon the presentation of credentials  
32   and other documents as may be required by law, to:

- 1 1. Enter at reasonable times into the Permittee's premises where the regulated Facility or  
2 activity is located or conducted, or where records must be kept in accordance with this  
3 Permit;
- 4 2. Have access to and copy, at reasonable times, any records that must be kept in accordance  
5 with this Permit;
- 6 3. Inspect at reasonable times any facilities, equipment (including monitoring and control  
7 equipment), practices, or operations regulated or required under this Permit; and
- 8 4. Sample, monitor or measure at reasonable times, for the purposes of assuring permit  
9 compliance or as otherwise authorized by RCRA and the HWA, any substances or  
10 parameters at any location. [40 CFR 270.30(i), which is incorporated herein by reference]

11 This Permit Condition shall not be construed to limit in any manner NMED's authority under § 74-4-  
12 4.3 of HWA, 3007(a) of RCRA, or any other applicable law or regulation.

13 **I.K.8 Monitoring and Records**

14 **I.K.8.a Representative Sampling**

15 For purposes of monitoring, the Permittee shall take samples and measurements representative of  
16 the monitored activity in accordance with the procedures set forth in Permit Attachment 16  
17 (*Investigation and Sampling Methods and Procedures*). All samples and measurements of waste  
18 streams taken by the Permittee under any condition in this Permit shall be representative of the  
19 waste, media, equipment or structure being sampled. To obtain a representative sample of a  
20 waste stream the Permittee shall use an appropriate method from Appendix I of 40 CFR 261 or  
21 an equivalent method approved by the Secretary. Laboratory methods must be those specified in  
22 the current edition of *Test Methods for Evaluating Solid Waste Physical/Chemical Methods SW-*  
23 *846*, or an equivalent method, as specified in the *Waste Analysis Plan* in Attachment B. [40 CFR  
24 270.30(j)(1) which is incorporated herein by reference].

25 **I.K.8.b Record Retention**

26 The Permittee shall retain records of all monitoring information, including all calibration and  
27 maintenance records, copies of all reports and records required by this Permit, the waste  
28 minimization certification required by 40 CFR 264.73(b)(9) which is incorporated herein by  
29 reference, and records of all data used to complete the permit application for a period of at least three  
30 (3) years after the completion of corrective action and post-closure care. This period may be  
31 extended by NMED at any time and is automatically extended during the course of any unresolved  
32 enforcement action regarding this Facility.

33 **I.K.8.c Monitoring Records Content**

34 Records of monitoring information shall include:

- 35 1. The date, exact place, and time of sampling or measurements;

- 1           2.     The name and qualification of the individual(s) who performed the sampling or  
2           measurements;
- 3           3.     The date(s) analyses were performed;
- 4           4.     The name and qualification of the individual(s) who performed the analyses;
- 5           5.     The analytical techniques or methods used; and
- 6           6.     The results of such analyses.

7 [40 CFR 270.30(j), which is incorporated herein by reference]

8 **I.K.9                   Reporting Requirements**

9 **I.K.9.a                 Reporting Planned Changes**

10 The Permittee shall give notice to NMED of any planned physical alterations or additions to the  
11 permitted Facility no later than 60 calendar days prior to making the planned changes in compliance  
12 with 40 CFR 270.30(l)(1) which is incorporated herein by reference.

13 **I.K.9.b                 Reporting Anticipated Noncompliance**

14 The Permittee shall give a minimum of 60 calendar days advance to NMED of any planned changes  
15 in the permitted Facility or any activities that may result in noncompliance with Permit requirements  
16 in compliance with 40 CFR 270.30(l)(2) which is incorporated herein by reference.

17 **I.K.9.c                 Certification of Construction or Modification**

18 For a new or modified facility, the Permittee shall not treat, store, or dispose of hazardous waste in  
19 the new or modified portion of the Facility, until the following conditions have been satisfied:

- 20           1.     The Permittee has submitted to the NMED, by certified mail or hand delivery, a letter signed  
21           by the Permittee and a professional engineer registered in New Mexico stating that the  
22           Facility has been constructed or modified in compliance with the Permit; and
- 23           2.     The NMED has inspected the modified or newly constructed portion of the Facility and  
24           finds it is in compliance with the conditions of this Permit, or waived the inspection, or  
25           within 15 calendar days from the date of submission of the letter required by Permit Section  
26           I.J.10.3.a, has not notified the Permittee of its intent to inspect.

27 [40 CFR 270.30(l)(2), which is incorporated herein by reference]

1 **I.K.9.d Twenty-four Hour and Subsequent Reporting**

2 **I.K.9.d.i Oral Report**

3 The Permittee shall orally report to NMED any noncompliance that may endanger human health or  
4 the environment within 24 hours from the time that the Permittee becomes aware of the  
5 circumstances in compliance with 40 CFR 270.30(l)(6) which is incorporated herein by reference.  
6 The report shall include the following:

- 7 1. Information concerning any release of any hazardous waste that may cause an  
8 endangerment to public drinking water supplies; and
- 9 2. Information of a release or discharge of hazardous waste, or of a fire or explosion at  
10 the Facility, that could threaten the environment or human health outside the Facility.
- 11 3. The description of the occurrence and its cause including:
- 12 (a) Name, address, and telephone number of the owner or operator;
- 13 (b) Name, address, and telephone number of the Facility;
- 14 (c) Date, time, and type of incident;
- 15 (d) Name and quantity of materials involved;
- 16 (e) The extent of injuries, if any;
- 17 (f) An assessment of actual or potential hazards to the environment and human  
18 health outside the Facility, where this is applicable; and
- 19 (g) Estimated quantity and disposition of recovered material that resulted from the  
20 incident.

21 **I.K.9.d.ii Written Report**

22 The Permittee shall submit a written report to NMED within five calendar days from the time the  
23 Permittee becomes aware of the noncompliance. The written report shall contain the following:

- 24 1. A description of the noncompliance and its cause;
- 25 2. The period of the occurrence including exact date and time, and, if the  
26 noncompliance has not been corrected, the anticipated time it is expected to continue;  
27 and
- 28 3. Steps taken or planned to reduce, eliminate, and prevent recurrence of the  
29 noncompliance.

1 NMED may waive the five-day written notice requirement in favor of a written report to be  
2 submitted within 15 calendar days.

3 **I.K.9.e Contingency Plan Implementation**

4 If the *Contingency Plan* (Permit Attachment 3) is implemented, then the Permittee shall comply with  
5 Permit Condition I.K.9 in addition to the reporting requirements of 40 CFR 264.56(j) which is  
6 incorporated herein by reference.

7 **I.K.9.f Manifest Discrepancy Report**

8 If a significant discrepancy in a manifest is discovered, then the Permittee must attempt to reconcile  
9 the discrepancy. If not resolved within 15 days, then the Permittee must submit a letter report,  
10 including a copy of the manifest, to the NMED.

11 **I.K.9.g Unmanifested Waste Report**

12 The Permittee shall submit an unmanifested waste report to the NMED within 15 days of receipt of  
13 unmanifested waste in compliance with 40 CFR 270.30(1)(6) which is incorporated herein by  
14 reference.

15 **I.K.9.h Biennial Report**

16 The Permittee shall submit a biennial report covering Facility activities which includes all of the  
17 information specified in 40 CFR 264.75, to the NMED during odd numbered calendar years.

18 **I.K.9.i Other Noncompliance**

19 The Permittee shall report all other instances of noncompliance not otherwise required to be reported  
20 under Permit Condition I.J.10, at the time monitoring reports are submitted. The reports shall  
21 contain the information listed in Permit Condition I.J.10.

22 **I.K.9.j Other Information**

23 Whenever the Permittee becomes aware that it failed to submit any relevant facts in the Permit  
24 Application, or submitted incorrect information in the Permit Application or in any report to the  
25 NMED, the Permittee shall promptly submit such facts or information in writing to the NMED.

26 **I.K.9.k Confidential Information**

27 The Permittee may claim confidentiality for any information required by this Permit, to the extent  
28 authorized by the Section 74-4-4.3.D NMSA 1978 and 20.4.1.900 NMAC, incorporating 40 CFR  
29 270.12. The Permittee shall segregate confidential material during all record keeping activities  
30 required under this Permit to facilitate NMED inspections under Permit Condition I.K.7. A claim of  
31 confidentiality is not a basis for withholding documents or information from NMED, or for denying  
32 NMED representative's access to records or documents. [40 CFR 270.30(l), which is incorporated  
33 herein by reference]

1 **I.K.10** **Reports, Notifications, and Submissions to the New Mexico Environment**  
2 **Department**

3 The Permittee shall submit all reports, notifications, or other submissions required by this Permit to  
4 the NMED by certified mail or hand-delivery to:

5 Chief, Hazardous Waste Bureau  
6 New Mexico Environment Department  
7 2905 Rodeo Park Drive East, Building 1  
8 Santa Fe, New Mexico 87505-6303  
9 Telephone Number: 505-476-6000  
10 Facsimile Number: 505-476-6030

11 All submissions shall include a minimum of two paper copies and an electronic version in a format  
12 acceptable to NMED.

13 **I.K.11** **Signatory requirement**

14 The Permittee shall sign and certify all applications, reports, or other information submitted to the  
15 Department. All applications shall be signed and certified in accordance with the requirements of 40  
16 CFR 270.11 which is incorporated herein by reference. [40 CFR 270.30(k), which is incorporated  
17 herein by reference]

18 **I.K.12** **Information Repository**

19 The Permittee shall establish and maintain an information repository in accordance with the  
20 requirements of 40 CFR 124.33(c)-(f) which is incorporated herein by reference. The information  
21 repository shall be located in Las Cruces, New Mexico. The information repository must be  
22 accessible to the public during normal business hours. [40 CFR 270.30(m), which is incorporated  
23 herein by reference]

24 **I.K.13** **General Documents and Information to be Maintained at the Facility**

25 The Permittee shall maintain at the Facility until completion of closure and post-closure care in  
26 compliance with Permit Condition I.K.8 is approved by the NMED, or as otherwise specified  
27 below, the following documents and all amendments, revisions, and modifications to these  
28 documents:

- 29 1. This Permit, including all Attachments;  
30 2. A general description of the Facility as required by this Permit;  
31 3. A topographic map as required by 40 CFR 264.18 and 270.13 and this Permit.  
32 4. The chemical and physical analyses of the hazardous wastes and hazardous debris  
33 managed or handled at the Facility under this Permit. At a minimum these analyses  
34 shall contain all the information required to treat or store the wastes properly under  
35 the requirements of 40 CFR 264 and as required by this Permit.  
36 5. The Waste Analysis Plan as required by 40 CFR 264.13(b) and this Permit;

- 1           6. Security procedures and a listing of security equipment as required by 40 CFR 264.14
- 2           and this Permit;
- 3           7. Inspection schedules and results, for three years from the date of the inspection, as
- 4           required by 40 CFR 264.15(b)(2) and this Permit;
- 5           8. Preparedness and prevention procedures and a listing of related equipment as required
- 6           by 40 CFR 264, Subpart C and this Permit;
- 7           9. Personnel training, including both introductory and continuing training programs,
- 8           used to prepare employees to safely operate and maintain this Facility in compliance
- 9           with 40 CFR 264.16(d) and this Permit;
- 10          10. The Contingency Plan and any summary reports and details of all incidents that
- 11          require implementation of the Contingency Plan, and a copy of all Memoranda of
- 12          Agreement, Memoranda of Understanding, Mutual Aid Agreements and contracts
- 13          with emergency response contractors and suppliers required by Permit Condition II.K
- 14          and 40 CFR 264.56(j);
- 15          11. A description of procedures, structures or equipment used at the Facility to prevent
- 16          hazards in unloading/loading operations, prevent run-off from hazardous waste
- 17          handling areas to other areas of the Facility or environment or to prevent flooding,
- 18          prevent contamination of water supplies, mitigate the effects of equipment failure and
- 19          power outages, prevent undue exposure of personnel to hazardous waste, and prevent
- 20          releases to the atmosphere as required under this Permit;
- 21          12. Special precautions for ignitable, reactive, or incompatible wastes as required by 40
- 22          CFR 264.17 and this Permit;
- 23          13. Traffic patterns, estimated volumes and control as required by this Permit;
- 24          14. The Facility Operating Record, as required by 40 CFR 264.73 and Permit Condition
- 25          II.L.2;
- 26          15. Closure plans for each Permitted Unit as required by 40 CFR 264.112 and this Permit;
- 27          and
- 28          16. The Permittees shall maintain the information and records by this Permit Condition
- 29          I.K.11.a in paper form or in an electronic form acceptable to NMED.
- 30

#### 31           **I.K.14                           Community Relations Plan**

32   If required by NMED, the Permittee shall prepare and implement a Community Relations Plan to  
33   inform the public and all interested parties of investigation and cleanup activities conducted under  
34   this Permit, and to inform the public of safety issues concerning releases at the Facility and beyond  
35   Facility boundaries.

#### 36           **I.L                               APPROVAL OF WORK PLANS AND OTHER DOCUMENTS**

37   All monitoring plans, work plans, including Investigation Work Plans, Interim Measures Work  
38   Plans, Accelerated Corrective Measures Work Plans, and Corrective Measures Implementation  
39   Plans, Corrective Measures Evaluation Reports, and all associated schedules that the Permittee  
40   prepares under the terms of this Permit must be approved by the NMED prior to their  
41   implementation. Upon receiving a work plan or other document for approval, the NMED will  
42   review the document and either approve the document, approve it with modifications, or disapprove  
43   it. If the NMED approves the document, it will notify the Permittee in writing. If the NMED

1 approves the document with modifications, the NMED will notify the Permittee in writing of the  
2 necessary modifications, and the reasons for the modifications. If the NMED disapproves a  
3 document, it will notify the Permittee in writing of the disapproval and the deficiencies in the  
4 document or other reasons for the disapproval. A notice of disapproval may also state modifications  
5 necessary for NMED approval. Upon receipt of a notice of disapproval, the Permittee shall revise  
6 the work plan or other document to incorporate all modifications and correct all deficiencies. Within  
7 30 days after receipt of notice of disapproval, or such other time as specified by the NMED, the  
8 Permittee shall submit the revised work plan or other document to the NMED for approval.

9 Upon NMED approval, all monitoring plans, work plans, and Corrective Measures Evaluation  
10 Reports, and associated schedules are incorporated herein by reference, including any required  
11 modifications, and become an enforceable part of this Permit, and therefore become enforceable  
12 under the provisions of the HWA and RCRA.

13 Investigation Reports, Monitoring Reports, Interim Measures Reports, Corrective Measures  
14 Implementation Reports, Remedy Completion Reports or other documents required under 20.4.1  
15 NMAC must also be submitted to the NMED, but the NMED will not necessarily approve such  
16 documents. After submittal of such a report, the NMED may nevertheless require the Permittee to  
17 revise such reports to correct deficiencies or conduct additional work before the NMED concludes  
18 that corrective action is complete.

19 **I.M EXTENSIONS OF TIME**

20 The Permittee may seek an extension of time in which to perform a requirement of this Permit, for  
21 good cause, by sending a written request for extension of time and proposed revised schedule to the  
22 NMED. The request shall state the length of the requested extension and describe the basis for the  
23 request. NMED will respond in writing to any request for extension following receipt of the request.  
24 If the NMED denies the request for extension, it will state the reasons for the denial.

1 **II. GENERAL FACILITY CONDITIONS**

2 **II.A OPERATION AND MAINTENANCE OF THE FACILITY**

3 This Permit authorizes the treatment of hazardous wastes only in the treatment areas known as the  
4 Evaporation Treatment Unit (ETU) located in Area 200, and the Fuel Treatment Unit (FTU) located  
5 in Area 500, and at no other locations in the Facility. The Permittee shall submit to the NMED each  
6 year by January 30 a revised list and map of the hazardous waste generation locations.

7 The Permittee shall maintain and operate the Facility to minimize the possibility of a fire, explosion,  
8 or any unplanned, sudden, or non-sudden release of hazardous waste or hazardous constituents to air,  
9 soil, groundwater, or surface water that could threaten human health or the environment, in  
10 accordance with the requirements of 40 CFR 264.31, which is incorporated herein by reference. The  
11 Permittee shall construct and maintain all structures and equipment, and follow the operating  
12 procedures described in Permit Attachments 3 through 21.

13 The Permittee shall comply with all generator standards in 40 CFR Part 262 including the  
14 requirements for off-Facility shipment of hazardous waste pursuant to 40 CFR 262.10(h) and 40  
15 CFR 264.71(c), which are incorporated herein by reference.

16 **II.B WASTE SOURCES**

17 **II.B.1 Permitted Waste**

18 The Permittee shall treat for subsequent transfer to a treatment, storage, or disposal facility only the  
19 hazardous wastes specified in Permit Attachment 5 (*Hazardous Waste Stream Inventory*). After  
20 treatment such wastes shall be transferred to an appropriate treatment, storage, or disposal facility in  
21 accordance with this Permit and applicable law.

22 The Permittees shall limit the wastes managed at the FTU to the following fuel wastes: hydrazine  
23 (U133), methyl hydrazine (P068), 1, 2 -dimethylhydrazine (U098) and 1,1-dimethylhydrazine.

24 **II.B.2 Prohibited Wastes**

25 The Permittee shall not discharge wastes that contain fuels (e.g. hydrazine (U133), methyl  
26 hydrazine (P068), 1, 2 -dimethylhydrazine (U098) and 1,1-dimethylhydrazine) to the ETU in  
27 accordance with Permit Section III.B and Table 6.2 of the Waste Analysis Plan (Permit  
28 Attachment 12).

29 **II.B.2.a Hazardous Waste from Off-Site Sources**

30 The Permittee shall not receive any hazardous waste from an off-site source. "Off-site" source refers  
31 to waste generated by sources other than the Permittee or its contractors on-site, including a foreign  
32 source. If the Permittee is to receive hazardous waste from off-site, it shall request a permit  
33 modification, in accordance with the requirements of 40 CFR 270.42 which is incorporated herein by

1 reference, authorizing acceptance of such waste. The Permittee shall not accept such waste until the  
2 permit modification is final.

3 **II.B.2.b PCB Contaminated Waste**

4 The Permittee is prohibited from storing liquid hazardous wastes containing polychlorinated  
5 biphenyls (PCBs) at concentrations greater than 50 parts per million (ppm) unless such storage is in  
6 compliance with all requirements of 40 CFR 761.65(b) which is incorporated herein by reference.  
7 The Permittee is prohibited from storing liquid hazardous wastes containing PCBs at concentrations  
8 greater than 50 ppm for more than one year from the date such waste was first placed into storage, in  
9 accordance with the requirements of 40 CFR 268.50(f) which is incorporated herein by reference.

10 **II.B.2.c Storage of Land Disposal Restricted Waste**

11 The Permittee is prohibited, in accordance with the requirements of 40 CFR 268.50 which is  
12 incorporated herein by reference, from storing hazardous waste restricted from land disposal  
13 pursuant to the requirements of 40 CFR part 268 subpart C for more than one year from the date such  
14 waste was first placed into storage. The Permittee may store such hazardous waste for more than one  
15 year only in the Evaporation Treatment Unit if the waste stored meets the requirements and  
16 description (maximum annual amounts and EPA waste codes) as set forth in Attachment 2 (*Permit*  
17 *Application Part A*) and Attachment 5 (*Hazardous Waste Stream Inventory*). The Permittee shall not  
18 store waste in the ETU for greater than five years.

19 **II.B.3 Waste Dilution**

20 The Permittee shall not dilute wastes except as allowed in accordance with 40 CFR 268.3 which is  
21 incorporated herein by reference.

22 **II.C WASTE CHARACTERIZATION**

23 **II.C.1 General Requirements**

24 The Permittee shall not store or treat any hazardous waste at a permitted hazardous waste  
25 management unit at the Facility unless the hazardous waste has been fully characterized in  
26 accordance with the requirements of this Permit and the Waste Analysis Plan (WAP). The Permittee  
27 must demonstrate compliance with all requirements of 40 CFR Parts 264.13 and 268, which are  
28 incorporated herein by reference. At a minimum, this waste characterization process must generate  
29 all of the information required by this Permit to treat and dispose of the waste in compliance with 40  
30 CFR Parts 264 and 268. [40 CFR 264.13(a)(1), which is incorporated herein by reference]

31 The Permittee shall document the following waste characterization information prior to transfer of a  
32 hazardous or non-hazardous waste to a hazardous waste management unit at the Facility [40 CFR  
33 264.13(a)(1), which is incorporated herein by reference]:

- 34 1. Characterization to determine whether a solid waste is a hazardous waste in accordance  
35 with the requirements of 40 CFR 262.11, which is incorporated herein by reference, and  
36 Section 6.3 of Permit Attachment 12 (*Waste Analysis Plan*).

- 1           2. All applicable EPA Hazardous Waste Numbers, in accordance with the requirements of  
2           40 CFR 268.9(a), which is incorporated herein by reference.
- 3           3. The determination that the waste is an authorized waste in Permit Sections III.A and  
4           IV.A, and is not otherwise prohibited by this Permit.
- 5           4. Characterization sufficient to prevent the mixing or placing of incompatible wastes in the  
6           same tank system in accordance with 40 CFR 264.17 and 264.199, which are incorporated  
7           herein by reference. The Permittee shall characterize the waste sufficiently to prevent the  
8           impairment of tank systems by associated wastes, in accordance with the requirements of  
9           40 CFR 264.194(a), which is incorporated herein by reference.
- 10          5. Characterization sufficient to prevent accidental ignition or reaction of ignitable or  
11          reactive wastes in tank systems in accordance with 40 CFR 264.17 and 264.199, which  
12          are incorporated herein by reference.

### 13   **II.C.2                   General Waste Characterization Methods**

14   The Permittee shall follow the Waste Analysis Plan (Permit Attachment 12) and the requirements of  
15   this Permit for all waste characterization activities. The provisions of the WAP, which describe the  
16   procedures that the Permittee must carry out to comply with 40 CFR 264.13(a) and (b), include but  
17   are not limited to:

- 18          1. The parameters for which each hazardous waste or non-hazardous waste will be  
19          characterized and the rationale for the selection of these parameters;
- 20          2. Any analytical test methods that will be used to test for these parameters;
- 21          3. Any sampling method that will be used to obtain a representative sample of the waste to be  
22          analyzed; and
- 23          4. The waste characterization data quality assurance considerations.

24   The Permittee shall keep a copy of the WAP at the Facility.

25   The Permittee shall characterize waste by using either current sampling and analysis, acceptable  
26   knowledge, or a combination of the two methods as described in the WAP and this Permit and in  
27   general accordance with 40 CFR 262.11 and 40 CFR 264.34 which are incorporated herein by  
28   reference and EPA guidance *Waste Analysis at Facilities that Generate, Treat and Dispose of*  
29   *Hazardous Wastes* (OSWER 9938.4-03, April 1994). All characterization methods must be approved  
30   by NMED.

### 31   **II.C.2.a                   Sampling and Analysis**

32   The Permittee shall perform all sampling and analytical procedures used for waste  
33   characterization, with the exception of hydrazine wastes, in accordance with the most recent  
34   version of *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, (U.S. EPA

1 Publication SW-846) or an equivalent method that has received prior approval from the NMED.  
2 The Permittee shall analyze hydrazine wastes in accordance with the procedures specified in  
3 Section 6.4.3 of the Waste Analysis Plan in Permit Attachment 12.

4 The Permittee shall ensure that samples collected and analyzed for waste characterization are  
5 representative of both the nature and the entire volume of the waste under consideration.

6 The Permittee shall ensure that the sampling and analytical procedures used to collect a  
7 representative sample of a waste preserve its original physical form and composition and ensure  
8 prevention of contamination or changes in concentration of the constituents to be analyzed. The  
9 Permittee shall conduct a quality assurance program to ensure that sample collection and  
10 analytical procedures used to support waste characterization required under this Permit are  
11 technically accurate and statistically valid. This quality assurance program must comply with the  
12 quality assurance requirements in SW-846. The Permittee shall identify and perform the  
13 appropriate number of control samples associated with each sample collected (e.g., trip and field  
14 blanks, field duplicates, field spikes).

15 When performing laboratory analysis the Permittee or the independent laboratory shall analyze  
16 the appropriate number of method blanks, laboratory duplicates, and laboratory control samples  
17 to assess the quality of the data resulting from laboratory analytical programs. The Permittee  
18 shall maintain a record of these quality assurance procedures in the Facility Operating Record in  
19 compliance with 40 C.F.R. 264.73 which is incorporated herein by reference and Permit  
20 Condition II.L.2.

21 If the Permittee uses an independent contract laboratory to perform analyses, the Permittee shall  
22 enter into a written contract with the laboratory, which requires the analytical laboratory to  
23 operate under the waste analysis conditions set forth in this Permit. Copies of all such contracts  
24 with independent contract laboratories shall be kept in the Facility Operating Record.

25 If the Permittee proposes an analytical method that deviates from an established method in SW-  
26 846, the Permittee must demonstrate and document to the NMED that the proposed analytical  
27 procedure is equal to or superior to the corresponding method in SW-846 in sensitivity, accuracy  
28 and precision. The Permittee must submit a written request to the NMED 90 days prior to using  
29 the proposed sampling or analytical procedure, which includes the following information:

- 30 1. A statement of the need and justification for the proposed action;
- 31 2. A full description of the proposed method (i.e., a standard operating procedure),  
32 including all procedural steps and equipment used in the method;
- 33 3. A description of the types of wastes or waste matrices for which the proposed method  
34 may be used;
- 35 4. Performance data;
- 36 5. Comparative results obtained from using the proposed method with those obtained  
37 from using the relevant or corresponding methods prescribed in SW-846 and 40 CFR  
38 261 and 264;
- 39 6. An assessment of any factors which may interfere with or limit the use of the  
40 proposed method; and

- 1           7. A description of the quality control procedures necessary to ensure the sensitivity,  
2           accuracy and precision of the proposed method.  
3

4           The NMED must issue a written approval of the alternative method before the Permittee may  
5           substitute it for an approved method under this Permit.

6           **II.C.2.a.i                   ETU Wastes**

7           The Permittee shall sample and analyze the light and dense phases of the wastes in the ETU at the  
8           frequencies and using the analytical methods specified at Sections 6.2.2.8 and 6.4.2, and Tables 6.4,  
9           6.5 and 6.7 of the Waste Analysis Plan. Documentation of the characterization of the light and dense  
10          phases of the wastes in the ETU shall be maintained in the Facility's operating record during the  
11          operating life of the ETU.

12          **II.C.2.a.ii               FTU Wastes**

13          The Permittee shall sample and analyze the wastes managed in the FTU at the frequencies and  
14          using the analytical methods specified at Section 6.4.2 and Table 6.8 of the Waste Analysis Plan.  
15          At a minimum the Permittee shall sample the FTU waste prior to placement in the treatment unit  
16          and prior to transport for disposal. The Permittee shall maintain documentation of these waste  
17          characterization activities in the Facility Operating Record during the operating life of the FTU.

18          **II.C.2.b                   Acceptable Knowledge for Hazardous Waste Characterization**

19          The Permittee may use acceptable knowledge to characterize waste in lieu of sampling and  
20          analysis or to supplement sampling and analysis. The Permittee shall include in the acceptable  
21          knowledge documentation all of the background information assembled and used in the  
22          characterization process, whether or not the information supports the decision to use acceptable  
23          knowledge. The acceptable knowledge record must document the resolution of any data  
24          discrepancies between different acceptable knowledge sources. The Permittee shall provide  
25          additional waste characterization information if requested by NMED. Such information shall be  
26          provided within the time specified by NMED.

27          **II.C.3                    Waste Characterization Documentation**

28          The Permittee shall maintain the waste characterization documentation listed in Permit Attachment 4  
29          (*Required Hazardous Waste Characterization Information*) in the Facility operating record.

30          The Permittee shall include in the acceptable knowledge documentation all background information  
31          assembled and used in the characterization process, whether or not the data supports the decision to  
32          use acceptable knowledge, and a report summarizing the supporting documentation and waste  
33          characterization conclusions. Examples of appropriate documentation include, but are not limited to:

- 34           1. Historical data obtained for the waste generating process (including data obtained from off-  
35           site disposal facilities);
- 36           2. Material Safety Data Sheets, product labels, and other product package information;

- 1 3. Waste stream logbooks;
- 2 4. Process design documents;
- 3 5. Detailed information on the waste stream obtained from published manuals or technical  
4 documents;
- 5 6. Preliminary and final reports and analyses of the operations generating the waste;
- 6 7. Information from operating procedures, which can include a list of the raw materials or  
7 reagents, a description of the process or experiment that uses the materials, and a description  
8 of the wastes generated and how the wastes are handled;
- 9 8. Waste packaging logs;
- 10 9. Test plans or research project reports that describe the reagents and other raw materials used  
11 in a process or experiment;
- 12 10. Engineering notebooks that detail the processes and raw materials used in a process or  
13 experiment;
- 14 11. Chemical inventories;
- 15 12. Information from personnel (e.g., documented interviews);
- 16 13. Standard industry practice documents (e.g., vendor information);
- 17 14. Industry reports on a similar process when there is a clear connection between the NASA  
18 process and the industry's similar process;
- 19 15. Previous analytical data relevant to the waste or waste stream, including results from  
20 fingerprint analyses, spot checks, or routine waste verification sampling;
- 21 16. Analytical data from studies of common industry processes that are similar to NASA  
22 processes, which can be used to identify the constituents in a specific "similar" process waste  
23 and to determine the regulatory status of the waste;
- 24 17. Sampling and analysis data from comparable wastes or waste streams;
- 25 18. Analysis of a surrogate waste or waste stream; and
- 26 19. Documented visual inspections to confirm or identify the physical characteristics and  
27 packaging of a waste.

28 When acceptable knowledge is insufficient to fully characterize a waste, the Permittee shall perform  
29 the necessary sampling and analysis in accordance with Permit Section II.D.2.a.

1 Acceptable knowledge documentation must be maintained in an auditable record for a minimum of  
2 three years from the date the waste was last managed at a waste management unit. The three-year  
3 record retention period is automatically extended during the course of any unresolved enforcement  
4 action or as requested by the NMED. The waste generator shall assign a traceable identification  
5 number to this documentation to facilitate access to this information by the Permittee and NMED.

### 6 **II.C.3.a Treatment-Derived Waste**

7 The Permittee shall characterize treatment-derived wastes by determining whether the waste is a  
8 hazardous waste and by determining the LDR status of the waste in compliance with the notification  
9 and record-keeping requirements of 40 CFR 268.7(b)(3)(ii), which is incorporated herein by  
10 reference, *Treatment Facility Paperwork Requirements Table*. If the Permittee does not identify the  
11 hazardous constituents in a treatment-derived waste because all constituents will be subject to further  
12 treatment and characterization, the Permittee shall document the anticipated waste management  
13 activities in the Facility operating record.

14 Waste treated in the ETU shall be characterized in accordance with the procedures specified at  
15 Section 6.4.2 of the Waste Analysis Plan. Waste treated in the FTU shall be characterized in  
16 accordance with the schedule and procedures specified at d Section 6.4.2 of the Waste Analysis Plan.

### 17 **II.C.4 Waste Characterization Review**

18 The Permittee shall ensure that the initial characterization of any hazardous waste managed under  
19 this Permit is reviewed or repeated according to the frequency established in the Permit and the  
20 Waste Analysis Plan in Permit Attachment 12 to verify that the characterization is accurate and up-  
21 to-date in compliance with 40 CFR 264.13(b)(4), which is incorporated herein by reference. The  
22 Permittee shall:

- 23 1. Review hazardous waste characterization annually, at a minimum, to verify the accuracy  
24 of initial characterization results in accordance with Section 6.3.1.4 of the Waste  
25 Analysis Plan. This annual re-characterization shall be performed by reviewing waste  
26 characterization data with the waste generator to determine if the process generating the  
27 waste has undergone a significant change. A significant change is any change that  
28 constitutes a change in the composition of the waste or causes a change to the regulatory  
29 status of the waste under the HWA, including changes that affect management of the  
30 waste with regard to land disposal restrictions. If particular wastes are received at a  
31 waste management unit less frequently than once each calendar year, this review process  
32 shall occur before each delivery of the wastes to the waste management unit. This annual  
33 review of the waste generating process, or less frequent review for the waste described  
34 above, shall be documented in the Facility operating record, for wastes originally  
35 characterized through sampling and analysis, verification shall be achieved using the  
36 same sampling and analysis methodologies used in the initial analysis or other methods  
37 approved by NMED. For wastes characterized through acceptable knowledge,  
38 verification may be achieved through a review of acceptable knowledge information  
39 and/or sampling and analysis;



1     **II.C.6                           Compliance with Land Disposal Restrictions**

2     **II.C.6.a                       Hazardous Waste Analysis**

3     The Permittee shall determine if a hazardous waste managed under this Permit must be treated  
4     before it may be land disposed in accordance with 40 CFR 268.40, 268.45, or 268.49, which are  
5     incorporated herein by reference. The Permittee shall make this determination by sampling and  
6     analyses of a representative sample of the waste, acceptable knowledge, or a combination of the  
7     two methods.

8     When using laboratory analysis as part of a hazardous waste characterization, the Permittee shall  
9     require the laboratory to report concentrations of all hazardous constituents listed at 40 CFR  
10    268.48 which is incorporated herein by reference, *Table of Universal Treatment Standards*, that  
11    the analytical test method used is capable of measuring. The Permittee shall also ensure that  
12    analytical method detection limits are not higher than the treatment standard.

13    The Permittee shall characterize treatment-derived wastes, including wastes that no longer  
14    exhibit a hazardous waste characteristic, are de-characterized and are no longer hazardous waste,  
15    to determine whether the waste meets the applicable LDR treatment standards specified at 40  
16    CFR 268.40, 268.45, and 268.49, in compliance with 40 C.F.R. 268.7(b), which are incorporated  
17    herein by reference.

18    **II.C.6.b                       Prohibition on Dilution as a Substitute for Treatment**

19    The Permittee shall not dilute a waste that is restricted from land disposal, or the residue from  
20    treatment of a restricted waste, as a substitute for treatment in compliance with 40 CFR 268.3  
21    which is incorporated herein by reference. Dilution to avoid an applicable treatment standard  
22    includes, but is not limited to, the addition of solid waste to reduce a hazardous constituent's  
23    concentration, or ineffective treatment that does not destroy, remove, or permanently immobilize  
24    hazardous constituents. The Permittee shall not aggregate a waste that is restricted from land  
25    disposal with other waste streams or materials as a substitute for compliance with 40 CFR 268.3  
26    which is incorporated herein by reference. Aggregating or mixing wastes as part of a legitimate  
27    treatment process is permissible dilution under this Permit.

28    **II.C.7                           Waste Shipped to an Off-Site Facility**

29    The Permittee shall conduct the waste characterization necessary to facilitate appropriate packaging  
30    for transportation, including the U.S. DOT Proper Shipping Name, Hazard Class, and an ID Number  
31    for each waste shipped to an off-site facility for treatment, storage or disposal.

32    The Permittee shall record in the Facility operating record all off-site facility pre-qualification  
33    acceptance characterization information specified in Section 6.2.7 of Permit Attachment 12 (*Waste*  
34    *Analysis Plan*).

1 **II.D WASTE MINIMIZATION**

2 The Permittee shall institute a waste minimization program to reduce the volume and toxicity of  
3 hazardous wastes generated by the Facility's operation to the degree determined by the Permittee  
4 to be economically practicable; and the proposed method of treatment, storage, or disposal that is  
5 the practicable method currently available to the Permittee which minimizes the present and  
6 future threat to human health and the environment, in compliance with 40 CFR 264.73(b)(9),  
7 which is incorporated herein by reference.

8 The Permittee shall submit a copy of the annual certified statement regarding the waste minimization  
9 program to NMED by December 1 for the previous year ending September 30 in compliance with 40  
10 CFR 264.75(i), which is incorporated herein by reference. The report shall include each of the  
11 following items:

- 12 1. Any written policy or statement that outlines goals, objectives, and methods for source  
13 reduction and recycling of hazardous waste at the Facility.
- 14 2. Any employee training or incentive programs designed to identify and implement source  
15 reduction and recycling opportunities for all hazardous wastes.
- 16 3. Any source reduction or recycling measures implemented in the last five years or planned  
17 for the near future.
- 18 4. An itemized list of the dollar amounts of capital expenditures (plant and equipment) and  
19 operating costs devoted to source reduction and recycling of hazardous waste.
- 20 5. Factors that have prevented implementation of source reduction or recycling.
- 21 6. Sources of information on source reduction or recycling received at the facility (e.g.,  
22 local government, trade associations, suppliers).
- 23 7. An investigation of additional waste minimization efforts, which could be implemented  
24 at the Facility. This investigation shall analyze the potential for reducing the quantity and  
25 toxicity of each waste stream through production process change, production  
26 reformulation, recycling, and all other appropriate means. The analysis shall include an  
27 assessment of the technical feasibility, cost, and potential waste reduction for each option.
- 28 8. A flow chart or matrix detailing all hazardous wastes the Facility produces, by quantity  
29 and type and by building or area and program.
- 30 9. Demonstration of the need to use those processes which produce a particular hazardous  
31 waste due to a lack of alternative processes, available technology, or available alternative  
32 processes that would produce less volume of toxic waste.

33 The Permittee shall include the certified plan in the operating record.

1 **II.E DUST SUPPRESSION**

2 The Permittee shall not use waste or used oil or any other material which is contaminated with  
3 dioxin, PCB, or any other hazardous waste, other than a waste identified solely on the basis of  
4 ignitability, for dust suppression or road treatment, in accordance with the requirements of 40 CFR  
5 266.23(b) which is incorporated herein by reference.

6 **II.F SECURITY**

7 To prevent the unknowing entry and to minimize the possibility of unauthorized entry of persons into  
8 the Facility, the Permittee shall comply with the security provisions in 40 CFR 264.14, which is  
9 incorporated herein by reference, and the procedures specified in the Security Plan (Permit  
10 Attachment 6).

11 **II.G GENERAL INSPECTION REQUIREMENTS**

12 The Permittee shall follow the inspection schedule specified in Permit Attachment 7 (*Inspection*  
13 *Schedule*). The Permittee shall inspect the Hazardous Waste Management Units and remedy any  
14 deterioration or malfunction discovered by an inspection, in accordance with the requirements of 40  
15 CFR 264.15 which is incorporated herein by reference. Records of inspection shall be kept as  
16 required by 40 CFR 264.15(d) which is incorporated herein by reference. Emergency equipment  
17 shall be inspected at the frequency specified in Permit Attachment 7 (*Inspection Schedule*) to ensure  
18 it is properly maintained as required by Permit Condition II.J.2.

19 **II.H PERSONNEL TRAINING**

20 The Permittee shall conduct the personnel training specified in Permit Attachment 8 (*Personnel*  
21 *Training Requirements*), in accordance with the requirements of 40 CFR 264.16 which is  
22 incorporated herein by reference. The Permittee shall maintain training documents and records  
23 in accordance with the requirements of 40 CFR 264.16(d) and (e) which is incorporated herein by  
24 reference. The Permittee shall ensure that training records include the following documentation:

- 25 1. The job title for each hazardous waste management position at the Facility and the  
26 name and employee number of each employee filling the position;
- 27 2. A written job description for each hazardous waste management position. This  
28 description must include the requisite skill, education or other qualifications and  
29 duties of employees assigned to each position; and
- 30 3. A written description of the type and amount of both introductory and continuing  
31 training that will be given to each person filling a hazardous waste management  
32 position.
- 33 4. Records that document Facility personnel have received and completed the training  
34 and/or job experience required under Permit Condition II.L. The records must be  
35 searchable by employee name, employee number, or position description.  
36

1 **II.I IGNITABLE, REACTIVE, OR INCOMPATIBLE WASTE**

2 The Permittee shall manage ignitable, reactive, or incompatible waste in accordance with the  
3 requirements of 40 CFR 264.17, which is incorporated herein by reference.

4 **II.J PREPAREDNESS AND PREVENTION**

5 **II.J.1 Operation and Maintenance of Facility**

6 The Permittee shall maintain and operate the Facility to minimize the possibility of a fire or  
7 explosion, or any unplanned, sudden or non-sudden release of hazardous waste or hazardous  
8 constituents to air, soil, groundwater, or surface water that could threaten human health and the  
9 environment in accordance with the requirements of 40 CFR 264.31, which is incorporated herein by  
10 reference.

11 **II.J.2 Required Equipment**

12 At a minimum, the Permittee shall maintain at the Facility the communication, spill control,  
13 decontamination, and fire control equipment as set forth in Permit Attachment 3 (*Contingency Plan*)  
14 and 40 CFR 264.32, which is incorporated herein by reference.

15 **II.J.3 Testing and Maintenance of Equipment**

16 The Permittee shall test and maintain the equipment specified in Permit Condition II.J.2, as  
17 necessary, to assure its proper operation in time of emergency, in accordance with the requirements  
18 of 40 CFR 264.33, which is incorporated herein by reference. The Permittee shall ensure that the  
19 external communication equipment is compatible with the equipment used by the local authorities,  
20 emergency response organizations, medical providers and contractors that are identified in  
21 Attachment 3.

22 The Permittee shall ensure that if testing identifies any communication equipment, alarm system  
23 component or fire protection, spill control or decontamination equipment that is not functioning  
24 properly, it is promptly repaired. The Permittee shall immediately provide substitute equipment  
25 or systems while the repairs are ongoing. The Permittee shall ensure that Facility employees and  
26 contractors are notified of the presence of substitute equipment and, if necessary, trained in its  
27 use. The Permittee shall ensure that malfunctioning equipment is clearly marked as "Out of Use"  
28 and the location of the substitute equipment is posted adjacent to the malfunctioning equipment.

29 **II.J.4 Access to Communications or Alarm System**

30 The Permittee shall maintain access to the communications or alarm system, in accordance with the  
31 requirements of 40 CFR 264.34, which is incorporated herein by reference.

1    **II.J.5                           Arrangements with Local Authorities**

2    The Permittee shall maintain emergency coordination arrangements to familiarize the fire department  
3    of Doña Ana County with the layout and potential hazards at the Facility in accordance with 40 CFR  
4    264.37, which is incorporated herein by reference.

5    Copies of agreements with local emergency response agencies are attached in Permit Attachment 10  
6    (*Emergency Coordination Agreements*). Copies and descriptions of these Emergency Coordination  
7    Agreements shall be maintained in the Facility Operating Record. The Permittee shall provide those  
8    organizations that have entered into an agreement with the Permittee with a copy of the *Contingency*  
9    *Plan* (Permit Attachment 3).

10   Where State or local authorities decline to enter into such an arrangement, the Permittee must  
11   document the refusal in the operating record, in accordance with the requirements of 40 CFR  
12   264.37(b), which is incorporated herein by reference.

13   **II.K                               CONTINGENCY PLAN**

14   **II.K.1                           Provisions of Plan**

15   The Permittee shall maintain a Contingency Plan designed to minimize hazards to human health or  
16   the environment from fires, or explosions, or any unplanned sudden or non-sudden release of  
17   hazardous waste or hazardous constituents to air, soil, groundwater, or surface water in accordance  
18   with the requirements of 40 CFR 264.51(a), which is incorporated herein by reference.

19   **II.K.2                           Implementation**

20   The Permittee shall immediately implement the *Contingency Plan* (Permit Attachment 3) whenever  
21   there is a fire, or explosion, or release of hazardous waste or constituents at the Facility that could  
22   threaten human health or the environment in accordance with the requirements of 40 CFR 264.51(b),  
23   which is incorporated herein by reference. The Permittee shall ensure that an adequate number of  
24   trained emergency response personnel are available at all times including, but not limited to,  
25   holidays, evenings and weekends.

26   **II.K.3                           Copies of Plan**

27   The Permittee shall maintain and distribute copies of the *Contingency Plan* (Permit Attachment  
28   3) in accordance with the requirements of 40 CFR 264.53 which is incorporated herein by  
29   reference. Copies of the *Contingency Plan* shall be maintained at the 100, 200, 300, 400, and  
30   800 Areas and at the ETU and FTU. The Permittee shall also submit a controlled copy of the  
31   *Contingency Plan* to the NMED, local police and fire departments, hospitals, contractors, and  
32   federal, state and local emergency response teams with which the Permittee have emergency  
33   coordination arrangements as required by Permit Condition II.J.5 and 40 C.F.R. 264.53, which is  
34   incorporated herein by reference. The Permittee shall promptly submit all *Contingency Plan*  
35   amendments and revisions to these same parties and maintain documentation of such distribution  
36   at the Facility. The Permittee shall send all copies of the *Contingency Plan* and any amendments

1 and revisions that are distributed outside the Facility by certified mail with return receipt or an  
2 equivalent method.

3

4 **II.K.4 Amendments to Plan**

5 The Permittee shall review and immediately amend, if necessary, the *Contingency Plan* (Permit  
6 Attachment 3), in accordance with the requirements of 40 CFR 264.54, which is incorporated herein  
7 by reference.

8 **II.K.5 Emergency Coordinator**

9 An Emergency Coordinator (EC) or Alternate Emergency Coordinator shall be available at all times  
10 in case of an emergency, in accordance with Permit Attachment 10. The Emergency Coordinator or  
11 Alternate Emergency Coordinator shall be thoroughly familiar with the *Contingency Plan* and shall  
12 have the authority to commit the resources needed to implement the *Contingency Plan*, in  
13 accordance with the requirements of Permit Attachment 10 and 40 CFR 264.55, which is  
14 incorporated herein by reference.

15 **II.L RECORDKEEPING AND REPORTING**

16 In addition to the recordkeeping and reporting requirements specified elsewhere in the Permit, the  
17 Permittee shall comply with the requirements specified in Permit Condition II.L.1 and II.L.2

18 All documents required to be maintained at the Facility shall be readily available at all times, and  
19 shall be made available to NMED or EPA personnel upon request.

20 **II.L.1 Documents Maintained at the Facility**

21 The Permittee shall maintain the following documents at the Facility:

22 1. Waste Analysis Plan, in accordance with the requirements of 40 CFR 264.13, which is  
23 incorporated herein by reference.

24 2. Inspection Schedule, in accordance with the requirements of 40 CFR 264.15(b)(2) which is  
25 incorporated herein by reference.

26 3. Personnel documents and records, in accordance with the requirements of 40 CFR 264.16,  
27 which is incorporated herein by reference.

28 4. The operating record at the Facility in accordance with the requirements of 40 CFR 264.73,  
29 which is incorporated herein by reference

30 5. The biennial report as prepared and submitted to the NMED in accordance with the  
31 requirements of 40 CFR 264.75, which is incorporated herein by reference.

32 6. A copy of this Permit and its revisions and modifications as approved by NMED.

- 1           7. The Contingency Plan (Permit Attachment 3) in accordance with the requirements of 40  
2           CFR 264.53(a), which is incorporated herein by reference, and any summary reports and  
3           details of all incidents that require implementation of the *Contingency Plan* in accordance  
4           with the requirements of 40 CFR 264.56(j) which is incorporated herein by reference.
- 5           8. The Closure Plan (Permit Attachment 11), in accordance with the requirements of 40 CFR  
6           264.112(a) which is incorporated herein by reference.
- 7           9. The current names, addresses, and telephone numbers of the Emergency Coordinator (EC)  
8           and all persons designated as Alternate Emergency Coordinator in accordance with Permit  
9           Condition II.K.5.
- 10          10. All records of the reports in accordance with the requirements of 40 CFR 264.77, which is  
11          incorporated herein by reference.

12          **II.L.2                    Operating Record**

13          The Permittee shall maintain an operating record at the Facility in accordance with the requirements  
14          of 40 CFR 264.73, which is incorporated herein by reference. The operating record must include a  
15          description of the type and quantity of each hazardous waste received at each individual hazardous  
16          waste management unit at the Facility, the date of its receipt, and the method of its treatment or  
17          disposal. The operating record shall also include all items identified in the applicable provisions of  
18          40 CFR 264.73, and all items otherwise required to be kept in the operating record under the terms of  
19          this Permit. All documents must be made available to NMED upon request within four hours of  
20          such request.

21          **II.M                    MANIFEST SYSTEM**

22          The Permittee shall comply with all the manifest requirements of 40 CFR 264.71, 264.72, and  
23          264.76, which are incorporated herein by reference.

24          **II.N                    GENERAL CLOSURE REQUIREMENTS**

25          **II.N.1                Performance Standard**

26          The Permittee shall clean close the Facility in accordance with the approved *Closure Plan* (Permit  
27          Attachment 11) and all of the requirements of 40 CFR 264.111, which is incorporated herein by  
28          reference.

29          **II.N.2                Amendment to Closure Plan**

30          The Permittee shall amend the *Closure Plan* before implementing the plan, unless the Permittee  
31          demonstrates conclusively by direct measurements and Facility records that no releases of hazardous  
32          waste or hazardous constituents to the environment from the Facility had occurred for its entire  
33          operating life. The Permittee shall amend the *Closure Plan* for any other reasons, set forth in 40  
34          CFR 264.112(c), which is incorporated herein by reference. The Permittee shall comply with all the  
35          requirements of 40 CFR 264.112(c) in amending the Closure Plan.

1    **II.N.3                   Notification of Closure**

2    The Permittee shall notify the NMED in writing at least 45 calendar days prior to the date on which it  
3    expects to begin closure of the hazardous waste management unit(s), and shall otherwise comply  
4    with all the requirements of 40 CFR 264.112(d), which is incorporated herein by reference.

5    **II.N.4                   Time Allowed For Closure**

6    Within 90 calendar days after receiving the final volume of hazardous waste at any permitted unit,  
7    the Permittee shall remove all hazardous waste from the unit to a permitted treatment, storage or  
8    disposal facility, and shall complete closure activities, in accordance with all the requirements of 40  
9    CFR 264.113, which is incorporated herein by reference, and following the schedule specified in the  
10   *Closure Plan* (Permit Attachment 11).

11   **II.N.5                   Disposal or Decontamination of Equipment, Structures, and Soils**

12   The Permittee shall decontaminate or dispose of all contaminated equipment, structures, and soils, in  
13   accordance with the *Closure Plan* (Permit Attachment 11) and all of the requirements of 40 CFR  
14   264.114, which is incorporated herein by reference.

15   **II.N.6                   Certification of Closure**

16   Within 60 calendar days from the date of completion of closure of the hazardous waste management  
17   unit, the Permittee shall submit to the NMED a final closure report and written closure certification,  
18   signed by an independent professional engineer registered in New Mexico, that the hazardous waste  
19   management unit was closed in accordance with their approved *Closure Plan* (Permit Attachment  
20   11). In submitting the certification, the Permittee shall comply with all the requirements of 40 CFR  
21   264.115, which is incorporated herein by reference.

22   **II.N.7                   Survey Plat**

23   The Permittee shall submit a survey plat to the local zoning authority and the NMED no later than  
24   the submission of certification of closure of each hazardous waste disposal unit in accordance with  
25   the requirements of 40 CFR 264.116, which is incorporated herein by reference. The Permittee shall  
26   comply with all the requirements of 40 CFR 264.116 in submitting the survey plat.

27   **II.O                    POST-CLOSURE CARE REQUIREMENTS**

28   If the Permittee does not clean close the Facility as required by 40 CFR 264.111 which is  
29   incorporated herein by reference, the Facility shall be subject to post-closure permitting requirements  
30   specified in 40 CFR 270.1(c)(6)(iii), which is incorporated herein by reference. In such case, the  
31   Permittee shall submit an application for Post-Closure Care Permit no later than 90 calendar days  
32   from the date that the Permittee determines that the Facility must be closed with waste in place, as  
33   required by 40 CFR 264.117 through 120, which are incorporated herein by reference.

1 **III. EVAPORATION TREATMENT UNIT**

2 This Permit authorizes treatment of the hazardous wastes described in Permit Application Part A and  
3 Hazardous Waste Stream Inventory (Permit Attachment 5) in the Evaporation Treatment Unit  
4 (ETU), located at the 200 Area of the Facility.

5 **III.A BACKGROUND**

6 The ETU tank system consists of two circular, flat-bottomed, open-top tanks, a hazardous waste  
7 drain line sump, and a pipeline network used to transport liquid waste to the tanks. Each tank is 79  
8 feet in diameter and six feet and three inches in height and constructed of one-quarter inch thick  
9 welded carbon steel plates that rest directly on the ground. The steel tanks serve as a supporting  
10 structures as well as tertiary containment. The tanks were installed in 1988 and put in operation in  
11 1989. There are two 30-mil liners constructed of impervious polyvinyl chloride (PVC) (XR-5 brand)  
12 inside each steel tank, which serve as primary and secondary containment. Geotextile netting was  
13 placed between the two plastic liners and between the second liner and the steel tank bottom to allow  
14 for transmission of leaking fluids to a sump connected to sight glasses designed to detect collected  
15 fluids. Relevant engineering certifications and assessments are provided in Permit Application  
16 Appendix 21-A (*ETU Written Assessments and Certifications*).

17 Each tank has a maximum capacity of 152,430 gallons. The tanks are considered to be at maximum  
18 capacity when the waste level of the tank leaves two feet of freeboard inside the tank. The waste  
19 enters the ETU from a gravity fed drain line. Containerized waste is also brought to the tanks and is  
20 pumped directly into the tanks from a pumping station located between the tanks.

21 The ancillary components of the ETU consist of the hazardous waste drain line sump, aboveground  
22 and underground segments of the hazardous waste drain line, fittings, unions, and valves. The  
23 underground segment of the drain line is double walled, and the aboveground segments are made  
24 from single walled polypropylene piping. The drain line sump has a capacity of 370 gallons and is a  
25 double wall fiberglass sump equipped with a leak detection system. Engineering drawings are  
26 provided in Permit Attachment 21 (*ETU and FTU Drawings and Summary Description*). The  
27 hazardous waste drain line flows to both tanks and is valved so that waste can be directed to either  
28 tank or shut off entirely so that no waste enters the tanks.

29 The ETU historically received intermingled wastes that, at the point of origination, could be pure  
30 compounds or aqueous mixtures of solvents, chemicals and heavy metals. A description of the  
31 physical and chemical properties of selected underlining hazardous constituents is provided in Permit  
32 Attachment 5 (*Hazardous Waste Stream Inventory*). The treatment in the unit consists of  
33 concentrating the wastes by evaporation of water and volatilization of volatile organics. In the  
34 Permit Application, the Permittee states that accumulated sludge is disposed of at an off-site  
35 incineration facility approximately every ten years. A process flow diagram of the hazardous waste  
36 streams to the ETU is provided in Permit Application Figure 21.4, including the WSTF Individual  
37 Waste Profile Sheets (WIWPS) that describe each waste stream.

1 **III.B PERMITTED AND PROHIBITED WASTES**

2 **III.B.1 Permitted Wastes**

3 The Permittee may store and treat in the ETU only the hazardous wastes listed in the *Hazardous*  
4 *Waste Stream Inventory* (Permit Attachment 5).

5 **III.B.2 Prohibited Wastes**

6 The Permittee is prohibited from storing or treating in the ETU any hazardous wastes not listed in the  
7 *Hazardous Waste Stream Inventory* (Permit Attachment 5). The Permittee is prohibited from storing  
8 or treating hazardous waste that does not meet universal treatment standards and is not identified in  
9 Permit Application Table 6.2. The Permittee is prohibited from storing or treating solid or hazardous  
10 waste that comes in contact with floor drains in the 200 Area buildings.

11 **III.B.3 Other Wastes**

12 If the Permittee intends to store or treat in the ETU any hazardous waste not listed in the *Hazardous*  
13 *Waste Stream Inventory* (Permit Attachment 5), the Permittee shall submit to NMED a request for a  
14 permit modification. The Permittee shall comply with the applicable requirements of 40 CFR 270.42  
15 in requesting the permit modification. The Permittee shall not store or treat such waste until NMED  
16 has approved the permit modification.

17 **III.B.4 Maximum Volume of Waste**

18 The Permittee may treat in the two ETU tanks (combined) a maximum volume of 307,780 gallons of  
19 hazardous waste per calendar year. If the volume of waste treated in the ETU for any calendar year  
20 exceeds 307,780 gallons, the Permittee shall report such exceedence to NMED by February 1 of the  
21 following calendar year. If the increased volume is expected to be repeated, the Permittee shall  
22 submit to NMED by March 1 of the calendar year following the volume exceedence, a request for a  
23 permit modification. If hazardous waste management practices change as a result of increased  
24 volume, the Permittee shall include such changes in the modification request. The Permittee shall  
25 comply with the applicable requirements of 40 CFR 270.42 in requesting the permit modification.

26 **III.C CONTAINMENT**

27 **III.C.1 Secondary Containment System**

28 In order to prevent the release of hazardous waste or hazardous constituents into the environment, the  
29 Permittee shall maintain secondary containment at the ETU, in accordance with the requirements of  
30 40 CFR 264.193, which is incorporated herein by reference. The secondary containment for the ETU  
31 shall, at a minimum, consist of a secondary plastic liner composed of 30-mil polyvinyl chloride or  
32 similar material, and a leak detection system.

1 **III.C.2 Leak Detection System**

2 The secondary containment system for the ETU shall include a leak-detection system that is designed  
3 and operated so that it will detect the failure of either the primary or secondary containment  
4 structure, or the presence of any release of hazardous waste or accumulated liquid from either the  
5 secondary containment system or the tank system in general within 24 hours, in accordance with 40  
6 CFR 264.193(c)(3), which is incorporated herein by reference.

7 The leak detection system for the ETU shall consist of a sight glass mounted on the side of each tank  
8 that allows for detection of liquids present in the space between the primary and the secondary liner,  
9 a sight glass mounted on the side of each tank that allows for detection of liquids present in the space  
10 between the secondary liner and the base of the steel tank, and two angled monitoring wells beneath  
11 each tank. The monitoring wells shall be drilled starting from opposite sides of each tank, at an  
12 angle no more than 45 degrees from the horizontal, along parallel vertical planes 15 feet from the  
13 center-lines of each tank, and extending in length to at least five feet from the opposite side of the  
14 tank. The screened interval of each well shall extend from three feet below the ground surface to  
15 within one foot of the base of the well.

16 Within 30 days of the effective date of this Permit, the Permittee shall submit to NMED for approval  
17 a Work Plan for construction of the two angled monitoring wells beneath each tank. At a minimum,  
18 the work plan shall include the proposed well construction details in accordance with the *Monitoring*  
19 *Well Construction Requirements* (Permit Attachment 19), a schedule for installation of the wells, and  
20 procedures for monitoring the wells. The Permittee shall implement the plan within 90 days of  
21 receipt of NMED approval of the Work Plan.

22 Within 30 days after completing construction of the angled monitoring wells, the Permittee shall  
23 submit to NMED a well completion report that summarizes drilling and any sampling results and  
24 includes as-built well construction diagrams.

25 **III.C.3 Monitoring**

26 Within 30 days of the effective date of this Permit, the Permittee shall submit a work plan to the  
27 NMED for approval that includes the proposed leak detection monitoring procedures, including a  
28 monitoring schedule. At a minimum, the work plan shall include monitoring of each of the sight  
29 glasses mounted on the sides of the tanks and the angled monitoring wells beneath the tanks at least  
30 once per month and in accordance with the Inspection Schedule (Permit Attachment 7). The  
31 Permittee shall monitor the cathodic protection system in accordance with the Inspection Schedule  
32 (Permit Attachment 7), and with 40 CFR 264.195(c), which is incorporated herein by reference.

33 **III.C.4 Removal of Liquids**

34 The Permittee shall remove all spilled or leaked waste or other liquids detected in the containment  
35 system within 24 hours, or as quickly as possible, in accordance with 40 CFR 264.193(c)(4) which is  
36 incorporated herein by reference. The Permittee shall conduct a hazardous waste determination for  
37 all liquids removed from the containment system in accordance with 40 CFR 262.11, which is  
38 incorporated herein by reference.

1 The Permittee shall conduct corrective action for any release of hazardous waste or hazardous  
2 constituents from the ETU into the environment in accordance with Part 8 of this Permit.

3 **III.D ETU OPERATING REQUIREMENTS**

4 **III.D.1 Prohibited Waste Causing Failure of ETU**

5 The Permittee shall not place hazardous wastes or treatment reagents in the ETU tank system if they  
6 could directly or indirectly, through chemical reactions, cause the tank, its ancillary equipment, or  
7 containment systems to rupture, leak, corrode, or otherwise fail, in accordance with the requirements  
8 of 40 CFR 264.194(a) which is incorporated herein by reference.

9 **III.D.2 Prevention of Spills and Overflows**

10 The Permittee shall prevent spills and overflows from the tank or containment systems using the  
11 methods described in the Spill and Overflow Prevention Procedures (Permit Attachment 13) in  
12 accordance with the requirements of 40 CFR 264.194(b) which is incorporated herein by reference.

13 **III.D.3 Removal of Waste**

14 The Permittee shall remove hazardous waste from the ETU every five years in accordance with the  
15 procedures described in the Spill and Overflow Prevention Procedures.

16 **III.D.4 Overfill Prevention**

17 The Permittee shall maintain sufficient freeboard to prevent overtopping by wave or wind action or  
18 by precipitation in accordance with 40 CFR 264.194(3) which is incorporated herein by reference.

19 **III.D.5 Discharge Log Books**

20 The Permittee shall maintain log books of the discharges of hazardous waste from the Prep  
21 Laboratory, the Analytical Laboratory, the Met Laboratory, the Fuel Laboratory, the Oxidizer  
22 Laboratory, the Wet Laboratory, the High Bay floor drain, the Pre Clean Area sinks, the Etch  
23 Laboratory sinks, the Process Utility floor drain, the 800 Area showers, the 800 Area  
24 decontamination sinks, and any other discharge point into the drain line that leads to the ETU. The  
25 Photographic Laboratory has converted to digital photography, and the sinks at that laboratory  
26 therefore are not currently connected to the drain line system. Log books shall be maintained in the  
27 Photographic Laboratory if the drain line system is reconnected. A separate log book shall be kept at  
28 or near each discharge point. Each discharge of waste into the drain line shall be legibly entered into  
29 the log book for that discharge point. Each log book entry shall include the type of waste by waste  
30 profile number, a brief description of the waste, the volume of the discharge, the date of the  
31 discharge, and the identity of the NASA or contractor employee recording the discharge. NASA  
32 shall maintain the log books as part of the facility operating record.

1     **III.E                                   RESPONSE TO LEAKS OR SPILLS**

2     If the ETU tank system or secondary containment system has a leak or spill, or becomes unfit for use,  
3     the Permittee shall remove the system from service immediately. The Permittee shall satisfy the  
4     following requirements of this Permit Condition (III.E).

5     **III.E.1                            Cessation of Use**

6     The Permittee shall immediately stop discharges of waste into the ETU tank system and shall inspect  
7     the system to determine the cause of the release, in accordance with the requirements of 40 CFR  
8     264.196(a), which is incorporated herein by reference.

9     **III.E.2                            Removal of Waste**

10    The Permittee shall remove all waste and accumulated liquids from the affected ETU system within  
11    24 hours after detection of the leak, or if the Permittee demonstrates it is not possible, at the earliest  
12    practicable time, to prevent any further release of hazardous waste into the environment and to allow  
13    inspection and repair of the ETU system to be performed, in accordance with the requirements of 40  
14    CFR 264.196(b), which is incorporated herein by reference.

15    **III.E.3                            Containment of Visible Releases**

16    The Permittee shall immediately conduct a visual inspection of all releases into the environment.  
17    Based on that inspection, the Permittee shall prevent further migration of the leak or spill to soil  
18    or surface water, and shall remove and properly dispose of any visible contamination of the soil  
19    or surface water, in accordance with the requirements of 40 CFR 264.196(c), which is  
20    incorporated herein by reference.

21    **III.E.4                            Notification and Reporting**

22    The Permittee shall notify NMED's Hazardous Waste Bureau, in writing, within one business day  
23    after detecting any release of hazardous waste from the ETU into the environment. Such notification  
24    shall be in addition to any reporting to NMED's Ground Water Quality Bureau under section  
25    20.6.2.1203 NMAC, or to EPA under 40 CFR Part 302. The Permittee shall submit to NMED a  
26    written report describing the release within 30 days after detecting the release, unless the release is  
27    exempted under 40 CFR 264.196(d)(2), which is incorporated herein by reference. The report shall  
28    include all the information required by 40 CFR 264.196(d)(3) which is incorporated herein by  
29    reference.

30    **III.E.5                            Identification of Detected Releases from the Tank System**

31    If a leak or release from any of the containment systems is detected, the Permittee shall immediately  
32    conduct an investigation to identify the source of the leak or release. Upon identification of the  
33    source of the leak or release, the Permittee shall notify NMED of the identified source, in writing,  
34    within 7 days of making the identification. Unless the Permittee intends to immediately close the  
35    unit, the Permittee shall repair or replace the primary, secondary or tertiary containment systems as  
36    necessary as soon as is practicable or within the time specified by NMED.

1 **III.E.6 Repair or Closure**

2 The Permittee shall make all necessary repairs to the ETU system and inspect all components of the  
3 system to verify the integrity of the system, or it shall close the ETU in accordance with Permit  
4 Condition III.I. If the Permittee repairs the ETU system, the Permittee shall comply with all  
5 applicable requirements of 40 CFR 264.196(e), which is incorporated herein by reference. If the  
6 Permittee replaces a component of the ETU to eliminate a leak, the component must satisfy the  
7 requirements of 40 CFR 264.192 and 264.193, which are incorporated herein by reference. If the  
8 Permittee repairs the tank system, the Permittee shall submit a report describing the repairs to NMED  
9 in conjunction with the certification required in Section III.E.7.

10 If a steel tank or plastic liner at the ETU is repaired or replaced, the ETU shall be inspected in  
11 accordance with the Inspection Schedule (Permit Attachment 7), and with the requirements of 40  
12 CFR 264.192(b), which is incorporated herein by reference.

13 **III.E.7 Certification**

14 For all major repairs to eliminate leaks or to restore the integrity of the ETU, before returning the  
15 ETU system to service the Permittee shall obtain a certification by an independent, qualified,  
16 professional engineer registered in the State of New Mexico stating, in accordance with 40 CFR  
17 270.11(d), which is incorporated herein by reference, that the repaired system is capable of handling  
18 hazardous waste without any leaks for the intended life of the system. The Permittee shall submit the  
19 certification to NMED within 30 days after returning the tank system to use. [40 CFR. 264.196(f),  
20 which is incorporated herein by reference]

21 **III.E.8 Corrective Action for Releases to Environmental Media**

22 The Permittee shall conduct corrective action for all releases of hazardous waste or hazardous  
23 constituents from the ETU into the environment. All corrective action shall be conducted in  
24 accordance with the requirements of this Permit, including Part VII (Corrective Action for SWMUs  
25 and AOCs), the Investigation and Sampling Methods and Procedures (Permit Attachment 17), and  
26 the Monitoring Well Construction Requirements (Permit Attachment 19), and with 40 CFR Part 264,  
27 Subpart F, which is incorporated herein by reference.

28 **III.F AIR EMISSIONS REQUIREMENTS**

29 The Permittee shall not place waste in the ETU containing VOC concentrations greater than 500  
30 ppmw as determined at the point of generation. If the Permittee intends to place waste containing  
31 VOC concentration greater than 500 ppmw, the Permittee shall notify NMED of its intent within five  
32 business days and, prior to placement of such waste, submit a work plan for monitoring air emissions  
33 from the tanks to NMED for approval. The Permittee must demonstrate that compliance with 40  
34 CFR 264.1084 will be maintained after placement of such waste in the ETU.

35 **III.F.1 Recordkeeping Requirements**

36 The Permittee shall record the information used for each waste determination (e.g., test results,  
37 measurements, calculations) in the Facility operating record in accordance with the requirements of

1 40 CFR 264.1089(f), which is incorporated herein by reference. If analytical results for waste  
2 samples are used for the waste determination, the Permittee shall record the date, time, and location  
3 that each waste sample is collected in accordance with Permit Attachment 12 (*Waste Analysis Plan*).

#### 4 **III.F.2 Reporting Requirements**

5 In the event that hazardous waste is placed in the ETU in noncompliance with the average VO  
6 concentration of 500 ppmw, the Permittee shall submit a written report to NMED within 15 calendar  
7 days of the date that the Permittee becomes aware of the noncompliance. The written report shall  
8 contain the EPA identification number, facility name and address, a description of the  
9 noncompliance event and the cause, the dates of noncompliance, and the actions taken to correct the  
10 noncompliance and prevent recurrence of the noncompliance. The report shall be signed and dated  
11 by an authorized representative of the Permittee. [40 CFR 264.1090(a), which is incorporated herein  
12 by reference]

### 13 **III.G INSPECTION SCHEDULES AND PROCEDURES**

#### 14 **III.G.1 Inspection Schedule**

15 The Permittee shall inspect the ETU tank systems, in accordance with Permit Attachment 7  
16 (*Inspection Schedule*) and the plan required under Permit section III.C.3, and shall complete the  
17 items in Permit Conditions III.G.2 and III.G.3 as a part of the inspections.

#### 18 **III.G.2 Overfill Controls**

19 The Permittee shall inspect the overfill controls, in accordance with the schedule in Permit  
20 Attachment 7 in accordance with the requirements of 40 CFR 264.195(a), which is incorporated  
21 herein by reference.

#### 22 **III.G.3 System Components for Inspection**

23 The Permittee shall inspect the following components of the tank system once each operating day in  
24 accordance with the requirements of 40 CFR 264.195(b), which is incorporated herein by reference:

- 25 1. Aboveground portions of the tank system to detect corrosion or releases of waste;
- 26 2. The monitoring and leak detection equipment of the ETU and the drain line sump (e.g.,  
27 moisture, pressure or temperature monitoring equipment, liquids, monitoring wells) to  
28 ensure that the ETU systems are being operated according to their design; and
- 29 3. Construction materials and the area immediately surrounding the externally accessible  
30 portion of the ETU system, including the containment system and monitoring wells, to  
31 detect erosion or signs of releases of hazardous waste (e.g., wet or stained soil, dead  
32 vegetation).

1 **III.G.4 Corrosion Protection System**

2 The Permittee shall inspect the cathodic protection system in accordance with the requirements of 40  
3 CFR 264.195(c), which is incorporated herein by reference. Such inspections shall be conducted  
4 according to the following schedule:

- 5 1. The proper operation of the cathodic protection system must be confirmed within six months  
6 from initial installation and annually thereafter; and
- 7 2. All sources of the impressed current must be inspected and tested every month.

8 **III.G.5 Inspections Recordkeeping**

9 The Permittee shall document each inspection of items listed in Permit Conditions III.G.2 through  
10 III.G.4, and place this documentation in the operating record of the Facility in accordance with the  
11 requirements of 40 CFR 264.195(d), which is incorporated herein by reference.

12 **III.H RECORDKEEPING AND REPORTING**

13 **III.H.1 Reporting Leaks or Spills**

14 The Permittee shall report to the NMED, within one business day of detection, when a leak or spill  
15 occurs from the tank system to the environment, or from the containment system of the ETU, in  
16 accordance with the requirements of 40 CFR 264.196(d)(1), which is incorporated herein by  
17 reference, except in the case of a leak or spill of one pound or less of hazardous waste that is  
18 immediately contained and cleaned up in accordance with the requirements of 40 CFR  
19 264.196(d)(2), which is incorporated herein by reference.

20 **III.H.2 Written Report of Release**

21 Within 30 days of detecting a release to the environment from the tank system, the Permittee shall  
22 report the following information to the NMED in accordance with the requirements of 40 CFR  
23 264.196(d)(3), which is incorporated herein by reference:

- 24 1. Likely route of migration of the release.
- 25 2. Characteristics of the surrounding soil (including soil composition and structure, geology,  
26 hydrogeology, and climate).
- 27 3. Results of any monitoring or sampling conducted in connection with the release. If the  
28 Permittee finds it will be impossible to meet this time period, the Permittee must provide the  
29 NMED with a proposed schedule for submittal of the results. This schedule must be  
30 provided before the required 30-day submittal period expires.
- 31 4. Proximity of downgradient drinking water sources, surface water, and populated areas.
- 32 5. Description of response actions taken or planned.

1     **III.H.3                    Certification of Repairs**

2     The Permittee shall submit to the NMED all certifications of major repairs to correct leaks within  
3     seven calendar days of returning the tank system to use in accordance with the requirements of 40  
4     CFR 264.196(f), which is incorporated herein by reference.

5     **III.H.4                    Certification of Tank System**

6     The Permittee shall obtain and keep on file at the facility, the written statements by those persons  
7     required to certify the design and installation of the tank system in accordance with the requirements  
8     of 40 CFR 264.192(g), which is incorporated herein by reference.

9     **III.I                      CLOSURE AND POST-CLOSURE CARE**

10    **III.I.1                    Closure Plan**

11    Upon receipt of the final volume of hazardous waste in the ETU, the Permittee shall commence  
12    closure of the ETU in accordance with Permit Attachment 10 (Closure Plans), and with the  
13    requirements of 40 CFR 264.197(a), which is incorporated herein by reference.

14    **III.I.2                    Revised Closure Plan**

15    If the Permittee demonstrates that not all contamination can be practically removed or  
16    decontaminated, in accordance with the Closure Plan and the requirements of 40 CFR 197(a) which  
17    is incorporated herein by reference, then the Permittee shall prepare and submit to NMED for  
18    approval a revised closure plan for the ETU that meets the requirements for landfills in 40 CFR  
19    264.310, as required by 40 CFR 264.197(b), which is incorporated herein by reference. Upon  
20    approval, the revised Closure Plan shall be incorporated herein by reference and made an enforceable  
21    part of this Permit, and the Permittee shall implement the revised plan.

22    **III.I.3                    Post Closure Plan**

23    If the Permittee demonstrates that not all contamination can be practicably removed or  
24    decontaminated, in accordance with the Closure Plan and in accordance with the requirements of 40  
25    CFR 264.197(a), then the Permittee shall close the tank system(s) and prepare a post closure care  
26    plan. The post closure plan shall be submitted to NMED for approval and perform post-closure care  
27    following the procedures required under 40 CFR 264.197(b) which is incorporated herein by  
28    reference. Upon approval, the post-closure plan shall be incorporated herein by reference and made  
29    an enforceable part of this Permit and the Permittee shall implement the plan. The Permittee shall  
30    follow the procedures specified in 40 CFR 264.197(b), which is incorporated herein by reference.

31    **III.J                      IGNITABLE REACTIVE AND INCOMPATIBLE WASTES**

32    The Permittee shall not place ignitable or reactive waste in the ETU tank system. The Permittee  
33    shall not place incompatible wastes, or a waste and another substance that are incompatible, in  
34    the ETU tank system. The Permittee shall not place a waste or other substance in the ETU tank  
35    system that is incompatible with a waste or substance previously placed or held in the ETU tank

- 1 system, unless the ETU tank system has first been decontaminated to remove the incompatible
- 2 waste or substance. The Permittee shall satisfy the requirements of 40 CFR. 264.199 and
- 3 264.17(b) which are incorporated herein by reference.

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1 **IV. FUEL TREATMENT UNIT**

2 This Permit authorizes the treatment of hazardous waste hydrazine fuels in the Fuel Treatment Unit  
3 (FTU), located at the 500 Area of the Facility.

4 **IV.A BACKGROUND**

5 The main FTU components consist of two 4,000-gallon glass lined carbon steel above-ground tanks.  
6 The tanks are oriented vertically and supported by four tubular steel legs resting on a solid reinforced  
7 concrete pedestal. Concrete curbs surrounding the concrete slabs beneath each tank provide the  
8 required 100 percent volume of each tank plus 25-year rainfall secondary containment. The tanks  
9 were installed and certified in 1994. The FTU receives wastes that can be pure compounds, or  
10 mixtures of pure compounds, or aqueous mixtures of hydrazine (Hz), methylhydrazine (MMH), 1,1-  
11 dimethylhydrazine (UDMH), and 1,2-dimethylhydrazine (SDMH). A description of the physical and  
12 chemical properties of the underlining hazardous constituents is provided in Permit Attachment 5  
13 (*Hazardous Waste Stream Inventory*). The concentration of the waste placed in the FTU may range  
14 from dilute aqueous mixtures to neat fuels. Treatment in the unit consists of dilution of the arriving  
15 waste with water to below 10 percent which renders the waste safe for storage and transportation.  
16 The rationale for using 10 percent waste for safety reasons is provided in Permit Attachment 21  
17 (*ETU and FTU Drawings and Summary Description*). The treated wastes are stored in the tanks  
18 until 3,600 gallons are accumulated. The wastes are then disposed off-site at an incineration facility.

19 The hazardous wastes treated in the FTU originate from:

- 20 1. Rinse water used at decontamination stations in the 200, 300, 400, and 800 Areas.
- 21 2. Residual fuel that remains in fuel supply lines and test equipment in the 200, 300, 400,  
22 and 800 Areas. In the 300 and 400 Areas, this fuel is removed with aspirators that use  
23 water to collect fuel liquid and vapor. In the 800 Area, the residual fuel is removed by  
24 purging the system with nitrogen and collecting the liquid and vapor in a drum  
25 containing water.
- 26 3. Concentrated residual waste fuel mixtures remaining in 55-gallon supply drums after the  
27 fuel is transferred to the fuel supply system or test equipment.
- 28 4. Concentrated fuel mixtures generated during sampling practices.
- 29 5. Concentrated fuels certified as being off-specification.

30 A process flow diagram of the hazardous waste streams to the FTU is included in Permit Application  
31 Section 22.4, Fig 22.9 (*Process Flow*), including the WSTF Individual Waste Profile Sheets  
32 (WTWPS) that describe each waste stream.

33 At least 10 percent headspace is required for both FTU tanks, which allows for 3,600 gallons  
34 maximum volume of waste to be stored (105.75 inches on the liquid level indicator) in each tank.  
35 The arriving wastes are transferred by a pneumatic, double Teflon diaphragm pump or electrical

1 Crane centrifugal pump to the tanks. All operating procedures are conducted inside the secondary  
2 containment of each tank of the unit.

3 Other equipment located at the FTU includes a glass lined carbon steel tank for the storage of sodium  
4 hydroxide, and the ancillary equipment such as piping, fittings, unions, and valves. The volume of  
5 the sodium hydroxide tank is 500 gallons, and the volume of the ancillary equipment is 200 gallons  
6 in addition to 100 gallons for each tank's secondary containment system.

## 7 **IV.B PERMITTED AND PROHIBITED WASTE IDENTIFICATION**

### 8 **IV.B.1 Permitted Waste**

9 The Permittee may treat and store the following waste in the FTU: hydrazine (U133),  
10 methylhydrazine (P068), 1,2-dimethylhydrazine (U098), and 1,1-dimethylhydrazine (U099).

### 11 **IV.B.2 Prohibited Waste**

12 The Permittee is prohibited from storing or treating hazardous waste that is not identified in Permit  
13 Condition IV.B.1. The Permittee is prohibited from storing or treating hazardous waste that contains  
14 nitrogen oxides, including waste with hazardous waste codes P076 and P078.

### 15 **IV.B.3 Other Waste**

16 If the Permittee intends to treat in the FTU additional types of hazardous waste not identified by the  
17 waste codes listed in Permit Attachment 2 (*Permit Application Part A*), the Permittee shall submit to  
18 NMED a request for a permit modification. The Permittee shall comply with the applicable  
19 requirements of 40 CFR 270.42 in requesting the permit modification. The Permittee shall not store  
20 or treat such hazardous waste until NMED has approved the permit modification.

### 21 **IV.B.4 Maximum Volume of Waste**

22 The Permittee may treat a maximum total volume of 36,500 gallons of hazardous waste (based on  
23 100 gallons per day for both tanks) per year in the FTU. If the volume of waste treated in the FTU  
24 for any calendar year exceeds 36,500 gallons, the Permittee shall report such exceedence to NMED  
25 by February 1 of the following calendar year. If the increased volume is expected to be repeated, the  
26 Permittee shall submit to NMED by March 1 of the calendar year following the volume exceedence,  
27 a request for a permit modification. If hazardous waste management practices change as a result of  
28 increased volume, the Permittee shall include such changes in the modification request. The  
29 Permittee shall comply with the applicable requirements of 40 CFR 270.42 in requesting the permit  
30 modification.

## 31 **IV.C SECONDARY CONTAINMENT**

### 32 **IV.C.1 Secondary Containment System**

33 The Permittee shall operate and maintain the secondary containment system, in accordance with the  
34 procedures in Permit Application Section 22.7 (*Secondary Containment System*) and in accordance

1 with the requirements of 40 CFR 264.193(e)(2)(iii) and (iv) and in accordance with the requirements  
2 of 40 CFR 264.193(b)-(f), which are incorporated herein by reference. The Permittee shall inspect  
3 the FTU and associated containment systems for evidence of leaks in accordance with the inspection  
4 requirements of Permit section IV.F.3.

5 **IV.D FTU OPERATING REQUIREMENTS**

6 **IV.D.1 Prevention of Spills and Overflows**

7 The Permittee shall prevent spills and overflows from the tank or containment systems using the  
8 methods described in Permit Attachment 13 (*Spill and Overflow Prevention Procedures*), and in  
9 accordance with the requirements of 40 CFR 264.194(b), which is incorporated herein by reference.

10 **IV.E RESPONSE TO LEAKS OR SPILLS**

11 If the FTU tank system or secondary containment system has a leak or spill, or becomes unfit for use,  
12 the Permittee shall remove the system from service immediately, and shall satisfy the following  
13 requirements of this Permit Condition (IV.E).

14 **IV.E.1 Cessation of Use**

15 The Permittee shall immediately stop the flow of hazardous waste into the FTU tank system or  
16 secondary containment system, and shall inspect the system to determine the cause of the release, in  
17 accordance with the requirements of 40 CFR 264.196(a), which is incorporated herein by reference.

18 **IV.E.2 Removal of Waste**

19 The Permittee shall remove all waste and accumulated precipitation from the affected FTU system  
20 within 24 hours after detection of the leak, or if the Permittee demonstrates it is not possible, at the  
21 earliest practicable time, to prevent any further release of hazardous waste into the environment and  
22 to allow inspection and repair of the FTU system to be performed, in accordance with the  
23 requirements of 40 CFR 264.196(b), which is incorporated herein by reference.

24 **IV.E.3 Containment of Visible Releases**

25 The Permittee shall immediately conduct a visual inspection of all releases into the environment.  
26 Based on that inspection, the Permittee shall prevent further migration of the leak or spill to soil or  
27 surface water; and remove and properly dispose of any visible contamination of the soil or surface  
28 water in accordance with the requirements of 40 CFR 264.196(c), which is incorporated herein by  
29 reference.

30 **IV.E.4 Notification and Reporting**

31 The Permittee shall notify NMED's Hazardous Waste Bureau, in writing, within three business days  
32 after detecting any release of hazardous waste from the FTU into the environment. Such notification  
33 shall be in addition to any reporting to NMED's Ground Water Quality Bureau under section  
34 20.6.2.1203 NMAC, or to EPA under 40 CFR Part 302. The Permittee shall submit to NMED a

1 written report describing the release within 30 days after detecting the release unless the release is  
2 exempted under 40 CFR 264.196(d)(2), which is incorporated herein by reference. The report shall  
3 include all the information required by 40 CFR 264.196(d)(3), which is incorporated herein by  
4 reference.

#### 5 **IV.E.5 Repair and Closure**

6 The Permittee shall make all necessary repairs to the FTU system and inspect all components of the  
7 system to verify the integrity of the system, or it shall close the FTU in accordance with Permit  
8 Condition IV.I. If the Permittee repairs the FTU system, the Permittee shall comply with all  
9 applicable requirements of 40 CFR 264.196(e), which is incorporated herein by reference. If the  
10 Permittee replaces a component of the FTU to eliminate a leak, the component must satisfy the  
11 requirements of 40 CFR 264.192 and 264.193 which are incorporated herein by reference. If the  
12 Permittee repairs the tank system, the Permittee shall submit a report describing the repairs to NMED  
13 in conjunction with the certification required in Section IV.E.6.

#### 14 **IV.E.6 Certification**

15 For all major repairs to eliminate leaks or to restore the integrity of the FTU, before returning the  
16 FTU system to service the Permittee shall obtain a certification by an independent, qualified,  
17 professional engineer registered in the State of New Mexico stating, in accordance with 40 CFR  
18 270.11(d), which is incorporated herein by reference, that the repaired system is capable of handling  
19 hazardous waste without any leaks for the intended life of the system. The Permittee shall submit the  
20 certification to NMED within 30 days after returning the tank system to use. [40 CFR 264.196(f),  
21 which is incorporated herein by reference]

#### 22 **IV.E.7 Corrective Action for Releases to Environmental Media**

23 The Permittee shall conduct corrective action for all releases of hazardous waste or hazardous  
24 constituents from the FTU into the environment. All corrective action shall be conducted in  
25 accordance with the requirements of this Permit, including Part VII (Corrective Action for SWMUs  
26 and AOCs), the Investigation and Sampling Methods and Procedures (Permit Attachment 17), and  
27 the Monitoring Well Construction Requirements (Permit Attachment 19), and with 40 CFR Part 264,  
28 Subpart F, which is incorporated herein by reference.

#### 29 **IV.F AIR EMISSIONS REQUIREMENTS**

30 The Permittee shall control air pollutant emissions in accordance with the permit condition II.C.5.

#### 31 **IV.F.1 Control Device Operating Requirements**

32 The Permittee shall control air pollutant emissions from the FTU by venting the tanks to a control  
33 device in accordance with the requirements of 40 CFR 264.1084(g)(1) and (2) which is incorporated  
34 herein by reference.

1 **IV.F.1.a Total Organic Content**

2 The Permittee shall use a carbon adsorption system as a control device designed and operated to  
3 reduce the total organic content of the inlet vapor stream vented to it by at least 95 percent by weight  
4 in accordance with the requirements of 40 CFR 264.1087(c)(1)(i) which is incorporated herein by  
5 reference. This requirement does not apply during periods of planned routine maintenance and  
6 device malfunction in accordance with the requirements of 40 CFR 264.1087(c)(2)(ii) and (iii),  
7 which is incorporated herein by reference.

8 **IV.F.1.b Replacement Frequency**

9 The Permittee shall replace all activated carbon with fresh carbon in the control device on a twice per  
10 year basis or when carbon breakthrough is indicated whichever occurs first in accordance with the  
11 requirements of 40 CFR 1033(h), which is incorporated herein by reference.

12 **IV.F.1.c Disposal**

13 The Permittee shall manage the removed carbon from the control device as a hazardous waste and  
14 dispose of it as such, regardless of the average volatile organic concentration of the carbon in  
15 accordance with the requirements of 40 CFR 264.1087(c)(3)(ii), which is incorporated herein by  
16 reference.

17 **IV.F.2 Maintenance**

18 **IV.F.2.a Routine Maintenance**

19 Periods of planned routine maintenance of the control device during which the Permit Condition  
20 IV.F.1.a is not met, shall not exceed 240 hours per year in accordance with the requirements of 40  
21 CFR 264.1087(c)(2)(i), which is incorporated herein by reference. The specifications and  
22 requirements required under Section IV.F.1.a do not apply during periods of planned routine  
23 maintenance or control device system malfunction pursuant to 40 CFR 264.1087(c)(2)(ii) and (iii),  
24 which is incorporated herein by reference.

25 **IV.F.2.b Record Keeping**

26 The Permittee shall demonstrate compliance with Permit Condition IV.F.2.a at all times during  
27 which the control device does not meet the organics reduction requirement of Permit Condition  
28 IV.F.1.a in accordance with the requirements of 40 CFR 264.1087(c)(2)(iv), which is incorporated  
29 herein by reference. The Permittee shall demonstrate such compliance by recording the information  
30 specified in 40 CFR 264.1089(e)(1)(v), which is incorporated herein by reference.

31 **IV.F.2.c Malfunction**

32 The Permittee shall correct control device system malfunctions as soon as practicable after their  
33 occurrence in accordance with the requirements of 40 CFR 264.1087(c)(2)(v) which is incorporated  
34 herein by reference.

1 **IV.F.2.d Planned Maintenance or Control Device System Malfunction**

2 The Permittee shall operate the closed vent system such that gases, vapors, or fumes are not actively  
3 vented to the control device during periods of planned maintenance or control device system  
4 malfunction (i.e., periods when the control device is not operating normally) except in cases when it  
5 is necessary to vent the gases, vapors, and/or fumes to avoid an unsafe condition or to implement  
6 malfunction corrective actions or planned maintenance actions. [40 CFR 264.1087(c)(2)(vi), which  
7 is incorporated herein by reference]

8 **IV.F.3 Inspection Requirements**

9 The Permittee shall inspect and monitor the air emission control equipment including the  
10 concentration level of the organic compounds in the exhaust vent stream from the carbon adsorption  
11 system in accordance with Permit Condition IV.G and Permit Attachment 7 (*Inspection Schedule*)  
12 and in accordance with the requirements of 40 CFR 264.1088, which is incorporated herein by  
13 reference.

14 **IV.G INSPECTION SCHEDULES AND PROCEDURES**

15 **IV.G.1 Inspection Schedule**

16 The Permittee shall inspect the FTU tank systems, in accordance with Permit Attachment 7  
17 (*Inspection Schedule*), and shall complete the requirements in Permit Conditions IV.G.2 and IV.G.3  
18 as part of these inspections.

19 **IV.G.2 Overfill Controls**

20 The Permittee shall inspect the overfill controls in accordance with the requirements of 40 CFR  
21 264.195(a) which is incorporated herein by reference.

22 **IV.G.3 System Components for Inspection**

23 The Permittee shall inspect the following components of the tank system once each operating day in  
24 accordance with the requirements of 40 CFR 264.195(b), which is incorporated herein by reference:

- 25 1. Above-ground portions of the tank system, if any, to detect corrosion or releases of  
26 waste;
- 27 2. The monitoring and leak detection equipment (in-line pressure or flow metering gauges,  
28 liquid staining) to ensure that the tank system is being operated according to its design;
- 29 3. Construction materials and the area immediately surrounding the externally accessible  
30 portion of the tank system, including the secondary containment system, to detect erosion  
31 or signs of releases of hazardous waste (e.g., wet or stained soil, dead vegetation).

1 **IV.G.4 Inspections Recordkeeping**

2 The Permittee shall document compliance with Permit Conditions IV.G.2 and IV.G.3 and place this  
3 documentation in the operating record for the Facility in accordance with the requirements of 40  
4 CFR 264.195(d), which is incorporated herein by reference.

5 **IV.H RECORDKEEPING AND REPORTING**

6 **IV.H.1 Reporting Leaks or Spills**

7 The Permittee shall report to the NMED, in writing, within three business days of detection, when a  
8 leak or spill occurs from the tank system to the environment, or from the containment system of the  
9 FTU, in accordance with the requirements of 40 CFR 264.196(d)(1) which is incorporated herein by  
10 reference, except in the case of a leak or spill of one pound or less of hazardous waste, that is  
11 immediately contained and cleaned-up in accordance with the requirements of 40 CFR  
12 264.196(d)(2), which is incorporated herein by reference.

13 **IV.H.2 Written Report of Release**

14 Within 30 days of detecting a release to the environment from the tank system, the Permittee shall  
15 report the following information to the NMED in accordance with the requirements of 40 CFR  
16 264.196(d)(3), which is incorporated herein by reference:

- 17 1. Likely route of migration of the release.
- 18 2. Characteristics of the surrounding soil (including soil composition and structure, geology,  
19 hydrogeology, and climate).
- 20 3. Results of any monitoring or sampling conducted in connection with the release. If the  
21 Permittee finds it will be impossible to meet this time period, the Permittee should provide  
22 the NMED with a schedule of when the results will be available. This schedule must be  
23 provided before the required 30-day submittal period expires.
- 24 4. Proximity of downgradient drinking water source, surface water, and populated areas.
- 25 5. Description of response actions taken or planned.

26 **IV.H.3 Certification of Repairs**

27 The Permittee shall submit to the NMED all certifications of major repairs to correct leaks within  
28 seven calendar days from returning the tank system to use in accordance with the requirements of 40  
29 CFR 264.196(f) which is incorporated herein by reference.

30 **IV.H.4 Certification of Tank System**

31 The Permittee shall obtain, and keep on file at the facility, the written statements by those persons  
32 required to certify the design and installation of the tank system in accordance with the requirements  
33 of 40 CFR 264.192(g) which is incorporated herein by reference.

1 **IV.H.5 Air Emissions Recordkeeping**

2 The Permittee shall prepare and maintain records of the carbon adsorption system used to control the  
3 air emissions from the FTU, as applicable, in accordance with the requirements of 40 CFR  
4 264.1089(e) which is incorporated herein by reference.

5 **IV.H.6 Air Emissions Reporting Requirements**

6 The Permittee shall report to the NMED each occurrence when hazardous waste is managed in the  
7 FTU in noncompliance with Permit Condition IV.F within 15 calendar days of the time that the  
8 Permittee becomes aware of the occurrence in accordance with the requirements of 40 CFR  
9 264.1090(b) which is incorporated herein by reference. The written report shall contain the EPA  
10 identification number, facility name and address, a description of the noncompliance event and the  
11 cause, the dates of non-compliance, and the actions taken to correct the noncompliance and prevent  
12 recurrence of the noncompliance.

13 **IV.I CLOSURE AND POST-CLOSURE CARE**

14 **IV.I.1 Closure Plan**

15 Upon receipt of the final volume of hazardous waste in the FTU, the Permittee shall commence  
16 closure of the FTU in accordance with Permit Attachment 10 (Closure Plans), and with the  
17 requirements of 40 CFR 264.197(a), which is incorporated herein by reference.

18 **IV.I.2 Revised Closure Plan**

19 If the Permittee demonstrates that not all contamination can be practically removed or  
20 decontaminated, in accordance with the Closure Plan and the requirements of 40 CFR 197(a) which  
21 is incorporated herein by reference, then the Permittee shall prepare and submit to NMED for  
22 approval a revised closure plan for the ETU that meets the requirements for landfills in 40 CFR  
23 264.310 which is incorporated herein by reference, as required by 40 CFR 264.197(b), which is  
24 incorporated herein by reference. Upon approval, the revised Closure Plan shall be incorporated  
25 herein by reference and made an enforceable part of this Permit, and the Permittee shall implement  
26 the revised plan.

27 **IV.I.3 Post Closure Plan**

28 If the Permittee demonstrates that not all contaminated soils can be practicably removed or  
29 decontaminated, in accordance with the Closure Plan and in accordance with the requirements of 40  
30 CFR 264.197(a) which is incorporated herein by reference, then the Permittee shall close the tank  
31 system(s) and prepare a post closure care plan. The post closure plan shall be submitted to NMED  
32 for approval and perform post-closure care following the procedures required under 40 CFR  
33 264.197(b) which is incorporated herein by reference. Upon approval, the post-closure plan shall be  
34 incorporated herein by reference and made an enforceable part of this Permit and the Permittee shall  
35 implement the plan. The Permittee shall follow the procedures specified in 40 CFR 264.197(b),  
36 which is incorporated herein by reference.

1 **IV.J SPECIAL TANK PROVISIONS FOR INCOMPATIBLE WASTES**

2 The Permittee shall not place incompatible wastes, or a waste and another substance that are  
3 incompatible, in the FTU tank system. The Permittee shall not place a waste or other substance in  
4 the FTU tank system that is incompatible with a waste or substance previously placed or held in the  
5 FTU tank system, unless the FTU tank system has first been decontaminated to remove the  
6 incompatible waste or substance. The Permittee shall satisfy the requirements of 40 CFR.  
7 264.199 and 264.17(b), which are incorporated herein by reference.

1 **V. POST-CLOSURE CARE**

2 The Facility contains five hazardous waste management units undergoing post-closure care at the  
3 200 Area, 300 Area, 400 Area, and 600 Area. The Permittee shall inspect and maintain all  
4 environmental closure covers at each regulated hazardous waste management area in order to  
5 minimize the possibility of fire, explosion, flooding, including run-on and run-off control, or any  
6 release of hazardous waste or hazardous constituents to air, soil, groundwater, or surface water which  
7 could threaten human health or the environment. The Permittee shall conduct corrective action to  
8 investigate and remediate all releases of hazardous waste or hazardous constituents to air, soil,  
9 groundwater, or surface water in accordance with the requirements of 40 CFR 264.101 and 264.111  
10 which are incorporated herein by reference and Permit Attachment 15 (*Cleanup Levels*).

11 The Permittee shall provide post-closure care for the hazardous waste management units described  
12 above and in Permit Attachment 13 (*Post-closure Plan*), subject to the terms and conditions of this  
13 Permit.

14 In the event that either the ETU or the FTU, the permitted units described in Permit Part III and IV,  
15 are closed as landfills pursuant to 40 CFR 264.197(b) which is incorporated herein by reference, the  
16 Permittee shall implement such closure in accordance with the terms of this Part.

17 **V.A BACKGROUND**

18 **V.A.1 Unit Identification**

19 Five separate RCRA hazardous waste management areas have been identified at the NASA White  
20 Sands Test Facility in addition to the ETU and FTU that received and managed hazardous waste after  
21 November 19, 1980. All of the hazardous waste management units have been closed, and are  
22 regulated by this Part (V). Each unit was closed under an approved closure plan. Closure  
23 construction was initiated between October and November 1988, and was completed between March  
24 and June 1989.

25 The hazardous waste management units are identified on individual site topographic maps in Permit  
26 Attachment 2 (*Permit Application Part A*). There are two hazardous waste management units in the  
27 200 Area. There is one hazardous waste management area in each of the 300, 400, and 600 Areas.

28 The closed units in the 200 Area consisted of underground storage tanks. The hazardous waste area  
29 used by the "Chemistry Lab" (200 Area east closure) contained an underground storage tank and a  
30 sump, which were in operation from 1964 to 1986. The hazardous waste unit used by the "Clean  
31 Room" (200 Area west closure) contained two underground storage tanks. The tanks were in  
32 operation from 1964 to 1986. The storage tanks were removed during the closure activities. While  
33 in service, the contents of the tanks were removed periodically and transported to the surface  
34 impoundments at the 600 Area. The engineered environmental cover for the 200 Area east closure is  
35 an asphalt parking area and the cover of the 200 Area west closure is a concrete floor inside an  
36 operational building.

1 The closed hazardous waste management areas in the 300 and 400 Area are similar in design to one  
2 another, and similar waste streams are managed at these areas. The hazardous waste management  
3 areas consisted of three open, interconnected reaction tanks constructed of reinforced concrete  
4 located between two concrete-lined surface impoundments. Each reaction tank was capable of  
5 holding approximately 10,000 gallons and the impoundments had an approximate combined capacity  
6 of 600,000 gallons (300 Area) and 400,000 gallons (400 Area), and were in operation from 1965 to  
7 1986. Neither contaminated soils nor the constructed portion of the impoundments were removed  
8 during closure. A small volume of soils from the 300 and 400 Areas surface impoundments were  
9 transported and disposed of at the 600 Area closure. The bottom of each surface impoundment was  
10 sealed and their basins were filled in and covered with gravel. The concrete treatment tanks were left  
11 in place, and their tops were sealed with concrete.

12 The hazardous waste area in the 600 Area consisted of two surface impoundments, which operated  
13 from 1965 to 1985. The combined capacity of both units was 2,000,000 gallons. The liquid and  
14 sludge content of the impoundments was stabilized by mixing it with underlying soils and clay. A  
15 low permeability continuous clay cap was installed over the two adjacent impoundments, which was  
16 subsequently covered with gravel.

17 **V.B POST-CLOSURE ACTIVITIES**

18 **V.B.1 Post-closure Care Period**

19 The Permittee shall conduct post-closure care for the five hazardous waste management areas listed  
20 in Permit Condition V.A.1 during the post-closure care period. The post-closure care period, which  
21 began after the completion of closure activities, shall continue for thirty (30) years from the closure  
22 certification date for each unit. The 200 and 400 Area closures were certified on May 11, 1989, and  
23 the 300 and 600 Area closures were certified on August 11, 1989. The Permittee shall conduct  
24 corrective action at each of the post-closure care units as set forth in this Part (V). The 30-year post-  
25 closure care period may be shortened upon application and demonstration approved by NMED that  
26 the facility is free of environmental impact, or may be extended by NMED if the Secretary finds this  
27 necessary to protect human health and the environment in accordance with the requirements of 40  
28 CFR 264.117(a)(2)(i) and (ii) which is incorporated herein by reference.

29 **V.B.2 Ground Water Monitoring**

30 The Permittee shall maintain and monitor the groundwater monitoring system and comply with all  
31 other applicable requirements of 40 CFR Part 264 Subpart F during the post-closure period as  
32 specified in 40 CFR 264.117(a)(1), which is incorporated herein by reference. Additional specific  
33 requirements for groundwater monitoring are set forth in Permit Part VI.

34 **V.B.3 Surface Impoundment Requirements**

35 The Permittee shall comply with the post-closure requirements for the 300, 400, and 600 Areas  
36 surface impoundments as set forth in 40 CFR 264.228(b)(1) and (3), which is incorporated herein by  
37 reference.



1 diversion structures at the 300 Area and the 400 Area to ensure that they continue to  
2 serve their intended functions.

3 5. The Permittee shall protect and maintain surveyed benchmarks used in complying with  
4 the surveying and recordkeeping requirements of 40 CFR 264.309 and in accordance  
5 with the requirements of 40 CFR 264.310(b)(6), which are incorporated herein by  
6 reference.

7 6. The Permittee shall not allow any use of the units closed as landfills that will disturb the  
8 integrity of the final cover, liners, or any components of the containment system, or the  
9 function of the Facility's monitoring systems during the post-closure care period in  
10 accordance with the requirements of 40 CFR 264.117(c), which is incorporated herein  
11 by reference. The Permittee shall not allow movement of vehicles on the side slopes of  
12 the cover at the 600 Area, except on the roadway that crosses the side-slope to access the  
13 top of the cover. NMED may allow further exceptions to this requirement, if requested  
14 in writing, for good cause.

15 **V.B.5 Security Measures**

16 The Permittee shall comply with all security requirements as specified in Permit Attachment 6  
17 (*Security Plan*) and in accordance with the requirements of 40 CFR 264.117(b), which is  
18 incorporated herein by reference.

19 **V.B.6 Corrective Action**

20 The Permittee shall submit to NMED for approval, investigation work plans to determine the extent  
21 of releases from each post-closure care unit as outlined below. The investigation work plans must be  
22 submitted in accordance with the schedule set forth in Permit Attachment 16 (*Investigation Work  
23 Plan Submittal Schedule*), and must be prepared in accordance with the format in Permit Attachment  
24 20 (*Reporting Requirements*).

25 **V.B.6.a 200 Area corrective Action Requirements**

26 **V.B.6.a.i 200 Area Investigation Work Plan**

27 The Permittee shall submit to NMED for approval an investigation work plan to assess historical  
28 releases of hazardous waste and hazardous constituents from the former 200 Area Chemistry Lab and  
29 Clean Room underground storage tanks (USTs). The work plan shall address investigation of  
30 contamination that was historically released to the subsurface and that potentially is a source of on-  
31 going groundwater contamination.

32  
33 The Permittee shall submit the work plan in accordance with the schedule set forth in Permit  
34 Attachment 16 (*Investigation Work Plan Submittal Schedule*).

1 **V.B.6.a.ii 200 Area Drilling Explorations**

2 The Permittee shall conduct subsurface explorations, as specified in the approved Work Plan  
3 required in this Section (V.B.6.a), in order to acquire data to characterize the extent of  
4 contamination, and to determine whether the soils beneath the 200 Area USTs are sources of  
5 groundwater contamination. At a minimum the Permittee shall conduct the following activities:

- 6 1. One boring shall be advanced through the locations of the former USTs to minimum depths  
7 of 25 feet below the deepest detected contamination as detected by field screening or  
8 previous investigations.
- 9 2. The borings shall be advanced using hollow-stem auger drilling methods, where practicable,  
10 or other drilling methods approved by NMED.
- 11 3. In the case of refusal during drilling at depths less than 30 feet, the Permittee shall attempt to  
12 install a second boring within 5 to 10 feet of the original boring. In case of auger refusal at  
13 depths of 30 feet or more, the Permittee does not need to advance another boring at the same  
14 location unless contamination is detected at the total depth of the boring. Soil samples  
15 obtained from any abandoned borings shall be evaluated using the same methods used for  
16 samples collected from the other borings.
- 17 4. Field screening must include screening of soil and sub-surface vapor samples in accordance  
18 with Permit Attachment 17 (*Investigation and Sampling Methods and Procedures*).
- 19 5. A general design for vapor monitoring well construction shall be included in the  
20 investigation work plan submitted to the NMED for approval prior to the start of subsurface  
21 explorations at the 200 Area.

22 **V.B.6.a.iii 200 Area Soil Sampling**

23 Implementation of the work plan required in this Section (V.B.6.a) shall meet the following  
24 requirements:

- 25 1. Soil samples shall be collected from each boring at five-foot intervals to the total depth of  
26 the borings. A sample also shall be obtained at the maximum depth of each boring.
- 27 2. Soil samples shall be collected using split-barrel samplers lined with brass sleeves or by  
28 other methods approved by NMED. A split barrel sampler lined with brass sleeves or a  
29 coring device is the preferred sampling method for soil sampling.

30 If a split barrel sampler is used, upon recovery of the sample one or more brass sleeves shall  
31 be removed from the split barrel sampler, and the open ends of the sleeves shall be covered  
32 with Teflon tape or foil and sealed with plastic caps fastened to the sleeves with tape for  
33 shipment to the analytical laboratory. If brass sleeves are not used, a portion of the sample  
34 shall be placed in pre-cleaned, laboratory-prepared sample containers for laboratory  
35 chemical analysis. The remaining portions of the sample shall be used for logging and field  
36 screening;

- 1        3. Soil samples shall be screened in the field for the presence of volatile organic compounds  
2        (VOCs) in accordance with methods described in Permit Attachment 17 (*Investigation and*  
3        *Sampling Methods and Procedures*).
- 4        4. A detailed log of each boring shall be maintained. The results of all field screening shall be  
5        included in the corresponding boring log.
- 6        5. Soil samples shall be analyzed for perchlorate, hexavalent chromium, NDMA/DMN, nitrate  
7        and nitrite, VOCs, and RCRA metals. A minimum of three samples from each boring shall  
8        be selected for laboratory analysis.
- 9        6. The samples displaying the greatest field screening evidence of VOC concentrations shall be  
10       selected from each borehole for submittal to the analytical laboratory for analysis of the  
11       analytes listed in Item 5 above. If field screening evidence of contamination is not observed  
12       in a boring, the sample obtained from five feet below the previously removed UST base shall  
13       be submitted for laboratory analysis of the analytes listed in Item 5 above.
- 14       7. The sample obtained from the maximum depth of each boring shall be analyzed by a  
15       laboratory for the analytes listed in Item 5 above.

16    **V.B.6.a.iv                      200 Area Vapor Field Screening and Monitoring**

17    Implementation of the work plan required in this Section (V.B.6.a) shall meet the following vapor  
18    sampling and monitoring requirements:

- 19       1. Subsurface vapor samples shall be collected from newly drilled soil borings during  
20       advancement at the same locations that the soil samples are collected.
- 21       2. Subsurface vapor samples shall be collected in accordance with the methods described in  
22       Permit Attachment 17 (*Investigation and Sampling Methods and Procedures*).

23       An inflatable packer shall be inflated in the borehole annulus to isolate the bottom three feet  
24       of the borehole. The isolated portion of the borehole shall be purged slowly by removing  
25       approximately five times the volume of the annular space beneath the packer, followed by a  
26       VOC measurement using a photo ionization detector (PID) equipped with an 11.7 electrical  
27       volts (eV) lamp, combustible gas indicator or other instrument approved by the NMED. The  
28       data shall be logged and used for determining the samples to be sent to a laboratory for  
29       analysis.

- 30       3. If required by NMED, vapor monitoring wells shall be installed in the borings and a long-  
31       term subsurface vapor monitoring and sampling work plan shall be submitted for approval.
- 32       4. An investigation vapor monitoring and sampling plan shall be submitted to the NMED for  
33       approval as part of the investigation work plan.

1 **V.B.6.a.v 200 Area Groundwater Monitoring Well Installation**

2 If groundwater is encountered or if geophysical or other evidence suggests the presence of  
3 groundwater during the subsurface investigations for the 200 Area, NMED may require a work plan  
4 for the installation of groundwater monitoring well(s) and require groundwater monitoring in  
5 accordance with 40 CFR 264.90 through 264.100, which are incorporated herein by reference.

6 **V.B.6.b 300 Area Corrective Action Requirements**

7 **V.B.6.b.i 300 Area Investigation Work Plan**

8 The Permittee shall submit to NMED for approval a work plan to investigate historical releases of  
9 hazardous waste or hazardous constituents from the former 300 Area Closure. The work plan shall  
10 address investigation of contamination that has historically affected groundwater and that potentially  
11 is a source of on-going groundwater contamination. The Permittee shall submit the work plan in  
12 accordance with the schedule provided in Permit Attachment 16 (*Investigation Work Plan Submittal*  
13 *Schedule*).  
14

15 **V.B.6.b.ii 300 Area Drilling Explorations**

16 The Permittee shall conduct subsurface explorations, as specified in the approved work plan required  
17 in Section V.B.6.b, in order to acquire data to characterize the extent of contamination; and to  
18 determine whether the soil beneath the 300 Area Closure is a source of groundwater contamination.  
19 At a minimum the Permittee shall conduct the following activities:

- 20 1. Advance three borings in each of the Loose Rock Fill pads (surface impoundments),  
21 advance one boring at the mixing tank, advance one boring at the intersection of the inlet  
22 channel to the pads and the arroyo (near Headwall), and drill borings starting at the inlet  
23 channel at approximately 100-foot intervals east to the end of the impoundments in the  
24 arroyo. The borings shall be advanced to minimum depths of 25 feet below the deepest  
25 detected contamination as detected by field screening or previous investigations.
- 26 2. The borings shall be advanced using hollow-stem auger drilling methods, where practicable,  
27 or other drilling methods approved by NMED.
- 28 3. In the case of refusal during drilling at depths less than 40 feet, the Permittee shall attempt to  
29 install a second boring within 5 to 10 feet of the original boring. In case of auger refusal at  
30 depths of 40 feet or more, the Permittee does not need to advance another boring at the same  
31 location unless contamination is present. Soil samples obtained from any abandoned  
32 borings shall be evaluated using the same methods used for samples collected from the other  
33 borings.
- 34 4. Field screening must include screening of soil and sub-surface vapor samples in accordance  
35 with Permit Attachment 17 (*Investigation and Sampling Methods and Procedures*).

- 1           5. A general design for vapor monitoring well construction shall be included in the  
2           investigation work plan submitted to the NMED for approval prior to the start of subsurface  
3           explorations at the 300 Area.

4           **V.B.6.b.iii                   300 Area Soil Sampling**

5           Implementation of the work plan required in Section V.B.6.b shall meet the following requirements:

- 6           1. Soil samples shall be collected from each boring at five-foot intervals to depths of 30 feet  
7           below ground surface and at 10-foot intervals thereafter to the total depth of the borings. A  
8           sample also shall be obtained at the maximum depth of each boring.

- 9           2. Samples shall be collected using split-barrel samplers lined with brass sleeves or by other  
10          methods approved by NMED. A split barrel sampler lined with brass sleeves or a coring  
11          device is the preferred sampling method for soil.

12          If a split barrel sampler is used, upon recovery of the sample, one or more brass sleeves shall  
13          be removed from the split barrel sampler and the open ends of the sleeves shall be covered  
14          with Teflon tape or foil and sealed with plastic caps fastened to the sleeves with tape for  
15          shipment to the analytical laboratory. If brass sleeves are not used, a portion of the sample  
16          shall be placed in pre-cleaned, laboratory-prepared sample containers for laboratory analysis.  
17          The remaining portions of the sample shall be used for logging and field screening

- 18          3. Soil samples shall be screened in the field for the presence of VOCs in accordance with the  
19          methods described in Permit Attachment 17 (*Investigation and Sampling Methods and*  
20          *Procedures*).

- 21          4. A detailed log of each boring shall be maintained. The results of all field screening shall be  
22          included in the corresponding boring log.

- 23          5. Soil samples shall be analyzed for perchlorate, hexavalent chromium, NDMA/DMN, nitrate  
24          and nitrite, VOCs, SVOCs and RCRA metals. A minimum of three samples from each  
25          boring shall be selected for submittal to a laboratory.

- 26          6. The samples displaying the greatest field screening evidence of VOC concentrations shall be  
27          selected from each borehole for laboratory analysis of the analytes listed in Item 5 above. If  
28          field screening evidence of contamination is not observed in a boring, the sample obtained  
29          from the native soil directly underlying the surface impoundment materials at each boring  
30          location shall be submitted for laboratory analysis of the analytes listed in Item 5 above.

- 31          7. The sample obtained from the maximum depth of each boring shall be analyzed by a  
32          laboratory for the analytes listed in Item 5 above.

33          **V.B.6.b.iv                   300 Area Vapor Field Screening and Monitoring**

34          Implementation of the work plan required in Section V.B.6.b shall meet the following vapor  
35          sampling and monitoring requirements:

1 1. Subsurface vapor samples shall be collected in accordance with the methods described in  
2 Permit Attachment 17 (*Investigation and Sampling Methods and Procedures*).

3 2. Subsurface vapor samples shall be collected from newly drilled soil borings during  
4 advancement at the same locations that the soil samples are collected.

5 An inflatable packer shall be inflated in the borehole annulus to isolate the bottom three feet  
6 of the borehole. The isolated portion of the borehole shall be purged slowly by removing  
7 approximately five times the volume of the annular space beneath the packer, followed by a  
8 VOC measurement using a PID equipped with an 11.7 eV lamp, combustible gas indicator  
9 or other instrument approved by the NMED. The data shall be logged and used for  
10 determining the samples to be sent to an analytical laboratory.

11 3. If required by NMED, vapor monitoring wells shall be installed in the borings and a long-  
12 term subsurface vapor monitoring and sampling work plan shall be submitted for approval.

13 4. An investigation vapor monitoring and sampling plan shall be submitted to the NMED for  
14 approval as part of the investigation work plan.

15 **V.B.6.b.v 300 Area Groundwater Monitoring Well Installation**

16 If groundwater is encountered or if geophysical or other evidence suggests the presence of  
17 groundwater during the subsurface investigations for the 300 Area, NMED may require a work plan  
18 for the installation of groundwater monitoring well(s) and require groundwater monitoring in  
19 accordance with 40 CFR 264.90 through 264.100, which are incorporated herein by reference.

20 **V.B.6.c 400 Area Corrective Action Requirements**

21 **V.B.6.c.i 400 Area Investigation Work Plan**

22 The Permittee shall submit to NMED for approval a work plan to investigate historical releases of  
23 hazardous waste or hazardous constituents from the former 400 Area Closure. The work plan shall  
24 address investigation of contamination that has historically affected groundwater and that potentially  
25 is a source of on-going groundwater contamination.

26  
27 The Permittee shall submit the work plan in accordance with the schedule provided in Permit  
28 Attachment 16 (*Investigation Work Plan Submittal Schedule*).

29 **V.B.6.c.ii 400 Area Drilling Explorations**

30 The Permittee shall conduct subsurface explorations, as specified in the approved work plan required  
31 in Section V.B.6.c, in order to acquire data to characterize the extent of contamination, and to  
32 determine whether the soil beneath the 400 Area Closure is a source of groundwater contamination.  
33 At a minimum the Permittee shall conduct the following activities:

34 1. Advance two borings in each of the Loose Rock Fill pads, advance one boring at the mixing  
35 tank, advance one boring at the valve box, advance one boring at the intersection of the two

1 wings of the inlet concrete channel, and advance six borings along the concrete channel  
2 (three on each channel wing). The borings shall be drilled to minimum depths of 25 feet  
3 below the deepest detected contamination as detected by field screening or previous  
4 investigations.

5 2. The borings shall be advanced using hollow-stem auger drilling methods, where practicable,  
6 or other drilling methods approved by NMED.

7 3. In the case of refusal during drilling at depths less than 40 feet, the Permittee shall attempt to  
8 install a second boring within five to ten feet of the original boring. In case of auger refusal  
9 at depths of 40 feet or more, the Permittee does not need to advance another boring at the  
10 same location unless contamination is present. Soil samples obtained from any abandoned  
11 borings shall be evaluated using the same methods used for samples collected from the other  
12 borings..

13 4. Field screening must include screening of soil and sub-surface vapor samples in accordance  
14 with Permit Attachment 17 (*Investigation and Sampling Methods and Procedures*).

15 5. A general design for vapor monitoring well construction shall be included in the  
16 investigation work plan submitted to the NMED for approval prior to the start of subsurface  
17 explorations at the 400 Area.

18 **V.B.6.c.iii 400 Area Soil Sampling**

19 Implementation of the work plan required in Section V.B.6.c shall meet the following requirements:

20 1. Soil samples shall be collected from each boring at five foot intervals to depths of 30 feet  
21 below ground surface and at ten-foot intervals thereafter to the total depth of the borings. A  
22 sample also shall be obtained at the maximum depth of each boring.

23 2. Samples shall be collected using split-barrel samplers lined with brass sleeves or by other  
24 methods approved by NMED. A split barrel sampler lined with brass sleeves or a coring  
25 device is the preferred sampling method for soil sampling.

26 If a split barrel sampler is used, upon recovery of the sample, one or more brass sleeves shall  
27 be removed from the split barrel sampler and the open ends of the sleeves shall be covered  
28 with Teflon tape or foil and sealed with plastic caps fastened to the sleeves with tape for  
29 shipment to the analytical laboratory. If brass sleeves are not used, a portion of the sample  
30 shall be placed in pre-cleaned, laboratory-prepared sample containers for laboratory analysis.  
31 The remaining portions of the sample shall be used for logging and field screening. Samples  
32 shall be screened in the field for the presence of VOCs using methods approved by the  
33 NMED.

34 3. Soil samples shall be screened in the field for the presence of VOCs using methods in  
35 accordance with the methods described in Permit Attachment 17 (*Investigation and*  
36 *Sampling Methods and Procedures*).

- 1 4. A detailed log of each boring shall be maintained. The results of all field screening shall be  
2 included in the corresponding boring log.
- 3 5. Soil samples shall be analyzed for perchlorate, hexavalent chromium, NDMA/DMN, nitrate  
4 and nitrite, VOCs, SVOCs and RCRA metals. A minimum of three samples from each  
5 boring shall be selected for submittal to a laboratory.
- 6 6. The samples displaying the greatest field screening evidence of VOC concentrations shall be  
7 selected from each borehole for laboratory analysis of the analytes listed in Item 5 above. If  
8 field screening evidence of contamination is not observed in a boring, the sample obtained  
9 from the native soil directly underlying the surface impoundment materials at each boring  
10 location shall be submitted for analysis of the analytes listed in Item 5 above.
- 11 7. The sample obtained from the maximum depth of each boring shall be analyzed by a  
12 laboratory for the analytes listed in item 5 above.

13 **V.B.6.c.iv 400 Area Vapor Field Screening and Monitoring**

14 Implementation of the work plan required in Section V.B.6.c shall meet the following vapor  
15 sampling and monitoring requirements:

- 16 1. Subsurface vapor samples shall be collected in accordance with the methods described in  
17 Permit Attachment 17 (*Investigation and Sampling Methods and Procedures*).
- 18 2. Subsurface vapor samples shall be collected from newly drilled soil borings during  
19 advancement at the same locations that the soil samples are collected.

20 An inflatable packer shall be inflated in the borehole annulus to isolate the bottom 3 feet of  
21 the borehole. The isolated portion of the borehole shall be purged slowly by removing  
22 approximately five times the volume of the annular space beneath the packer, followed by a  
23 VOC measurement using a PID equipped with an 11.7 eV lamp, combustible gas indicator  
24 or other instrument approved by the NMED. The data shall be logged and used for  
25 determining the samples to be sent to an analytical laboratory.

- 26 3. If required by NMED, a vapor monitoring well shall be installed in the borings and a long-  
27 term subsurface vapor monitoring and sampling work plan shall be submitted for approval.
- 28 4. An investigation vapor monitoring and sampling plan shall be submitted to the NMED for  
29 approval as part of the investigation work plan.

30 **V.B.6.c.v 400 Area Groundwater Monitoring Well Installation**

31 If groundwater is encountered or if geophysical or other evidence suggests the presence of  
32 groundwater during the subsurface investigations for the 400 Area, NMED may require a work plan  
33 for the installation of groundwater monitoring well(s) and require groundwater monitoring in  
34 accordance with 40 CFR 264.90 through 264.100.

1 **V.B.6.d 600 Area Corrective Action Requirements**

2 **V.B.6.d.i 600 Area Investigation Work Plan**

3 The Permittee shall submit to NMED for approval a work plan to investigate historical releases of  
4 hazardous waste or hazardous constituents from the former 600 Area Closure. The work plan shall  
5 address investigation of contamination that has historically affected groundwater and that potentially  
6 is a source of on-going groundwater contamination.

7  
8 The Permittee shall submit the work plan in accordance with the schedule provided in Permit  
9 Attachment 16 (*Investigation Work Plan Submittal Schedule*).

10 **V.B.6.d.ii 600 Area Drilling Explorations**

11 The Permittee shall conduct subsurface explorations, as specified in the approved work plan required  
12 in Section V.B.6.d.ii, in order to acquire data to characterize the extent of contamination, and to  
13 determine whether the soils beneath the 600 Area Closure is the source of groundwater  
14 contamination. At a minimum the Permittee shall conduct the following activities:

- 15 1. One boring shall be advanced in the vicinity of the truck unloading area, seven borings shall  
16 be advanced in the southeast pond, one boring shall be advanced at the overflow point  
17 between the two ponds, and six borings shall be advanced in the northwest pond. Borings  
18 also shall be advanced at 50 foot intervals along the pipeline connecting the Wastewater  
19 Treatment Building to the ponds. The borings shall be drilled to minimum depths of 25 feet  
20 below the deepest detected contamination as detected by field screening or previous  
21 investigations.
- 22 2. The borings shall be advanced using hollow-stem auger drilling methods, where practicable,  
23 or other drilling methods approved by NMED.
- 24 3. In the case of refusal during drilling at depths less than 30 feet, NASA shall attempt to  
25 install a second boring within 5 to 10 feet of the original boring. In case of auger refusal at  
26 depths of 30 feet or more, NASA is not required to advance another boring at the same  
27 location unless contamination is present. Soil samples obtained from any abandoned  
28 borings shall be evaluated using the same methods used for samples collected from the other  
29 borings.
- 30 4. Field screening must include screening of soil and sub-surface vapor samples in accordance  
31 with Permit Attachment 17 (*Investigation and Sampling Methods and Procedures*).
- 32 5. A general design for vapor monitoring well construction shall be included in the  
33 investigation work plan submitted to the NMED for approval prior to the start of subsurface  
34 explorations at the 600 Area.

1 **V.B.6.d.iii 600 Area Soil Sampling**

2 Implementation of the work plan required in this section (V.B.6.d) shall meet the following  
3 requirements:

- 4 1. Soil samples shall be collected from each boring at five foot intervals to depths of 30 feet  
5 below ground surface and 10 foot intervals thereafter to the total depth of the borings. A  
6 sample also shall be obtained at the maximum depth of each boring.
- 7 2. Samples shall be collected using split-barrel samplers lined with brass sleeves or by other  
8 methods approved by NMED. A split barrel sampler lined with brass sleeves or a coring  
9 device is the preferred sampling method for soil sampling.

10 If a split barrel sampler is used, upon recovery of the sample, one or more brass sleeves shall  
11 be removed from the split barrel sampler and the open ends of the sleeves shall be covered  
12 with Teflon tape or foil and sealed with plastic caps fastened to the sleeves with tape for  
13 shipment to the analytical laboratory. If brass sleeves are not used, a portion of the sample  
14 shall be placed in pre-cleaned, laboratory-prepared sample containers for laboratory analysis.  
15 The remaining portions of the sample shall be used for logging and field screening samples  
16 shall be screened in the field for the presence of VOCs using methods approved by the  
17 NMED.

18 3. Soil samples shall be screened in the field for the presence of VOCs in accordance with the  
19 methods described in Permit Attachment 17 (*Investigation and Sampling Methods and*  
20 *Procedures*).

21 4. A detailed log of each boring shall be maintained. The results of all field screening shall be  
22 included in the corresponding boring log.

23 5. Soil samples shall be analyzed for perchlorate, hexavalent chromium, NDMA/DMN, nitrate  
24 and nitrite, VOCs, SVOCs and RCRA metals. A minimum of three samples from each  
25 boring shall be selected for submittal to a laboratory.

26 6. The samples displaying the greatest field screening evidence of VOC concentrations shall be  
27 selected from each borehole for laboratory analysis of the analytes listed in Item 5 above. If  
28 field screening evidence of contamination is not observed in a boring, the sample obtained  
29 from the native soil directly underlying the surface impoundment materials at each boring  
30 location shall be submitted for analysis of the analytes listed in Item 5 above.

31 7. The sample obtained from the maximum depth of each boring shall be analyzed by a  
32 laboratory for the analytes listed in Item 5 above.

33 **V.B.6.d.iv 600 Area Vapor Field Screening and Monitoring**

34 Implementation of the work plan required in Section V.B.6.d shall meet the following vapor  
35 sampling and monitoring requirements:

- 1           1. Subsurface vapor samples shall be collected from newly drilled soil borings during  
2           advancement at the same locations that the soil samples are collected.
- 3           2. Subsurface vapor samples shall be collected in accordance with the methods described in  
4           Permit Attachment 17 (*Investigation and Sampling Methods and Procedures*).
- 5           3. If required by NMED, a vapor monitoring well shall be installed in the borings and a long-  
6           term subsurface vapor monitoring and sampling work plan shall be submitted for approval.
- 7           4. An investigation vapor monitoring and sampling plan shall be submitted to the NMED for  
8           approval as part of the investigation work plan.

9           **V.B.6.d.v                   600 Area Groundwater Monitoring Well Installation**

10          If groundwater is encountered or if geophysical or other evidence suggests the presence of  
11          groundwater during the subsurface investigations for the 600 Area, NMED may require a work plan  
12          for the installation of groundwater monitoring well(s) and require groundwater monitoring in  
13          accordance with 40 CFR 264.90 through 264.100, which are incorporated herein by reference. In  
14          addition the Permittee shall install a monitoring well near the south corner of the 600 Area closure  
15          and a background well in accordance with 40 CFR 264.97(a), which is incorporated herein by  
16          reference.

17          **V.B.7                        Post-Closure Plan**

18          The Permittee shall implement the Post-Closure Plan, Permit Attachment 14 (*Post-Closure Plan*).  
19          All post-closure care activities must be conducted in accordance with the provisions of the Post-  
20          Closure Plan and 40 CFR 264.117(d) and 264.118(b), which are incorporated herein by reference.

21          **V.C                            POST-CLOSURE INSPECTIONS**

22          The Permittee shall inspect the components, structures, and equipment at each post-closure care unit  
23          in accordance with the Inspection Schedule, Permit Attachment 7 (*Inspection Schedule*) and the  
24          requirements of 40 CFR 264.117(a)(1)(ii), which is incorporated herein by reference.

25          The Permittee shall inspect the channels on equivalent diversion structures at the 300 Area and the  
26          400 Area at least monthly. The Permittee shall keep a written log at all such inspections as part of  
27          the Facility operating record.

28          **V.D                            NOTICES AND CERTIFICATIONS**

29          **V.D.1                        Notification Filing**

30          The Permittee shall submit to the local zoning authority or the authority with jurisdiction over local  
31          land use, and to the NMED a record of the type, location, and quantity of hazardous wastes disposed  
32          of within each cell or other disposal unit of the Facility in accordance with the requirements of 40  
33          CFR 264.119(a), which is incorporated herein by reference. For hazardous wastes disposed of before

1 January 12, 1981, the Permittee shall identify the type, location, and quantity of the hazardous wastes  
2 to the best of its knowledge.

3 **V.D.1.a Record Requirements**

4 The Permittee shall maintain documentation of certification of closure of all hazardous waste  
5 disposal units, in accordance with 40 CFR 264.119(b), which is incorporated herein by reference.

6 The Permittee shall record, in accordance with New Mexico law, a notation on the deed to the  
7 Facility property or on some other instrument that is normally examined during the title search that  
8 will in perpetuity notify any potential purchaser of the property that:

- 9 1. The land has been used to manage hazardous wastes.
- 10 2. Its use is restricted under 40 CFR Part 264 Subpart G regulations.
- 11 3. The survey plat and record of the type, location, and quantity of hazardous wastes disposed  
12 of within each cell or other hazardous waste disposal unit of the Facility have been filed  
13 with the NMED, and Doña Ana County.

14 **V.D.1.b Removal of Waste after Closure**

15 If the Permittee or any subsequent owner or operator of the land upon which a hazardous waste  
16 disposal unit is located wishes to remove any hazardous wastes, hazardous constituents or any  
17 associated materials, the Permittee or any subsequent owner or operator must conduct such actions in  
18 accordance with 40 CFR 264.119(c), which is incorporated herein by reference.

19 **V.D.2 Contamination Source Removal**

20 If NMED determines that the releases of the hazardous waste or hazardous constituents from the  
21 regulated units detected during implementation of the requirements of Section V.B.6 constitute a  
22 source or potential source of groundwater contamination, then the Permittee shall conduct corrective  
23 action to remove such contaminant sources. Proposed remedies for such a removal shall be  
24 evaluated and submitted to NMED in the Corrective Measures Evaluation format in Permit  
25 Attachment 20 (*Reporting Requirements*). The NMED will select a remedy based on the Corrective  
26 Measures Evaluation and other available information. Upon selection of a remedy by NMED, the  
27 Permittee shall submit a plan, for NMED approval, to implement the selected remedy that includes  
28 descriptions of the specific actions to be implemented, remedy design plans and specifications,  
29 proposed monitoring activities and a schedule for implementation. By removing contaminated  
30 sources, the Permittee may become a generator of hazardous waste and must manage it in accordance  
31 with all applicable RCRA and HWA requirements. NMED may require a revised Post-Closure Plan  
32 based on contaminant source removal activities.

33 **V.E POST-CLOSURE PERMIT MODIFICATIONS**

34 The Permittee shall request a permit modification to authorize a change in the approved Post-Closure  
35 Plan. This request must be in accordance with applicable requirements of 40 CFR Part 124 and

1 20.4.1.500, incorporating 40 CFR Part 270, and must include a copy of the proposed amended  
2 Post-Closure Plan for approval by the NMED. The Permittee shall request a permit modification  
3 whenever changes in operating plans or Facility design affect the approved Post-Closure Plan, there  
4 is a change in the expected year of final closure, or other events occur during the active life or  
5 post-closure period of the Facility that affect the approved Post-closure Plan. The Permittee must  
6 submit a written request for a permit modification at least 60 days prior to the proposed change in  
7 Facility design or operation, or no later than 60 days after an unexpected event has occurred which  
8 has affected the Post-Closure Plan in accordance with the requirements of 40 CFR 264.118(d) which  
9 is incorporated herein by reference.

10 **V.F COMPLETION OF POST-CLOSURE REQUIREMENTS**

11 No later than 60 days after completion of the established post-closure care period for each hazardous  
12 waste disposal unit, the Permittee shall submit to the NMED, by registered mail, a certification that  
13 the post-closure care for the hazardous waste disposal unit was performed in accordance with the  
14 specifications in the approved Post-Closure Plan. The certification must be signed by the Permittee  
15 and an independent, registered professional engineer. Documentation supporting the independent,  
16 registered professional engineer's certification must be furnished to the NMED upon request.

1 **VI. GROUND WATER DETECTION MONITORING**

2 Part VI of this Permit addresses groundwater monitoring at the Facility, including compliance  
3 groundwater monitoring at solid waste management units, and groundwater monitoring associated  
4 with corrective action.

5 **VI.A GENERAL**

6 The Permittee shall conduct groundwater monitoring at the Facility in accordance with all of the  
7 requirements of 40 CFR Subpart F, and with the Facility Wide Groundwater Monitoring Plan.

8 **VI.B FACILITY-WIDE GROUNDWATER MONITORING PLAN**

9 **VI.B.1 Monitoring Plan Preparation, Submittal and Approval**

10 Within 180 days after the issuance of this Permit, the Permittee shall submit to NMED for approval a  
11 Facility-Wide Groundwater Monitoring Plan (Groundwater Monitoring Plan). The Groundwater  
12 Monitoring Plan shall set forth detailed methods, procedures, and schedules, as set forth in Section  
13 VI.B.2 below, for groundwater monitoring over the entire Facility and, as necessary, beyond the  
14 Facility boundary. The Permittee shall use valid data from previous groundwater monitoring at the  
15 Facility to develop the Groundwater Monitoring Plan. The Monitoring Plan shall be prepared in  
16 accordance with Section 19.2 of Permit Attachment 20 (*Reporting Requirements*). Upon NMED  
17 approval, the Groundwater Monitoring Plan shall be incorporated herein by reference as an  
18 enforceable part of this Permit, and the Permittee shall implement its terms. Prior to NMED  
19 approval of the Groundwater Monitoring Plan, the Permittee shall conduct groundwater monitoring  
20 in accordance with the Groundwater Sampling and Analysis Plan currently in effect.

21 **VI.B.2 Monitoring Plan Contents**

22 The Groundwater Monitoring Plan shall include, at a minimum, the following items:

- 23 1. The location of new monitoring wells;
- 24 2. A schedule for sampling new and existing wells, including a start date for the initial  
25 sampling;
- 26 3. The sample collection methods;
- 27 4. The methods for collecting field measurements;
- 28 5. The parameters for field measurements;
- 29 6. The methods for laboratory analysis;
- 30 7. The parameters for laboratory analysis;
- 31 8. Procedures for determining groundwater elevation, flow direction, and flow rates;

1 9. Procedures for determining background levels of naturally occurring contaminants;

2 10. Quality assurance and quality control procedures;

3 11. The methods for management of investigation-derived wastes; and

4 12. Other groundwater monitoring methods or procedures NMED may require. Methods and  
5 procedures in the Groundwater Monitoring Plan shall be in accordance with Permit  
6 Attachment 17 (*Investigation and Sampling Methods and Procedures*), or other methods and  
7 procedures that NMED approves in writing.

8 **VI.B.3 Annual Revision of the Groundwater Monitoring Plan**

9 The Permittee shall revise and update the Groundwater Monitoring Plan annually to make  
10 appropriate changes, such as to include newly installed monitoring wells, to eliminate abandoned  
11 wells, to monitor off-site wells, or to change monitoring parameters or frequencies. The Permittee  
12 shall submit to NMED for approval the annual revised Groundwater Monitoring Plan no later than  
13 April 1<sup>st</sup> of each year after the second and each subsequent anniversary date of this Permit.

14 **VI.C MONITORING WELLS**

15 The Permittee shall install and maintain a groundwater monitoring system, and abandon wells as  
16 necessary, in accordance with the requirements of 40 CFR 264.97 which is incorporated herein by  
17 reference, and in accordance with the Groundwater Monitoring Plan.

18 **VI.C.1 Monitoring Well Locations**

19 The Permittee shall install monitoring wells in accordance with corrective action requirements  
20 specified by NMED and at the locations specified in the Groundwater Monitoring Plan.

21 **VI.C.2 Monitoring Well Construction**

22 The Permittee shall construct new monitoring wells in accordance with the Monitoring Well  
23 Construction Requirements (Permit Attachment 19).

24 **VI.C.3 Monitoring Well Maintenance**

25 The Permittee shall maintain the integrity of all monitoring wells, other than abandoned wells, to  
26 ensure that the wells function properly and yield valid data.

27 **VI.C.4 Monitoring Well Abandonment**

28 The Permittee shall plug and abandon all wells deleted from the monitoring program in accordance  
29 with Permit Attachment 19 (*Monitoring Well Construction Requirements*). The Permittee shall  
30 follow New Mexico Office of the State Engineer regulations, "Construction, Repair, and Plugging of  
31 Wells," 19.27.4 NMAC. The Permittee shall submit to NMED a copy of the certification required  
32 under these regulations no less than 15 days prior to the date the wells are removed from the  
33 monitoring program.

1 **VI.D IMPLEMENTATION OF MONITORING**

2 **VI.D.1 Groundwater Monitoring Plan**

3 Upon Department approval of the Groundwater Monitoring Plan, the Permittee shall implement the  
4 Groundwater Monitoring Plan according to its schedule and other terms.

5 **VI.D.2 Detection Monitoring**

6 The Permittee shall conduct detection monitoring at the Facility in accordance with the requirements  
7 of 40 CFR 264.98, which is incorporated herein by reference, and with the Groundwater Monitoring  
8 Plan, to ensure the earliest possible detection of contaminants in groundwater. The Permittee shall  
9 notify the NMED, in writing, of any new detections of hazardous waste and hazardous constituents  
10 in groundwater at any location within seven days of detection. Such detections of hazardous waste  
11 or hazardous constituents shall also be highlighted in the periodic monitoring report submitted to  
12 NMED summarizing the groundwater monitoring results for the appropriate monitoring period.

13 **VI.D.3 Compliance Monitoring**

14 The Permittee shall conduct compliance monitoring in accordance with the NMED approved  
15 Groundwater Monitoring Plan, to monitor the progress of cleanup of contaminants in groundwater.

16 **VI.D.4 Elevation of Groundwater Surface and Other Measurements**

17 The Permittee shall determine the groundwater surface elevation each time groundwater is sampled  
18 in accordance with 40 CFR 264.97(f), which is incorporated herein by reference, and with Permit  
19 Attachment 17 (*Investigation and Sampling Methods and Procedures*). The Permittee shall report  
20 such elevation data in the periodic monitoring report covering that sampling event.

21 The Permittee shall record the surveyed elevation of each monitoring well at the time of installation.  
22 The elevation shall be indicated on the as-built drawing for the well. The Permittee shall also record  
23 the total depth of the well, the elevation of the top of the casing, and the ground surface elevation or  
24 apron elevation. All such information shall be included in the well completion report prepared in  
25 accordance with Section 18.5 of Permit Attachment 19 (*Monitoring Well Construction*  
26 *Requirements*).

27 **VI.E REPORTING AND RECORDKEEPINGS**

28 **VI.E.1 Periodic Monitoring Reports**

29 The Permittee shall submit to NMED periodic monitoring reports within 90 days of completion of  
30 the field activities conducted during the associated periodic monitoring event, unless another time  
31 period is specified by NMED or according to the schedule in the Groundwater Monitoring Plan. The  
32 reports shall include the results of all groundwater monitoring conducted under Part VI of this  
33 Permit, including the results of the plume-front remediation system monitoring collected during the  
34 same reporting period. The reports shall be prepared in accordance with Section 19.4 of Permit  
35 Attachment 20 (*Reporting Requirements*).

1 **VI.E.2 Recordkeeping**

2 The Permittee shall maintain all monitoring data, including sampling procedures, records of field  
3 measurements, laboratory analytical data, quality assurance/quality control documents, chain-of-  
4 custody records, well completion reports and periodic monitoring reports in the Facility operating  
5 record.

6 **VI.F PLUME-FRONT REMEDIATION SYSTEM MONITORING**

7 **VI.F.1 Revised Remediation System Monitoring Plan**

8 Within 180 days after the effective date of this Permit, the Permittee shall submit to NMED for  
9 approval a Revised Plume-Front Remediation System Monitoring Plan (Revised Remediation  
10 System Monitoring Plan). The Revised Remediation System Monitoring Plan shall set forth detailed  
11 methods, procedures, and schedules for groundwater monitoring to determine the progress and  
12 effectiveness of the plume-front remediation system. The Permittee shall use valid data from  
13 previous groundwater and remediation system monitoring at the Facility to develop the Revised  
14 Remediation System Monitoring Plan. The Revised Remediation Monitoring Plan shall be prepared  
15 in accordance with Section 19.2 of Permit Attachment 20 (*Reporting Requirements*). Upon NMED  
16 approval, the Revised Remediation System Monitoring Plan shall be incorporated herein by  
17 reference as an enforceable part of this Permit, and the Permittee shall implement its terms.

18 **VI.F.2 Remediation System Reporting**

19 The Permittee shall include all results of plume front remediation system groundwater monitoring in  
20 the associated periodic groundwater monitoring reports.

21 **VI.F.3 Effectiveness of the Plume-Front Remediation System**

22 If NMED determines either through review of remediation system reporting or through reports of  
23 frequent malfunction of the remediation system or its components, NMED may determine that the  
24 system is ineffective and may require replacement of the system or some of its components, or  
25 evaluation and selection of an alternate remedy.

1 **VII. CORRECTIVE ACTION FOR SWMUS AND AOCs**

2 Part VII of this Permit provides for corrective action to address releases of hazardous waste or  
3 hazardous constituents from Solid Waste Management Units (SWMUs) and Areas of Concern  
4 (AOCs) at the Facility.

5 **VII.A GENERAL**

6 The Permittee shall conduct corrective action to address releases of hazardous waste or hazardous  
7 constituents from SWMUs and AOCs at the Facility in accordance with all of the requirements of 40  
8 CFR 264.100 and 264.101, which are incorporated herein by reference.

9 This Part applies to any releases of hazardous waste or hazardous constituents from all SWMUs and  
10 AOCs identified in Permit Attachment 22 (*List of SWMUs and AOCs*) and any newly identified  
11 SWMUs and AOCs.

12 **VII.B CONTAMINATION BEYOND THE FACILITY BOUNDARY**

13 The Permittee shall implement corrective action beyond the Facility boundary where necessary to  
14 protect human health and the environment, unless the Permittee demonstrates to the satisfaction of  
15 NMED that, despite the Permittee's best efforts, as determined by the NMED, the Permittee was  
16 unable to obtain the necessary permission from the property owner to undertake such actions. The  
17 Permittee is not relieved of all responsibility to clean up a release that has migrated beyond the  
18 Facility boundary where off-site access is denied. On-site measures to address such releases will be  
19 determined on a case-by-case basis. [40 CFR 264.101(c), which is incorporated herein by reference]

20 **VII.C CORRECTIVE ACTION ALREADY COMPLETED**

21 Any corrective action tasks that the Permittee has already completed may be used, in whole or in  
22 part, to meet the requirements of this Section (VII), as determined by NMED. The Permittee may  
23 include the results of prior work to meet these requirements in a work plan submitted to NMED for  
24 approval.

25 **VII.D NEWLY IDENTIFIED SWMUS AND AOCs**

26 The Permittee shall notify NMED in writing, within 15 days of discovery, of any newly discovered  
27 SWMU or AOC. The notification shall include, at a minimum, the location of the newly discovered  
28 SWMU or AOC and all available information pertaining to the site history and nature of the release  
29 (e.g., media affected, hazardous waste or hazardous constituents released, magnitude of release).  
30 NMED may require the Permittee to submit a Release Assessment Report in accordance with Permit  
31 Section VII.F.1 to determine the status of the newly discovered SWMU or AOC. Alternatively,  
32 NMED may require an Investigation Work Plan for the newly discovered SWMU or AOC in  
33 accordance with Permit Section VII.H without requiring a Release Assessment. If NMED  
34 determines that an Investigation Work Plan for a newly discovered SWMU or AOC is required, the  
35 Permittee shall modify this Permit to add the SMWU or AOC to Permit Attachment 22 (*List of*  
36 *SWMUs and AOCs*) in accordance with 40 CFR 270.42, which is incorporated herein by reference.

1 If the Permittee conducts an explosives or munitions emergency response at the Facility, or beyond  
2 the Facility boundary, in response to a waste explosive released at or from the Facility, the Permittee  
3 shall treat that response location as a newly discovered AOC, unless the response is conducted within  
4 the boundaries of an existing AOC or SWMU.

#### 5 **VII.E NEWLY DISCOVERED RELEASES FROM SWMUS OR AOCs**

6 The HWA and 40 CFR 264.101 require corrective action as necessary to protect human health and  
7 the environment for all releases of hazardous waste or hazardous constituents from any SWMU or  
8 AOC, regardless of when waste was placed in the unit, for all permits issued after November 8,  
9 1984.

10 Failure to submit required information or submission of inadequate or insufficient information may  
11 subject the Permittee to enforcement action under Section 3008 of RCRA which may include  
12 criminal penalties, fines, suspension or revocation of the permit.

13 If the NMED finds that corrective action are warranted for a SWMU, AOC or a release discovered  
14 after the effective date of this Permit, the Secretary will propose a permit modification and follow  
15 appropriate procedures including a public notice period and a public hearing, if warranted, to add the  
16 newly discovered SWMU or AOC to the Permit. In such case, the NMED will require investigation  
17 and remediation of a newly discovered SWMU, AOC or release in compliance with 20.4.1 NMAC.

#### 18 **VII.F RELEASE ASSESSMENT**

##### 19 **VII.F.1 Release Assessment Report**

20 If required by NMED, the Permittee shall submit to NMED a Release Assessment Report for newly  
21 discovered SWMUs or AOCs under this Section (VII.F.1).

22 The Release Assessment Report shall, at a minimum, include the following information:

- 23 1. Location of the unit on a topographic map of appropriate scale, as required under 40 CFR  
24 270.14(b)(19), which is incorporated herein by reference;
- 25 2. Designation of type and function of unit;
- 26 3. General dimensions, capacities and structural description of unit (including any available  
27 plans or drawings);
- 28 4. All available site history information;
- 29 5. Specifications of all wastes that have been managed in the unit to the extent available,  
30 including any data on hazardous waste or hazardous constituents in the wastes; and
- 31 6. All available information pertaining to any release of hazardous waste or hazardous  
32 constituents from the unit including ground water data, soil analyses, air, and surface water  
33 data.

1   **VII.F.2                    Requirement to Proceed**

2    NMED will review the Release Assessment Report to determine whether any further investigation is  
3    required. NMED may notify the Permittee that confirmatory sampling is necessary, or notify the  
4    Permittee that an Investigation Work Plan is required in accordance with the requirements in Permit  
5    Section VII.H.1.

6   **VII.G                    INTERIM MEASURES**

7   **VII.G.1                    NMED-Initiated Interim Measures**

8    If the NMED determines that interim measures are necessary at any SWMU or AOC to minimize or  
9    prevent the release or migration of hazardous waste or hazardous constituents while long-term  
10    corrective action remedies are evaluated and implemented, NMED will notify the Permittee in  
11    writing of such determination. Within 30 days of receipt of such notification, or such other time as  
12    specified by NMED, the Permittee shall submit to NMED for approval an Interim Measures Work  
13    Plan. Such interim measures may be conducted concurrently with any other required corrective  
14    action.

15   **VII.G.2                    Required Interim Measures**

16    The Permittee shall prepare and submit an Interim Measures Work Plan for sampling of off-site  
17    water supply wells. Within 30 days of the effective date of this Permit, the Permittee shall submit to  
18    NMED a list of all off-site wells located within three miles of the western and southern boundaries of  
19    the Facility. The Permittee shall submit a map to NMED depicting all of the wells on the list in  
20    conjunction with submittal of the list. Within 90 days of the effective date of this Permit, the  
21    Permittee shall submit an Interim Measures Work Plan to NMED for approval for off-site water  
22    supply well sampling. The Permittee's Interim Measures Work Plan shall include detailed well  
23    information including the following: well identification numbers, location (provided on a map and  
24    including New Mexico State Coordinate System coordinates), owner name and phone number, any  
25    well boring logs and well construction diagrams, depths to water, dates of measurement, and type of  
26    well (e.g., domestic supply well, municipal supply well, monitoring well, irrigation well). All  
27    information in the Interim Measures Work Plan shall be accompanied by appropriate references  
28    identifying the specific source document and specific location of the referenced information (e.g.,  
29    page numbers).

30   **VII.G.3                    Permittee-Initiated Interim Measures**

31    The Permittee may initiate interim measures at a SWMU or AOC by notifying NMED in writing,  
32    and submitting to NMED for approval, an Interim Measures Work Plan, at least 60 days prior to the  
33    proposed date for commencing the interim measure. The NMED may request additional information  
34    before approving or disapproving the interim measures work plan.

35   **VII.G.4                    Emergency Interim Measures**

36    The Permittee may determine, during implementation of site investigation activities, that emergency  
37    interim measures are necessary to address an immediate threat of harm to human health or the

1 environment. The Permittee shall notify NMED within one business day of discovery of the facts  
2 giving rise to the threat, and shall propose emergency interim measures to address the threat. If  
3 NMED approves the emergency interim measures in writing, the Permittee may implement the  
4 proposed emergency interim measures without submitting an interim measures work plan. If  
5 circumstances arise resulting in an immediate threat to human health or the environment such that  
6 initiation of emergency interim measures are necessary prior to obtaining written approval from  
7 NMED, the Permittee shall notify NMED within one business day of taking the emergency interim  
8 measure. The notification shall contain a description of the emergency situation, the types and  
9 quantities of hazardous wastes or hazardous constituents involved, the emergency interim measures  
10 taken, and contact information for the emergency coordinator who handled the situation. The  
11 notification shall also include a written statement justifying the need to take the emergency action  
12 without prior written approval from NMED. This requirement shall not be construed to conflict with  
13 40 CFR 264.1(g)(8) or 40 CFR 270.61, which is incorporated herein by reference.

#### 14 **VII.G.5 Interim Measures Work Plan**

15 Each Interim Measures Work Plan shall set forth interim measures that are designed to mitigate any  
16 current or potential threat to human health or the environment and that are consistent with, and  
17 integrated into, any final corrective measures at the Facility. The Interim Measures Work Plan shall  
18 include the interim measures objectives, procedures for implementation (including any designs,  
19 plans, or specifications), and schedules for implementation. Each interim measures work plan shall  
20 be prepared in accordance with Permit Attachment 20 (*Reporting Requirements*).

#### 21 **VII.G.6 Interim Measures Implementation**

##### 22 **VII.G.6.a Implementation and Completion of Approved Interim Measures Work 23 Plan**

24 Upon NMED approval of an Interim Measures Work Plan, the Permittee shall implement the interim  
25 measures in accordance with the approved plan. The Permittee shall complete interim measures in  
26 accordance with the schedule provided in the approved plan. The Permittee may submit a written  
27 request to NMED to extend the period for implementation of the interim measure. The request must  
28 provide justification for the extension and a proposed schedule for completion of the interim  
29 measure. NMED will notify the Permittee, in writing, of the approval or disapproval of the request  
30 within 30 calendar days of receipt of the Interim Measures implementation extension request.

#### 31 **VII.G.7 Interim Measures Reports**

32 Within 90 calendar days of completion of interim measures, the Permittee shall submit to NMED an  
33 Interim Measures Report for each SWMU or AOC. The Interim Measures Report shall contain, at a  
34 minimum, the information listed below.

- 35 1. A description of interim measures implemented;
- 36 2. A summary of results and/or effectiveness of interim measures;
- 37 3. A description of any problems encountered;

1 4. Copies of all relevant monitoring data including laboratory reports;

2 **VII.H CORRECTIVE ACTION SITE INVESTIGATIONS**

3 **VII.H.1 Investigation Work Plan**

4 **VII.H.1.a Investigation Work Plan Submittal**

5 The Permittee shall submit to NMED for approval an Investigation Work Plan for each of the  
6 SWMUs and AOCs identified in Permit Attachment 22 (*List of SWMUs and AOCs*) in accordance  
7 with the schedule set forth in Permit Attachment 16 (*Investigation Work Plan Submittal Schedule*).  
8 If approved by NMED, the Permittee may combine investigation of two or more SWMUs and AOCs  
9 if the units are co-located.

10 **VII.H.1.b Investigation Work Plan Requirements**

11 The Investigation Work Plan shall meet the requirements specified in Permit Attachment 20  
12 (*Reporting Requirements*). The Investigation Work Plan shall include schedules for implementation  
13 and completion of specific actions necessary to determine the nature and extent of contamination and  
14 the potential migration pathways of contaminant releases to the air, soil, surface water, and ground  
15 water. The Permittee shall provide sufficient written justification for any omissions or deviations  
16 from the minimum requirements specified in Permit Attachment 20 (*Reporting Requirements*). Such  
17 omissions or deviations are subject to the approval of NMED. In addition, the Investigation Work  
18 Plan shall include all investigations necessary to ensure compliance with 40 CFR 264.101(c), which  
19 is incorporated herein by reference.

20 **VII.H.1.c Historical Information Summary**

21 The Permittee shall submit to the NMED a summary of the historical information regarding site use,  
22 waste management, and assessment of known or potential releases of hazardous waste or hazardous  
23 constituents relating to each SWMU or AOC in conjunction with the unit-specific Investigation  
24 Work Plan. The summary shall include complete, legible copies of all associated photographic  
25 imprints, maps, figures, drawings, tables, attachments, enclosures, appendices and other relevant  
26 supporting documentation.

27 **VII.H.2 Investigation Work Plan Implementation**

28 Upon NMED approval, the Permittee shall implement all Investigation Work Plans in accordance  
29 with the approved schedules. The Permittee shall notify NMED at least 30 days prior to any permit  
30 or corrective action-related field activity (e.g., drilling, sampling).

31 **VII.H.3 Investigation Reports**

32 **VII.H.3.a Investigation Report**

33 After completing the investigation for a SWMU, AOC, or other unit, the Permittee shall submit to  
34 the NMED an investigation report. Each investigation report shall be submitted to the NMED by the

1 date specified in the approved Investigation Work Plan. The investigation reports shall be prepared  
2 in accordance with Permit Attachment 20 (*Reporting Requirements*) and include summaries of all  
3 activities and the results of such activities conducted under the associated Investigation Work Plan

4 **VII.H.3.b Cleanup Levels**

5 The investigation reports shall identify the applicable cleanup levels in accordance with Permit  
6 Attachment 15 (*Cleanup Levels*) for each hazardous waste or hazardous constituent detected at each  
7 SWMU and AOC.

8 **VII.I RISK ASSESSMENT**

9 The Permittee shall attain the cleanup levels outlined in Permit Attachment 15 (*Cleanup Levels*) of  
10 this Permit. The Permittee may seek a variance from established cleanup levels for a SWMU or  
11 AOC in accordance with Section 14.6 of Permit Attachment 15, at a site, if approved by NMED.  
12 The risk assessment must be prepared in the format included in Permit Attachment 17 (*Investigation  
13 and Sampling methods and Procedures*).

14 **VII.J CORRECTIVE MEASURES EVALUATION**

15 **VII.J.1 General**

16 NMED will require corrective measures at a SWMU or AOC if the NMED determines, based on the  
17 investigation report and other relevant information available to the NMED, that there has been a  
18 release of hazardous waste or hazardous constituents into the environment at the SWMU or AOC  
19 and that corrective action is necessary to protect human health or the environment from the release.  
20 Upon making such a determination, the NMED will notify the Permittee in writing. NMED will  
21 specify a date for the submittal of the necessary reports and evaluations in the written notification.

22 **VII.J.2 Corrective Measures Evaluation Report**

23 By the date specified in the written notification from NMED that a corrective measures evaluation is  
24 required, the Permittee shall submit to the NMED for approval a Corrective Measures Evaluation  
25 Report. The Permittee shall follow the Corrective Measures Evaluation Report format set forth in  
26 Section 19.6 of Permit Attachment 20 (*Reporting Requirements*). The corrective measures  
27 evaluation shall evaluate potential remedial alternatives and shall recommend a preferred remedy  
28 that will be protective of human health and the environment and that will attain the appropriate  
29 cleanup levels. The Corrective Measures Evaluation Report shall, at a minimum, include the  
30 following elements:

- 31 1. A description of the location, status, and current use of the site;
- 32 2. A description of the history of site operations and the history of releases of contaminants;
- 33 3. A description of site surface conditions;
- 34 4. A description of site subsurface conditions;

- 1 5. A description of on- and off-site contamination in all affected media;
- 2 6. An identification and description of all sources of contaminants;
- 3 7. An identification and description of contaminant migration pathways;
- 4 8. An identification and description of potential receptors;
- 5 9. A description of cleanup standards or other applicable regulatory criteria;
- 6 10. An identification and description of a range of remedy alternatives;
- 7 11. Remedial alternative pilot or bench scale test results;
- 8 12. A detailed evaluation and rating of each of the remedy alternatives, based on the criteria set  
9 forth in Section VII.J.4;
- 10 13. An identification of a proposed preferred remedy or remedies;
- 11 14. Design criteria of the selected remedy or remedies; and
- 12 15. A proposed schedule for implementation of the preferred remedy.

13 **VII.J.3 Cleanup Standards**

14 The Permittee shall select corrective measures that are capable of achieving the cleanup levels  
15 outlined in Attachment 15 (*Cleanup Levels*) of this Permit including, as applicable, approved  
16 alternate cleanup goals established by a risk assessment.

17 **VII.J.4 Remedy Evaluation Criteria**

18 **VII.J.4.a Threshold Criteria**

19 The Permittee shall evaluate each of the remedy alternatives for the following threshold criteria. To  
20 be selected, the remedy alternative must:

- 21 1. Be protective of human health and the environment;
- 22 2. Attain media cleanup standards;
- 23 3. Control the source or sources of releases so as to reduce or eliminate, to the extent  
24 practicable, further releases of hazardous waste and hazardous constituents that may pose a  
25 threat to human health and the environment; and
- 26 4. Comply with applicable standards for management of wastes.

1 **VII.J.4.b Remedial Alternative Evaluation Criteria**

2 The Permittee shall evaluate each of the remedy alternatives for the factors described in this Section  
3 (VII.J.4.b). These factors shall be balanced in proposing a preferred alternative.

4 **VII.J.4.b.i Long-term Reliability and Effectiveness**

5 The remedy shall be evaluated for long-term reliability and effectiveness. This factor includes  
6 consideration of the magnitude of risks that will remain after implementation of the remedy; the  
7 extent of long-term monitoring, or other management that will be required after implementation of  
8 the remedy; the uncertainties associated with leaving contaminants in place; and the potential for  
9 failure of the remedy. The Permittee shall give preference to a remedy that reduces risks with little  
10 long-term management, and that has proven effective under similar conditions.

11 **VII.J.4.b.ii Reduction of Toxicity, Mobility, or Volume**

12 The remedy shall be evaluated for its reduction in the toxicity, mobility, and volume of  
13 contaminants. The Permittee shall give preference to remedy that uses treatment to more completely  
14 and permanently reduce the toxicity, mobility, and volume of contaminants.

15 **VII.J.4.b.iii Short-term Effectiveness**

16 The remedy shall be evaluated for its short-term effectiveness. This factor includes consideration of  
17 the short-term reduction in existing risks that the remedy would achieve; the time needed to achieve  
18 that reduction; and the short-term risks that might be posed to the community, workers, and the  
19 environment during implementation of the remedy. The Permittee shall give preference to a remedy  
20 that quickly reduces short-term risks, without creating significant additional risks.

21 **VII.J.4.b.iv Implementability**

22 The remedy shall be evaluated for its implementability or the difficulty of implementing the remedy.  
23 This factor includes consideration of installation and construction difficulties; operation and  
24 maintenance difficulties; difficulties with cleanup technology; permitting and approvals; and the  
25 availability of necessary equipment, services, expertise, and storage and disposal capacity. The  
26 Permittee shall give preference to a remedy that can be implemented quickly and easily, and poses  
27 fewer and lesser difficulties.

28 **VII.J.4.b.v Cost**

29 The remedy shall be evaluated for its cost. This factor includes a consideration of both capital costs,  
30 and operation and maintenance costs. Capital costs shall include, without limitation, construction  
31 and installation costs; equipment costs; land development costs; and indirect costs including  
32 engineering costs, legal fees, permitting fees, startup and shakedown costs, and contingency  
33 allowances. Operation and maintenance costs shall include, without limitation, operating labor and  
34 materials costs; maintenance labor and materials costs; replacement costs; utilities; monitoring and  
35 reporting costs; administrative costs; indirect costs; and contingency allowances. All costs shall be

1 calculated based on their net present value. The Permittee shall give preference to a remedy that is  
2 less costly, but does not sacrifice protection of health and the environment.

3 **VII.J.5 Approval of Corrective Measures Evaluation Report**

4 Subject to the procedures in Section I.K of this Permit, if NMED disapproves the Corrective  
5 Measures Evaluation Report, NMED will notify the Permittee in writing of the Corrective Measures  
6 Evaluation Report's deficiencies and specify a due date for submission of a revised Corrective  
7 Measures Evaluation Report. Upon receipt of such notification of disapproval, the Permittee shall  
8 submit to NMED, within the specified time, a revised Corrective Measures Evaluation Report that  
9 corrects the deficiencies. If NMED determines that the Corrective Measures Evaluation Report is  
10 adequate, NMED will notify the Permittee in writing. NMED's approval of the Corrective Measures  
11 Evaluation Report shall not be construed to mean the Department agrees with the recommended  
12 preferred remedy.

13 **VII.J.6 Statement of Basis**

14 Upon approval of the Corrective Measures Evaluation Report, NMED will select a proposed remedy  
15 or remedies for the SWMU or AOC. NMED may propose a different remedy from that  
16 recommended by the Permittee in the approved Corrective Measures Evaluation Report. NMED will  
17 issue a Statement of Basis for the proposed remedy, and will receive public comment on the remedy.  
18 The public comment period will extend for at least 45 days from the date of the public notice of the  
19 Statement of Basis. NMED will provide an opportunity for a public hearing on the proposed  
20 remedy, at which all interested persons will be given a reasonable chance to submit data, views or  
21 arguments orally or in writing and to examine witnesses testifying at the hearing. The comment  
22 period will automatically be extended to the close of the public hearing. The public hearing will  
23 follow the hearing requirements under section 20.4.1.901.F NMAC. NMED will select a final  
24 remedy and issue a response to public comments to all commenters, after the end of the public  
25 comment period. In selecting a remedy, NMED will follow the public participation requirements  
26 applicable to remedy selection under section 20.4.1.901 NMEC and 40 CFR 270.

27 The administrative record for the Facility will be made available to the public for review at NMED's  
28 offices in the Santa Fe, New Mexico. All significant written and signed comments, including  
29 emailed comments, will be considered by NMED prior to approving a final remedy or remedies.

30 **VII.K CORRECTIVE MEASURES IMPLEMENTATION**

31 **VII.K.1 General**

32 The Permittee shall implement the final remedy selected by NMED.

33 **VII.K.2 Corrective Measures Implementation Plan**

34 Within 90 days after NMED's selection of a final remedy, or other time specified by the NMED, the  
35 Permittee shall submit to NMED for approval a Corrective Measures Implementation Plan outlining  
36 the design, construction, operation, maintenance, and performance monitoring for the selected

1 remedy, and a schedule for its implementation. The Corrective Measures Implementation Plan shall,  
2 at a minimum, include the following elements:

- 3 1. A description of the selected final remedy;
- 4 2. A description of the cleanup levels and remediation system objectives;
- 5 3. An identification and description of the qualifications of all persons, consultants, and  
6 contractors that will be implementing the remedy;
- 7 4. Detailed engineering design drawings and systems specifications for all elements of the  
8 remedy;
- 9 5. A construction work plan;
- 10 6. An operation and maintenance plan;
- 11 7. The results of any remedy pilot tests;
- 12 8. A plan for monitoring the performance of the remedy, including sampling and laboratory  
13 analysis of all affected media;
- 14 9. A waste management plan;
- 15 10. A proposed schedule for submission to NMED of periodic progress reports; and
- 16 11. A proposed schedule for implementation of the remedy.

17 **VII.K.3 Health and Safety Plan**

18 The Permittee shall conduct all activities in accordance with a site-specific or facility-wide Health  
19 and Safety Plan during all construction, operation, maintenance, and monitoring activities conducted  
20 during corrective measures implementation.

21 **VII.K.4 Community Relations Plan**

22 The Permittee shall involve the public in all corrective measures selections and implementations in  
23 accordance with the most recent version of NASA's community relations plan. The Permittee shall  
24 provide NMED with the most recent version of their community relations plan within 90 days of the  
25 effective date of this Permit and any updates or revisions to the plan within 30 days after  
26 modification.

27 **VII.K.5 Progress Reports**

28 The Permittee shall submit to NMED progress reports in accordance with the schedule approved in  
29 the Corrective Measures Implementation Plan. The progress reports shall, at a minimum, include the  
30 following information:

- 1 1. A description of the remedy work completed during the reporting period;
- 2 2. A summary of problems, potential problems, or delays encountered during the reporting  
3 period;
- 4 3. A description of actions taken to eliminate or mitigate the problems, potential problems, or  
5 delays;
- 6 4. A discussion of the remedy work projected for the next reporting period, including all  
7 sampling events;
- 8 5. Copies of the results of all monitoring, including sampling and analysis, and other data  
9 generated during the reporting period; and
- 10 6. Copies of all waste disposal records generated during the reporting period.

11 **VII.K.6 Remedy Completion**

12 **VII.K.6.a Remedy Completion Report**

13 Within 90 days after completion of a remedy, the Permittee shall submit to NMED for approval a  
14 Remedy Completion Report. The report shall, at a minimum, include the following items:

- 15 1. A detailed summary of all work completed.
- 16 2. A statement, signed by a professional engineer, registered in New Mexico, that the remedy  
17 has been completed in accordance with NMED approved work plan for the remedy.
- 18 3. As-built drawings and specifications signed and stamped by a professional engineer  
19 registered in New Mexico.
- 20 4. Copies of the results of all monitoring, including sampling and analysis, and other data  
21 generated during the remedy implementation, if not already submitted in a progress report.
- 22 5. Copies of all waste disposal records, if not already submitted in a progress report.
- 23 6. A certification, signed by a responsible official of both NASA and White Sands Missile  
24 Range (owner and co-operator), stating: "I certify under penalty of law that this document  
25 and all attachments were prepared under my direction or supervision according to a system  
26 designed to assure that qualified personnel properly gather and evaluate the information  
27 submitted. Based on my inquiry of the person or persons who manage the system, or those  
28 persons directly responsible for gathering the information, the information submitted is, to  
29 the best of my knowledge and belief, true, accurate, and complete. I am aware that there are  
30 significant penalties for submitting false information, including the possibility of fine and  
31 imprisonment for knowing violations."

1 **VIII ACCELERATED CLEANUP PROCESS**

2 If the Permittee identifies a corrective action or measure that, if implemented, will reduce risks to  
3 human health and the environment to levels required by this Permit, will reduce cost or will achieve  
4 cleanup of a SWMU or AOC ahead of schedule, the Permittee may implement the corrective action  
5 or measure as provided in this section (VII.L), in lieu of the process established in Sections VII.G  
6 through VII.K. The accelerated cleanup process shall be used at sites to implement presumptive  
7 remedies at small-scale and relatively simple sites where groundwater contamination is not a  
8 component of the accelerated cleanup, where the remedy is considered to be the final remedy for the  
9 site, and where the field work will be completed within 180 days of the commencement of field  
10 activities.

11 The Permittee shall notify NMED of the planned accelerated corrective measure a minimum of 30  
12 days prior to the commencement of any accelerated field activity. The notification shall include the  
13 submittal of the Plan if not already submitted to NMED.

14 **VIII.L.1 Accelerated Corrective Measures Work Plan**

15 The proposed accelerated cleanup shall be documented in an Accelerated Corrective Measures Work  
16 Plan, which, at a minimum, shall include:

- 17 1. A description of the proposed remedial action, including details of the unit or activity that is  
18 subject to the requirements of this Permit;
- 19 2. An explanation of how the proposed cleanup action is consistent with the overall corrective  
20 action objectives and requirements of this Permit;
- 21 3. The methods and procedures for characterization and remediation sample collection and  
22 analyses; and
- 23 4. A schedule for implementation and reporting on the proposed cleanup action.

24 The Permittee shall obtain NMED approval of an Accelerated Corrective Measures Work Plan prior  
25 to implementation. The Permittee shall prepare the Work Plan in general accordance with the  
26 requirements of Permit Attachment 20 (*Reporting Requirements*) of this Permit. The Permittee shall  
27 include an implementation schedule in the revised Accelerated Corrective Measures Work Plan.

28 **VIII.L.2 Accelerated Corrective Measures Implementation**

29 Upon NMED approval, the Permittee shall implement the accelerated corrective measures in  
30 accordance with the approved Work Plan. Within 90 days of completion of the accelerated  
31 corrective measures, the Permittee shall submit to NMED for approval a Remedy Completion Report  
32 in a format approved by NMED in accordance with Permit Attachment 20 (*Reporting Requirements*)  
33 of this Permit. If upon review, NMED determines that applicable cleanup levels were not achieved  
34 during corrective measures implementation or that there were deficiencies in the accelerated  
35 corrective measures implementation or reporting, NMED will notify the Permittee in writing.