NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
WHITE SANDS TEST FACILITY

HAZARDOUS WASTE PERMIT

NOVEMBER 2009

(Modified November 2016)

HAZARDOUS WASTE PERMIT
EPA ID No. NM8800019434

to

UNITED STATES NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

for the

WHITE SANDS TEST FACILITY

Located in

DOÑA ANA COUNTY, NEW MEXICO

November 2009

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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I. GENERAL PERMIT CONDITIONS

I.A AUTHORITY

This Permit is issued pursuant to the authority of the New Mexico Environment Department (NMED) under the New Mexico Hazardous Waste Act (HWA), NMSA 1978, §§ 74-4-1 to 74-4-14, in accordance with the New Mexico Hazardous Waste Management Regulations (HWMR), 20.4.1 NMAC.

Pursuant to the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. §§ 6901 to 6992k, the State of New Mexico, through the NMED, is authorized to administer and enforce the state hazardous waste management program under the HWA in lieu of the federal program.

This Permit contains terms and conditions that the NMED has determined are necessary to protect human health and the environment (40 CFR § 270.32(b)(2)).

I.B PERMITTEE AND PERMITTED ACTIVITY

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

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

I.C PERMIT CITATIONS

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

Hazardous waste management regulations are frequently cited throughout this Permit. The federal Hazardous Waste Management Regulations, 40 CFR Parts 260 through 273, are generally cited rather than the New Mexico Hazardous Waste Management Regulations, 20.4.1 NMAC. The federal regulations are cited because only the federal regulations set forth the detailed regulatory requirements; the State regulations incorporate by reference, with certain exceptions, the federal regulations in their entirety. Citing only the federal regulations also serves to avoid encumbering each citation with references to two sets of regulations. However,

it is the State regulations that are legally applicable and enforceable. Therefore, for the purpose of this Permit, and enforcement of its terms and conditions, all references to provisions of federal regulations that have been incorporated into the State regulations shall be deemed to include the State incorporation of those provisions.

I.D EFFECT OF PERMIT

Compliance with this Permit during its term constitutes compliance, for purposes of enforcement, with 20.4.1.500, 700 and 800 NMAC (incorporating 40 CFR parts 264, 266 and 268), except for those requirements not included in this permit under 40 CFR 270.4(a), only for those management practices specifically authorized by this Permit. The Permittee must also comply with all applicable self-implementing provisions imposed by statute or rule, including 20.4.1.100, 200, 300, 400, 500, 700, and 800 NMAC (incorporating 40 CFR parts 260, 261, 262, 263, 264, 266, and 268). Compliance with this Permit shall not constitute a defense to any order issued or any action brought under Sections 74-4-10, 74-4-10.1 or 74-4-13 of the HWA; Sections 3008(a), 3008(h), 3013, 7002(a) or 7003 of the Resource Conservation and Recovery Act (RCRA), as amended, 42 U.S.C. 6901 to 6922k; Sections 104, 106(a), and 107 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), 42 U.S.C. 9601 to 9675.; or any other law providing for protection of public health or the environment. This Permit does not convey any property rights of any sort or any exclusive privilege, nor authorize any injury to persons or property, any invasion of other private rights, or any infringement of State or local laws or regulation. Compliance with this Permit does not relieve the Permittee from the responsibility of complying with all applicable state or federal laws and regulations. [20.4.1.900 NMAC (incorporating 40 CFR 270.4, 270.30(g) and 270.32(b)(1)); 20.4.1.901.A(11); and 1100 NMAC]

I.E EFFECT OF INACCURACIES IN PERMIT APPLICATION

This Permit is based on the information submitted in the Part B Permit application dated November 2005 and consequential information, collectively referred to as the Application. The Permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the Permittee's misrepresentation of any relevant facts at any time may be grounds for the termination, revocation and reissuance, or modification of this Permit pursuant to 40 CFR 270.43(a)(2) which is incorporated herein by reference. Where and when the Permittee becomes aware that it failed to submit any relevant facts in the Application, or submitted incorrect information in the Application or in any report to the NMED, it shall promptly submit such facts or information pursuant to 40 CFR 270.30(l)(11) which is incorporated herein by reference.

I.F ENFORCEMENT

Any violation of a condition of this Permit may subject the Permittee, and its officers, employees, successors, and assigns, to a compliance order under section 74-4-10 of the HWA or section 3008(a) of RCRA, 42 U.S.C. § 6928(a); to an injunction under section 74-4-10 of the HWA, section 3008(a) of RCRA, 42 U.S.C. § 6928(a), or section 7002(a) of RCRA, 42 U.S.C. § 6972(a); to civil penalties under section 74-4-10 of the HWA, section 3008(a) and (g) of RCRA,

42 U.S.C. § 6928(a) and (g), or section 7002(a) of RCRA, 42 U.S.C. § 6972(a), to criminal penalties under section 74-4-11 of the HWA or section 3008(d), (e), and (f) of RCRA, 42 U.S.C. § 6928(d), (e), and (f); or to some combination of the foregoing. The list of authorities in this Paragraph is not exhaustive, and NMED reserves the right to take any action authorized by law to enforce the requirements of this Permit.

I.G PERMIT COMPONENTS

This Permit consists of the regulations incorporated by reference into this Permit, the Permit Conditions in Permit Sections 1 through VII, and Permit Attachments 1 through 22.

I.H PERMIT ACTIONS

I.H.1 Term of Permit

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

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

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

I.H.3 Unclassified Permit Modifications

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

I.H.4 Transfer of Land Ownership

The Permittee shall submit a permit modification request, in compliance with all requirements of 40 CFR 270.42, at least 180 calendar days prior to the proposed effective date of transfer of ownership of any land which is part of the Facility. The permit modification request may be submitted as a Class 3 permit modification request, or the Permittee may request a determination that the modification is a Class 1 or 2 pursuant to the requirements of 40 CFR 270.42(d) which is

incorporated herein by reference. In addition to the requirements of 40 CFR 270.42, a permit modification request for transfer of land that is part of the Facility shall:

1. Identify the boundaries of the land proposed for transfer;

2. Identify the new owner;

3. Describe the location and identity of any existing or prior SWMU, AOC, or hazardous waste management unit on the land proposed for transfer;

4. Describe any known or suspected presence of hazardous waste or hazardous constituents in soil or ground water at any depth within the boundaries of the land proposed for transfer;

5. Describe the status of any past, present, or planned investigations or remediation of any release of hazardous waste or hazardous constituents within the boundaries of the land proposed for transfer;

6. Include a revised map of the Facility (*e.g.*, a revised Permit Attachment 2);

7. Propose and describe all provisions necessary to ensure that the Permittee can meet the corrective action obligations, the HWA, and the Hazardous Waste Management Regulations (e.g., covenants, deed restrictions, proposed replacement of monitoring wells or enforceable agreements for access to monitoring wells on transferred land). [40 CFR 264.101; 40 CFR 270.30(l)(1), 270.32(b) and 270.42); and 20.4.1.901 NMAC]; and

8. Describe all measures taken to comply with Section 120(h) of the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §9629(h).

I.H.5 Permit Renewal

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

I.H.6 Continuation of Expiring Permit

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

1. The Permittee has submitted a timely application that satisfies the applicable sections in 40 CFR 270.13 through 270.28, which is a complete application in accordance with 40 CFR 270.10(c) for a new permit; and

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

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

I.I PERMIT CONSTRUCTION

I.I.1 Severability

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

I.I.2 Conflict in Language

If there is a conflict between the language of a Permit Section and the language of any Permit Attachment where the Attachment includes text provided by the Permittee that is not expressly written by NMED, then the language of the Permit Section shall control the language in the Permit Attachment. This Permit and 40 CFR 264, 266 and 268 establish the minimum requirements for the design, construction, operation, and maintenance of the Facility. Any language in an attachment, which states or implies discretion to not comply with the minimum requirements of this Permit or 40 CFR 270.32(b)(1) is not effective and the requirements of this Permit and 40 CFR 270.32(b)(1) shall control.

I.J DEFINITIONS

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

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

Area of Concern (AOC) means any area having a known or suspected release of hazardous waste or hazardous constituents that is not from a solid waste management unit and that NMED has

determined may pose a current or potential threat to human health or the environment. An area of concern may include buildings, structures or other locations at which releases of hazardous waste or constituents have not been remediated, including releases resulting from one time and accidental events.

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

Department means the New Mexico Environment Department.

Discharge means the accidental or intentional spilling, leaking, pumping, pouring, emitting, emptying, or dumping of hazardous waste into or onto any land or water (as defined in 40 CFR 260.10).

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

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

Facility means National Aeronautics and Space Administration (NASA) White Sands Test Facility (WSTF), EPA ID Number NM 8800019434, owned by the United States, and located in Doña Ana County, approximately 18 miles northeast of Las Cruces, New Mexico and 65 miles north of El Paso, Texas, including all structures, other appurtenances, and improvements on the land, used for treatment, storage, or disposal of hazardous waste as designated on Permit Attachment 2. For the purpose of implementing corrective action, “Facility” means all contiguous property under the control of the Permittee.

Foreign source means hazardous waste generated outside the United States.

Hazardous Waste, for the purposes of corrective action, closure, and post-closure care, means any solid waste or combination of solid wastes that because of their quantity, concentration or physical, chemical or infectious characteristics may: (1) cause or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness; or (2) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of or otherwise managed except as otherwise provided in 74-4-3.K of the HWA. Hazardous waste includes perchlorate, methyl tertiary butyl ether, and munitions constituents as defined in 10 U.S.C. 2710(e)(3).

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

Hazardous constituent means any constituent identified in 40 CFR Part 261 Appendix VIII and any constituent identified in 40 CFR Part 264 Appendix IX. For purposes of corrective action, closure, and post-closure care, hazardous waste also includes perchlorate, methyl tertiary butyl ether, and munitions constituents as defined in 10 U.S.C. 2710(e)(3)

NASA Working Day means every Monday through Friday, with the exception of recognized federal holidays, federal days off mandated by Executive Orders, site closure due to inclement weather or other uncontrollable circumstances, or site-wide compressed or flexible schedule as authorized by NASA management and presented in WSTF Information Bulletin 788, as updated.

NMED means the New Mexico Environment Department.

Off-site source means a generator of hazardous waste located within the United States, but outside the Facility.

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

Outer Boundary means the boundary as designated on the topographic map included in Permit Attachment 2.

Owner means the person who owns the Facility or part of a Facility. The United States is the owner of NASA White Sands Test Facility.

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

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

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

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

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

Watercourse shall have the meaning defined in 20.6.2.7 NMAC.

I.K GENERAL REQUIREMENTS

I.K.1 Duty to Comply

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

I.K.2 Transfer of Permit

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

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

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

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

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

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

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

I.K.4 Duty to Mitigate

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

I.K.5 Proper Operation and Maintenance

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

I.K.6 Duty to Provide Information

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

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

Information and records requested by NMED pursuant to this condition shall be provided in a format or formats acceptable to NMED.

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

I.K.7 Inspection and Entry

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

1. Enter at reasonable times into the Permittee's premises where the regulated Facility or activity is located or conducted, or where records must be kept in accordance with this Permit;

2. Have access to and copy, at reasonable times, any records that must be kept in accordance with this Permit;

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

4. Sample, monitor or measure at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by RCRA and the HWA, any substances or parameters at any location. [40 CFR 270.30(i), which is incorporated herein by reference]

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

I.K.8 Monitoring and Records

I.K.8.a Representative Sampling

For purposes of monitoring, the Permittee shall take samples and measurements representative of the monitored activity in accordance with the procedures set forth in Permit Attachment 17 (*Investigation and Sampling Methods and Procedures*). All samples and measurements of waste streams taken by the Permittee under any condition in this Permit shall be representative of the waste, media, equipment or structure being sampled. To obtain a representative sample of a waste stream the Permittee shall use an appropriate method from Appendix I of 40 CFR 261 or an equivalent method approved by the Secretary. Laboratory methods must be those specified in the current edition of *Test Methods for Evaluating Solid Waste Physical/Chemical Methods SW-846*, or an equivalent method, as specified in the *Waste Analysis Plan* in Attachment 12 [40 CFR 270.30(j)(1), which is incorporated herein by reference].

I.K.8.b Record Retention

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

I.K.8.c Monitoring Records Content

Records of monitoring information shall include:

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

2. The name(s) of the individual(s) who performed the sampling or measurements;

3. The date(s) analyses were performed;

4. The name(s) of the individual(s) who performed the analyses;

5. The analytical techniques or methods used; and

6. The results of such analyses.

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

I.K.9 Reporting Requirements

I.K.9.a Reporting Planned Changes

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

I.K.9.b Reporting Anticipated Noncompliance

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

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

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

1. The Permittee has submitted to the NMED, by certified mail or hand delivery, a letter signed by the Permittee and a professional engineer registered in New Mexico stating that the facility has been constructed or modified in compliance with the Permit; and

2. The NMED has inspected the modified or newly constructed portion of the Facility and finds it is in compliance with the conditions of this Permit, or waived the inspection, or within 15 calendar days from the date of submission of the letter required by Permit Section I.K.9.a, has not notified the Permittee of its intent to inspect.

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

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

I.K.9.d.i Oral Report

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

1. Information concerning any release of any hazardous waste that may cause an endangerment to public drinking water supplies;

2. Information of a release or discharge of hazardous waste, or of a fire or explosion at the Facility, that could threaten the environment or human health outside the Facility; and

3. The description of the occurrence and its cause including:

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

   (b) Name, address, and telephone number of the Facility;

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

   (d) Name and quantity of materials involved;

   (e) The extent of injuries, if any;

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

   (g) Estimated quantity and disposition of recovered material that resulted from the incident.

I.K.9.d.ii Written Report

The Permittee shall submit a written notice to NMED within five calendar days from the time the Permittee becomes aware of the noncompliance referenced in Permit Section I.K.9.d.i. The written notice shall contain the following:

1. A description of the noncompliance and its cause;

2. The period of the occurrence including exact date and time, and, if the noncompliance has not been corrected, the anticipated time it is expected to continue; and

3. Steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

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

I.K.9.e Contingency Plan Implementation

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

I.K.9.f Manifest Discrepancy Report

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

I.K.9.g Unmanifested Waste Report

The Permittee shall submit an unmanifested waste report to the NMED within 15 days of receipt of unmanifested waste in compliance with 40 CFR 270.30(l)(8) which is incorporated herein by reference.

I.K.9.h Biennial Report

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

I.K.9.i Other Noncompliance

The Permittee shall report all other instances of noncompliance not otherwise required to be reported under Permit Section I.K.9.d, as required by 20.4.1.900 NMAC, incorporating 40 CFR 270.30(l)(10) in monthly environmental activities report. The report shall contain the information listed in Permit Sections I.K.9.d.i and I.K.9.d.ii.

I.K.9.j Other Information

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

I.K.9.k Confidential Information

The Permittee may claim confidentiality for any information required by this Permit, to the extent authorized by the Section 74-4-4.3.D NMSA 1978 and 20.4.1.900 NMAC, incorporating 40 CFR 270.12. The Permittee shall segregate confidential material during all record keeping activities required under this Permit to facilitate NMED inspections under Permit Section I.K.7. A claim of confidentiality is not a basis for withholding documents or information from NMED, or for denying NMED representative's access to records or documents.

I.K.9.l Monthly Environmental Activities Report

The Permittee shall submit to the NMED monthly environmental activities reports that briefly describe the waste management, monitoring, and corrective action activities; list documents submitted; and identify any noncompliance required to be reported under this Section (I.K.9.i) for the previous calendar month. The reports shall also describe scheduled monitoring activities and sampling notifications for the upcoming calendar month. The reports shall be submitted no later than the 15th of each month.

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

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

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

Each submission shall be in a format or formats acceptable to NMED.

I.K.11 Signatory Requirement

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

I.K.12 Information Repository

The Permittee shall establish and maintain an information repository in accordance with the requirements of 40 CFR 124.33(c)-(f) which is incorporated herein by reference. The information repository shall be located in Las Cruces, New Mexico, or accessible on the internet through the Permittee's website home page. The information repository must be accessible to the public during normal business hours. [40 CFR 270.30(m), which is incorporated herein by reference]

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

The Permittee shall maintain at the Facility, until completion of closure and post-closure care in compliance with Permit Section I.K.8, the following documents including all amendments, revisions, and modifications to these documents:

1. This Permit, including all Attachments;
2. The chemical and physical analyses of the hazardous wastes and hazardous debris managed or handled at the Facility under this Permit. At a minimum these analyses shall contain all the information required to treat or store the wastes properly under the requirements of 40 CFR 264 and as required by this Permit.
3. The *Waste Analysis Plan* as required by 40 CFR 264.13(b) and this Permit;
4. Security procedures and a listing of security equipment as required by 40 CFR 264.14 and this Permit;
5. Inspection schedules and results, for three years from the date of the inspection, as required by 40 CFR 264.15(b)(2) and this Permit;
6. Preparedness and prevention procedures and a listing of related equipment as required by 40 CFR 264, Subpart C and this Permit;
7. Personnel training, including both introductory and continuing training programs, used to prepare employees to safely operate and maintain this Facility in compliance with 40 CFR 264.16(d) and this Permit;
8. The *Contingency Plan* required under Permit Section II.K and any summary reports and details of all incidents that require implementation of the *Contingency Plan* in accordance with 40 CFR 264.56 (j) and a copy of all Memoranda of Agreement, Memoranda of Understanding, Mutual Aid Agreements and contracts with emergency response contractors and suppliers;
9. A description of procedures, structures or equipment used at the Facility to prevent hazards in unloading/loading operations, prevent run-off from hazardous waste handling areas to other areas of the Facility or environment or to prevent flooding, prevent contamination of water supplies, mitigate the effects of equipment failure and power outages, prevent undue exposure of personnel to hazardous waste, and prevent releases to the atmosphere as required under this Permit;
10. Special precautions for ignitable, reactive, or incompatible wastes as required by 40 CFR 264.17 and this Permit;
11. Traffic patterns, estimated volumes and control as required by this Permit;
12. The Facility Operating Record, as required by 40 CFR 264.73 and Permit Section II.L.2;
13. *Closure plans* for each Permitted Unit as required by 40 CFR 264.112 and this Permit; and,
14. Such records shall be in a format or formats acceptable to NMED.

I.K.14 Community Relations Plan

The Permittee shall prepare and implement a Community Relations Plan to inform the public and all interested parties of investigation and cleanup activities conducted under this Permit, and to inform the public of safety issues concerning releases of hazardous waste or hazardous constituents at the Facility and beyond the Outer Boundary. The Permittee shall provide NMED with the most recent version of their community relations plan within 90 days of the effective date of this Permit and any updates or revisions to the plan within 30 days after modification.

I.L APPROVAL OF WORK PLANS AND OTHER DOCUMENTS

All monitoring plans, work plans, including Investigation Work Plans, Interim Measures Work Plans, Accelerated Corrective Measures Work Plans, and Corrective Measures Implementation Plans, Corrective Measures Evaluation Reports, and all associated schedules that the Permittee prepares under the terms of this Permit must be approved by the NMED prior to their implementation. Upon receiving a work plan or other document for approval, the NMED will review the document and either approve the document, approve it with modifications, disapprove, deny, or reject it. If the NMED approves the document, it will notify the Permittee in writing. If the NMED approves the document with modifications, the NMED will notify the Permittee in writing of the necessary modifications, and the reasons for the modifications. If the NMED disapproves a document, it will notify the Permittee in writing of the disapproval and the deficiencies in the document or other reasons for the disapproval. A notice of disapproval may also state modifications necessary for NMED approval. Upon receipt of a notice of disapproval, the Permittee shall revise the work plan or other document to incorporate all modifications and correct all deficiencies. Within 30 days after receipt of notice of disapproval, or such other time as specified by the NMED, the Permittee shall submit the revised work plan or other document to the NMED for approval.

Upon NMED approval, all monitoring plans, work plans, and Corrective Measures Evaluation Reports, and associated schedules are incorporated herein by reference, including any required modifications, and become an enforceable part of this Permit, and therefore become enforceable under the provisions of the HWA and RCRA. If NMED approves in writing a work plan with requirements that are different from those included in this Permit, the alternate requirements of the approved work plan, rather than the requirements in this Permit shall be applicable and enforceable. Incorporation of a work plan to the Permit is not considered to be a permit modification.

I.M EXTENSIONS OF TIME

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

II. GENERAL FACILITY CONDITIONS

II.A OPERATION AND MAINTENANCE OF THE FACILITY

This Permit authorizes the treatment of hazardous wastes only in the treatment areas known as the Evaporation Treatment Unit (ETU) located in Area 200, and the Fuel Treatment Unit (FTU) located in Area 500, and at no other locations in the Facility except as provided for in 40 CFR 268.7(a)(5). The Permittee shall submit to the NMED each year by January 30 a revised list and map of the hazardous waste generation locations.

The Permittee shall maintain and operate the Facility to minimize the possibility of a fire, explosion, or any unplanned, sudden, or non-sudden release of hazardous waste or hazardous constituents to air, soil, groundwater, or surface water that could threaten human health or the environment, in accordance with the requirements of 40 CFR 264.31, which is incorporated herein by reference. The Permittee shall construct and maintain all structures and equipment, and follow the operating procedures described in Permit Attachments 3 through 22.

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

II.B WASTE SOURCES

II.B.1 Permitted Waste

The Permittee shall treat in the ETU and FTU for subsequent transfer to a treatment, storage, or disposal facility only the hazardous wastes containing the hazardous waste numbers specified in Permit Attachment 2 *(Part A Permit Application)*. After treatment, such wastes shall be transferred to an appropriate treatment, storage, or disposal facility in accordance with this Permit and applicable law. Elementary neutralization is subject to the exemption at 40 CFR 264.1(g)(6).

The Permittee may also place additional quantities of non-hazardous wastewater in the ETU. The Permittee shall document that all non-hazardous wastewater that is placed in the ETU is compatible with hazardous waste managed in the unit, will not damage the liner in the unit, and is in compliance with 40 CFR 264 Subpart CC in accordance with Permit Section II.C.5.

The Permittee shall limit the wastes managed at the FTU to the following fuel wastes: hydrazine (U133), methyl hydrazine (P068), and 1,1-dimethylhydrazine (U098). The Permittee may also place uncontaminated water in the FTU as a safety measure.

By March 31 of each year, the Permittee shall submit to NMED an annual waste summary which lists hazardous and non-hazardous waste streams that were placed in the ETU and the FTU during the previous calendar year. This summary shall list the waste streams and their traceable identification numbers, specify the quantity of each waste placed in the units, describe the

processes generating each waste, identify the applicable hazardous waste numbers associated with each waste stream, and state whether each waste stream is anticipated to be managed in the ETU or FTU in the current year.

II.B.2 Prohibited Wastes

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

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

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

II.B.2.b PCB Contaminated Waste

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

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

The Permittee is prohibited, in accordance with the requirements of 40 CFR 268.50 which is incorporated herein by reference, from storing hazardous waste restricted from land disposal pursuant to the requirements of 40 CFR part 268 subpart C for more than one year from the date such waste was first placed into storage. The Permittee may store such hazardous waste for more than one year only in the Evaporation Treatment Unit if the waste stored meets the requirements and description (maximum annual quantities and EPA waste numbers) as set forth in Attachment 2 (*Permit Application Part A*). The Permittee shall remove accumulated sludge from the ETU in accordance with the procedures described in Permit Attachment 13 within five years after the effective date of the Permit. The Permittee shall remove the accumulated sludge once every five years thereafter for as long as the ETU is in operation.

II.B.3 Waste Dilution

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

II.C WASTE CHARACTERIZATION

II.C.1 General Requirements

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

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

1. The determination of whether a solid waste is a hazardous waste in accordance with the requirements of 40 CFR 262.11, which is incorporated herein by reference, and Section 6.3 of Permit Attachment 12 (*Waste Analysis Plan*).

2. Assignment of applicable EPA Hazardous Waste Numbers, in accordance with the requirements of 40 CFR 268.9(a), which is incorporated herein by reference.

3. The determination of whether or not the waste is an authorized waste pursuant to Permit Sections III.B and IV.B, and is not otherwise prohibited by this Permit.

4. Characterization sufficient to prevent the mixing or placing of incompatible wastes in the same tank system in accordance with 40 CFR 264.17 and 264.199, which are incorporated herein by reference. The Permittee shall characterize the waste sufficiently to prevent the impairment of tank systems by associated wastes, in accordance with the requirements of 40 CFR 264.194(a), which is incorporated herein by reference.

5. Characterization sufficient to prevent accidental ignition or reaction of ignitable or reactive wastes in tank systems in accordance with 40 CFR 264.17 and 264.199, which are incorporated herein by reference.

II.C.2 General Waste Characterization Methods

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

1. The parameters for which each hazardous waste or non-hazardous waste will be characterized and the rationale for the selection of these parameters;

2. Any analytical test methods that will be used to test for these parameters;

3. Any sampling method that will be used to obtain a representative sample of the waste to be analyzed; and

4. The waste characterization data quality assurance considerations.

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

The Permittee shall characterize waste by using either current sampling and analysis, acceptable knowledge, or a combination of the two methods as described in the WAP and this Permit and in general accordance with 40 CFR 262.11 which are incorporated herein by reference and EPA guidance *Waste Analysis at Facilities that Generate, Treat and Dispose of Hazardous Wastes* (OSWER 9938.4-03, April 1994). All chemical analytical methods not covered under *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, (U.S. EPA Publication SW-846, as updated) must be approved by NMED prior to their implementation.

II.C.2.a Sampling and Analysis

The Permittee shall perform all sampling and analytical procedures used for waste characterization, with the exception of hydrazine wastes, in accordance with the most recent version of *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, (U.S. EPA Publication SW-846) or an equivalent method that has received prior approval from the NMED. The Permittee shall analyze hydrazine wastes in accordance with the procedures specified in Section 6.4.3 of the *Waste Analysis Plan* in Permit Attachment 12.

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

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

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

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

1. A statement of the need and justification for the proposed action;
2. A full description of the proposed method (i.e., a standard operating procedure), including all procedural steps and equipment used in the method;
3. A description of the types of wastes or waste matrices for which the proposed method may be used;
4. Performance data;
5. Comparative results obtained from using the proposed method with those obtained from using the relevant or corresponding methods prescribed in SW-846 and 40 CFR 261 and 264;
6. An assessment of any factors which may interfere with or limit the use of the proposed method; and
7. A description of the quality control procedures necessary to ensure the sensitivity, accuracy and precision of the proposed method.

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

II.C.2.a.i ETU Wastes

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

II.C.2.a.ii FTU Wastes

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

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

The Permittee may use acceptable knowledge to characterize waste in lieu of sampling and analysis or to supplement sampling and analysis. The Permittee shall include in the acceptable knowledge documentation all of the background information assembled and used in the characterization process, whether or not the information supports the decision to use acceptable knowledge, and a report summarizing the supporting documentation and waste characterization

conclusions. The acceptable knowledge record must document the resolution of any data discrepancies between different acceptable knowledge sources. The Permittee shall provide additional waste characterization information if requested by NMED. Such information shall be provided within the time specified by NMED.

II.C.3 Waste Characterization Documentation

The Permittee shall maintain the waste characterization documentation listed in Permit Attachment 4 (*Required Hazardous Waste Characterization Information)* in the Facility Operating Record.

Examples of appropriate documentation include, but are not limited to:

1. Historical data obtained for the waste generating process (including data obtained from off-site disposal facilities);
2. Material Safety Data Sheets, product labels, and other product package information;
3. Waste stream logbooks;
4. Process design documents;
5. Detailed information on the waste stream obtained from published manuals or technical documents;
6. Preliminary and final reports and analyses of the operations generating the waste;
7. Information from operating procedures, which can include a list of the raw materials or reagents, a description of the process or experiment that uses the materials, and a description of the wastes generated and how the wastes are handled;
8. Waste packaging logs;
9. Test plans or research project reports that describe the reagents and other raw materials used in a process or experiment;
10. Engineering notebooks that detail the processes and raw materials used in a process or experiment;
11. Chemical inventories;
12. Information from personnel (e.g., documented interviews);
13. Standard industry practice documents (e.g., vendor information);
14. Industry reports on a similar process when there is a clear connection between the NASA process and the industry’s similar process;

15. Previous analytical data relevant to the waste or waste stream, including results from fingerprint analyses, spot checks, or routine waste verification sampling;

16. Analytical data from studies of common industry processes that are similar to NASA processes, which can be used to identify the constituents in a specific "similar" process waste and to determine the regulatory status of the waste;

17. Sampling and analysis data from comparable wastes or waste streams;

18. Analysis of a surrogate waste or waste stream; and

19. Documented visual inspections to confirm or identify the physical characteristics and packaging of a waste.

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

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

II.C.3.a Treatment-Derived Waste

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

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

II.C.4 Waste Characterization Review

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

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

Re-characterize a waste whenever there is a change in waste-generating processes that may affect the physical or chemical properties or listed status of the waste;

Re-characterize a waste whenever the Permittee is notified by an off-site facility that has received a hazardous waste from the Facility that the characterization of the waste received at the receiving facility does not match a pre-approved waste analysis certification or accompanying waste manifest or shipping paper. The Permittee shall notify NMED in writing within 24 hours of its receipt of such a discrepancy notice from a receiving facility.

Wastes that are generated on a one-time basis or wastes listed in 40 CFR 261.31 (P and U listings) for which the Permittee possesses an MSDS or equivalent information from the manufacturer identifying chemical content, are exempt from the re-evaluation requirements of this Permit Section (II.C.4). Waste characterization review requirements for newly generated wastes from waste treatment processes are addressed elsewhere in this Permit.

II.C.5 Control of Air Emissions

The Permittee's operation of the ETU is exempt from the Air Emission Standards for Equipment Leaks in 40 CFR 264 Subpart BB which is incorporated herein by reference. To maintain this exemption, the Permittee shall characterize each waste stream that is managed in the ETU to verify that the concentration of organic compounds is less than 10% by weight, in accordance with the requirements in 40 CFR 264.1050(b), which is incorporated herein by reference.

The Permittee's operation of the ETU is exempt from the Air Emission Standards for Tanks, Surface Impoundments and Containers in 40 CFR 264 Subpart CC, which is incorporated herein by reference. To maintain this exemption, the Permittee shall characterize all wastes (hazardous and non-hazardous) at the point of generation to verify that no waste contains 500 or more parts per million by weight (ppmw) of volatile organic compounds. The Permittee shall determine the average volatile organic concentration in accordance with the requirements in 40 CFR 264.1083(a), which is incorporated herein by reference and Section 6.2.2.3 and Appendix 6-D of

the *Waste Analysis Plan*. The Permittee shall review and update this waste characterization at least once every 12 months following the date of the initial determination. The Permittee shall maintain documentation of these waste characterization activities in the Facility Operating Record during the operating life of the ETU.

The Permittee's operation of the FTU is exempt from the Air Emission Standards for Equipment Leaks in 40 CFR 264 Subpart BB, which is incorporated herein by reference. To maintain this exemption, the Permittee shall control air pollutant emissions from the FTU using Tank Level 2 controls in accordance with the requirements of 40 CFR 264.1084(d)(3), which is incorporated herein by reference. Although the FTU manages wastes with organic concentrations greater than 10 percent in the flex hose connector from the product HOKE bottle to the water line, it is exempt from Subpart BB controls pursuant to 40 CFR 264.1050(f) provided that the Permittee ensures that these wastes do not contact the hose for greater than 300 hours per calendar year.

II.C.6 Compliance with Land Disposal Restrictions

II.C.6.a Hazardous Waste Analysis

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

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

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

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

The Permittee shall not dilute a waste that is restricted from land disposal, or the residue from treatment of a restricted waste, as a substitute for treatment in compliance with 40 CFR 268.3 which is incorporated herein by reference. Dilution to avoid an applicable treatment standard includes, but is not limited to, the addition of solid waste to reduce a hazardous constituent's concentration, or ineffective treatment that does not destroy, remove, or permanently immobilize hazardous constituents. The Permittee shall not aggregate a waste that is restricted from land disposal with other waste streams or materials as a substitute for compliance with 40 CFR 268.3

which is incorporated herein by reference. Aggregating or mixing wastes as part of a legitimate treatment process is permissible dilution under this Permit.

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

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

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

II.D WASTE MINIMIZATION

The Permittee shall institute a waste minimization program to reduce the volume and toxicity of hazardous wastes generated by the Facility's operation to the degree determined by the Permittee to be economically practicable. The proposed method must be in compliance with 40 CFR 264.73(b)(9), which is incorporated herein by reference.

The Permittee shall submit a copy of the annual certified statement regarding the waste minimization program to NMED by December 1 for the previous year ending September 30. The report shall include each of the following items:

Any written policy or statement that outlines goals, objectives, and methods for source reduction and recycling of hazardous waste at the Facility.

Any employee training or incentive programs designed to identify and implement source reduction and recycling opportunities for all hazardous wastes.

Any source reduction or recycling measures implemented in the last five years or planned for the near future.

An itemized list of the dollar amounts of capital expenditures (plant and equipment) and operating costs devoted to source reduction and recycling of hazardous waste.

Factors that have prevented implementation of source reduction or recycling.

Sources of information on source reduction or recycling received at the Facility (e.g., local government, trade associations, suppliers).

An investigation of additional waste minimization efforts, which could be implemented at the Facility. This investigation shall analyze the potential for reducing the quantity and toxicity of each waste stream through production process change, production reformulation, recycling, and all other appropriate means. The analysis shall include an assessment of the technical feasibility, cost, and potential waste reduction for each option.

A flow chart or matrix detailing all hazardous wastes the Facility produces, by quantity and type and by building or area and program.

Demonstration of the need to use those processes which produce a particular hazardous waste due to a lack of alternative processes, available technology, or available alternative processes that would produce less volume of toxic waste.

The Permittee shall include a copy of the waste minimization plan in the Operating Record.

II.E DUST SUPPRESSION

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

II.F SECURITY

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

II.G GENERAL INSPECTION REQUIREMENTS

The Permittee shall follow the inspection schedule specified in Permit Attachment 7 (*Inspection Schedule*). The Permittee shall inspect the Hazardous Waste Management Units and remedy any deterioration or malfunction discovered by an inspection, in accordance with the requirements of 40 CFR 264.15 which is incorporated herein by reference. Records of inspection shall be kept as required by 40 CFR 264.15(d) which is incorporated herein by reference. Emergency equipment shall be inspected at the frequency specified in Permit Attachment 7 (*Inspection Schedule*) to ensure it is properly maintained as required by Permit Section II.J.3.

II.H PERSONNEL TRAINING

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

1. The job title for each hazardous waste management position at the Facility and the name of each employee filling the position;

2. A written job description for each hazardous waste management position. This description must include the requisite skill, education or other qualifications and duties of employees assigned to each position; and
3. A written description of the type and amount of both introductory and continuing training that will be given to each person filling a hazardous waste management position.
4. Records that document Facility personnel have received and completed the training and/or job experience required under Permit Section II.L. The records must be searchable by employee name, or position description.

II.I IGNITABLE, REACTIVE, OR INCOMPATIBLE WASTE

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

II.J PREPAREDNESS AND PREVENTION

II.J.1 Operation and Maintenance of Facility

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

II.J.2 Required Equipment

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

II.J.3 Testing and Maintenance of Equipment

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

The Permittee shall ensure that if testing identifies any communication equipment, alarm system component or fire protection, spill control or decontamination equipment that is not functioning properly, it is promptly repaired. The Permittee shall immediately provide substitute equipment or systems while the repairs are ongoing. The Permittee shall ensure that Facility employees and contractors are notified of the presence of substitute equipment and, if necessary, trained in its

use. The Permittee shall ensure that malfunctioning equipment is clearly marked as "Out of Use" and the location of the substitute equipment is posted adjacent to the malfunctioning equipment.

II.J.4 Access to Communications or Alarm System

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

II.J.5 Arrangements with Local Authorities

The Permittee shall maintain emergency coordination arrangements to familiarize the emergency responders listed in Permit Attachment 3 (Contingency Plan) with the layout and potential hazards at the Facility in accordance with 40 CFR 264.37, which is incorporated herein by reference. Copies of the Emergency Coordination Agreements shall be maintained at the Facility. The Permittee shall provide those organizations that have entered into an agreement with the Permittee with a copy of the *Contingency Plan* (Permit Attachment 3).

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

II.K CONTINGENCY PLAN

II.K.1 Provisions of Plan

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

II.K.2 Implementation

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

II.K.3 Copies of Plan

The Permittee shall maintain and distribute copies of the *Contingency Plan* (Permit Attachment 3) in accordance with the requirements of 40 CFR 264.53 which is incorporated herein by reference. Copies of the *Contingency Plan* shall be maintained at the 100, 200, 300, 400, and 800 Areas and at the ETU and FTU. The Permittee shall also submit a controlled copy of the

Contingency Plan to the NMED, local police and fire departments, hospitals, contractors, and federal, state and local emergency response teams with which the Permittee have emergency coordination arrangements as required by Permit Section II.J.5 and 40 CFR 264.53, which is incorporated herein by reference. The Permittee shall promptly submit all *Contingency Plan* amendments and revisions to these same parties and maintain documentation of such distribution at the Facility. The Permittee shall send all copies of the *Contingency Plan* and any amendments and revisions that are distributed outside the Facility by certified mail with return receipt or an equivalent method.

II.K.4 Amendments to Plan

The Permittee shall review and immediately amend, if necessary, the *Contingency Plan* (Permit Attachment 3), in accordance with the requirements of 40 CFR 264.54, which is incorporated herein by reference. For all minor changes to the site-wide *Contingency Plan* not specifically required as a permit modification in 40 CFR 264.54 and 40 CFR 270.42 (Appendix I), the Permittee shall submit a copy of the current, updated, site-wide *Contingency Plan* to NMED annually. This updated site-wide *Contingency Plan*, in its entirety, shall be submitted to NMED by June 1 of each year. This annual submission will not be considered to be a Permit Modification.

II.K.5 Emergency Coordinator

An Emergency Coordinator (EC) or Alternate Emergency Coordinator shall be available at all times in case of an emergency, in accordance with Permit Attachment 3. The Emergency Coordinator or Alternate Emergency Coordinator shall be thoroughly familiar with the *Contingency Plan* and shall have the authority to commit the resources needed to implement the *Contingency Plan*, in accordance with the requirements of Permit Attachment 3 and 40 CFR 264.55, which is incorporated herein by reference.

II.L RECORDKEEPING AND REPORTING

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

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

II.L.1 Documents Maintained at the Facility

The Permittee shall maintain the following documents at the Facility:

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

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

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

4. The Operating Record at the Facility in accordance with the requirements of 40 CFR 264.73, which is incorporated herein by reference

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

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

7. The *Contingency Plan* (Permit Attachment 3) in accordance with the requirements of 40 CFR 264.53(a), which is incorporated herein by reference, and any summary reports and details of all incidents that require implementation of the *Contingency Plan* in accordance with the requirements of 40 CFR 264.56(i) which is incorporated herein by reference.

8. The *Closure Plan* (Permit Attachments 10 and 11), in accordance with the requirements of 40 CFR 264.112(a) which is incorporated herein by reference.

9. The current names, addresses, and telephone numbers of the Emergency Coordinator (EC) and all persons designated as Alternate Emergency Coordinator in accordance with Permit Section II.K.5.

10. All records of the reports in accordance with the requirements of 40 CFR 264.77, which is incorporated herein by reference.

II.L.2 Operating Record

The Permittee shall maintain an Operating Record at the Facility in accordance with the requirements of 40 CFR 264.73, which is incorporated herein by reference. The Operating Record must include a description of the type and quantity of each hazardous waste received at each individual hazardous waste management unit at the Facility, the date of its receipt, and the method of its treatment or disposal. The Operating Record shall also include all items identified in the applicable provisions of 40 CFR 264.73, and all items otherwise required to be kept in the Operating Record under the terms of this Permit. All documents must be made available to NMED upon request at all reasonable times, in accordance with 40 CFR 264.74(a), which is incorporated herein by reference.

II.M MANIFEST SYSTEM

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

II.N GENERAL CLOSURE REQUIREMENTS

II.N.1 Performance Standard

The Permittee shall clean close the Facility in accordance with the approved *Closure Plan* (Permit Attachments 10 and 11) and all of the requirements of 40 CFR 264.111, which is incorporated herein by reference.

II.N.2 Amendment to Closure Plan

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

II.N.3 Notification of Closure

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

II.N.4 Time Allowed For Closure

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

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

The Permittee shall decontaminate or dispose of all contaminated equipment, structures, and soils, in accordance with the *Closure Plan* (Permit Attachments 10 and 11) and all of the requirements of 40 CFR 264.114, which is incorporated herein by reference.

II.N.6 Certification of Closure

Within 60 calendar days from the date of completion of closure of the hazardous waste management unit, the Permittee shall submit to the NMED a final closure report and written closure certification, signed by an independent professional engineer registered in New Mexico, that the hazardous waste management unit was closed in accordance with their approved *Closure Plan* (Permit Attachments 10 and 11). In submitting the certification, the Permittee shall comply with all the requirements of 40 CFR 264.115, which is incorporated herein by reference.

II.N.7 Survey Plat

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

II.O POST-CLOSURE CARE REQUIREMENTS

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

III. EVAPORATION TREATMENT UNIT

This Permit authorizes treatment of the hazardous wastes described in Permit Application Part A in the Evaporation Treatment Unit (ETU), located at the 200 Area of the Facility.

III.A BACKGROUND

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

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

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

The ETU historically received intermingled wastes that, at the point of origination, could be pure compounds or aqueous mixtures of solvents, chemicals and heavy metals. The treatment in the unit consists of concentrating the wastes by evaporation of water and volatilization of volatile organics. In the Permit Application, the Permittee states that accumulated sludge is disposed of at an off-site incineration facility approximately every ten years. A process flow diagram of the hazardous waste streams to the ETU is provided in Permit Application Figure 21.4, including the WSTF Individual Waste Profile Sheets (WIWPS) that describe each waste stream.

A detailed description of ETU operations is provided in Permit Attachment 21.

III.B PERMITTED AND PROHIBITED WASTES

III.B.1 Permitted Wastes

The Permittee may store and treat in the ETU only hazardous wastes containing the hazardous waste numbers listed in the Permit Attachment 2 (Part A Permit Application).

The Permittee may also place additional quantities of non-hazardous wastewater in the ETU. The Permittee shall document that all non-hazardous wastewater that is placed in the ETU is compatible with hazardous waste managed in the unit, will not damage the liner in the unit, and is in compliance with 40 CFR 264 Subpart CC in accordance with Permit Section II.C.5.

III.B.2 Prohibited Wastes

The Permittee is prohibited from storing or treating in the ETU any hazardous wastes not authorized by Permit Section III.B.1. The Permittee is prohibited from storing or treating hazardous waste that does not meet universal treatment standards.

III.B.3 Other Wastes

If the Permittee intends to store or treat in the ETU any hazardous waste not authorized by Permit Section III.B.1, the Permittee shall submit to NMED a request for a permit modification. The Permittee shall comply with the applicable requirements of 40 CFR 270.42 in requesting the permit modification. The Permittee shall not store or treat such waste until NMED has approved the permit modification.

III.B.4 Maximum Quantity of Waste

The Permittee may place in the two ETU tanks (combined) a maximum quantity of each specified hazardous waste number per calendar year as estimated in Permit Attachment 2 (Part A Permit Application). If the quantity of hazardous waste placed in the ETU for any calendar year exceeds the quantity specified in Permit Attachment 2, the Permittee shall report such exceedance to NMED by February 1 of the following calendar year. If the increased quantity is expected to be repeated, the Permittee shall submit to NMED by March 1 of the calendar year following, a revised Part A that specifies the quantity increase. If hazardous waste management practices change as a result of increased quantity, the Permittee shall include such changes in the modification request. The Permittee shall comply with the applicable requirements of 40 CFR 270.42 in requesting the permit modification.

III.C CONTAINMENT

The Permittee shall implement the requirements of this Section (III.C.1 and III.C.2) to detect and contain any releases of hazardous waste or hazardous constituents into the environment from the ETU. In addition, the Permittee shall either close the ETU in accordance with Permit Section

III.C.3 (and Permit Section III.I), or install two angled monitoring wells beneath each tank of the ETU in accordance with Permit Section III.C.4.

III.C.1 Secondary Containment System

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

III.C.2 Leak Detection System

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

The leak detection system for the ETU shall consist of a sight glass mounted on the side of each tank that allows for detection of liquids present in the space between the primary and the secondary liner and a sight glass mounted on the side of each tank that allows for detection of liquids present in the space between the secondary liner and the base of the steel tank. In addition, if the Permittee elects to install two angled monitoring wells beneath each tank of the ETU in accordance with Permit Section III.C.4, such wells shall be a component of the leak detection system.

III.C.3 Phase Out of the ETU

If the Permittee elects to close the ETU, rather than install the two angled monitoring wells beneath each tank of the ETU, this Permit Section (III.C.3) shall apply rather than Permit Section III.C.4.

Within 30 days of the effective date of this Permit, the Permittee shall submit to NMED for approval a Work Plan for closure of the ETU in accordance with Permit Section III.I. At a minimum, the Work Plan shall include a description of actions to terminate operation of the ETU, including a schedule for phase-out of the ETU, a date for receipt of final waste in the ETU, and a deadline for submittal of an amended closure plan. The Permittee shall begin implementation of the Work Plan within 90 days of NMED approval. The Permittee shall cease discharges to the ETU within three years of the effective date of the Permit.

III.C.4 ETU Angled Monitoring Wells

If the Permittee elects to install the two angled monitoring wells beneath each tank of the ETU, rather than close the ETU, this Permit Section (III.C.4) shall apply rather than Permit Section III.C.3.

Within 30 days of the effective date of this Permit, the Permittee shall submit to NMED for approval a Work Plan for installation of the two angled monitoring wells beneath each tank of the ETU. At a minimum, the Work Plan shall include the proposed well construction details in accordance with the *Monitoring Well Construction Requirements* (Permit Attachment 19), a schedule for installation of the wells, and procedures for monitoring the wells.

The monitoring wells shall be drilled starting from opposite sides of each tank, at an angle no more than 45 degrees from the horizontal, along parallel vertical planes 15 feet from the center-lines of each tank, and extending in length to at least five feet from the opposite side of the tank. The screened interval of each well shall extend from three feet below the ground surface to within one foot of the base of the well.

The Permittee shall implement the Work Plan within 90 days of receipt of NMED's approval.

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

III.C.5 Monitoring

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

III.C.6 Removal of Liquids

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

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

III.D ETU OPERATING REQUIREMENTS

III.D.1 Prohibited Waste Causing Failure of ETU

The Permittee shall not place hazardous wastes or treatment reagents in the ETU tank system if they could directly or indirectly, through chemical reactions, cause the tank, its ancillary

equipment, or containment systems to rupture, leak, corrode, or otherwise fail, in accordance with the requirements of 40 **C**FR 264.194(a) which is incorporated herein by reference.

III.D.2 Prevention of Spills and Overflows

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

III.D.3 Removal of Waste

Within five years after the effective date of the Permit, and once every five years thereafter for as long as the ETU is in operation, the Permittee shall remove accumulated sludge from the ETU in accordance with the procedures described in Permit Attachment 13 (Spill and Overflow Prevention Procedures).

III.D.4 Overfill Prevention

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

III.D.5 Discharge Log Books

The Permittee shall maintain log books of the discharges of hazardous waste from the Prep Laboratory, the Analytical Laboratory, the Met Laboratory, the Fuel Laboratory, the Oxidizer Laboratory, the Wet Laboratory, the High Bay floor drain, the Pre Clean Area sinks, the Etch Laboratory sinks, the Process Utility floor drain, the 800 Area showers, the 800 Area decontamination sinks, and any other discharge point into the drain line that leads to the ETU. A separate log book shall be kept at or near each discharge point. Each discharge of waste into the drain line shall be legibly entered into the log book for that discharge point. Each log book entry shall include the type of waste by waste profile number, a brief description of the waste, the quantity of the discharge, the date of the discharge, and the identity of the Permittee or contractor employee recording the discharge. The Permittee shall maintain the log books as part of the facility Operating Record.

III.E RESPONSE TO LEAKS OR SPILLS

If a portion of the ETU tank system or secondary containment system has a leak or spill, or becomes unfit for use, the Permittee shall remove that portion of the system from service immediately. The Permittee shall satisfy the requirements of Permit Sections III.E.1 through III.E.8.

III.E.1 Cessation of Use

The Permittee shall immediately stop placement of waste into the affected portion of the ETU tank system and shall inspect that portion of the system to determine the cause of the release, in accordance with the requirements of 40 CFR 264.196(a), which is incorporated herein by reference. The Permittee may continue use of the unaffected portions of the system.

III.E.2 Removal of Waste

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

III.E.3 Containment of Visible Releases

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

III.E.4 Notification and Reporting

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

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

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

III.E.6 Repair or Closure

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

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

III.E.7 Certification

For all major repairs (e.g., installation of an internal liner, repair of a ruptured primary or secondary containment liner, replacement of section(s) of drain line, and replacement of the sump) to eliminate leaks or to restore the integrity of the ETU, before returning the affected portion of the ETU system to service the Permittee shall obtain a certification by an independent, qualified, professional engineer registered in the State of New Mexico stating, in accordance with 40 CFR 270.11(d), which is incorporated herein by reference, that the repaired system is capable of handling hazardous waste without any leaks for the intended life of the system. The Permittee shall submit the certification to NMED within 30 days after returning the tank system to use. [40 CFR. 264.196(f), which is incorporated herein by reference]

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

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

III.F AIR EMISSIONS REQUIREMENTS

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

III.F.1 Recordkeeping Requirements

The Permittee shall record the information used for each waste determination (e.g., test results, measurements, calculations) in the Facility Operating Record in accordance with the requirements of 40 CFR 264.1089(f), which is incorporated herein by reference. If analytical results for waste samples are used for the waste determination, the Permittee shall record the date, time, and location that each waste sample is collected in accordance with Permit Attachment 12 (*Waste Analysis Plan*).

III.F.2 Reporting Requirements

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

III.G INSPECTION SCHEDULES AND PROCEDURES

III.G.1 Inspection Schedule

The Permittee shall inspect the ETU tank systems, in accordance with Permit Attachment 7 (*Inspection Schedule*) and the plan required under Permit section III.C.5, and shall complete the items in Permit Sections III.G.2 and III.G.3 as a part of the inspections.

III.G.2 Overfill Controls

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

III.G.3 System Components for Inspection

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

1. Aboveground portions of the tank system to detect corrosion or releases of waste;

2. The monitoring and leak detection equipment of the ETU and the drain line sump (e.g., moisture, pressure or temperature monitoring equipment, liquids, monitoring wells) to ensure that the ETU systems are being operated according to their design; and

3. Construction materials and the area immediately surrounding the externally accessible portion of the ETU system, including the containment system and monitoring wells, to detect erosion or signs of releases of hazardous waste (e.g., wet or stained soil, dead vegetation).

III.G.4 Corrosion Protection System

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

1. The proper operation of the cathodic protection system must be confirmed within six months from initial installation and annually thereafter; and

2. All sources of the impressed current must be inspected and tested every month.

III.G.5 Inspections Recordkeeping

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

III.H RECORDKEEPING AND REPORTING

III.H.1 Reporting Leaks or Spills

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

III.H.2 Written Report of Release

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

1. Likely route of migration of the release.

2. Characteristics of the surrounding soil (including soil composition and structure, geology, hydrogeology, and climate).

3. Results of any monitoring or sampling conducted in connection with the release. If the Permittee finds it will be impossible to meet this time period, the Permittee must provide

the NMED with a proposed schedule for submittal of the results. This schedule must be provided before the required 30-day submittal period expires.

4. Proximity of downgradient drinking water sources, surface water, and populated areas.

5. Description of response actions taken or planned.

III.H.3 Certification of Repairs

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

III.H.4 Certification of Tank System

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

III.I CLOSURE AND POST-CLOSURE CARE

III.I.1 Closure Plan

Upon receipt of the final quantity of hazardous waste in the ETU, the Permittee shall commence closure of the ETU in accordance with Permit Attachments 10 and 11 (*Closure Plan*), and with the requirements of 40 CFR 264.197(a), which is incorporated herein by reference.

III.I.2 Revised Closure Plan

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

III.I.3 Post Closure Plan

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

III.J IGNITABLE REACTIVE AND INCOMPATIBLE WASTES

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

IV. FUEL TREATMENT UNIT

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

IV.A BACKGROUND

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

The hazardous wastes treated in the FTU originate from:

1. Rinse water used at decontamination stations in the 200, 300, 400, and 800 Areas.

2. Residual fuel that remains in fuel supply lines and test equipment in the 200, 300, 400, 500, 700 and 800 Areas. In the 300 and 400 Areas, this fuel is removed with aspirators that use water to collect fuel liquid and vapor. In the 800 Area, the residual fuel is removed by purging the system with nitrogen and collecting the liquid and vapor in a drum containing water.

3. Concentrated residual waste fuel mixtures remaining in 55-gallon supply drums after the fuel is transferred to the fuel supply system or test equipment.

4. Concentrated fuel mixtures generated during sampling practices.

5. Concentrated fuels certified as being off-specification.

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

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

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

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

IV.B PERMITTED AND PROHIBITED WASTE IDENTIFICATION

IV.B.1 Permitted Waste

The Permittee may treat and store waste containing the following hazardous waste numbers in the FTU: hydrazine (U133), methylhydrazine (P068) and 1,1-dimethylhydrazine (U098). The waste shall not be stored in the FTU for a time period of more than one year in accordance with 40 CFR 268.50(c), which is incorporated herein by reference.

IV.B.2 Prohibited Waste

The Permittee is prohibited from storing or treating hazardous waste that is not identified in Permit Section IV.B.1.

IV.B.3 Other Waste

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

IV.B.4 Maximum Quantity of Waste

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

IV.C SECONDARY CONTAINMENT

IV.C.1 Secondary Containment System

The Permittee shall operate and maintain the secondary containment system, in accordance with the procedures in Permit Application Section 22.7 (*Secondary Containment System*) and in accordance with the requirements of 40 CFR 264.193(e)(2)(iii) and (iv) and in accordance with the requirements of 40 CFR 264.193(b)-(f), which are incorporated herein by reference. The Permittee shall inspect the FTU and associated containment systems for evidence of leaks in accordance with the inspection requirements of Permit section IV.F.3.

IV.D FTU OPERATING REQUIREMENTS

IV.D.1 Prevention of Spills and Overflows

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

IV.E RESPONSE TO LEAKS OR SPILLS

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

IV.E.1 Cessation of Use

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

IV.E.2 Removal of Waste

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

IV.E.3 Containment of Visible Releases

The Permittee shall immediately conduct a visual inspection of all releases into the environment. Based on that inspection, the Permittee shall prevent further migration of the leak or spill to soil or surface water and remove and properly dispose of any visible contamination of the soil or

surface water in accordance with the requirements of 40 CFR 264.196(c), which is incorporated herein by reference.

IV.E.4 Notification and Reporting

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

IV.E.5 Repair and Closure

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

IV.E.6 Certification

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

IV.E.7 Corrective Action for Releases to Environmental Media

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

IV.F AIR EMISSIONS REQUIREMENTS

The Permittee shall control air pollutant emissions in accordance with Permit Section II.C.5.

IV.F.1 Control Device Operating Requirements

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

IV.F.1.a Total Organic Content

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

IV.F.1.b Replacement Frequency

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

IV.F.1.c Disposal

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

IV.F.2 Maintenance

IV.F.2.a Routine Maintenance

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

IV.F.2.b Record Keeping

The Permittee shall demonstrate compliance with Permit Section IV.F.2.a at all times during which the control device does not meet the organics reduction requirement of Permit Section

IV.F.1.a in accordance with the requirements of 40 CFR 264.1087(c)(2)(iv), which is incorporated herein by reference. The Permittee shall demonstrate such compliance by recording the information specified in 40 CFR 264.1089(e)(1)(v), which is incorporated herein by reference.

IV.F.2.c Malfunction

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

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

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

IV.F.3 Inspection Requirements

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

IV.G INSPECTION SCHEDULES AND PROCEDURES

IV.G.1 Inspection Schedule

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

IV.G.2 Overfill Controls

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

IV.G.3 System Components for Inspection

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

1. Above-ground portions of the tank system, if any, to detect corrosion or releases of waste;

2. The monitoring and leak detection equipment (in-line pressure or flow metering gauges, liquid staining) to ensure that the tank system is being operated according to its design;

3. Construction materials and the area immediately surrounding the externally accessible portion of the tank system, including the secondary containment system, to detect erosion or signs of releases of hazardous waste (e.g., wet or stained soil, dead vegetation).

IV.G.4 Inspections Recordkeeping

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

IV.H RECORDKEEPING AND REPORTING

IV.H.1 Reporting Leaks or Spills

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

IV.H.2 Written Report of Release

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

1. Likely route of migration of the release.

2. Characteristics of the surrounding soil (including soil composition and structure, geology, hydrogeology, and climate).

3. Results of any monitoring or sampling conducted in connection with the release. If the Permittee finds it will be impossible to meet this time period, the Permittee should provide the NMED with a schedule of when the results will be available. This schedule must be provided before the required 30-day submittal period expires.

4. Proximity of downgradient drinking water source, surface water, and populated areas.

5. Description of response actions taken or planned.

IV.H.3 Certification of Repairs

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

IV.H.4 Certification of Tank System

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

IV.H.5 Air Emissions Recordkeeping

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

IV.H.6 Air Emissions Reporting Requirements

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

IV.I CLOSURE AND POST-CLOSURE CARE

IV.I.1 Closure Plan

Upon receipt of the final quantity of hazardous waste in the FTU, the Permittee shall commence closure of the FTU in accordance with Permit Attachments 10 and 11 (*Closure Plan*), and with the requirements of 40 CFR 264.197(a), which is incorporated herein by reference.

IV.I.2 Revised Closure Plan

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

IV.I.3 Post Closure Plan

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

IV.J SPECIAL TANK PROVISIONS FOR INCOMPATIBLE WASTES

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

V. POST-CLOSURE CARE

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

The Permittee shall provide post-closure care for the hazardous waste management units described above and in Permit Attachment 14 (*Post-closure Plan*), subject to the terms and conditions of this Permit.

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

V.A BACKGROUND

V.A.1 Unit Identification

Five separate RCRA hazardous waste management areas have been identified at the NASA White Sands Test Facility in addition to the ETU and FTU that received and managed hazardous waste after November 19, 1980. All of these hazardous waste management units have been closed, and are regulated by this Section. Each unit was closed under an approved *Closure Plan*. Closure construction was initiated between October and November 1988, and was completed between March and June 1989. Each unit was closed without complete removal of hazardous waste or hazardous waste constituents released to the environment and therefore must undergo post-closure care.

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

The closed units in the 200 Area consisted of underground storage tanks. The hazardous waste area used by the “Chemistry Lab” (200 Area east closure) contained an underground storage tank and a sump, which were in operation from 1964 to 1986. The hazardous waste unit used by the “Clean Room” (200 Area west closure) contained two underground storage tanks. The tanks were in operation from 1964 to 1986. The storage tanks were removed during the closure

activities. While in service, the contents of the tanks were removed periodically and transported to the surface impoundments at the 600 Area. The engineered environmental cover for the 200 Area east closure is an asphalt parking area and the cover of the 200 Area west closure is a concrete floor inside an operational building.

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

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

V.B POST-CLOSURE ACTIVITIES

V.B.1 Post-closure Care Period

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

V.B.2 Ground Water Monitoring

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

V.B.3 Surface Impoundment Requirements

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

1. The Permittee shall maintain the integrity and effectiveness of the final cover, including making repairs to the cap, as necessary, to correct the effects of settling, subsidence, erosion, and other events in accordance with the requirements of 40 CFR 264.228 (b) (1), which is incorporated herein by reference.

2. The Permittee shall maintain and monitor the ground water monitoring system and comply with all other applicable requirements of 40 CFR Subpart F, which is incorporated herein by reference.

3. The Permittee shall maintain all surface water diversion structures located in the vicinity of the 300, 400, and 600 Areas surface impoundments. The Permittee shall prevent run-on and run-off from eroding or otherwise damaging the final cover in accordance with the requirements of 40 CFR 264.228(b)(4), which is incorporated herein by reference.

4. The Permittee shall not allow the use of any of the units closed as surface impoundments that will disturb the integrity of any final covers or liners, or the function of the Facility's monitoring system during the post-closure in accordance with the requirements of 40 CFR 264.117(c), which is incorporated herein by reference.

5. The Permittee shall prevent the movement of vehicles on the side slopes of the cover at the 600 Area, except on the roadway that crosses the side slope to access the top of the cover. The Department may allow additional exceptions to this prohibition, if stated in writing, for good cause shown

V.B.4 Landfill Requirements

The Permittee shall comply with the post-closure requirements for landfills for the 200 Area and the reaction tanks in the 300 and 400 Areas as set forth in 40 CFR 264.197(b) requiring post-closure to be conducted in accordance with 264.310(b), which is incorporated herein by reference.

1. The Permittee shall maintain the integrity and effectiveness of the final cover, including making repairs to the cap, as necessary, to correct the effects of settling, subsidence, erosion, or other events in accordance with the requirements of 40 CFR 264.310(b)(1), which is incorporated herein by reference.

2. The Permittee shall inspect for cracks, potholes, or damage in the asphalt or concrete in the 200 Area final covers on a monthly basis and record the inspections

and repairs in the Facility Operating Record. The Permittee shall repair any cracks exceeding five millimeters in width, and any other damage, with in 10 days after observing the damage, unless the damage is too extensive to repair within 10 days. In such circumstance, the Permittee shall notify NMED and propose a schedule for completion of the repair.

3. The Permittee shall maintain and monitor the ground water monitoring system and comply with all other applicable requirements of 40 CFR Subpart F and in accordance with the requirements of 40 CFR 264.310(b)(4), which is incorporated herein by reference.

4. The Permittee shall prevent run-on and run-off from eroding or otherwise damaging the final cover in accordance with the requirements of Permit Section V.B.3 item 3 and 40 CFR 264.310(b)(5) which is incorporated herein by reference.

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

6. The Permittee shall not allow any use of the units closed as landfills that will disturb the integrity of the final cover, liners, or any components of the containment system, or the function of the Facility's monitoring systems during the post-closure care period in accordance with the requirements of Permit Section V.B.3 Item 5 and 40 CFR 264.117(c), which is incorporated herein by reference.

V.B.5 Security Measures

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

V.B.6 Corrective Action

The Permittee shall submit to NMED for approval, investigation work plans to determine the extent of releases from each post-closure care unit as described below. The investigation work plans must be submitted in accordance with the schedule set forth in Permit Attachment 16 (*Investigation Work Plan Submittal Schedule*), and must be prepared in accordance with the format in Permit Attachment 20 (*Reporting Requirements*). The work plans shall include elements included in this Permit Section (V.B.6) for each specified Area (200, 300, 400, and 600). Any modifications to the requirements in this Section (V.B.6) must be proposed in a work plan approved by NMED in accordance with Permit Section I.L. If NMED approves in writing a work plan with alternate requirements, the alternate requirements of the work plan, rather than the requirements of this Permit, shall be applicable and enforceable.

V.B.6.a 200 Area Corrective Action Requirements

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

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

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

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

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

1. One boring shall be advanced through the locations of the former USTs to minimum depths of 25 feet below the deepest detected contamination as detected by field screening or previous investigations.

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

3. In the case of refusal during drilling at depths less than 30 feet, the Permittee shall attempt to install a second boring within 5 to 10 feet of the original boring. In case of auger refusal at depths of 30 feet or more, the Permittee does not need to advance another boring at the same location unless contamination is detected at the total depth of the boring. Soil samples obtained from any abandoned borings shall be evaluated using the same methods used for samples collected from the other borings..

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

5. A general design for vapor monitoring well construction shall be included in the investigation work plan submitted to the NMED for approval prior to the start of subsurface explorations at the 200 Area.

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

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

1. Soil samples shall be collected from each boring at five-foot intervals to the total depth of the borings. A sample also shall be obtained at the maximum depth of each boring.

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

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

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

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

5. Soil samples shall be analyzed for perchlorate, hexavalent chromium, NDMA/DMN, nitrate and nitrite, VOCs, and RCRA metals. A minimum of three samples from each boring shall be selected for laboratory analysis.

6. The samples displaying the greatest field screening evidence of VOC concentrations shall be selected from each borehole for submittal to the analytical laboratory for analysis of the analytes listed in Item 5 above. If field screening evidence of contamination is not observed in a boring, the sample obtained from five feet below the previously removed UST base shall be submitted for laboratory analysis of the analytes listed in Item 5 above.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

1. Advance three borings in each of the Loose Rock Fill pads (surface impoundments), advance one boring at the mixing tank, advance one boring at the intersection of the inlet channel to the pads and the arroyo (near Headwall), and drill borings starting at the inlet channel at approximately 100-foot intervals east to the end of the impoundments in the arroyo. The borings shall be advanced to minimum depths of 25 feet below the deepest detected contamination as detected by field screening or previous investigations.

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

3. In the case of refusal during drilling at depths less than 40 feet, the Permittee shall attempt to install a second boring within 5 to 10 feet of the original boring. In case of auger refusal at depths of 40 feet or more, the Permittee does not need to advance another boring at the same location unless contamination is present. Soil samples obtained from any abandoned borings shall be evaluated using the same methods used for samples collected from the other borings.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

1. Advance two borings in each of the Loose Rock Fill pads, advance one boring at the mixing tank, advance one boring at the valve box, advance one boring at the intersection of the two wings of the inlet concrete channel, and advance six borings along the concrete channel (three on each channel wing). The borings shall be drilled to minimum depths of 25 feet below the deepest detected contamination as detected by field screening or previous investigations.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

1. One boring shall be advanced in the vicinity of the truck unloading area, seven borings shall be advanced in the southeast pond, one boring shall be advanced at the overflow point between the two ponds, and six borings shall be advanced in the northwest pond. Borings also shall be advanced at 50 foot intervals along the pipeline connecting the Wastewater Treatment Building to the ponds. The borings shall be drilled to minimum depths of 25 feet below the deepest detected contamination as detected by field screening or previous investigations.

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

3. In the case of refusal during drilling at depths less than 30 feet, NASA shall attempt to install a second boring within 5 to 10 feet of the original boring. In case of auger refusal at depths of 30 feet or more, NASA is not required to advance another boring at the same location unless contamination is present. Soil samples obtained from any abandoned borings shall be evaluated using the same methods used for samples collected from the other borings.

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

5. A general design for vapor monitoring well construction shall be included in the investigation work plan submitted to the NMED for approval prior to the start of subsurface explorations at the 600 Area.

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

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

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

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

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

field screening samples shall be screened in the field for the presence of VOCs using methods approved by the NMED.

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

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

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

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

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

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

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

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

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

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

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

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

If groundwater is encountered or if geophysical or other evidence suggests the presence of groundwater during the subsurface investigations for the 600 Area, NMED may require a work plan for the installation of groundwater monitoring well(s) and require groundwater monitoring

in accordance with 40 CFR 264.90 through 264.100, which are incorporated herein by reference. In addition the Permittee shall install a monitoring well near the south corner of the 600 Area closure and a background well in accordance with 40 CFR 264.97(a), which is incorporated herein by reference.

V.B.7 Post-Closure Plan

The Permittee shall implement the Post-Closure Plans for the 200, 300, 400, and 600 areas in accordance with the schedules established upon approval of the investigation reports for each regulated unit required under V.B.6. All post-closure care activities must be conducted in accordance with the provisions of the Post-Closure Plan and 40 CFR 264.117(d) and 264.118(b), which are incorporated herein by reference.

V.C POST-CLOSURE INSPECTIONS AND MAINTENANCE

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

The Permittee shall inspect the channels or equivalent diversion structures at the 300 Area and the 400 Area at least monthly. The Permittee shall keep a written log of all such inspections as part of the Facility Operating Record. The Permittee shall maintain the diversion structures to ensure that run-on and runoff controls are functioning properly.

The Permittee shall inspect the asphalt cover at the 200 Area at least once per month for cracks exceeding five millimeters in width, potholes, or other damage that would allow water to drain through the cover. The Permittee shall keep a written log of all such inspections as part of the facility Operating Record. The Permittee shall repair any such damage within ten days after observing the damage, unless the damage is too extensive to repair within ten days. In such circumstance, the Permittee shall notify the Department and propose a schedule for completion of the repair.

V.D NOTICES AND CERTIFICATIONS

V.D.1 Notification Filing

The Permittee shall submit to the local zoning authority or the authority with jurisdiction over local land use, and to the NMED a record of the type, location, and quantity of hazardous wastes disposed of within each cell or other disposal unit of the Facility in accordance with the requirements of 40 CFR 264.119(a), which is incorporated herein by reference. For hazardous wastes disposed of before January 12, 1981, the Permittee shall identify the type, location, and quantity of the hazardous wastes to the best of its knowledge.

V.D.1.a Record Keeping Requirements

The Permittee shall maintain documentation of certification of closure of all hazardous waste disposal units, in accordance with 40 CFR 264 119(b), which is incorporated herein by reference.

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

1. The land has been used to manage hazardous wastes.

2. Its use is restricted under 40 CFR Part 264 Subpart G regulations.

3. The survey plat and record of the type, location, and quantity of hazardous wastes disposed of within each cell or other hazardous waste disposal unit of the Facility have been filed with the NMED, and Doña Ana County.

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

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

V.D.2 Contamination Source Removal

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

V.E POST-CLOSURE PERMIT MODIFICATIONS

The Permittee shall request a permit modification to authorize a change in the approved Post-Closure Plan. This request must be in accordance with applicable requirements of 40 CFR Part 124 and 20.4.1.500, incorporating 40 CFR Part 270, and must include a copy of the

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

V.F COMPLETION OF POST-CLOSURE REQUIREMENTS

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

VI. GROUNDWATER MONITORING

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

VI.A GENERAL

The Permittee shall conduct groundwater monitoring at the Facility in compliance with 40 CFR 264 Subpart F, and with the Facility Wide Groundwater Monitoring Plan.

VI.B FACILITY-WIDE GROUNDWATER MONITORING PLAN

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

Within 180 days after the issuance of this Permit, the Permittee shall submit to NMED for approval a Facility-Wide Groundwater Monitoring Plan (Groundwater Monitoring Plan). The Groundwater Monitoring Plan shall set forth detailed methods, procedures, and schedules, as set forth in Section VI.B.2 below, for groundwater monitoring over the entire Facility and, as necessary, beyond the Facility boundary. The Permittee shall use valid data from previous groundwater monitoring at the Facility to develop the Groundwater Monitoring Plan. The Monitoring Plan shall be prepared in accordance with Section 20.2 of Permit Attachment 20 (*Reporting Requirements*). Upon NMED approval, the Groundwater Monitoring Plan shall be incorporated herein by reference as an enforceable part of this Permit, and the Permittee shall implement its terms. Prior to NMED approval of the Groundwater Monitoring Plan, the Permittee shall conduct groundwater monitoring in accordance with the Groundwater Sampling and Analysis Plan currently in effect. The groundwater monitoring plan shall meet the requirements of 40 CFR 264.90(f).

VI.B.2 Monitoring Plan Contents

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

1. The location of new monitoring wells;
2. A schedule for sampling new and existing wells, including a start date for the initial sampling;
3. The sample collection methods;
4. The methods for collecting field measurements;
5. The parameters for field measurements;
6. The methods for laboratory analysis;

7. The parameters for laboratory analysis;

8. Procedures for determining groundwater elevation, flow direction, and flow rates;

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

10. Quality assurance and quality control procedures;

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

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

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

The Permittee shall revise and update the Groundwater Monitoring Plan annually to make appropriate changes, such as to include newly installed monitoring wells, to eliminate abandoned wells, to monitor wells located beyond the Outer Boundary, or to change monitoring parameters or frequencies. The Permittee shall submit to NMED for approval the annual revised Groundwater Monitoring Plan no later than April 1 of each year after the second and each subsequent anniversary date of this Permit.

VI.C MONITORING WELLS

The Permittee shall install and maintain a groundwater monitoring system, and abandon wells as necessary, in accordance with the approved Groundwater Monitoring Plan.

VI.C.1 Monitoring Well Locations

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

VI.C.2 Monitoring Well Construction

The Permittee shall construct new monitoring wells in accordance with the (Permit Attachment 19).

VI.C.3 Monitoring Well Maintenance

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

VI.C.4 Monitoring Well Abandonment

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

VI.D IMPLEMENTATION OF MONITORING

VI.D.1 Groundwater Monitoring Plan

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

VI.D.2 Detection Monitoring

The Permittee shall conduct detection monitoring at the Facility in accordance with the approved Groundwater Monitoring Plan and 40 CFR 264.101, which is incorporated herein by reference, to ensure the earliest possible detection of contaminants in groundwater. In accordance with the Groundwater Monitoring Plan, the Permittee shall notify the NMED in writing of any new detection of a hazardous constituent at any location in groundwater. A new detection is any incidence of a constituent being detected in a groundwater sample collected from a monitoring well that has never been detected in prior samples obtained from that monitoring well. Notification of new detection shall be made in the next periodic monitoring report. New detections shall be highlighted in the Monitoring Results section of the periodic monitoring report.

VI.D.3 Compliance Monitoring

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

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

The Permittee shall determine the groundwater surface elevation each time groundwater is sampled in accordance with the approved Groundwater Monitoring Plan, and with Permit Attachment 17 (*Investigation and Sampling Methods and Procedures*). The Permittee shall report such elevation data in the periodic monitoring report covering that sampling event.

The Permittee shall record the surveyed elevation of each monitoring well at the time of installation. The elevation shall be indicated on the as-built drawing for the well. The Permittee shall also record the total depth of the well, the elevation of the top of the casing, and the ground surface elevation or apron elevation. All such information shall be included in the well

completion report prepared in accordance with Section 19.5 of Permit Attachment 19 (*Monitoring Well Construction Requirements*).

VI.E REPORTING AND RECORDKEEPING

VI.E.1 Periodic Monitoring Reports

The Permittee shall submit to NMED periodic monitoring reports within 90 days of completion of the field activities conducted during the associated periodic monitoring event, unless another time period is specified by NMED or according to the schedule in the Groundwater Monitoring Plan. The reports shall include the results of all groundwater monitoring conducted under Section VI of this Permit, including the results of the plume-front remediation system monitoring collected during the same reporting period. The reports shall be prepared in accordance with Section 120.4 of Permit Attachment 20 (*Reporting Requirements*).

VI.E.2 Recordkeeping

The Permittee shall maintain all monitoring data, including sampling procedures, records of field measurements, laboratory analytical data, quality assurance/quality control documents, chain-of-custody records, well completion reports and periodic monitoring reports in the Facility Operating Record, in a format acceptable to the NMED.

VI.F PLUME-FRONT REMEDIATION SYSTEM MONITORING

VI.F.1 Plume Front Treatment System Monitoring Plan

Within 180 days after the effective date of this Permit, the Permittee shall submit to NMED for approval the Plume Front Treatment System Monitoring Plan. The Plume Front Treatment System Monitoring Plan shall set forth detailed methods, procedures, and schedules for groundwater monitoring to determine the progress and effectiveness of the plume-front remediation system. The Permittee shall use valid data from previous groundwater and remediation system monitoring at the Facility to develop the Revised Remediation System Monitoring Plan. The Monitoring Plan shall be prepared in accordance with Permit Attachment 20 (*Reporting Requirements*). Upon NMED approval, the Plume Front Treatment System Monitoring Plan shall be incorporated herein by reference as an enforceable part of this Permit, and the Permittee shall implement its terms. By August 1, 2010, and August 1 of each subsequent year, the Permittee shall submit to NMED for approval a revised Plume Front Treatment System Monitoring Plan. Annual updates to this Plan will not be considered to be Permit Modifications

VI.F.2 Remediation System Reporting

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

VI.G EFFECTIVENESS OF REMEDIATION SYSTEMS

Based on relevant information, NMED may determine that a remediation system is ineffective and may require replacement of the system or some of its components, or evaluation and selection of an alternate remedy. If NMED makes such a determination, it will notify the Permittee in writing and specify a schedule for submittal of a work plan to correct the problem. NMED may require the Permittee to re-evaluate the system and either make adjustments to the remediation system, expand the system, or replace the system or some of its components, or instead evaluate and select an alternate remedy.

VII. CORRECTIVE ACTION FOR SWMUS AND AOCS

Section VII of this Permit provides for corrective action to address releases of hazardous waste or hazardous constituents from Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) at the Facility to protect human health and the environment.

VII.A GENERAL

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

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

VII.B CONTAMINATION BEYOND THE FACILITY BOUNDARY

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

VII.C CORRECTIVE ACTION ALREADY COMPLETED

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

VII.D NEWLY IDENTIFIED SWMUS AND AOCS

The Permittee shall notify NMED in writing, within 15 days of discovery, of any newly discovered SWMU or AOC. The notification shall include, at a minimum, the location of the newly discovered SWMU or AOC and all available information pertaining to the site history and nature of the release (e.g., media affected, hazardous waste or hazardous constituents released, magnitude of release). NMED may require the Permittee to submit a Release Assessment Report in accordance with Permit Section VII.F.1 to determine the status of the newly discovered SWMU or AOC. Alternatively, NMED may require an Investigation Work Plan for the newly discovered SWMU or AOC in accordance with Permit Section VII.H without requiring a Release Assessment. If NMED determines that an Investigation Work Plan for a newly

discovered SWMU or AOC is required, NMED will specify a schedule for submittal of the required work plan and the Permittee shall modify this Permit to add the SMWU or AOC to Permit Attachment 22 (*List of SWMUs and AOCs*) in accordance with 40 CFR 270.42, which is incorporated herein by reference.

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

VII.E NEWLY DISCOVERED RELEASES FROM SWMUS OR AOCS

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

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

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

VII.F RELEASE ASSESSMENT

VII.F.1 Release Assessment Report

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

The Release Assessment Report shall, at a minimum, include the following information in accordance with 270.14(d)(1) and (2), which is incorporated herein by reference:

1. Location of the unit on a topographic map of appropriate scale, as required under 40 CFR 270.14(d)(1)(i);

2. Designation of type and function of unit;

3. General dimensions, capacities and structural description of unit (including any available plans or drawings);

4. All available site history information;

5. Specifications of all wastes that have been managed in the unit to the extent available, including any data on hazardous waste or hazardous constituents in the wastes; and

6. All available information pertaining to any release of hazardous waste or hazardous constituents from the unit including ground water data, soil analyses, air, and surface water data.

VII.F.2 Requirement to Proceed

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

VII.G INTERIM MEASURES

VII.G.1 NMED-Initiated Interim Measures

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

VII.G.2 Required Interim Measures

The Permittee shall prepare and submit an Interim Measures Work Plan for sampling of water supply wells located beyond the Facility Boundary. Within 30 days of the effective date of this Permit, the Permittee shall submit to NMED a list of all wells identified by the Permittee or the Office of the State Engineer located within three miles of the western and southern .boundaries of the Facility. The Permittee shall submit a map to NMED depicting all wells on the list in conjunction with submittal of the list.

Within 90 days of the effective date of this Permit, the Permittee shall submit an Interim Measures Work Plan to NMED for approval for sampling of water supply wells outside the Outer Boundary. The Permittee's Interim Measures Work Plan shall identify wells to be sampled, include detailed well information for all wells identified on the list, if available, including the following: well identification numbers, location (provided on a map and including New Mexico State Coordinate System coordinates), owner name and phone number, any well boring logs and well construction diagrams, depths to water, dates of measurement, and type of well (e.g., domestic supply well, municipal supply well, monitoring well, irrigation well). All information in the Interim Measures Work Plan shall be accompanied by appropriate references identifying the specific source document and specific location of the referenced information (e.g., page numbers). The Work Plan shall include criteria for the selection of wells to be

sampled, including but not limited to, legal access to the well by the owner, well construction methods and materials, and the known history of wellhead protection measures for the well.

VII.G.3 Permittee-Initiated Interim Measures

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

VII.G.4 Emergency Interim Measures

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

VII.G.5 Interim Measures Work Plan

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

VII.G.6 Interim Measures Implementation

VII.G.6.a Implementation and Completion of Approved Interim Measures Work Plan

Upon NMED approval of an Interim Measures Work Plan, the Permittee shall implement the interim measures in accordance with the approved plan. The Permittee shall complete interim measures in accordance with the schedule provided in the approved plan. The Permittee may submit a written request to NMED to extend the period for implementation of the interim

measure. The request must provide justification for the extension and a proposed schedule for completion of the interim measure. NMED will notify the Permittee, in writing, of the approval or disapproval of the request within 30 calendar days of receipt of the Interim Measures implementation extension request.

VII.G.7 Interim Measures Reports

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

1. A description of interim measures implemented;
2. A summary of results and/or effectiveness of interim measures;
3. A description of any problems encountered;
4. Copies of all relevant monitoring data including laboratory reports;

VII.H CORRECTIVE ACTION SITE INVESTIGATIONS

VII.H.1 Investigation Work Plan

VII.H.1.a Investigation Work Plan Submittal

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

VII.H.1.b Investigation Work Plan Requirements

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

VII.H.1.c Historical Information Summary

The Permittee shall submit to the NMED a summary of the historical information regarding site use, waste management, and assessment of known or potential releases of hazardous waste or

hazardous constituents relating to each SWMU or AOC in conjunction with the unit-specific Investigation Work Plan. The summary shall include complete, legible copies (or best available) of all relevant photographic imprints, maps, figures, drawings, tables, attachments, enclosures, appendices and other relevant supporting documentation.

VII.H.2 Investigation Work Plan Implementation

Upon NMED approval, the Permittee shall implement all Investigation Work Plans in accordance with the approved schedules. The Permittee shall notify NMED at least 30 days prior to any field activity associated with implementation of an investigation work plan (e.g., drilling, sampling).

VII.H.3 Investigation Reports

VII.H.3.a Investigation Report

After completing the investigation for a SWMU, AOC, or other unit, the Permittee shall submit to the NMED an investigation report. Each investigation report shall be submitted to the NMED by the date specified in the approved Investigation Work Plan. The investigation reports shall be prepared in accordance with Permit Attachment 20 (*Reporting Requirements*) and include summaries of all activities and the results of such activities conducted under the associated Investigation Work Plan.

VII.H.3.b Cleanup Levels

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

VII.I RISK ASSESSMENT

The Permittee shall attain the cleanup levels included in Permit Attachment 15 (*Cleanup Levels*) of this Permit. The Permittee may seek a variance from established cleanup levels for a SWMU or AOC in accordance with Section 15.7 of Permit Attachment 15, at a site, if approved by NMED. If the Permittee seeks a variance, it shall conduct a risk assessment in accordance with Permit Attachment 17 (*Investigation and Sampling Methods and Procedures*), and submit a risk assessment report, prepared in accordance with Permit Attachment 20 (*Reporting Requirements*).

VII.J CORRECTIVE MEASURES EVALUATION

VII.J.1 General

NMED will require corrective measures at a SWMU or AOC if the NMED determines, based on the investigation report and other relevant information available to the NMED, that there has been a release of hazardous waste or hazardous constituents into the environment at the SWMU or AOC and that corrective action is necessary to protect human health or the environment from

the release. Upon making such a determination, the NMED will notify the Permittee in writing. NMED will specify a date for the submittal of the necessary reports and evaluations in the written notification.

VII.J.2 Corrective Measures Evaluation Report

By the date specified in the written notification from NMED that a corrective measures evaluation is required, the Permittee shall submit to the NMED for approval a Corrective Measures Evaluation Report. The Permittee shall follow the Corrective Measures Evaluation Report format set forth in Section 20.6 of Permit Attachment 20 (*Reporting Requirements*). The corrective measures evaluation shall evaluate potential remedial alternatives and shall recommend a preferred remedy that will be protective of human health and the environment and that will attain the appropriate cleanup levels. The Corrective Measures Evaluation Report shall, at a minimum, include the following elements:

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

VII.J.3 Cleanup Standards

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

VII.J.4 Remedy Evaluation Criteria

VII.J.4.a Threshold Criteria

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

1. Be protective of human health and the environment;

2. Attain media cleanup standards;

3. Control the source or sources of releases so as to reduce or eliminate, to the extent practicable, further releases of hazardous waste and hazardous constituents that may pose a threat to human health and the environment; and

4. Comply with applicable standards for management of wastes.

VII.J.4.b Remedial Alternative Evaluation Criteria

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

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

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

VII.J.4.b.ii Reduction of Toxicity, Mobility, or Quantity

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

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

The remedy shall be evaluated for its short-term effectiveness. This factor includes consideration of the short-term reduction in existing risks that the remedy would achieve; the

time needed to achieve that reduction; and the short-term risks that might be posed to the community, workers, and the environment during implementation of the remedy. The Permittee shall give preference to a remedy that quickly reduces short-term risks, without creating significant additional risks.

VII.J.4.b.iv Implementability

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

VII.J.4.b.v Cost

The remedy shall be evaluated for its cost. This factor includes a consideration of both capital costs, and operation and maintenance costs. Capital costs shall include, without limitation, construction and installation costs; equipment costs; land development costs; and indirect costs including engineering costs, legal fees, permitting fees, startup and shakedown costs, and contingency allowances. Operation and maintenance costs shall include, without limitation, operating labor and materials costs; maintenance labor and materials costs; replacement costs; utilities; monitoring and reporting costs; administrative costs; indirect costs; and contingency allowances. All costs shall be calculated based on their net present value. The Permittee shall give preference to a remedy that is less costly, but does not sacrifice protection of health and the environment.

VII.J.5 Approval of Corrective Measures Evaluation Report

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

VII.J.6 Statement of Basis

Upon approval of the Corrective Measures Evaluation Report, NMED will select a proposed remedy or remedies for the SWMU or AOC. NMED may propose a different remedy from that recommended by the Permittee in the approved Corrective Measures Evaluation Report. NMED will issue a Statement of Basis for the proposed remedy, and will receive public comment on the remedy. The public comment period will extend for at least 45 days from the date of the public

notice of the Statement of Basis. NMED will provide an opportunity for a public hearing on the proposed remedy, at which all interested persons will be given a reasonable chance to submit data, views or arguments orally or in writing and to examine witnesses testifying at the hearing. The comment period will automatically be extended to the close of the public hearing. The public hearing will follow the hearing requirements under section 20.4.1.901.F NMAC. NMED will select a final remedy and issue a response to public comments to all commenters, after the end of the public comment period. In selecting a remedy, NMED will follow the public participation requirements applicable to remedy selection under section 20.4.1.901 NMAC and 40 CFR 270.

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

VII.K CORRECTIVE MEASURES IMPLEMENTATION

VII.K.1 General

The Permittee shall implement the final remedy selected by NMED.

VII.K.2 Corrective Measures Implementation Plan

Within 90 days after NMED's selection of a final remedy, or other time specified by the NMED, the Permittee shall submit to NMED for approval a Corrective Measures Implementation Plan outlining the design, construction, operation, maintenance, and performance monitoring for the selected remedy, and a schedule for its implementation**.** The Corrective Measures Implementation Plan shall, at a minimum, include the following elements:

1. A description of the selected final remedy;

2. A description of the cleanup levels and remediation system objectives;

3. An identification and description of the qualifications of all persons, consultants, and contractors that will be implementing the remedy;

4. Detailed engineering design drawings and systems specifications for all elements of the remedy;

5. A construction work plan;

6. An operation and maintenance plan;

7. The results of any remedy pilot tests;

8. A plan for monitoring the performance of the remedy, including sampling and laboratory analysis of all affected media;

9. A waste management plan;

10. A proposed schedule for submission to NMED of periodic progress reports; and

11. A proposed schedule for implementation of the remedy.

VII.K.3 Health and Safety Plan

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

VII.K.4 Community Relations Plan

The Permittee shall involve the public in all corrective measures selections and implementations in accordance with the most recent version of NASA's Community Relations Plan.

VII.K.5 Progress Reports

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

1. A description of the remedy work completed during the reporting period;

2. A summary of problems, potential problems, or delays encountered during the reporting period;

3. A description of actions taken to eliminate or mitigate the problems, potential problems, or delays;

4. A discussion of the remedy work projected for the next reporting period, including all sampling events;

5. Copies of the results of all monitoring, including sampling and analysis, and other data generated during the reporting period in a format acceptable to NMED; and

6. Copies of all investigation-derived and remediation waste disposal records generated during the reporting period.

VII.K.6 Remedy Completion

VII.K.6.a Remedy Completion Report

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

1. A detailed summary of all work completed.

2. A statement, signed by a professional engineer, registered in New Mexico, that the remedy has been completed in accordance with NMED approved work plan for the remedy.

3. As-built drawings and specifications signed and stamped by a professional engineer registered in New Mexico.

4. Copies of the results of all monitoring, including sampling and analysis, and other data generated during the remedy implementation, if not already submitted in a progress report.

5. Copies of all waste disposal records, if not already submitted in a progress report.

6. A certification, signed by a responsible official of NASA, stating: "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

VII.L ACCELERATED CLEANUP PROCESS

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

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

VII.L.1 Accelerated Corrective Measures Work Plan

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

1. A description of the proposed remedial action, including details of the unit or activity that is subject to the requirements of this Permit;

2. An explanation of how the proposed cleanup action is consistent with the overall corrective action objectives and requirements of this Permit;

3. The methods and procedures for characterization and remediation sample collection and analyses; and

4. A schedule for implementation and reporting on the proposed cleanup action.

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

VII.L.2 Accelerated Corrective Measures Implementation

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