State of New Mexico
ENVIRONMENT DEPARTMENT

BILL RICHARDSON
GOVERNOR

RON CURRY
SECRETARY

CHARLES LUNDSTROM
DIRECTOR

HAZARDOUS WASTE FACILITY PERMIT

Permittee:	**Cannon Air Force Base**
EPA Identification Number:	**EPA ID No. NM7572124454**
Permit Number:	**EPA ID No. NM7572124454-1**

The Permittee shall comply with all terms and conditions of this Permit, including those in the Attachments.

This Permit is based on the assumption that all information contained in the Permit Application and the administrative record is accurate. Any inaccuracies found in the submitted information may be grounds for the termination or modification of this Permit, pursuant to 20.4.1.900 NMAC, incorporating 40 CFR 270.41, 270.42, and 270.43, and 20.4.1.901 NMAC and for potential enforcement action.

This Permit shall become effective 30 days after notice of the decision has been served on the Permittee and shall remain in effect for ten years, pursuant to the New Mexico Hazardous Waste Act, Section 74-4-4 NMSA, unless modified, suspended or revoked under Section 74-4-4.2 NMSA or 20.4.1.900 NMAC, incorporating 40 CFR 270.41, 270.42, 270.43, and 20.4.1.901 NMAC, or continued pursuant to 20.4.1.900 NMAC, incorporating 40 CFR 270.51, or issued for a duration that is less than the full allowable term pursuant to 20.4.1.900 NMAC, incorporating at 40 CFR 270.50(c).

Signed this 14th day of October 2003.

by _____

Charles Lundstrom
Director
Water & Waste Management Division
New Mexico Environment Department

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PART 1

GENERAL PERMIT CONDITIONS

1.1 EFFECT OF PERMIT

The Secretary of the New Mexico Environment Department (Secretary) issues this permit to Cannon Air Force Base, hereinafter referred to as the Permittee, the owner and operator of a RCRA facility located in Curry County, New Mexico (EPA ID No. NM7572124454). The purpose of this permit is to govern the Permittee's performance of the corrective action activities required, or which may be required, in accordance with Part 2 of this Permit, pursuant to the Hazardous Waste Act (Chapter 74, Article 4 NMSA 1978), and 20.4.1.100 NMAC et seq.

Compliance with this permit during its term constitutes compliance, for purposes of enforcement, with 20.4.1.500 and .800 NMAC, which incorporate 40 CFR parts 264 and 268, only for those management practices specifically authorized by this permit. The Permittee must also comply with 20.4.1.100, .200, .300, and .400 NMAC, which incorporate 40 CFR parts 260, 261, 262, and 263, to the extent the requirements of those Sections are applicable. The Permittee must also comply with all applicable self-implementing provisions imposed by statute or rule. Compliance with this permit shall not constitute a defense to any order issued or any action brought under Sections 74-4-10.E or 74-4-13 NMSA 1978; RCRA Sections 3008(a), 3008(h), 3013, or 7003 (42 U.S.C. 6928(a) and (h), 6934, and 6973); Sections 104, 106(a), and 107 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA - 42 U.S.C. 9601 *et seq.*); 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, pursuant to 20.4.1.900 NMAC, incorporating 40 CFR 270.4 and 270.30(g).

The complete permit consists of Permit Parts 1 and 2 and Permit Attachments 1 through 7, as follows:

Part 1	General Permit Conditions
Part 2	Corrective Action
Attachment 1	Solid Waste Management Unit Summary

Attachment 2	Interim Measures (IM) Scope of Work
Attachment 3	RCRA Facility Investigation (RFI) Scope of Work
Attachment 4	Corrective Measures Study (CMS) Scope of Work
Attachment 5	Corrective Measures Implementation (CMI) Scope of Work
Attachment 6	Schedule of Compliance
Attachment 7	Action Levels and Cleanup Levels

1.2 PERMIT ACTIONS

1.2.1 Term of Permit

This permit shall be effective for a fixed period of ten (10) years from the effective date of issuance as specified in the permit certificate, pursuant to 20.4.1.900 NMAC, incorporating 40 CFR 270.50(a).

1.2.2 Permit Modification, Suspension and Revocation

This permit may be modified, suspended, or revoked for cause as specified in Section 74-4-4.2 NMSA 1978 and 20.4.1.900 NMAC, incorporating 40 CFR 270.41 through 270.43. The filing of a request by the Permittee for a permit modification, suspension, or revocation, or the notification of planned changes or anticipated noncompliance, shall not stay any permit condition, pursuant to 20.4.1.900 NMAC, incorporating 40 CFR 270.30(f).

1.2.3 Permit Renewal

The Permittee shall renew this permit by submitting an application for a new permit at least 180 calendar days before the expiration date of this permit. In reviewing any application for a permit renewal, the Secretary shall consider improvements in the state of control and measurement technology and changes in applicable regulations, pursuant to 20.4.1.900 NMAC, incorporating 40 CFR 270.10(h) and 270.30(b).

1.2.4 Continuation of Expiring Permit

If the Permittee has submitted a timely and complete application for renewal of this permit pursuant to 20.4.1.900 NMAC, incorporating 40 CFR 270.10 and 270.13 through 270.29, then this permit shall remain in effect until the effective date of the new permit if, through no fault of the Permittee, the Secretary has not issued a new permit on or before the expiration date of this permit, pursuant to 20.4.1.900 NMAC, incorporating 40 CFR 270.51.

1.3 PERMIT CONSTRUCTION

1.3.1 Citations

Whenever provisions of this permit or of 20.4.1 NMAC *et seq.*, incorporating 40 CFR parts 260 through 270 are cited, the citation includes all subordinate provisions of the cited provision paragraphs of this permit or of 20.4.1 NMAC *et seq.* When subordinate sections are cited, such citations include all subsections of the cited paragraphs.

If there is a conflict between the language of the Permit Parts and the language of the Permit Attachments, then the language of the Permit Parts shall override the language in the Permit Attachments.

1.3.2 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.

1.4 DEFINITIONS

For the purposes of this permit, terms used herein shall have the same meanings as those in the Hazardous Waste Act (Chapter 74, Article 4 NMSA 1978) and the Resource Conservation and Recovery Act of 1976, (RCRA, as amended, 42 U.S.C. 6901 *et seq.)* 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.

Action levels, for the purposes of this permit, are health-based concentrations of hazardous waste or constituents determined by the Secretary to be indicators for the protection of human health and/or the environment.

Area of Concern (AOC), for the purposes of this permit, means any area having a probable release of hazardous waste or constituents that is not from a solid waste management unit and which has been determined to pose a current or potential threat to human health or the environment.

Cleanup levels, for the purposes of this permit, are concentrations of hazardous waste or constituents based on excess

lifetime cancer risk levels that are consistent with EPA's National Contingency Plan.

Corrective Measures, for the purposes of this permit, include all corrective action necessary to protect human health and the environment for all releases of hazardous waste or constituents from any solid waste management unit at the Facility, regardless of the time at which waste was placed in the unit, as required under Section 74-4-4.2.B NMSA 1978 and 20.4.1.500 NMAC, incorporating 40 CFR 264.101. Corrective measures may address releases to air, soils, surface water, or groundwater.

Extent of contamination, for the purposes of this permit, is 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 Secretary.

Hazardous waste, for the purposes of this permit, means a hazardous waste as defined in section 1004(5) of RCRA and as defined in 20.4.1.100 NMAC, incorporating 40 CFR 260.10 and 20.4.1.200 NMAC, incorporating 40 CFR 261.3.

He means "he" or "she" as appropriate.

Release, for the purposes of this permit, means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing of any hazardous waste or hazardous constituents 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.

A *solid waste management unit* (*SWMU*), for the purposes of this permit, means any discernable unit or area at the Facility at which solid waste has been placed at any time, and from which the Secretary 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 one time and accidental events that were not remediated, as well as any units or area at which solid waste has been routinely and systematically placed.

A *unit* for the purposes of this permit includes, but is not limited to, any container storage area, drain field, transfer station, or recycling unit.

1.5 DUTIES AND REQUIREMENTS

1.5.1 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 20.4.1.900 NMAC, incorporating 40 CFR 270.61. Any permit noncompliance, except under the terms of an Emergency Permit, constitutes a violation of the Hazardous Waste Act and/or RCRA and may subject the Permittee, its successors and assigns, officers, directors, employees, parents, or subsidiaries, to an administrative or civil enforcement action, including civil penalties and injunctive relief, pursuant to Sections 74-4-10 or 74-10.1 NMSA 1978 or section 3008(a) and (g) of RCRA; to permit modification, suspension, revocation, denial of a permit application or modification request under Section 74-4-4.2 NMSA 1978; or sections 3008(d), (e), or (f) of RCRA; or a combination of the foregoing, pursuant to 20.4.1.900 NMAC, incorporating 40 CFR 270.30(a).

1.5.2 Duty to Reapply

If the Permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, then the Permittee shall apply for and obtain a new permit. The Permittee shall submit a complete 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 Secretary, pursuant to 20.4.1.900 NMAC, incorporating 40 CFR 270.10(h) and 270.30(b). The Secretary will not grant permission for applications to be submitted later than the expiration date of the existing permit.

1.5.3 Transfer of Permit

The Permittee shall not transfer this permit to any person except after providing notice to the Secretary and receiving approval from the Secretary for this action, pursuant to 20.4.1.900 NMAC, incorporating 40 CFR 270.30(l)(3). The permit may be transferred to a new owner or operator only if the permit has been modified and the new owner submits a revised permit application containing all information requirements, including the financial assurance and disclosure statements required under the Hazardous Waste Act (Chapter 74, Article 4 NMSA). The Secretary may require modification, suspension or revocation of this permit pursuant to 20.4.1.900 and 20.4.1.901 NMAC, incorporating 40 CFR 270.40(b) and 270.41(b)(2).

Before transferring ownership or operation of the Facility the Permittee shall notify the new owner or operator in writing of the requirements of 20.4.1.500 NMAC, incorporating 40 CFR part 264 and 20.4.1.900 NMAC, incorporating 40 CFR part 270, and the Hazardous Waste Act (Chapter 74, Article 4 NMSA), pursuant to 20.4.1.500 NMAC, incorporating 40 CFR 264.12(c) and 20.4.1.900 NMAC, incorporating 40 CFR 270.30(l)(3) and shall provide the Secretary with a copy of this notice.

1.5.4 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, pursuant to 20.4.1.900 NMAC, incorporating 40 CFR 270.30(c).

1.5.5 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, pursuant to 20.4.1.900 NMAC, incorporating 40 CFR 270.30(d).

1.5.6 Proper Operation and Maintenance

The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and 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 includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance/quality control procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with this permit, pursuant to 20.4.1.900 NMAC, incorporating 40 CFR 270.30(e).

1.5.7 Duty to Provide Information

The Permittee shall furnish to the Secretary, within a reasonable time as specified by the Secretary, any relevant information which the Secretary may request to determine whether cause exists for modifying, suspending, or revoking this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Secretary, upon request, copies of records required to be kept by this permit pursuant to 20.4.1.500 NMAC,

incorporating 40 CFR 264.74(a) and 20.4.1.900 NMAC, incorporating 40 CFR 270.30(h).

1.5.8 Inspection and Entry

The Permittee shall allow the Secretary, or authorized representatives, upon the presentation of credentials and other documents as may be required by law, the following entry and inspection privileges specified in 20.4.1.900 NMAC, incorporating 40 CFR 270.30(i):

1.5.8.a Entrance to premises

To 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;

1.5.8.b Access to records

To have access to and copy, at reasonable times, any records that must be kept in accordance with this permit;

1.5.8.c Inspection

To inspect at reasonable times the facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and,

1.5.8.d Sampling

To sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by RCRA and/or the Hazardous Waste Act (Chapter 74, Article 4 NMSA), any substances or parameters at the facility.

Permit Condition 1.5.8 shall not be construed to limit, in any manner, the Secretary's authority under Section 74-4-4.3 NMSA 1978.

1.5.9 Monitoring and Records

1.5.9.a Representative sampling

For purposes of monitoring, the Permittee shall take samples and measurements representative of the monitored activity pursuant to 20.4.1.900 NMAC, incorporating 40 CFR 270.30(j)(1).

1.5.9.b Record retention

The Permittee shall retain records of all ground water monitoring information, including all calibration and maintenance records, copies of all reports and records required by this permit, the waste minimization certification required by 20.4.1.500 NMAC, incorporating 40 CFR 264.73(b)(9), and records of all data used to complete the permit Application for a period of at least three (3) years from the date of the sample, measurement, report, record, certification, or application, pursuant to 20.4.1.900 NMAC, incorporating 40 CFR 270.30.(j)(2). This period may be extended by request of the Secretary at any time and is automatically extended during the course of any unresolved enforcement action regarding this facility.

1.5.9.c Monitoring records contents

Pursuant to 20.4.1.900 NMAC, incorporating 40 CFR 270.30(j)(3), records of monitoring information shall include:

- The dates, exact place, and times of sampling or measurements;
- The names and qualifications of the individuals who performed the sampling or measurements;
- The dates analyses were performed;
- The names and qualifications of the individuals who performed the analyses;
- The analytical techniques or methods used; and,
- The results of such analyses.

1.5.10 Reporting Requirements

1.5.10.a Reporting planned changes

The Permittee shall give notice to the Secretary, as soon as possible, of any planned physical alterations or additions to the facility, pursuant to 20.4.1.900 NMAC, incorporating 40 CFR 270.30(l)(1).

1.5.10.b Reporting anticipated noncompliance

The Permittee shall give advance notice to the Secretary of any planned changes in the facility or in any activities, that may result in noncompliance with permit requirements, pursuant to 20.4.1.900 NMAC, incorporating 40 CFR 270.30(l)(2).

1.5.10.c Twenty-four hour and subsequent reporting

1.5.10.c.i Oral report

The Permittee shall report to the Secretary any noncompliance that may endanger human health or the environment within 24 hours from the time that the Permittee becomes aware of the circumstances, pursuant to 20.4.1.900 NMAC, incorporating 40 CFR 270.30(1)(6)(i). The report shall include the following:

- Information concerning any release of any hazardous waste that may cause an endangerment to public drinking water supplies; and,
- Any information of a release or discharge of hazardous waste, or of a fire or explosion from the facility, that could threaten the environment or human health outside the facility.
- The description of the occurrence and its cause shall include:

  - The name, address, and telephone number of the owner or operator;

  - The name, address, and telephone number of the facility;

  - The date, time, and type of incident;

  - The name and quantity of materials involved;

  - The extent of injuries, if any;

  - An assessment of actual or potential hazards to the environment and human health outside the facility, where this is applicable; and,

  - Estimated quantity and disposition of recovered material that resulted from the incident.

1.5.10.c.ii Written report

The Permittee shall submit a written report within 5 calendar days from the time the Permittee becomes aware of the noncompliance, pursuant to 20.4.1.900 NMAC, incorporating 40 CFR 270.30(l)(6)(iii). The written report shall contain the following:

- A description of the noncompliance and its cause;

- 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,

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

1.5.10.d Unmanifested waste report

The Permittee shall submit an unmanifested waste report to the Director within 15 calendar days of receipt of unmanifested waste, pursuant to 20.4.1.900 NMAC, incorporating 40 CFR 270.30(l)(8) and 20.4.1.500 NMAC, incorporating 40 CFR 264.76.

1.5.10.e Other noncompliance

The Permittee shall report all other instances of noncompliance not otherwise required to be reported above under this permit at the time monitoring reports are submitted. The reports shall contain the information listed in Permit Condition 1.5.10.c.ii, pursuant to 20.4.1.900 NMAC, incorporating 40 CFR 270.30(l)(10).

1.5.10.f Other information

Whenever the Permittee becomes aware that he failed to submit any relevant facts in the Permit Application, or submitted incorrect information in the Permit Application or in any report to the Secretary, the Permittee shall promptly submit such facts or information in writing to the Secretary, pursuant to 20.4.1.900 NMAC, incorporating 40 CFR 270.30(l)(11).

1.5.10.g Signatory requirement

The Permittee shall sign and certify all applications, reports, or information submitted to or requested by the Secretary or required by this permit, pursuant to 20.4.1.900 NMAC, incorporating 40 CFR 270.11 and 270.30(k).

1.5.10.h Reports, notifications, and submissions to the New Mexico Environment Department

The Permittee shall submit by certified mail or hand delivery and electronically all reports, notifications, or other submissions that are required by this Permit to be sent or given to the NMED. The submissions should be sent by certified mail or hand delivered, and also by electronic mail to:

Manager, RCRA Permits Management Program
New Mexico Environment Department
Hazardous Waste Bureau
P.O. Box 26110
Santa Fe, New Mexico 87502
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303
Telephone Number: 505-428-2500
Facsimile Number: 505-428-2567

1.5.10.i 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.

1.5.11 Compliance Schedules

The Permittee shall submit reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit no later than 14 calendar days following each schedule date, pursuant to 20.4.1.900 NMAC, incorporating 40 CFR 270.30(l)(5).

1.5.12 Property rights

This permit does not convey any property rights of any sort, or any exclusive privilege, pursuant to 20.4.1.900 NMAC, incorporating 40 CFR 270.30(g).

PART 2

CORRECTIVE ACTION

HIGHLIGHTS

Part 2 specifies the corrective action requirements that the Permittee shall follow when conducting corrective action for all releases of hazardous waste or constituents from any solid waste management unit (SWMU) or area of concern (AOC) at the Facility, pursuant to Sections 74-4-4.A(5)(h) and 74-4-4.2.C NMSA 1978 and the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984 (HSWA).

The Environmental Protection Agency (EPA) - Region 6 issued a hazardous waste permit to the Permittee on December 17, 1989 pursuant to the 1984 Hazardous and Solid Waste Amendments to RCRA (HSWA), that required corrective action for releases of hazardous waste or constituents. The State of New Mexico received authorization January 25, 1985 (50 FR 1515) to implement its base hazardous waste management program. On February 8, 1996 the State of New Mexico received final authorization from EPA to administer, implement, and enforce corrective action requirements under RCRA and HSWA. As a result, New Mexico has the primary responsibility for implementing the provisions of RCRA, including the corrective action program.

CORRECTIVE ACTION FROM RELEASES

Sections 74-4-4.A(5)(h), 74-4-4.2 NMSA 1978, and Section 3004(u) of RCRA and their implementing regulations require the Permittee to conduct corrective action as necessary to protect human health and the environment for all releases of hazardous waste or constituents from any solid waste management unit (SWMU) at the facility, regardless of the time at which the waste was placed in the SWMU.

Sections 74-4-4.A(5)(i) NMSA 1978 and 20.4.1.500 NMAC, incorporating 40 CFR 264.101(c) require corrective action beyond the facility boundary where necessary to protect human health and the environment unless the Permittee demonstrates to the satisfaction of the Secretary that, despite the Permittee's best efforts, the Permittee was unable to obtain the necessary permission to undertake such actions.

The Permittee may also be required to take corrective action for releases of hazardous waste or constituents from any SWMU and/or AOC at the Facility, or beyond the facility property boundaries,

regardless of when the waste was placed, pursuant to section 3004(u) and 3004(v) of RCRA.

The New Mexico Environment Department acknowledges that the Permittee has already satisfactorily completed some of the work required by this permit. Previously completed work may be used to meet the requirements of this Permit Part and all previously approved submittals are hereby incorporated into this permit.

2.1 APPLICABILITY

The Permittee shall conduct a RCRA facility investigation (RFI) at the solid waste management units (SWMUs) and areas of concern (AOCs) specified below and at any newly discovered SWMUs and AOCs.

2.1.1 Solid Waste Management Units and Areas of Concern That Require a RCRA Facility Investigation

The SWMUs and AOCs for which the Permittee is required to conduct a RCRA Facility Investigation (RFI) are identified in Table 1 of Permit Attachment 1 (*Solid Waste Management Unit Summary*). The Permittee shall submit RFI Work Plans within 180 days of the effective date of this permit for the following SWMUs/AOCs:

SWMUs 2, 4, 6, 10, 34, 36, 49, 50, 72, 75, 76, 78, 81, 82, 85, 91, 95, 96, 98, 102, 106, 107, 125, and AOCs A, B, C.

2.1.2 Solid Waste Management Units and Areas of Concern That Require No Further Investigation

The SWMUs and AOCs for which the Permittee is not required to conduct further investigation at this time are identified in Table 2 of Permit Attachment 1.

2.1.3 Newly Discovered Solid Waste Management Units and Areas of Concern

The Permittee shall conduct a RFI at any additional SWMUs or AOCs discovered during the course of ground water monitoring, field investigations, environmental audits, or other means. For the purposes of this permit, the terms "discover", "discovery", or "discovered" refer to the date on which the Permittee either visually observes evidence of a new SWMU or AOC, visually observes evidence of a previously unidentified release of hazardous waste or constituents to the environment, or receives information that suggests the presence of a new release of hazardous waste or constituents to the environment.

2.1.4 Contamination That Has Migrated Beyond The Facility Boundary, If Applicable

The Permittee shall implement corrective actions beyond the facility boundary where necessary to protect human health and the environment, unless the Permittee demonstrates to the satisfaction of the Secretary that, despite the Permittee's best efforts, as determined by the Secretary, the Permittee was unable to obtain the necessary permission 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.

2.2 NOTIFICATION AND ASSESSMENT REQUIREMENTS FOR NEWLY IDENTIFIED SOLID WASTE MANAGEMENT UNITS AND AREAS OF CONCERN

2.2.1 Notification of Newly Discovered Solid Waste Management Units and Areas of Concern

The Permittee shall notify the Secretary in writing of any suspected new SWMU or AOC within 15 calendar days of discovery, in accordance with Permit Condition 2.3. The notification shall include, at a minimum, the location of the SWMU or AOC and all available information pertaining to the nature of the release (e.g., media affected, hazardous waste or constituents released, magnitude of release, etc.). The Secretary may require the Permittee to conduct further assessment (i.e., confirmatory sampling) in order to determine the status of the suspected SWMU or AOC. The Secretary will notify the Permittee in writing of the final determination as to the status of the suspected SWMU or AOC.

2.2.2 Solid Waste Management Unit Assessment Report

The Permittee shall submit a SWMU Assessment Report (SAR) to the Secretary for each SWMU or AOC identified in accordance with Permit Condition 2.2.1 within 90 calendar days of being notified of the requirement to do so by the Secretary. At a minimum, the SAR shall provide the following information:

- Location of unit(s) on a topographic map of appropriate scale such as required pursuant to 20.4.1.900 NMAC, incorporating 40 CFR 270.14(b)(19);
- Designation of type and function of unit(s);

- General dimensions, capacities and structural description of unit(s) (supply any available plans/drawings);

- Dates that the unit(s) was operated;

- Specification of all wastes that have been managed at/in the unit(s) to the extent available. Include any available data on hazardous waste or constituents in the wastes; and,

- All available information pertaining to any release of hazardous waste or constituents from such unit(s) (to include ground water data, soil analyses, air, and/or surface water data).

2.2.3 Requirement to Proceed

The Secretary will determine the need for further investigations at the SWMUs or AOCs covered in the SAR based on the results of the SWMU Assessment Report. If the Secretary determines that such investigations are needed, then the Permittee shall submit a RFI Work Plan in accordance with Permit Condition 2.5.1.

2.3 NOTIFICATION REQUIREMENTS FOR NEWLY DISCOVERED RELEASES FROM SWMUS OR AOCS

2.3.1 Notification of Newly Discovered Releases

The Permittee shall notify the Secretary in writing of any newly discovered release(s) of hazardous waste or constituents discovered during the course of ground water monitoring, field investigations, environmental audits, or other means, within 15 calendar days of discovery. Such newly discovered releases may be from SWMUs or AOCs identified in Permit Condition 2.1.1 or SWMUs or AOCs identified in Permit Condition 2.1.2 for which further investigation was not previously required.

2.3.2 Requirement to Proceed

If the Secretary determines that further investigation of the SWMUs or AOCs is needed, then the Permittee shall submit a RFI Work Plan in accordance with Permit Condition 2.5.1.

2.4 INTERIM MEASURES

2.4.1 Interim Measures Work Plan

2.4.1.a Interim measures required by the Secretary

The Permittee shall submit an Interim Measures (IM) Work Plan in accordance with Permit Attachment 2 (*Interim Measures Scope of Work*) for interim measures at any SWMU or AOC that the Secretary determines is necessary. Interim measures are actions that are necessary to minimize or prevent the further migration of contaminants and limit actual or potential human and environmental exposure to contaminants while long-term corrective action remedies are evaluated and, if necessary, implemented. The Permittee shall submit a IM Work Plan including, at a minimum the elements listed in Permit Attachment 2, within 30 calendar days of being required to do so. Interim measures may be conducted concurrently with any required investigations.

2.4.1.b Permittee-initiated interim measures

The Permittee may initiate interim measures at a SWMU or AOC by notifying the Secretary, in writing, at least 30 days prior to implementing the Interim Measures. The Secretary will either conditionally approve the Interim Measures or require the Permittee to submit an IM Work Plan. The Secretary will either comment on or approve the Permittee initiated Interim Measures. Permittee initiated Interim Measures must follow the progress and final reporting requirements specified in Permit Condition 2.6.3.

2.4.1.c Interim Measures Work Plan requirements

The Permittee shall ensure that any interim measures are designed to mitigate any current or potential threat(s) to human health or the environment and are consistent with, and integrated into, any long-term solution at the facility. The IM Work Plan shall include the interim measures objectives, procedures for implementation (including any designs, plans, or specifications), and schedules for implementation.

2.4.1.d Interim Measures Work Plan approval

The IM Work Plan must be approved by the Secretary, in writing, prior to implementation. The Secretary will specify the start date of the IM Work Plan schedule in the letter approving the IM Work Plan. If the Secretary disapproves the IM Work Plan, then the Secretary will either notify the Permittee in writing of the IM Work Plan's deficiencies and specify a due date for submission of a revised IM Work Plan, revise the IM Work Plan and notify the Permittee of the revisions and the start date of the schedule

within the approved IM Work Plan, or conditionally approve the IM Work Plan and notify the Permittee of the conditions.

2.4.2 Interim Measures Implementation

2.4.2.a Implementation of approved interim measures work plan

The Permittee shall implement the interim measures specified in the approved IM Work Plan, in accordance with Permit Condition 2.6.2.

2.4.2.b Notification of changes

The Permittee shall notify the Secretary of any planned changes, reductions or additions to the IM Work Plan within 10 working days.

2.4.3 Interim Measures Reports

2.4.3.a Progress reports

The Permittee shall provide the Secretary with progress reports at least quarterly if the time required for completion of interim measures imposed in accordance with Permit Condition 2.6.1.a or implemented in accordance with Permit Condition 2.6.1.b exceeds one year. The Quarterly Progress Reports shall contain, at a minimum, the following information:

- A description of the portion of the interim measures completed;
- Summaries of findings;
- Summaries of any deviations from the IM Work Plan during the reporting period;
- Summaries of any problems or potential problems encountered during the reporting period; and,
- Projected work for the next reporting period.

2.4.3.b Interim measures report

The Permittee shall submit to the Secretary an Interim Measures (IM) Report within 90 calendar days of completion of interim measures conducted in accordance with Permit Condition 2.6. The IM Report shall contain, at a minimum, the following information:

- A description of interim measures implemented;

- Summaries of results;
- Summaries of all problems encountered;
- Summaries of accomplishments and/or effectiveness of interim measures; and,
- Copies of all relevant laboratory/monitoring data, etc.

2.5 RCRA FACILITY INVESTIGATION

2.5.1 RFI Work Plan

2.5.1.a RFI Work Plan submittal

The Permittee shall submit to the Secretary a RCRA Facility Investigation (RFI) Work Plan for those units identified in accordance with Permit Condition 2.1, within 90 calendar days of notification by the Secretary,.

2.5.1.b RCRA Facility Investigation Work Plan requirements

The Permittee shall submit a RFI Work Plan meeting the requirements of Permit Attachment 3 (*RFI Scope of Work*). The RFI Work Plan shall include schedules of implementation and completion of specific actions necessary to determine the nature and extent of contamination and the potential pathways of contaminant releases to the air, soil, surface water, and ground water. The Permittee shall provide sufficient justification and associated documentation that a release is not probable or has already been characterized if a unit or a media/pathway associated with a unit (ground water, surface water, soil, subsurface gas, or air) is not included in the RFI Work Plan. Such deletions of a unit, medium, or pathway from the RFI(s) are subject to the approval of the Secretary. The Permittee shall provide sufficient written justification for any omissions or deviations from the minimum requirements of Permit Attachment 3. Such omissions or deviations are subject to the approval of the Secretary. In addition, the scope of the RFI Work Plan shall include all investigations necessary to ensure compliance with 20.4.1.500 NMAC, incorporating 40 CFR 264.101(c).

The Permittee shall ensure that the development of the RFI Work Plan and reporting of the associated data are consistent with the latest editions of the following U.S. Environmental Protection Agency (EPA) guidance documents or their equivalents:

- RCRA Facility Investigation Guidance Document, Vols. I-IV (EPA/SW-89-031, May 1989);

- RCRA Ground-Water Monitoring: Draft Technical Guidance (EPA/530-R-93-001, November 1992);
- Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods (EPA publication SW-846, 3rd edition, 1996);
- RCRA Corrective Action Plan, Final (EPA OSWER Directive 9902.3-2A, May 1994); and,
- Handbook of Suggested Practices for the Design and Installation of Ground-Water Monitoring Wells (EPA 600/4-89/034, 1989).

2.5.1.c RCRA Facility Investigation Work Plan approval by the Secretary

The RFI Work Plan must be approved by the Secretary, in writing, prior to implementation. The Secretary will specify the start date of the RFI Work Plan schedule in the letter approving the RFI Work Plan. If the Secretary disapproves the RFI Work Plan, then the Secretary will either notify the Permittee in writing of the RFI Work Plan's deficiencies and specify a due date for submission of a revised RFI Work Plan, revise the RFI Work Plan and notify the Permittee of the revisions and the start date of the schedule within the approved RFI Work Plan, or conditionally approve the RFI Work Plan and notify the Permittee of the conditions.

2.5.2 RCRA Facility Investigation Implementation

The Permittee shall implement the RFI in accordance with the approved RFI Work Plan and Permit Attachment 3. The Permittee shall notify the Secretary at least 20 calendar days prior to any sampling activity, field testing, or field monitoring activity required by this Permit to provide New Mexico Environment Department personnel the opportunity to observe investigation procedures and/or split samples.

2.5.3 RCRA Facility Investigation Reports

2.5.3.a RCRA facility investigation report submittal

The Permittee shall submit RFI Reports to the Secretary for all investigations conducted in accordance with an approved RFI Work Plan and Permit Condition 2.5.1. The Permittee shall submit all RFI Reports to the Secretary for review in accordance with the schedule in the approved RFI Work Plan and/or Permit Attachment 6 (*Schedule of Compliance*). The Permittee shall submit all required revisions to the RFI Report required by the Secretary

within 30 calendar days of receipt of the Secretary's review of the RFI Report.

The Permittee's RFI Report shall include an analysis and summary of all required investigations of SWMUs and AOCs and their results. The summary shall describe the type and extent of contamination at the facility, including sources and migration pathways, identify all hazardous waste or constituents present in all media, and describe actual or potential receptors. The RFI Report shall also describe the extent of contamination (qualitative/ quantitative) in relation to background levels indicative of the area. If the RFI Report is a summary of an initial phase investigation, then the report shall also include a work plan for the final phase investigation(s) required, based on the initial findings.

The Permittee shall ensure that the investigation data are sufficient in quality (e.g., quality assurance procedures have been followed) and quantity to describe the nature and extent of contamination, potential threat to human health and/or the environment, and will support a Corrective Measures Study, if necessary.

2.5.3.b Action levels for hazardous waste or constituents

The Permittee shall submit to the Secretary, along with the RFI Report, proposed action levels for each of the hazardous waste or constituents reported in accordance with Permit Condition 2.5.3.a. The Permittee shall determine action levels in accordance with Permit Attachment 7 (*Action Levels and Cleanup Levels*).

2.5.3.c Requirement to proceed

The Secretary will review the RFI Report, including the Permittee's action levels. The Secretary will notify the Permittee of the need for further investigative action and the need for a Corrective Measures Study to meet the requirements of Permit Condition 2.7 and 20.4.1.500 NMAC, incorporating 40 CFR 264.101. The Secretary will notify the Permittee of any no further action (NFA) determination.

2.5.3.d Quarterly reports

The Permittee shall provide the Secretary with signed progress reports at least quarterly. Progress reports shall include, at a minimum, the following information:

- A description and estimate of the percentage of the RFI completed;

- Summaries of findings;
- Summaries of any deviations from the approved RFI Work Plan during the reporting period;
- Summaries of any significant contacts with local community public interest groups or State government;
- Summaries of any problems or potential problems encountered during the reporting period;
- Actions taken to rectify problems;
- Changes in relevant personnel;
- Projected work for the next reporting period; and,
- Upon request, copies of daily reports, inspection reports, data, etc.

2.6 CORRECTIVE MEASURES STUDY

2.6.1 Corrective Measures Study Work Plan

2.6.1.a Submittal of Corrective Measures Study Work Plan

The Permittee shall submit a Corrective Measures Study (CMS) Work Plan for those units requiring a CMS within 90 calendar days of being notified to do so by the Secretary. The Permittee shall develop the CMS Work Plan in accordance with Permit Condition 2.7.1.b. The Permittee may seek approval from the Secretary to implement concurrent RFI/CMS. The CMS may be performed concurrently with the RFI process if the Secretary determines that sufficient investigative details are available to allow concurrent action.

2.6.1.b Corrective Measures Study Work Plan requirements

The Permittee shall ensure that the CMS Work Plan meets the requirements of Permit Attachment 4 (*Corrective Measures Study Scope of Work*). The CMS Work Plan shall include schedules of implementation and completion of specific actions necessary to complete a CMS. The Permittee must provide sufficient justification and/or documentation to delete any unit from the CMS Work Plan. The deletion of any unit is subject to the approval of the Secretary. The Permittee shall provide sufficient written justification for any omissions or deviations from the minimum requirements of Permit Attachment 4. All proposed omissions or deviations must be approved by the Secretary. The Permittee shall ensure that the CMS Work Plan

will include all investigations necessary to ensure compliance with Section 74-4-4.2 NMSA 1978, 20.4.1.500 NMAC, incorporating 40 CFR 264.101 and 264.552, and 20.4.1.900 NMAC, incorporating 40 CFR 270.32(b)(2). The Permittee shall implement corrective actions beyond the facility boundary, as necessary, in accordance with Permit Condition 2.1.4.

2.6.1.c Corrective Measures Study Work Plan approval

The Secretary will either approve or disapprove, in writing, the CMS Work Plan. If the Secretary disapproves the CMS Work Plan, then the Secretary will either notify the Permittee in writing of the CMS Work Plan's deficiencies and specify a due date for submittal of a revised CMS Work Plan, revise the CMS Work Plan and notify the Permittee of the revisions, or conditionally approve the CMS Work Plan and notify the Permittee of the conditions. This modified CMS Work Plan becomes the approved CMS Work Plan.

2.6.2 Corrective Measures Study Implementation

The Permittee shall implement the CMS in accordance with the approved CMS Work Plan and the schedules specified in the CMS Work Plan and Permit Attachment 6.

2.6.3 Corrective Measures Study Report

2.6.3.a Submittal of corrective measures study report

The Permittee shall submit a CMS Report to the Secretary for the CMS conducted in accordance with the approved CMS Work Plan and Permit Attachment 4. The Permittee shall submit the CMS Report to the Secretary in accordance with the schedule specified in the approved CMS Work Plan and Permit Attachment 6. The Permittee shall submit any revisions to the CMS Report required by the Secretary within 30 calendar days of receipt of the Secretary's comments on the CMS Report. The CMS Report shall summarize any bench scale or pilot tests conducted and shall include an evaluation of each remedial alternative.

If a remedial alternative requires the use of a Corrective Action Management Unit (CAMU), then the CMS report shall include all information necessary to establish and implement the CAMU, pursuant to 20.4.1.500 NMAC, incorporating 40 CFR 264.552. The CMS Report shall present all information gathered in accordance with the approved CMS Work Plan. The CMS Report must contain sufficient information to support the Secretary's decision on the recommended remedy, in accordance with Permit Condition 2.8.

2.6.3.b Corrective measures study report approval

If the Secretary determines that the CMS Report does not fully satisfy the information requirements specified in accordance with Permit Condition 2.7.3, then the Secretary may disapprove the CMS Report. If the Secretary disapproves the CMS Report, then the Secretary will notify the Permittee in writing of deficiencies in the CMS Report and will specify a due date for submittal of a revised CMS Report. The Secretary will notify the Permittee of any no further action determination.

2.6.3.c Requirement to provide revisions

The Secretary may require the Permittee to evaluate additional remedies or particular elements of one or more proposed remedies based on preliminary results and the CMS Report.

2.6.4 Remedy Selection

The Secretary will select a remedy from the remedial alternatives evaluated in the CMS Report based, at a minimum, on the protection of human health and the environment, specific site conditions, and existing regulations. The selected remedy may include any interim measures implemented to date.

2.7 CORRECTIVE MEASURES IMPLEMENTATION (CMI)

The Permittee shall simultaneously submit a Corrective Measures Implementation (CMI) Conceptual Design, a CMI Operation and Maintenance Plan, CMI Plans and Specifications, and a CMI Construction Work Plan in accordance with Permit Attachment 6 within 90 calendar days of notification by the Secretary that corrective measures are required. The Permittee shall implement the approved corrective measures in accordance with the approved CMI Conceptual Design, CMI Operation and Maintenance Plan, CMI Plans and Specifications, and CMI Construction Work Plan within 30 calendar days of receiving approval from the Secretary.

The Permittee shall submit a CMI Construction Completion Report in accordance with Permit Attachment 6 after the approved corrective measures have been implemented and the construction and any operational tests have been completed. The Permittee shall submit a CMI Corrective Measures Completion Report in accordance with Permit Attachment 6 after the corrective measure completion criteria have been satisfied.

The Permittee shall submit quarterly progress reports in accordance with Permit Attachment 6 and in accordance with the schedules specified in the approved CMI program.

2.7.1 CMI Conceptual Design

The Permittee shall submit a CMI Conceptual Design in accordance with Permit Attachment 6 within 60 calendar days of being required to do so. The CMI Conceptual Design shall describe in detail the proposed corrective measure(s) and the key components or elements that are needed, and shall include conceptual drawings and schematics and all procedures and schedules for implementing the corrective measure(s).

The Secretary will either approve or disapprove, in writing, the CMI Conceptual Design. If the Secretary disapproves the CMI Conceptual Design, then the Secretary will either notify the Permittee in writing of the CMI Conceptual Design's deficiencies and specify a due date for submittal of a revised CMI Conceptual Design, revise the CMI Conceptual Design and notify the Permittee of the revisions, or conditionally approve the CMI Conceptual Design and notify the Permittee of the conditions. This modified CMI Conceptual Design becomes part of the approved CMI program.

2.7.2 CMI Operations and Maintenance Plan

The Permittee shall submit a CMI Operations and Maintenance (O&M) Plan in accordance with Permit Attachment 6 within 60 calendar days of being required to do so. The CMI O&M Plan shall outline the procedures for performing operations, long term maintenance, and monitoring of the corrective measure that the Permittee shall follow.

The Secretary will either approve or disapprove, in writing, the CMI O&M Plan. If the Secretary disapproves the CMI O&M Plan, then the Secretary will either notify the Permittee in writing of the CMI O&M Plan's deficiencies and specify a due date for submittal of a revised CMI O&M Plan, revise the CMI O&M Plan and notify the Permittee of the revisions, or conditionally approve the CMI O&M Plan and notify the Permittee of the conditions. This modified CMI O&M Plan becomes part of the approved CMI program.

2.7.3 CMI Plans and Specifications

The Permittee shall submit CMI Plans and Specifications in accordance with Permit Attachment 6 within 60 calendar days of being required to do so. The CMI Plans and Specifications shall be detailed enough to be included in a contract document and advertised for bid. The design package shall consist of the detailed drawings and specifications needed to construct the corrective measure.

The Secretary will either approve or disapprove, in writing, the CMI Plans and Specifications. If the Secretary disapproves the CMI Plans and Specifications, then the Secretary will either notify the Permittee in writing of the CMI Plans and Specifications' deficiencies and specify a due date for submittal of revised CMI Plans and Specifications, revise the CMI Plans and Specifications and notify the Permittee of the revisions, or conditionally approve the CMI Plans and Specifications and notify the Permittee of the conditions. This modified CMI Plans and Specifications becomes part of the approved CMI program.

2.7.4 CMI Construction Work Plan

The Permittee shall submit a CMI Construction Work Plan in accordance with Permit Attachment 6 within 60 calendar days of being required to do so. The CMI Construction Work Plan shall document the overall management strategy, construction quality assurance procedures and schedule for constructing the corrective measure.

The Secretary will either approve or disapprove, in writing, the CMI Construction Work Plan. If the Secretary disapproves the CMI Construction Work Plan, then the Secretary will either notify the Permittee in writing of the CMI Construction Work Plan's deficiencies and specify a due date for submittal of revised CMI Construction Work Plan, revise the CMI Construction Work Plan and notify the Permittee of the revisions, or conditionally approve the CMI Construction Work Plan and notify the Permittee of the conditions. This modified CMI Construction Work Plan becomes part of the approved CMI program.

2.7.5 CMI Construction Completion Report

The Permittee shall submit a CMI Construction Completion Report (CCR) in accordance with Permit Attachment 6 within 60 calendar days of completing the CMI construction. The CMI CCR shall document how the completed project is consistent with the Plans and Specifications. The Permittee shall submit the CCR to the Secretary after the construction and any operational tests have been completed.

The Secretary will either approve or disapprove, in writing, the CMI CCR. If the Secretary disapproves the CMI CCR, then the Secretary will either notify the Permittee in writing of the CMI CCR deficiencies and specify a due date for submittal of revised CMI CCR, revise the CMI CCR and notify the Permittee of the revisions, or conditionally approve the CMI CCR and notify the Permittee of the conditions. The modified CMI CCR becomes part of the approved CMI program.

2.7.6 Corrective Measures Completion Report

The Permittee shall submit a CMI Corrective Measures Completion Report (CMCR) in accordance with Permit Attachment 6 within 60 calendar days of completing the corrective measures. The Permittee shall document how the corrective measure completion criteria have been satisfied and shall justify why the corrective measure and/or monitoring may cease.

The Secretary will either approve or disapprove, in writing, the CMI CMCR. If the Secretary disapproves the CMI CMCR, then the Secretary will either notify the Permittee in writing of any deficiencies in the CMI CMCR and specify a due date for submittal of a revised CMI CMCR, revise the CMI CMCR and notify the Permittee of the revisions, or conditionally approve the CMI CMCR and notify the Permittee of the conditions. This modified CMI CMCR becomes part of the approved CMI program.

2.8 MODIFICATION OF THE CORRECTIVE ACTION SCHEDULE OF COMPLIANCE

2.8.1 Secretary Initiated Modifications

The Secretary may initiate a modification to Permit Attachment 6 if, at any time, the Secretary determines that modification of the Schedule of Compliance is necessary. Modifications that are initiated and finalized by the Secretary will be conducted pursuant to 20.4.1.900 NMAC, incorporating 40 CFR part 270.

2.8.2 Permittee Initiated Modifications

The Permittee may request a permit modification to change Permit Attachment 6, pursuant to 20.4.1.900 NMAC, incorporating 40 CFR part 270.

2.9 WORK PLAN AND REPORT REQUIREMENTS

2.9.1 Work Plans, Reports, and Schedules Incorporated Into Permit

All work plans, reports, and schedules required by this Permit are, upon approval by the Secretary, incorporated into this Permit by reference and become an enforceable part of this Permit. Because required items are essential elements of this Permit, failure to submit any of the required items or submission of inadequate or insufficient information may subject the Permittee to enforcement action under Section 3008 of RCRA and/or Chapter 74, Article 4 NMSA 1978 which may include fines, suspension, or revocation of the Permit. Any noncompliance with

approved work plans and schedules shall be termed noncompliance with this Permit.

2.9.2 Approval by the Secretary of Work Plans, Reports, and Schedules

All work plans, reports, and schedules must be approved by the Secretary prior to implementation by the Permittee. The Permittee shall revise all submittals, reports, and schedules as specified by the Secretary. Upon approval, the Permittee shall implement all work plans and schedules as written. The Secretary will notify the Permittee in writing of any submittal that is disapproved, and the basis therefore.

2.9.3 Schedule for Submittals

The Permittee shall submit all work plans and reports in accordance with the approved schedule. Extensions of the due date for submittals may be granted by the Secretary based on the Permittee's demonstration that sufficient justification for the extension exists.

2.9.4 Submittals to the Secretary

The Permittee shall provide two (2) copies of all work plans and reports to the Secretary at the following address:

Manager, RCRA Permits Management Program
New Mexico Environment Department
Hazardous Waste Bureau
P.O. Box 26110
Santa Fe, New Mexico 87502
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303
Telephone Number: 505-428-2500
Facsimile Number: 505-428-2567

PERMIT ATTACHMENTS

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ATTACHMENT 1

SOLID WASTE MANAGEMENT UNIT SUMMARY

TABLE 1
LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUs) AND AREAS OF CONCERN (AOCs) REQUIRING CORRECTIVE ACTION

SWMU/AOC	DESCRIPTION	COMMENTS
SWMU 2	Recovered Tank No. 108	Underground storage tank (2000-gallon) used to collect recovered diesel fuel from SWMU 3.
SWMU 4	Recovered Tank No. 121	Underground storage tank (2000 gallon) used to collect recovered diesel fuel from SWMU 5.
SWMU 6	POL Tank No. 129	Underground storage tank (2000 gallon) used to collect recovered diesel fuel form SWMU 7.
SWMU 10	POL Tank No. 170	Underground storage tank (2000 gallon) used to collect recovered diesel fuel from SWMU 11.
SWMU 31	AGE Maintenance Shop Pad	Concrete apron (25 ft by 500 ft), which is exposed to washdown water and spilled oil and lubricants.
SWMU 34	AGE Drainage Ditch	Unlined drainage ditch (12 ft by 1 ft by 1200 ft) which receives runoff from SWMU 31.
SWMU 36	MWR Auto Body Shop	This is a possible disposal pit found near the current MWR Outdoor Recreation Center (Building 214) which was originally the MWR auto hobby shop. This pit could be a remnant of the old Auto Hobby Shop or a disposal site for fluids coming from an aircraft engine maintenance shop in the early 1950s.
SWMU 46	Oil/Water Separator 196	Underground storage tank (200 gallon) used to recover washdown material.
SWMU 47	Oil/Water Separator 494	Underground storage tank (unknown capacity).
SWMU 48a	Underground Waste Oil Tank	Underground storage tank (20,000 gallon) which was historically used to store waste oils, spent solvents, paint thinners, recovered fuels, engine oil, PD-680 (Type II), hydraulic fluid

TABLE 1
LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUs) AND AREAS OF CONCERN (AOCs)
REQUIRING CORRECTIVE ACTION

SWMU/AOC	DESCRIPTION	COMMENTS
		and Turco cold stripper. Inactive since 1984.
SWMU 49	Inactive POL Storage Tank No. 4028a	Underground storage tank (20,000 gallon) which held used oil. Inactive since 1985.
SWMU 50	Inactive POL Storage Tank No. 4028b	Underground storage tank (20,000 gallon) which held used oil.
SWMU 70	Oil/Water Separator and Leach Field 326	Underground storage tank (20,000 gallon) which is used to recover oily material prior to discharge to a leaching field.
SWMU 71	Recovered JP-4 Fuel Tank No. 390	Underground storage tank (2000 gallon) which is used to collect recovered JP-4 from SWMU 72.
SWMU 72	Oil/Water Separator 390	Underground storage tank (2000 gallon) which is used to recover waste JP-4.
SWMU 75	Sanitary Sewage Lift Station Overflow Pit	Unlined surface impoundment (100 ft by 600 ft by 3 ft) and when in use, served to contain sewage overflow.
SWMU 77	Civil Engineering Container Storage Area	Contain storage area (100 ft by 200 ft) which was used to store 55-gallon drums; waste materials stored in drums are unknown. Presently Implementing Corrective Measures
SWMU 78	Fire Department Training Area No. 1	Unlined open burning area (100 ft in diameter) used during fire fighting training exercises. Inactive since 1968.
SWMU 79	Underground Tank	Underground storage tank (2000 gallon) used to collect and store recovered JP-4.
SWMU 81	Solvent Disposal Site	Inactive surface impoundment believed to have been used to dispose of TCE.

TABLE 1
LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUs) AND AREAS OF CONCERN (AOCs)
REQUIRING CORRECTIVE ACTION

SWMU/AOC	DESCRIPTION	COMMENTS
SWMU 82	Landfill No. 2	Unlined, inactive landfill (4 acres) which received domestic and industrial solid waste, including waste oils and solvents, paints, paint strippers, paint thinners, pesticide containers, cans, and drums.
SWMU 85	Stormwater Collection Point	Playa used as surface impoundment (9 acres) used to receive stormwater runoff and fuel spills.
SWMU 86	Engine Test Cell	Enclosed tank (50 ft by 10 ft by 20 ft tall) used to collect washdown material.
SWMU 87	Former Overflow Pit	Unlined surface impoundment (6-8 ft in diameter) which collected wash water.
SWMU 88	Former Leaching Field	Leaching field (10,000 SF) that receiv
SWMU 89	Evaporation Pond	Active Concrete impoundment (60 ft by 60 ft) used to evaporate washwater.
SWMU 90	Oil/Water Separator No. 5114	Underground storage tank (100 gallon) used to recover JP-4 fuel.
SWMU 91	Recovered Fuel Tank No. 5114	Active aboveground storage tank (5000 gallon) used to collect recovered JP-4 from SWMU 90.
SWMU 95	NE Stormwater Drainage Area	Open field which receives water from oil/water separators (SWMUs 38, 39, & 46) and runoff water from the runways and storm water drains.
SWMU 96	Old Entomology Rinse Area	Inactive open pit (3 ft by 3 ft by 2 ft deep) which received decon rinse waters from pesticide sprayers and containers.
SWMU 97	Concrete Rubble Pile (Landfill 25)	Rubble pile of concrete blocks.
SWMU 98	Sanitary Sewage Line	Active sewer used to collect sanitary and industrial wastewater.
SWMU 101	Wastewater Treatment System - Lagoons	Two unlined wastewater treatment unit (WWTU) surface impoundments (32 acres).

TABLE 1
LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUs) AND AREAS OF CONCERN (AOCs)
REQUIRING CORRECTIVE ACTION

SWMU/AOC	DESCRIPTION	COMMENTS
SWMU 102	Wastewater Treatment Effluent Discharge	Discharge pipe from wastewater treatment unit.
SWMU 103	Wastewater Playa Lake	Natural land depression (13 acres) which receives stormwater discharge and waste solvents from SWMU 9.
SWMU 104	Landfill No. 4	Inactive, unlined landfill (7 acres); when active it received domestic and industrial sold waste, including waste oils and solvents, paints, paint strippers, paint thinners, pesticides, cans, and drums.
SWMU 105	Landfill No. 3	Inactive, unlined landfill (7 acres); when active it received domestic and industrial sold waste, including waste oils and solvents, paints, paint strippers, paint thinners, pesticides, cans, and drums.
SWMU 106	Fire Department Training Area No. 2	Inactive, unlined fire training area (100 ft in diameter) used during fire training exercises.
SWMU 107	Fire Department Training Area No. 3	Inactive, unlined fire training area (100 ft in diameter) used during fire training exercises.
SWMU 108	Explosive Ordinance Disposal Activities Area	Active Unit (1800 ft in diameter) used for ammunition disposal training operations.
SWMU 109	Fire Department Training Area No. 4	Inactive, unlined fire training area (400 ft in diameter) used during fire training exercises. Previously, this site was
SWMU 110	Underground Waste Oil Tank No. 2336	Active Underground Storage Tank (2000 gallon) used to store recovered JP-4 fuel for fire training exercises.
SWMU 111	Unlined Pit	Unlined pit used to collect runoff from SWMU 109.

TABLE 1
LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUs) AND AREAS OF CONCERN (AOCs)
REQUIRING CORRECTIVE ACTION

SWMU/AOC	DESCRIPTION	COMMENTS
SWMU 112	Oil/Water Separator No. 2336	Underground Storage Tank used to recover JP-4 fuel from runoff derived during fire training exercises.
SWMU 124	Inactive Underground Storage Tank 1	Underground storage tank used to store diesel oil. Reported to have been filled with sand.
SWMU 125	Inactive Underground Storage Tank 2	Underground storage tank used to store diesel oil.
SWMU 126	Inactive Underground Storage Tank 3	Underground storage tank used to store diesel oil.
SWMU 127	Oil/Water Separator Near Tank 4095 (#1) & Leach field	Underground storage tank used to recover washdown materials.
SWMU 128	Oil/Water Separator Near Tank 4095 (#2) & Leach Field	Underground storage tank used to recover washdown materials.
SWMU 129	Waste Oil Storage Facility 244	Formerly known as AOC "I"
AOC A	MOGAS Spill Site	Site of two automobile gasoline spills.
AOC B	JP-4 Fuel Spill	Site of JP-4 fuel spill.
AOC C	Blown Capacitor Site	Site of PCB spill

TABLE 2
LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUS) AND AREAS OF CONCERN (AOCS)
NOT CURRENTLY REQUIREING CORRECTIVE ACTION

SWMU/AOC	DESCRIPTION	DATRE OF NFA APPROVAL	COMMENT
SWMU 66	Hazardous Waste Storage Facility at Building 226		Certified closed on September 18, 2003
SWMU 1	Oil/Water Separator No. 119		NFA approval February 27, 2006
SWMU 3	Oil/Water Separator No. 108		NFA approval February 27, 2006
SWMU 5	Oil/Water Separator No. 121		NFA approval February 27, 2006
SWMU 7	Oil/Water Separator No. 129		NFA approval February 27, 2006
SWMU 8	Oil/Water Separator No. 165		NFA approval February 27, 2006
SWMU 9	Aircraft Washrack Drain System		NFA approval February 27, 2006
SWMU 11	Oil/Water Separator No. 170		NFA approval February 27, 2006
SWMU 12	Jet engine shop dip tank		3
SWMU 13	Jet engine shop indoor washrack		3
SWMU 14	Pneudraulics shop PD-680 dip tank		3
SWMU 15	Pneudraulics shop former drum storage		3
SWMU 16	Oil/Water Separator No. 680		NFA approval February 27, 2006
SWMU 17	Bearing cleaner tank		3
SWMU 18	Bearing cleaner and carbon remover		3
SWMU 19	Container accumulation area No. 681		3
SWMU 20	Armament recording lab floor drains		3
SWMU 21	NDI lab dip tank		3
SWMU 22a,b	NDI lab developer tank		3
SWMU 23a,b	NDI lab emulsifier processing tank		3
SWMU 24a,b	NDI lab silver recovery tank		3
SWMU 25	NDI lab drum storage area		3
SWMU 26	NDI lab fixer processing tank		3

TABLE 2
LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUS) AND AREAS OF CONCERN (AOCS)
NOT CURRENTLY REQUIREING CORRECTIVE ACTION

SWMU/AOC	DESCRIPTION	DATRE OF NFA APPROVAL	COMMENT
SWMU 27	Lead acid battery shop neutralization tank		3
SWMU 28	Used battery casings storage area		3
SWMU 29	NiCad Battery Rinse sink		3
SWMU 30	AGE drainage ditch		3
SWMU 32A	Oil/Water Separator No. 186 (#1 – East)		NFA approval February 27, 2006
SWMU 33B	Oil/Water Separator No. 186 (#2 – West)		NFA approval February 27, 2006
SWMU 35	Aircraft drip pans		3
SWMU 37	Wheel and tire shop cold stripper dip tank		3
SWMU 38	Oil/Water Separator No. 194		NFA approval February 27, 2006
SWMU 39	Oil/Water Separator No. 195		NFA approval February 27, 2006
SWMU 40	Corrosion control shop drum storage area		
SWMU 41	Corrosion control shop dumpster		3
SWMU 42	Corrosion control shop water holding tank		3
SWMU 43	Fuel systems repair shop bowser		3
SWMU 44	Corrosion control shop parts stripper Building 196		3
SWMU 45	Paint spray booth air purifiers		3
SWMU 46	Oil/Water Separator No. 196		NFA approval February 27, 2006
SWMU 47	Oil/Water Separator No. 494		NFA approval February 27, 2006
SWMU 48B	Aboveground Overflow Capacity Tank		NFA approval February 27, 2006
SWMU 51	Oil/Water Separator No. 375		NFA approval February 27, 2006
SWMU 52	Waste oil and hydraulic fluid bowser		3
SWMU 53	Special purpose vehicle maintenance shop floor drains		
SWMU 54	Special purpose vehicle maintenance shop		

TABLE 2
LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUS) AND AREAS OF CONCERN (AOCS)
NOT CURRENTLY REQUIREING CORRECTIVE ACTION

SWMU/AOC	DESCRIPTION	DATRE OF NFA APPROVAL	COMMENT
	drum storage		
SWMU 55	Lead acid battery accumulation point		NFA approval February 27, 2006
SWMU 56	Lead acid battery storage area		3
SWMU 57	Oil/Water Separator No. 379		NFA approval February 27, 2006
SWMU 58	Special purpose vehicle maintenance shop PD-680 dip tank		3
SWMU 59	Civil engineering paint shop		3
SWMU 60	Civil engineering paint shop waste containers		3
SWMU 61	Sand trap No. 5077A		NFA approval February 27, 2006
SWMU 62	Sand Trap No. 5077B		NFA approval February 27, 2006
SWMU 63	Oil/Water Separator No. 5077C		NFA approval February 27, 2006
SWMU 64	Civil engineering open yard PCB storage		3
SWMU 65	Former interim status hazardous waste storage facility		3
SWMU 67	DPDO PCB storage facility		3
SWMU 68	Civil engineering department PCB storage facility		3
SWMU 69	New entomology mixing room, sink, and floor drains		3
SWMU 74	Landfill No. 1		NFA approval February 27, 2006
SWMU 76	Sludge Weathering Pit		NFA approval February 27, 2006
SWMU 80	Drum storage area		Not observed during RFI
SWMU 83	Sump		NFA approval February 27, 2006
SWMU 84	Waste oil and product storage area		3
SWMU 92	Oil/Water Separator No. 5120		NFA approval February 27, 2006

TABLE 2
LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUS) AND AREAS OF CONCERN (AOCS)
NOT CURRENTLY REQUIREING CORRECTIVE ACTION

SWMU/AOC	DESCRIPTION	DATRE OF NFA APPROVAL	COMMENT
SWMU 93	Oil/Water Separator No. 5121		NFA approval February 27, 2006
SWMU 94	Oil/Water Separator No. 5144		NFA approval February 27, 2006
SWMU 99	Wastewater treatment system bar screen		3
SWMU 100	Wastewater treatment system		3
SWMU 113	Landfill No. 5 Cell 3		NFA approval February 27, 2006
SWMU121	Containers for clean and dirty Speedydry		3
SWMU 122	Sanitary dumpsters		3
SWMU123	Dirty rag disposal can		3
AOC D	Asbestos Burial Pit		NFA approval February 27, 2006
AOC E	Runway disposal pile		NFA approval February 27, 2006
AOC F	Gunsight target berm		NFA approval February 27, 2006
AOC G	North Housing Site		NFA approval February 27, 2006
AOC H	South Housing Site		NFA approval February 27, 2006
AOC D*	Aircraft washrack holding tank		AOCs D* through YY* were originally designated AOCs D through YY in the 1987 RFA. However, during the 1999 Annual Unit Audit, new AOCs D through I were designated.
AOC E*	POL Storage Tank No. 140		
AOC F*	POL Storage Tank No. 163		
AOC G*	POL Storage Tank No. 181		
AOC H*	POL Storage Tank No. 182-A		
AOC I*	POL Storage Tank No. 183-B		
AOC J*	POL Storage Tank No. 184		
AOC K*	POL Storage Tank No. 185		
AOC L*	POL Storage Tank No. 187		
AOC M*	New entomology building product storage area		
AOC N*	POL Storage Tank No. 368a		

TABLE 2
LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUS) AND AREAS OF CONCERN (AOCS)
NOT CURRENTLY REQUIREING CORRECTIVE ACTION

SWMU/AOC	DESCRIPTION	DATRE OF NFA APPROVAL	COMMENT
AOC O*	POL Storage Tank No. 368b		
AOC P*	POL Storage Tank No. 368c		
AOC Q*	POL Storage Tank No. 368d		
AOC R*	POL Storage Tank No. 374		
AOC S*	POL Storage Tank No. 376		
AOC T*	POL Storage Tank No. 377		
AOC U*	POL Storage Tank No. 378		
AOC V*	POL Storage Tank No. 392a		
AOC W*	POL Storage Tank No. 392b		
AOC X*	POL Storage Tank No. 392c		
AOC Y*	POL Storage Tank No. 392d		
AOC Z*	POL Storage Tank No. 394		
AOC AA*	POL Storage Tank No. 395		
AOC BB*	POL Storage Tank No. 396		
AOC CC*	POL Storage Tank No. 420		
AOC DD*	Inactive POL Storage Tank No. 443		
AOC EE*	POL Storage Tank No. 444		
AOC FF*	POL Storage Tank No. 728		
AOC GG*	POL Storage Tank No. 1400		
AOC HH*	POL Storage Tank No. 2110		
AOC II*	POL Storage Tank No. 2160		
AOC JJ	POL Storage Tank No. 2276		
AOC KK	POL Storage Tank No. 2280		
AOC LL	POL Storage Tank No. 2285		
AOC MM	POL Storage Tank No. 2300		

TABLE 2 LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUS) AND AREAS OF CONCERN (AOCS) NOT CURRENTLY REQUIREING CORRECTIVE ACTION			
SWMU/AOC	**DESCRIPTION**	**DATRE OF NFA APPROVAL**	**COMMENT**
AOC NN	POL Storage Tank No. 2302		
AOC OO	POL Storage Tank No. 2307		
AOC PP	POL Storage Tank No. 2309		
AOC QQ	POL Storage Tank No. 2313		
AOC RR	POL Storage Tank No. 2321		
AOC SS	POL Storage Tank No. 2327		
AOC TT	POL Storage Tank No. 2328		
AOC UU	POL Storage Tank No. 2330		
AOC VV	POL Storage Tank No. 3117		
AOC WW	POL Storage Tank No. 3118		
AOC XX	POL Storage Tank No. 3121a		
AOC YY	POL Storage Tank No. 3121b		

NOTE:

1. Unit underwent Corrective Action, was approved for No Further Action, and is limited by Institutional Controls.
2. Unit is a Permitted Hazardous Waste Management Unit.
3. Based on the results of EPA's RFA Report of July 29, 1987, it was determined that additional investigation at this SWMU/AOC was not warranted.

ATTACHMENT 2

INTERIM MEASURES SCOPE OF WORK

PURPOSE

Interim measures are actions to control and/or eliminate releases of hazardous waste and/or constituents from a facility prior to the implementation of a final corrective measure. Interim measures shall be used whenever possible to achieve the goal of stabilization which is to control or abate threats to human health and the environment, and to prevent or minimize the spread of hazardous waste or constituents while long-term corrective action alternatives are being evaluated.

SCOPE

The documents required for Interim Measures (IM) are, unless NMED specifies otherwise, an IM Work Plan; an Operation and Maintenance Plan; Progress Reports, and a Proposed Schedule. If required by NMED, the IM documents may also include additional reports that evaluate the effectiveness of the interim measure and IM Plans and Specifications. The IM Work Plan shall include a Quality Assurance Project Plan and a Data Management Plan. The scope of work (SOW) for each document is specified below. The SOWs are intended to be flexible documents capable of addressing both simple and complex site situations. If the Permittee can justify to the satisfaction of NMED that a plan or portions thereof are not needed in the given site specific situation, then NMED may waive that requirement.

The scope and substance of an IM should be focused to fit the site specific situation and be balanced against the need to take quick action. NMED may require the Permittee to conduct additional tasks or provide additional information beyond what is discussed in the SOW or specified in the approved IM documents in order to support the IM program. The Permittee shall furnish all personnel, materials, and services necessary for, or incidental to, conducting the IM and the additional tasks.

2.1 INTERIM MEASURES WORK PLAN

The Permittee shall prepare an IM Work Plan that evaluates interim measure options and clearly describes the proposed interim measure, the key components or elements that are needed, describes the designer's vision of the interim measure in the form of conceptual drawings and schematics, and includes procedures and schedules for implementing the interim measure(s). The IM Work Plan consists of the following supporting plans: a

Quality Assurance Project Plan and a Data Management Plan, which shall be submitted concurrently with the IM Work Plan. The IM Work Plan and any supporting plans shall be approved by NMED prior to implementation and shall, at a minimum, include the elements discussed below.

2.1.1 Introduction/Purpose

The Permittee shall describe the purpose of the document and provide a summary of the project.

2.1.2 Conceptual Model Of Hazardous Waste or Constituent Migration

It is important to know where the hazardous waste or constituents are and to understand how they are moving before and adequate interim measures can be developed. To address this critical question, the Permittee shall present a conceptual model of the site and hazardous waste or constituent migration. The conceptual model consists of a working hypothesis of how the hazardous waste or constituent may move from the release source to the receptor population. The conceptual model is developed by considering the applicable physical parameters (e.g., water solubility, density, Henry's Law Constant, etc.) for each hazardous waste or constituent and assessing how the hazardous waste or constituent may migrate given the existing site conditions (geologic features, depth the ground water, etc.). The Permittee shall describe the phase (water, soil, gas, non-aqueous) and location where hazardous waste or constituents are likely to be found. This analysis may have already been done as part of earlier work (e.g., Current Conditions Report). If this is the case, then the IM Work Plan shall provide a summary of the conceptual model with a reference to the earlier document.

2.1.3 Evaluation of Interim Measure alternatives

The Permittee shall list, describe, and evaluate interim measure alternatives that have the potential to stabilize the facility. The Permittee shall propose interim measures for implementation and provide the rationale for the selection. The Permittee shall document the reasons for excluding any interim measure alternatives.

2.1.4 Description of Interim Measures

The Permittee shall qualitatively describe what the proposed interim measures is supposed to do and how it shall function at the facility.

2.1.5 Data Sufficiency

The Permittee shall review existing data needed to support the design effort and establish if there is sufficient accurate data available for this purpose. The Permittee shall summarize the assessment findings and specify any additional data needed to complete the interim measures design. NMED may require or the Permittee may propose that sampling and analysis plans and/or treatability study Work Plans be developed to obtain the additional data. The Permittee shall include submittal times for any new sampling and analysis plans and/or treatability study Work Plans in the project schedule.

2.1.6 Project Management

The Permittee shall describe the levels of authority and responsibility (include an organization chart), lines of communication, and a description of the qualifications of key personnel who shall direct the interim measure design and implementation effort (including contractor personnel).

2.1.7 Project Schedule

The Permittee shall provide a project schedule that specifies all significant steps in the process, when any key documents (e.g., Plans and Specifications, Operation and Maintenance Plan, Progress Reports) shall be submitted to NMED, and when the interim measure shall be implemented.

2.1.8 Design Basis

The Permittee shall discuss the process and methods used to design all major components of the IM. The Permittee shall discuss all assumptions made and possible sources of error. The Permittee shall provide justification for the assumptions. The Permittee shall discuss the following:

- Conceptual process/Schematic diagram;
- Site plan showing preliminary plant layout and/or treatment area;
- Tables listing number and type of major components with approximate dimensions;
- Tables giving preliminary mass balances; and
- Site safety and security provisions (e.g., fences, fire control, etc.)

2.1.9 Waste Management Practices

The Permittee shall describe the wastes to be generated by the interim measure and shall specify how and where they shall be managed. The Permittee shall also discuss drainage and shall indicate how rainwater run on and runoff shall be managed.

2.1.10 Required Permits

The Permittee shall list and describe any permits needed to construct the IM. The Permittee shall indicate on the project schedule when the permit applications shall be submitted to the applicable agencies and an estimate of the permit issuance date.

2.1.11 Investigation, sampling and monitoring activities

The Permittee may be required to gather additional data for design of the IM, during construction and/or during the operation and maintenance of the IM. The Permittee may be required to use a variety of data gathering techniques including geophysical surveys, trenching, wipe samples, field samples, and fixed laboratory samples. To obtain this data, the Permittee may be required to conduct investigation, sampling, and monitoring activities. If these activities are required, then the IM Work Plan shall specify the investigation, sampling, and monitoring activities that will be used to gather the additional data. The IM Work Plan shall specify the following information:

- Description and purpose of investigation, sampling, monitoring tasks;
- List and description of what will be investigated, sampled, or monitored (e.g., hazardous waste or constituents, chemicals, substances, parameters, and properties);
- Data quality objectives;
- Analytical test methods, method detection limits (MDLs), practical quantitation limits (PQLs), equivalent quantitation limits (EQLs), dilution factors, etc., achieved for each sample (i.e., fixed laboratory and field sample);
- Laboratory quality assurance/quality control (QA/QC) sample results, results of the matrix spike duplicates, percent recovery, duplicate analysis, and the results of any screening analyses; and,
- Investigation, sample collection, and monitoring procedures and equipment;

- Field quality control procedures;
- Criteria for data acceptance and rejection; and,
- Schedule and frequency of investigation, sampling, and monitoring.

The Permittee shall follow all NMED and/or EPA guidance for sampling and analysis. The Permittee shall analyze for hazardous waste or constituents that are reasonably expected to be present. NMED may require the Permittee to sample for additional chemicals, substances, parameters, and properties. NMED may require the Permittee to submit the investigation, sampling, and monitoring plan as a separate document.

2.1.12 Data Collection/Quality Assurance

To ensure that all information, data and resulting decisions are technically sound, statistically valid, and properly documented, the Permittee shall prepare a Quality Assurance Project Plan (QAPP) to document all monitoring procedures, sampling, field measurements and sample analyses performed during the IM. The Permittee shall use quality assurance, quality control, and chain-of-custody procedures approved by NMED. The QAPP shall include the minimum elements of a quality assurance program for data collection activities specified in Chapter One of SW-846.

2.1.13 Data Management and Reporting

The Permittee shall develop and initiate a Data Management Plan to document and track investigation data and results. This plan shall identify and establish data documentation materials and procedures, project file requirements, and project-related progress reporting procedures and documents. The plan shall also provide the format to be used to present the raw data and conclusions of the investigation.

2.1.13.a Data Record

The data record shall include the following, at a minimum:

- Description and purpose of the investigation, sampling, and monitoring tasks;
- Data quality objectives;
- Analytical test methods, dilution factors, method detection limits, practical quantitation limits, and actual detection limits;
- Laboratory quality control sample results;

- Sample collection procedures and equipment;
- Field quality control procedures;
- Evaluation of data acceptance and rejection and criteria used;
- Unique sample collection code for each sample (i.e., fixed laboratory and field sample) and each field measurement;
- Location and depth of each sample (i.e., fixed laboratory and field sample) and field measurement;
- Sample type (e.g., composite, grab, wipe) and media (e.g., ground water, soil) of each sample (i.e., fixed laboratory and field sample) and field measurement;
- Raw data for each sample (i.e., fixed laboratory and field sample) and field measurement;
- Laboratory analysis ID number;
- Time and date of collection of each sample (i.e., fixed laboratory and field sample) and field measurement;
- Hazardous waste or constituent, chemical, substance, parameter, and property measured;
- Result of analysis (e.g., concentration);
- Action levels and/or clean up levels used for comparison;
- Conditions during sampling; and,
- Identity of the individuals performing the investigation, sampling, and monitoring.

2.1.13.b Tabular Displays

The following data shall be presented in tabular displays, including, but not limited to:

- Unsorted (raw) data;
- Results for each medium and for each hazardous waste or constituent, chemical, substance, parameter, and property investigated, sampled, and monitored;

- Data reduction for statistical analysis;
- Sorting of data by potential stratification factors (e.g., location, soil layer, topography); and,
- Summary data.

2.1.13.c Graphical Displays

The following data shall be presented in graphical formats (e.g., bar graphs, line graphs, area or plan maps, isopleth plots, cross-sectional plots or transects, three dimensional graphs, etc.):

- Sampling location and sampling grid;
- Boundaries of sampling area, and areas where additional data are required;
- Contamination concentrations at each sampling location;
- Geographical extent of contamination;
- Contamination concentrations, averages, and maxima;
- Changes in concentration in relation to distance from the source, time, depth or other parameters;
- Features affecting intramedia transport; and,
- Potential receptors.

2.1.14 Appendices

The Permittee shall submit an IM Work Plan that includes the following appendices:

- Design data - Tabulations of data used in the design effort;
- Equations - List and describe the source of all equations used in the design process;
- Sample calculation - Present and explain one example calculation for each calculation; and,
- Laboratory and field test results.

2.2 INTERIM MEASURE OPERATION AND MAINTENANCE PLAN

The Permittee shall prepare an IM Operation and Maintenance (O&M) Plan that includes a strategy and procedures for performing operations, maintenance, and monitoring of the IM. An IM O&M Plan shall be submitted to NMED simultaneously with the Plans and Specifications. The O&M Plan shall, at a minimum, include the following elements:

2.2.1 Purpose/Approach

The Permittee shall describe the purpose of the document and provide a summary of the project.

2.2.2 Project Management

The Permittee shall describe the levels of authority and responsibility (include organization chart), lines of communication, and a description of the qualifications of key personnel who shall operate and maintain the interim measure(s) (including contractor personnel).

2.2.3 System Description

The Permittee shall describe the interim measure and identify significant equipment.

2.2.4 Personnel Training

The Permittee shall describe the training process for O&M personnel. The Permittee shall prepare, and include in the technical specification governing treatment systems, contractor requirements for providing: appropriate service visits by experienced personnel to supervise the installation, adjustment, start up and operation of the treatment systems, and training covering appropriate operational procedures once the start-up has been successfully accomplished.

2.2.5 Start-up Procedures

The Permittee shall describe system start-up procedures including any operational testing.

2.2.6 Operation and Maintenance Procedures

The Permittee shall describe normal operation and maintenance procedures including:

- Description of task for operation;
- Description of tasks for maintenance;

- Description of prescribed treatment or operation conditions; and,

- Schedule showing frequency of each O&M task.

2.2.7 Waste Management Practices

The Permittee shall describe the wastes generated by operation of the interim measure and how and where they shall be managed. The Permittee shall also discuss drainage and indicate how rainwater run on and runoff shall be managed.

2.2.8 Sampling and monitoring activities

Sampling and monitoring activities may be needed for effective operation and maintenance of the IM. If sampling activities are necessary, the Permittee shall provide a complete sampling and analysis section in the IM Work Plan that specifies that the same information specified in Section 2.1.11.

The Permittee shall analyze for hazardous waste or constituents that are reasonably expected to be present. NMED may require the Permittee to sample for additional constituents, parameters, and properties. The Permittee shall follow all NMED and/or EPA guidance for sampling and analysis. NMED may require the Permittee to submit the sampling and analysis section as a separate document.

2.2.9 O&M Contingency Procedures

- The Permittee shall describe the procedures used to address system breakdowns and operational problems including a list of redundant and emergency back-up equipment and procedures;

- If the interim measure suffers complete failure, then the Permittee shall specify alternate procedures to prevent the release and/or threatened releases of hazardous substances, pollutants, or hazardous waste or constituents which may endanger public health and the environment or exceed cleanup levels; and,

- The Permittee shall specify in the O&M Plan that, in the event of a major breakdown and/or complete failure of the interim measure(s) (including emergency situations), the Permittee shall orally notify NMED within 24 hours of the event and shall notify NMED in writing within 72 hours of the event. The written notification shall, at a minimum, specify what happened, what response action is being taken and/or is planned, and any

potential impacts on human health and the environment.

2.2.10 Data Management and Documentation Requirements

The Permittee shall describe how analytical data and results shall be evaluated, documented, and managed, including development of an analytical database. The Permittee shall specify the criteria that shall be used by the project team to review and to determine the quality and usability of the data.

The O&M Plan shall specify that the Permittee shall collect, maintain, and submit the following information:

- Progress Report information, including:

  - Work accomplishments (e.g., performance levels achieved, hours of treatment operation, treated and/or excavated volumes, concentrations of hazardous waste or constituents in treated and/or excavated volumes, nature and volume of wastes generated, etc.); and

  - Record of significant activities (e.g., sampling events, inspections, problems encountered, action taken to rectify problems, etc.).

- Monitoring and laboratory data;

- Records of operating costs; and,

- Personnel, maintenance, and inspection records.

NMED may require the Permittee to submit additional reports that evaluate the effectiveness of the interim measure in meeting the stabilization goal.

2.3 IM PLANS AND SPECIFICATIONS

NMED may require the Permittee to prepare Plans and Specifications for the interim measure that are based on the conceptual design but includes additional detail. If required by NMED, the Plans and Specifications shall be submitted simultaneously with the O&M Plan. The design package shall include drawings and specifications needed to construct the interim measure. Depending on the nature of the interim measure, many different types of drawings and specifications may be needed. Some of the elements that may be required include:

- General site plans

- Process flow diagrams
- Mechanical drawings
- Electrical drawings
- Structural drawings
- Piping and instrumentation diagrams
- Excavation and earthwork drawings
- Equipment lists
- Site preparation and field work standards
- Preliminary specifications for equipment and material.

General correlation between drawings and technical specifications is a basic requirement of any set of working construction plans and specifications. Before submitting the project specifications to NMED, the Permittee shall proofread the specifications for accuracy and consistency with the conceptual design and coordinate and cross-check the specifications and drawings.

ATTACHMENT 3

RCRA FACILITY INVESTIGATION (RFI) SCOPE OF WORK

PURPOSE

The purpose of the RCRA Facility Investigation (RFI) is to determine the nature and extent of releases of hazardous waste or constituents from solid waste management units (SWMUs), areas of concern (AOCs), and other source areas at a facility and to gather all necessary data to support a Corrective Measures Study.

SCOPE

The RFI is one step in the corrective action program. The RFI includes the following phases: pre-investigation tasks in support of the RFI; preparation and submittal of a RFI work plan (RFI WP), the implementation of the approved RFI WP, the preparation and submittal of a RFI Report; the Preliminary Evaluation of Corrective Measure Technologies; and quarterly progress reports.

The scope of work (SOW) for each task or phase is specified below. NMED may require the Permittee to conduct additional tasks or provide additional information beyond what is discussed in the SOW or specified in the approved RFI documents in order to support the RFI program. The Permittee shall furnish all personnel, materials, and services necessary for, or incidental to, conducting the RFI and the additional tasks.

3.1 PRE-INVESTIGATION TASKS

Pre-investigation tasks include the preparation and submittal of the following documents: a Current Conditions Report; a Project Management Plan; a Quality Assurance Project Plan; a Data Management Plan; a Health and Safety Plan; a Public Involvement Plan; and, a Proposed Schedule.

3.1.1 Current Conditions Report

The Permittee shall submit for NMED's approval a Current Conditions Report providing the background information on the facility, contamination, and interim measures. The Permittee shall identify all data gaps in the Current Conditions Report (i.e., identify the information that is not available). The Current Conditions Report shall present the information and data gathered during previous investigations and studies, including, but not restricted to the RFA and any other investigations, if performed.

3.1.1.a Facility Background

The Current Conditions Report shall summarize the regional location, pertinent boundary features, general facility physiography, hydrogeology, and historical use of the facility for the treatment, storage, and/or disposal of solid and hazardous waste or constituents. The Current Conditions Report shall include the items specified below.

3.1.1.a.i Maps and aerial photographs

The Current Conditions Report shall include maps that are consistent with 20.4.1.900 NMAC, incorporating 40 CFR 270.14 and shall be of sufficient detail and accuracy to locate and report all previous, current, and future studies or work performed at the site. The Current Conditions Report shall also include aerial photographs of SWMUs, AOCs, and source areas superimposed on them.

All maps shall also depict the following:

- General geographic location;
- Property lines, with the owners of all adjacent property clearly indicated;
- Topography and surface drainage depicting all waterways, wetlands, flood plains, water features, drainage patterns, and surface-water containment areas;
- All tanks, buildings, utilities, paved areas, easements, rights-of-way, and other features;
- Surrounding land uses (residential, commercial, industrial, agricultural, recreational);
- The location of all production and ground water monitoring wells on the facility and within a 2-mile radius of the facility boundary. These wells shall be clearly labeled and ground and top of casing elevations and construction details included (these elevations and details may be included as an attachment);
- Wind rose and meteorology; and
- The location of the boundaries of all active, inactive, closed, transferred, or transferring military ranges.

Maps and aerial photographs shall also depict the location of all known or suspected contaminated sites and areas at the facility, including the following:

- All known or suspected solid or hazardous waste treatment, storage, management, handling, or disposal areas that were active before or after November 19, 1980;
- All known or suspected product storage, management, or handling areas including aboveground and underground product tanks or piping;
- All former or existing buildings and structures that are known or suspected to contain lead-based paint, PCBs in paint, or asbestos containing material;
- All former or existing buildings and structures that have associated floor drains, piping, septic tanks, cesspools, sumps, dry wells, piping, drain fields, or outfalls;
- All former or existing indoor and outdoor electrical transformers;
- All known or suspected spill areas; and
- All known or suspected areas where military munitions or waste military munitions were stored, handled, maintained, managed, demilitarized, used, tested, treated, burned, detonated, destroyed, or disposed of.

3.1.1.a.ii History

The Permittee shall provide all existing site history information for all known or suspected contaminated sites and areas at the facility in the Current Conditions Report. In some cases, the Permittee will need to conduct additional file searches and conduct additional interviews of previous workers that have direct knowledge of the site history. The Current Conditions Report shall describe the ownership and operation of the facility and describe the solid and/or hazardous waste generation, treatment, storage, and disposal activities at the facility. The Current Conditions Report shall describe any activity, operation, process, or condition that may have resulted in contamination or releases at or from the facility.

The Current Conditions Report shall include complete copies of all historical documents, interviews, reports, maps, drawings,

photographs, historic aerial photographs, data, and information relating to the site history, previous activities, hazardous waste or constituents, hazardous waste management units, known and suspected SWMUs and AOCs, and other source areas. The copies shall be legible and shall include all associated glossy photo imprints, maps, figures, drawings, tables, attachments, enclosures, appendices, etc.

The Current Conditions Report shall determine and report the approximate dates or periods of past product and waste spills, identification of the materials spilled, the amount spilled, the location where spilled, and a description of the response actions conducted (local, state, federal response units, and/or private parties), including any inspection reports and/or technical reports generated as a result of the response.

3.1.1.a.iii Permits and Enforcement Actions

The Current Conditions Report shall present a summary of past permits applied for and/or received, any enforcement actions and their subsequent responses, and a list of documents and studies prepared for the facility. This may include information from previous owner/operators, if available.

3.1.1.b Preliminary Assessment of Nature and Extent of Contamination

The Current Conditions Report shall include a preliminary assessment of the nature and extent of known contamination based on existing information.

The Current Conditions Report shall describe all possible source areas of contamination. This, at a minimum, shall include all RCRA hazardous waste management units, SWMUs, AOCs, and other source areas and shall identify the following:

- Location and boundaries of each unit/area;
- Quantities of solid and/or hazardous wastes (managed, spilled, placed, disposed of, or released);
- Type of hazardous waste or constituents (both causing or potentially causing contamination), to the extent known;
- Identification of areas where additional information is necessary;
- A list and brief description of all previous investigations that have occurred at the facility,

who they were conducted for (i.e., which bureau, agency, etc.) and contacts; and

- The results of previous investigations and studies including the RCRA Facility Assessment (RFA) and a summary of suggested further actions for all SWMUs, AOCs, and other source areas.

The Current Conditions Report shall include a description and evaluation of the nature and extent of known contamination for each medium (e.g., soil, ground water, surface water, air, etc.) based on existing information. This shall include all available monitoring data, quantitative and qualitative information on the locations and contamination concentrations at the facility (both onsite and offsite). The Current Conditions Report shall include biological data (e.g., fish kills, distressed vegetation, abnormal individuals of a species, carcasses, tissue studies, etc.). The Current Conditions Report shall include a general assessment of the data quality, a map showing the location of all sampling points and potential source areas, and contour maps showing soil, sediment, surface water contamination, and any ground water plumes at the facility. The Current Conditions Report shall highlight potential ongoing release areas that would warrant use of interim measures.

3.1.1.c Preliminary Assessment and Description of Potential Migration Pathways

The Current Conditions Report shall include a description and evaluation of the potential migration pathways based on existing information. This shall include:

- All potential migration pathways including information on geology, pedology, hydrogeology, physiography, hydrology, water quality, food webs, meteorology, and air quality;

- Physical properties of hazardous waste or constituents; and,

- An assessment of whether off-site migration of hazardous waste or constituents has occurred (may include a conceptual model of hazardous waste or constituent migration).

The Current Conditions Report shall describe the potential impact(s) on human health and the environment, including demography, identification of possible sensitive subpopulations (e.g., schools, homes for the elderly, hospitals, and ecosystems), ground water and surface water use, and present and future land use.

3.1.1.d Implementation of Interim Measures

The Current Conditions Report shall document past and present interim measures at the facility. The Current Conditions Report shall detail how the interim measure is mitigating a potential threat to human health and the environment and how it is consistent with and why it should be integrated into any long-term solution at the facility. The Current Conditions Report shall discuss the following:

- Design, construction, operation, and maintenance requirements of the Interim Measure;
- Schedules for design, construction and monitoring of the Interim Measure;
- Schedule for progress reports of the Interim Measure; and,
- Data in support of the potential need for future interim measures or related to any assessment undertaken to determine the need for future interim measures.

3.1.2 Project Management

The Permittee shall prepare a Project Management Plan, which shall include a discussion of the technical approach, schedules, budget, and personnel. The Project Management Plan shall also include a description of qualifications of personnel performing or directing the RFI, including contractor personnel. The Project Management Plan shall also document the overall management approach to the RFI.

3.1.3 Data Collection/Quality Assurance

To ensure that all information, data, and resulting decisions are technically sound, statistically valid, and properly documented, the Permittee shall prepare a Quality Assurance Project Plan. The Quality Assurance Project Plan shall document all monitoring procedures, sampling, field measurements, and sample analyses performed during the investigation to characterize the environmental setting, source, and contamination. The Quality Assurance Project Plan shall specify the use of quality assurance, quality control, and chain-of-custody procedures that are approved by NMED. The Quality Assurance Project Plan shall include the minimum elements of a quality assurance program for data collection activities as specified in Chapter One of SW-846.

3.1.4 Data Management and Reporting

The Permittee shall submit a Data Management Plan to document and track investigation data and results. The Data Management Plan shall identify and establish data documentation materials and procedures, project file requirements, and project-related progress reporting procedures and documents. The Data Management Plan shall also provide the format to be used to present the raw data and conclusions of the investigation, including the format for the data record, tabular displays, and graphical displays as described below.

3.1.4.a Data Record

The data record shall include the following, at a minimum:

- Description and purpose of the investigation, sampling, and monitoring tasks;
- Data quality objectives;
- Constituents analyzed for;
- Sample collection procedures and equipment;
- Field quality control procedures;
- Conditions during sampling;
- Identity of the individuals performing the investigation, sampling, monitoring;
- Evaluation of data acceptance and rejection and criteria used;
- Unique sample collection code for each sample (i.e., fixed laboratory and field sample) and each field measurement;
- Location and depth of each sample (i.e., fixed laboratory and field sample) and field measurement;
- Sample type (e.g., composite, grab, wipe) and media (e.g., ground water, soil) of each sample (i.e., fixed laboratory and field sample) and field measurement;
- Raw data for each sample (i.e., fixed laboratory and field sample) and field measurement;
- Laboratory analysis identification number;

- Time and date of collection of each sample (i.e., fixed laboratory and field sample) and field measurement;

- Hazardous waste or constituent, chemical, substance, parameter, and property measured;

- Result of analysis (e.g., concentration);

- Analytical test methods, method detection limits (MDLs), practical quantitation limits (PQLs), equivalent quantitation limits (EQLs), dilution factors, etc., achieved for each sample (i.e., fixed laboratory and field sample);

- Laboratory quality assurance/quality control (QA/QC) sample results, results of the matrix spike duplicates, percent recovery, duplicate analysis, and the results of any screening analyses; and,

- Action levels and/or clean up levels used for comparison;

3.1.4.b Tabular Displays

The following data shall be presented in tabular displays, including, but not limited to:

- Unsorted (raw) data;

- Results for each medium, hazardous waste or constituent, chemical, substance, parameter, and property investigated, sampled, and monitored;

- Data reduction for statistical analysis;

- Sorting of data by potential stratification factors (e.g., location, soil layer, topography); and,

- Summary data.

3.1.4.c Graphical Displays

The following data shall be presented in graphical formats (e.g., bar graphs, line graphs, area or plan maps, isopleth plots, cross-sectional plots or transects, three dimensional graphs, etc.):

- Sampling location and sampling grid;
- Boundaries of sampling area, and areas where additional data are required;
- Contamination concentrations at each sampling location;
- Geographical extent of contamination;
- Contamination concentrations, averages, and maxima;
- Changes in concentration in relation to distance from the source, time, depth or other parameters;
- Features affecting intramedia transport; and,
- Potential receptors.

3.1.5 Health and Safety Plan

The Permittee shall submit a Health and Safety Plan for all field activity, although it does not require review and approval by NMED. The Health and Safety Plan shall be developed as a stand alone document and shall be consistent with the following:

- NIOSH Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities (1985);
- EPA Order 1440.1 - Respiratory Protection;
- EPA Order 1440.3 - Health and Safety Requirements for Employees engaged in Field Activities;
- Facility Contingency Plan;
- EPA Standard Operating Safety Guide (1984);
- OSHA regulations particularly in 29 CFR 1910 and 1926;
- State and local regulations; and,
- Other applicable EPA guidance as provided.

3.1.6 Public Involvement Plan

The Permittee shall prepare a Public Involvement Plan in accordance with NMED and EPA guidance. The Public Involvement Plan shall be submitted to NMED for review and approval prior to its implementation. The Permittee shall never appear to

represent or speak for NMED before the public, other government officials, or the media.

Public involvement activities that may be required of the Permittee include the following:

- Conducting an open house or informal meeting (i.e., availability session) in a public location where people can talk to NMED and the Permittee on a one-to-one basis;
- Preparing fact sheets summarizing current or proposed corrective action activities (NMED will review and approve all fact sheets prior to the Permittee issuing them for public distribution);
- Provide written or verbal information in English and Spanish.
- Maintaining an easily accessible repository of the information on the facility-specific corrective action program, including the permit, approved work plans, and/or other reports.

The Public Involvement Plan shall include a schedule for community relations activities.

3.2 RCRA FACILITY INVESTIGATION

3.2.1 Purpose/Objectives

The actual investigation is the second phase of the RCRA Facility Investigation (RFI). Prior to the conducting the investigation, the Permittee shall prepare and submit for NMED's approval a RFI Work Plan (RFI WP) to characterize the environmental setting at the facility; determine the source (describe the source unit or area and describe the solid waste and hazardous waste that were released, placed, or disposed of; define the nature and extent of the releases of hazardous waste or constituents; and, identify actual or potential receptors.

The data generated by the Permittee during the RFI shall be of adequate technical quality to support the development and evaluation of the corrective measure alternative(s) during the Corrective Measures Study (CMS) and/or Interim Measures.

Upon receiving approval from NMED the Permittee shall implement the RFI WP and upon completion of the investigation the Permittee shall prepare and submit a RFI Report.

3.2.2 RFI Work Plan

The RFI WP shall specify the procedures by which the Permittee shall collect or obtain the following information or data:

- Description of the environmental setting at the facility;
- Description of the solid and/or hazardous wastes;
- Waste and media characterization; and,
- Potential receptor identification.

3.2.2.a Environmental Setting

The Permittee shall collect information to supplement and verify existing information on the environmental setting at the facility. NMED may request additional information not included on the following lists. The Permittee shall characterize the environmental setting as specified below.

3.2.2.a.i Hydrogeology

The Permittee shall conduct a program to evaluate hydrogeologic conditions at the facility. This program shall provide the following information:

- A description of the regional and facility-specific geologic and hydrogeologic characteristics affecting ground water flow beneath the facility, including:

  - Regional and facility-specific stratigraphy including a description of strata including strike and dip, and identification of stratigraphic contacts;

  - Structural geology including: description of local and regional structural features (e.g., folding, faulting, tilting, jointing, etc.);

  - Depositional history;

  - Areas and amounts of recharge and discharge;

  - Regional and facility-specific ground water flow patterns; and,

- Seasonal variations in the ground water flow regime.

- An analysis of any topographic features that might influence the ground water flow system.

- A representative and accurate classification and description of the hydrogeologic units based on field data, tests, and cores that may be part of the migration pathways at the facility (i.e., the aquifers and any intervening saturated and unsaturated zones), including, but not limited to:

  - Hydraulic conductivity, intrinsic permeability, and porosity (total and effective);

  - Lithology, grain size, sorting, degree of cementation;

  - An interpretation of hydraulic interconnections between saturated zones; and,

  - The attenuation capacity and mechanisms of the natural earth materials (e.g., ion exchange capacity, organic carbon content, mineral content, etc.).

- Based on field studies and cores, structural geology and hydrogeologic cross-sections showing the extent (depth, thickness, lateral extent) of hydrogeologic units that may be part of the migration pathways identifying:

  - Sand and gravel in unconsolidated deposits;

  - Zones of fracturing or channeling in consolidated and unconsolidated deposits;

  - Zones of higher permeability or low permeability that might direct and restrict the flow of hazardous waste or constituents;

  - The uppermost aquifer;

  - Water-bearing zones above the first confining layer that may serve as a pathway for hazardous waste or constituent migration, including perched zones of saturation; and,

  - All other geologic formations, or parts thereof, yielding a significant amount of ground water.

Based on data obtained from ground water monitoring wells and piezometers installed upgradient and downgradient of the potential hazardous waste or constituent source, a representative description of water level or fluid pressure monitoring including:

- Water level contour and/or potentiometric maps that depict:

  - Hydrologic cross-sections showing vertical flow gradients;

  - The flow system, including the vertical and horizontal components of flow; and,

  - Any temporal changes in hydraulic gradients, (due to seasonal influences, etc.)

- A description of man-made influences that may affect the hydrogeology of the site, identifying:

  - Active and inactive local water-supply and production wells with an approximate schedule of pumping; and,

  - Man-made hydraulic structures (pipelines, french drains, ditches, unlined ponds, septic tanks, NPDES outfalls, retention areas, etc.).

3.2.2.a.ii Soils

The Permittee shall conduct a program to characterize the soil and rock units potentially affected by hazardous waste or constituent release(s). Such characterization shall include, but not be limited to, the following information:

- Where remediation by removal of soils is the only corrective measure option, the Permittee shall provide map(s) and cross-sections showing the extent of contamination, depth of ground water, and the consistency and distribution of soils (using the Unified Soil Classification System (USCS, ASTM D 2487).

- Where remediation by removal is the likely option, and it is necessary to determine the extent of migration (e.g., to assess the mobility of wastes from an unlined surface impoundment or landfill), the Permittee shall also provide the following in addition to the requirements immediately above:

- Depth to bedrock and the characteristics of the bedrock including discontinuities such as faults, fissures, joints, fractures, sinkholes, etc.;

- A detailed soil survey conducted according to USDA Soil Conservation Service (SCS) procedures including:

  -- USDA Textural Soil Classification and soil profiles showing stratifications or zones which may affect or direct the subsurface flow;

  -- Hydraulic conductivity and the SCS hydrologic group classification of A, B, C or D;

  -- Relative permeability (only if the waste may have changed the soil's hydraulic conductivity, such as concentrated organics);

  -- Storage capacity (if excavated soil will be stored);

  -- Shrink-swell potential (where extreme dry weather could lead to the formation of cracks);

  -- Potential for hazardous waste or constituent transport via erosion, using the Universal Soil Loss Equation;

  -- Soil sorptive capacity;

  -- Cation exchange capacity;

  -- Soil organic content; and,

  -- Soil pH.

- The following hazardous waste or constituent characteristics shall be included:

  -- Physical state;

  -- Viscosity;

  -- pH;

  -- pKa;

  -- Density;

-- Water solubility;

-- Henry's Law Constant;

-- Kow;

-- Biodegradability; and,

-- Rates of hydrolysis, photolysis, and oxidation.

- Where in-situ soil treatment is likely to be implemented, the above information and the following additional information shall be provided:

  - Bulk density;

  - Porosity;

  - Grain size distribution;

  - Mineral content;

  - Soil moisture profile;

  - Unsaturated hydraulic conductivity;

  - Effect of stratification on unsaturated flow; and,

  - Infiltration and evapotranspiration.

3.2.2.a.iii Surface Water and Sediment

The Permittee shall conduct a program to characterize the surface water bodies likely to be affected by releases from the facility. Such characterization shall include the following activities and information:

- Description of the temporal and permanent surface water bodies including:

  - For lakes and ponds: location, elevation, surface area, inflow, outflow, depth, temperature stratification, and volume;

  - For impoundments: location, elevation, surface area, depth, volume, freeboard, and purpose of impoundment;

- For streams, ditches, drains, and channels: location, elevation, flow, velocity, depth, width, seasonal fluctuations, and flooding tendencies (i.e., 100-year event);

- For wetlands;

-- Containment measures in place (e.g., levees, concrete lining, etc.)

-- Drainage patterns; and,

-- Evapotranspiration rates.

- Description of the chemistry of the natural surface water and sediments, including:

- pH;

- Total dissolved solids;

- Total suspended solids;

- Biological oxygen demand;

- Alkalinity;

- Conductivity;

- Dissolved oxygen profiles;

- Nutrients (NH^3, $N0^3/N0^2$, $PO4^{-3}$);

- Chemical oxygen demand;

- Total organic carbon; and,

- Specific hazardous waste or constituent concentrations.

- Description of sediment characteristics including:

- Deposition area;

- Thickness profile; and,

- Physical and chemical parameters (e.g., grain size, density, organic carbon content, ion exchange capacity, pH, etc.).

3.2.2.a.iv Air

The Permittee shall provide information characterizing the climate in the vicinity of the facility. Such information shall include:

- A description of the following parameters:

  - Annual and monthly rainfall averages;

  - Monthly temperature averages and extremes;

  - Wind speed and direction;

  - Relative humidity/dew point;

  - Atmospheric pressure;

  - Evaporation data;

  - Development of inversions; and,

  - Climate extremes that have been known to occur in the vicinity of the facility, including frequency of occurrence.

- A description of topographic and man-made features that affect air flow and emission patterns, including:

  - Ridges, hills, or mountain areas;

  - Canyons or valleys;

  - Surface water bodies (e.g., rivers, lakes, ponds, etc.);

  - Wind breaks and forests; and,

  - Buildings and structures.

3.2.2.b Source Characterization

The Permittee shall provide a description of the solid and/or hazardous wastes, and the areas where wastes have been treated, stored, disposed of, placed, collected, or removed including: type, quantity, physical form, disposition (containment or nature of disposal), and any facility characteristics that may affect or have affected a release (e.g., facility security, engineered barriers).

This shall include a description of the following specific characteristics at each source area:

3.2.2.b.i SWMU/AOC/Source area Description

- Location, boundaries, dimensions, and depth below ground surface of the SWMU/AOC/Source area;
- Type of SWMU/AOC/Source area;
- Design and construction features;
- Operating practices (past and present) including the history of releases;
- Period of operation;
- Age of SWMU/AOC/Source area;
- General physical conditions; and,
- Method used to close or remediate the SWMU/AOC/Source area.
- Solid/Hazardous Waste Description;
- Type of waste released, placed or disposed of in the SWMU/AOC/Source area;

  - Hazardous classification (e.g., flammable, reactive, corrosive, oxidizing or reducing agent);

  - Location and depth;

  - Quantity and volume; and,

  - Chemical composition.

- Physical and chemical characteristics of waste;

  - Physical form (solid, liquid, gas);

  - Physical description (e.g., powder, oily sludge);

  - Size and dimensions (e.g., size of military munitions);

  - Temperature;

  - pH;

- General chemical class (e.g., acid, base, solvent);

- Molecular weight;

- Density;

- Boiling point;

- Viscosity;

- Solubility in water;

- Cohesiveness;

- Vapor pressure;

- Flash point; and

- Waste constituents including hazardous constituents.

- Migration, dispersal, and fate characteristics;

  - Sorption;

  - Hazardous constituents and chemical composition;

  - Biodegradability, bioconcentration, and biotransformation;

  - Photodegradation rates;

  - Combustion and detonation products;

  - Hydrolysis rates;

  - Chemical transformation and degradation; and,

  - Physical migration due to erosion, freeze thaw, flood events, etc.

The Permittee shall document the procedures used in making the above determinations.

3.2.2.c Waste and Media Characterization

The Permittee shall collect data to characterize the waste and contaminated environmental media associated with releases at or from the facility. This data shall be sufficient to define the location, nature, extent, origin, direction, and rate of movement

of hazardous waste or constituents in the ground water, soils, surface water, sediment, air, and subsurface gas. The Permittee may use a variety of data gathering techniques including geophysical surveys, trenching, wipe samples, field samples, and fixed laboratory samples, etc.

The Permittee shall provide a work plan for investigation, sampling and analysis, and monitoring. The work plan shall specify the following information, at a minimum:

- Description and purpose of investigation, sampling, and monitoring tasks;
- List of hazardous waste or constituents to be investigated, sampled, and monitored;
- Data quality objectives;
- Analytical test methods, method detection limits (MDLs), practical quantitation limits (PQLs), equivalent quantitation limits (EQLs), dilution factors, etc., achieved for each sample (i.e., fixed laboratory and field sample);
- Laboratory quality assurance/quality control (QA/QC) sample results, results of the matrix spike duplicates, percent recovery, duplicate analysis, and the results of any screening analyses; and,
- Action levels and/or clean up levels used for comparison;
- Investigation, sample collection, and monitoring procedures and equipment;
- Field quality control procedures;
- Criteria for data acceptance and rejection; and,
- Schedule and frequency for investigation, sampling, and monitoring.

The Permittee shall provide complete work plans to characterize all wastes and media at the facility, including the following:

3.2.2.c.i Waste Characterization

The Permittee shall conduct an investigation to characterize solid waste and hazardous waste or constituents associated with releases at or from the facility. The Permittee shall analyze for waste or constituents that are reasonably expected to be

present. NMED may require the Permittee to investigate, sample, or monitor for additional chemicals, substances, parameters, and properties. The Permittee shall follow all NMED and/or EPA guidance for sampling and analysis. The investigation shall provide the following information regarding solid waste and/or hazardous waste that was released, placed, or disposed of:

- A description and delineation of the maximum concentrations of the waste;
- A description and delineation of the horizontal and vertical extent of the waste;
- Specific concentrations of hazardous wastes or constituents;
- A description of the chemical properties of the hazardous waste or constituents. This includes hazardous waste characteristics, stability, contaminant solubility, speciation, adsorption, biodegradability, oxidation and other factors that might affect remediation, migration, transformation;
- An evaluation of factors influencing waste movement; and,
- An extrapolation of future waste movement over the time period specified by NMED.

The Permittee shall document the procedures used in making the above determinations (e.g., well design, well construction, geophysics, modeling, etc.).

3.2.2.c.ii Ground water characterization

The Permittee shall conduct an investigation to characterize any ground water plumes at or from the facility. The Permittee shall analyze for hazardous waste or constituents that are reasonably expected to be present. NMED may require the Permittee to sample for additional chemicals, substances, parameters, and properties. The Permittee shall follow all NMED and/or EPA guidance for sampling and analysis.

The investigation shall provide the following information:

- A description and delineation of the maximum concentrations (e.g., hot spots, source areas) of the plume(s);

- A description and delineation of the horizontal and vertical extent of any immiscible or dissolved plume(s) originating from the facility;
- The horizontal and vertical direction of hazardous waste or constituent movement;
- The velocity of hazardous waste or constituent movement;
- Specific concentrations of hazardous wastes or constituents;
- Background concentrations for naturally occurring constituents;
- A description and delineation of the chemical properties of the hazardous waste or constituents and ground water chemistry within and throughout the plume(s). This includes contaminant solubility, speciation, adsorption, biodegradability, oxidation and other factors that might affect migration and transformation;
- The horizontal and vertical concentration profiles of hazardous waste or constituents in the plume(s);
- An evaluation of factors influencing the plume movement; and,
- An extrapolation of future contaminant movement over the time period specified by NMED.

The Permittee shall document the procedures used in making the above determinations (e.g., well design, well construction, geophysics, modeling, etc.).

3.2.2.c.iii Soil characterization

The Permittee shall conduct an investigation to characterize the contamination of the soil and rock units in the vicinity of the release. The Permittee shall analyze for hazardous waste or constituents that are reasonably expected to be present. NMED may require the Permittee to sample for additional chemicals, substances, parameters, and properties. The Permittee shall follow all NMED and/or EPA guidance for sampling and analysis.

The investigation shall include the following information:

- A description and delineation of the vertical and horizontal extent of hazardous wastes or constituents;

- A description and delineation of the maximum concentrations (e.g., hot spots, source areas) of hazardous wastes or constituents;

- A description and delineation of hazardous wastes or constituents and soil chemical properties within the source area and plume. This includes contaminant solubility, speciation, adsorption, leachability, exchange capacity, biodegradability, hydrolysis, photolysis, oxidation and other factors that might affect contaminant migration and transformation;

- Background concentrations for naturally occurring constituents;

- Specific concentrations of hazardous wastes or constituents;

- An extrapolation of future contaminant movement over the time period specified by NMED.

The Permittee shall document the procedures used in making the above determinations.

3.2.2.c.iv Surface Water and Sediment Characterization

The Permittee shall conduct an investigation to characterize releases to surface water bodies and sediment at or from the facility. The Permittee may also be required to characterize releases from storm water runoff. The Permittee shall analyze for hazardous waste or constituents that are reasonably expected to be present. NMED may require the Permittee to sample for additional chemicals, substances, parameters, and properties. The Permittee shall follow NMED and/or EPA guidance when conducting sampling and analysis.

The investigation shall include the following information:

- A description and delineation of the horizontal and vertical extent of any immiscible or dissolved plume(s) originating from the facility, and the extent of contamination in sediments;

- A description of the chemical and physical properties of the contaminated surface waters and sediments. This includes determining the pH,

total dissolved solids, specific contaminant concentrations, etc.

- Background concentrations for naturally occurring constituents;
- A description and delineation of the maximum concentrations (e.g., hot spots, source areas) of hazardous wastes or constituents;
- The horizontal and vertical direction of movement of hazardous wastes or constituents;
- The contaminant velocity or rate of movement;
- An evaluation of the physical, biological, and chemical factors influencing contaminant movement;
- An extrapolation of future contaminant movement over the time period specified by NMED; and,

The Permittee shall document the procedures used in making the above determinations.

3.2.2.c.v Air Characterization

The Permittee shall conduct an investigation to characterize the particulate and gaseous contaminants released into the atmosphere. The Permittee shall analyze for hazardous waste or constituents that are reasonably expected to be present. NMED may require the Permittee to sample for additional chemicals, substances, parameters, and properties. The Permittee shall follow all NMED and/or EPA guidance for sampling and analysis. This investigation shall provide the following information:

- The chemical and physical composition of the contaminant(s) released, including horizontal and vertical concentration profiles.
- A description of the horizontal and vertical direction and velocity of contaminant movement; and,
- The rate and amount of the release.

The Permittee shall document the procedures used in making the above determinations.

3.2.2.c.vi Subsurface gas characterization

The Permittee shall conduct an investigation to characterize subsurface gases emitted from hazardous waste or constituents.

The Permittee shall analyze for hazardous waste or constituents that are reasonably expected to be present. NMED may require the Permittee to sample for additional chemicals, substances, parameters, and properties. The Permittee shall follow all NMED and/or EPA guidance for sampling and analysis. This investigation shall include the following information:

- A description of the horizontal and vertical extent of subsurface gas migration;
- The chemical composition of the gases being emitted;
- The rate, amount, and density of the gases being emitted; and,
- Horizontal and vertical concentration profiles of the subsurface gases emitted.

The Permittee shall document the procedures used in making the above determinations.

3.2.2.d Potential Receptor Identification

The Permittee shall collect data describing the human populations and environmental systems that currently or potentially are at risk of contaminant exposure from the facility. The chemical analysis of biological samples and may be needed. Data on observable effects in ecosystems may also be required by NMED. The Permittee shall identify the following characteristics:

3.2.2.d.i Local uses and possible future uses of ground water

The Permittee shall identify the local uses and possible future uses of ground water with respect to the following considerations:

- Type of use (e.g., drinking water source: municipal or residential, agricultural, domestic/non-potable, and industrial);
- Location of ground water users including wells and discharge areas;
- Domestic and municipal (e.g., potable and lawn/gardening watering);
- Recreational (e.g., swimming, fishing);
- Agricultural;

- Industrial; and,
- Environmental (e.g., fish and wildlife propagation).

3.2.2.d.ii Authorized and unauthorized human use and access to the facility and adjacent lands

The Permittee shall identify the authorized and unauthorized human use of and access to the facility and adjacent lands with respect to the following considerations: recreation; hunting; residential; commercial; zoning; and, relationship between population locations and prevailing wind direction.

3.2.2.d.iii Demographic Profile

The Permittee shall submit a demographic profile of the people who use and have access (authorized and unauthorized) to the facility and adjacent land. The Permittee shall detail the following: age; sex; sensitive subgroups; and, environmental justice concerns.

3.2.2.d.iv Ecology

The Permittee shall submit a description of the ecology of the facility and adjacent areas, including habitat and species present and expected to be present.

3.2.2.d.v Biota In Surface Water Bodies

The Permittee shall provide a description of the biota in surface water bodies on, adjacent to, or affected by the facility.

3.2.2.d.vi State and Federal Endangered and Threatened Species

The Permittee shall provide a description of any state and federal endangered and/or threatened species (both proposed and listed) near the facility.

3.3 RCRA FACILITY INVESTIGATION REPORT

The Permittee shall prepare and submit a RFI Report on the results of all investigations. The investigation data shall be sufficient in quality (e.g., quality assurance procedures have been followed) and quantity to describe the nature and extent of contamination, potential threat to human health and the environment, and to support the Corrective Measures Study and/or Interim Measures.

3.3.1 Data Analysis

The Permittee shall analyze all investigation data outlined above and prepare a report on the type and extent of contamination at the facility including sources and migration pathways. The report shall describe the extent of contamination (qualitative/quantitative) in relation to background concentrations indicative for the area and to all appropriate screening levels, action levels, and/or cleanup levels specified in NMED's guidance and in Permit Attachment 7.

3.3.2 Environmental Media Action Levels and Cleanup Levels

The Permittee shall provide information as required by NMED to support NMED's selection/development for single constituent environmental media (*i.e.*, ground water, surface water, soils, sediment, or the air) action levels and cleanup levels for any releases that may have adverse effects on human health and the environment due to migration of hazardous waste or constituents. Environmental media action levels and cleanup levels shall be based on NMED's requirements specified in Permit Attachment 7.

3.3.3 Analysis of Risk

NMED may require the Permittee to conduct a risk analysis at the facility. This analysis may include ecological as well as human health risk. When performing a risk assessment, the Permittee shall follow the guidance that NMED has developed in a series of technical guidance documents.

3.4 PRELIMINARY EVALUATION OF CORRECTIVE MEASURE TECHNOLOGIES BY LABORATORY OR BENCH-SCALE STUDIES

The Permittee may be required to conduct laboratory and/or bench scale studies to determine the applicability of a corrective measure technology or technologies to facility conditions. The intent of these studies is to collect information that will be useful in evaluating potential technologies and to conduct additional studies when sufficient data is available and useful.

These studies may be conducted at any time during the RFI. The Permittee shall analyze the technologies, based on literature review, vendor contracts, and past experience to determine the testing requirements.

The Permittee shall develop a testing plan identifying the type(s) and goal(s) of the study or studies, the level of effort needed, and the procedures to be used for data management and interpretation. Upon completion of the testing, the Permittee

shall evaluate the testing results to assess the technology or technologies with respect to the site specific questions identified in the test plan. The Permittee shall prepare a report summarizing the testing program and its results (if studies are performed), both positive and negative.

3.5 QUARTERLY PROGRESS REPORTS

The Permittee shall, at a minimum, provide NMED with signed quarterly progress reports that will contain, at a minimum, the following information:

- A description and estimate of the percentage of the RFI completed;
- Summaries of all findings in the reporting period, including results of any sampling and analysis;
- Summaries of all changes made in the RFI during the reporting period;
- Summaries of all contacts with representative of the local community, public interest groups, or State government during the reporting period;
- Summaries of all contacts made regarding access to off-site property;
- Summaries of all problems encountered during the reporting period;
- Actions being taken to rectify problems;
- Changes in relevant personnel during the reporting period;
- Projected work for the next reporting period; and,
- Copies of daily reports, inspection reports, laboratory/monitoring data, etc.

ATTACHMENT 4

CORRECTIVE MEASURES STUDY (CMS) SCOPE OF WORK

PURPOSE

The purpose of the Corrective Measures Study (CMS) is to identify and evaluate potential remedial alternatives for all releases at or from the facility. NMED may require the Permittee to conduct a CMS whenever hazardous waste or constituents may pose a threat to human health and the environment, whenever concentrations of hazardous waste or constituents exceed the action levels specified in Permit Attachment 7, or as otherwise required by NMED.

SCOPE

The CMS includes, unless otherwise specified by NMED, a CMS Work Plan, a CMS Report, Progress Reports, and a Proposed Schedule. The scope of work (SOW) for each document is specified below. NMED may require the Permittee to conduct additional tasks or provide additional information beyond what is discussed in the SOW or specified in the approved CMS documents in order to support the CMS program. The Permittee shall furnish all personnel, materials, and services necessary to conduct the CMS and any additional tasks.

4.1 CORRECTIVE MEASURES STUDY WORK PLAN

The CMS Work Plan shall include the following elements:

- A site-specific description of the overall purpose of the Corrective Measure Study;
- A description of the corrective measure objectives, including proposed target media cleanup levels established in accordance with Permit Attachment 7 and points of compliance;
- A description of how a risk assessment shall be performed;
- A description of the specific corrective measure technologies and/or corrective measure alternatives that the Permittee shall study;
- A description of the general approach to investigating and evaluating potential corrective measures;

- A detailed description of any proposed pilot, laboratory and/or bench scale studies;
- A proposed outline for the CMS Report including a description of how information shall be presented; and,
- A description of overall project management including overall approach, levels of authority (include organization chart), lines of communication, project schedules, budget and personnel, and a description of qualifications for personnel directing or performing the work.

4.2 CORRECTIVE MEASURES STUDY REPORT

The CMS Report shall include the following elements:

4.2.1 Introduction/Purpose

The Permittee shall describe the purpose of the document and provide a summary description of the project.

4.2.2 Description of Current Conditions

The Permittee shall include a brief summary/discussion of any new information that has been discovered since the RFI current conditions report was finalized. This discussion shall concentrate on those issues which could significantly affect the evaluation and selection of the corrective measures alternative(s).

4.2.3 Media Action and Cleanup Level Standards

The Permittee shall propose Action Levels and Cleanup Levels in accordance with Permit Attachment 7 or as otherwise specified by NMED.

4.2.4 Corrective Measure Alternatives

4.2.4.a Identification

For sites with simple contamination and/or obvious remedies, the Permittee shall propose appropriate "presumptive remedies." However, for more problematic sites and as required by NMED, the Permittee shall list and briefly describe potentially applicable technologies for each affected media that may be used to achieve the corrective action objectives. Depending on the site-specific situation, NMED may require the Permittee to consider additional technologies.

The Permittee may wish to consider proven innovative treatment technologies, especially in situations where there are a limited number of applicable corrective measure technologies.

Innovative technologies are defined as those technologies utilized for remediation other than incineration, solidification/stabilization, and pumping with conventional treatment for contaminated ground water. Innovative treatment technologies may require extra effort to gather information, to analyze options, and to adapt the technology to the site-specific situation. Treatability studies and on-site pilot scale studies may be necessary for evaluating innovative treatment technologies.

4.2.4.b Screening

When evaluating several corrective measures technologies, the Permittee shall also evaluate the technology limitations to show why certain corrective measures technologies may prove unfeasible to implement given existing waste and site-specific conditions. If only one corrective measure alternative is being analyzed, the Permittee shall indicate any technological limitations given waste and site-specific conditions at the facility for which it is being considered.

4.2.4.c Corrective Measure Development

As required by NMED, the Permittee shall assemble the technologies that pass the screening step into specific alternatives that have potential to meet the corrective action objectives for each media. Options for addressing less complex sites could be relatively straight-forward and may only require evaluation of a single or limited number of alternatives.

Each alternative may consist of an individual technology or a combination of technologies used in sequence (i.e., treatment train). Depending on the site specific situation, different alternatives may be considered for separate areas of the facility. The Permittee shall list and briefly describe each corrective measure alternative.

4.2.5 Evaluation of a Final Corrective Measure Alternative

For each remedy which warrants a more detailed evaluation, including those situations when only one remedy is being proposed, the Permittee shall provide detailed documentation of how the potential remedy shall comply with each of the standards listed below. These standards reflect the major technical components of remedies including cleanup of releases, source

control, and management of wastes that are generated by remedial activities. The specific standards are provided below.

- Protect human health and the environment;
- Attain media cleanup standards set by NMED;
- Control the source of releases so as to reduce and/or eliminate, to the extent practicable, further releases that may pose a threat to human health and the environment;
- Comply with any applicable standards for management of wastes; and,
- Other factors.

In evaluating the selected alternative or alternatives, the Permittee shall prepare and submit information that documents that the specific proposed remedy meets the standards listed above. The following standards shall be used by the Permittee in evaluating each proposed remedy.

4.2.5.a Protect human health and the environment

Proposed corrective measures shall be protective of human health and the environment. Remedies may include those measures that are needed to be protective, but are not directly related to media cleanup, source control, or management of wastes. An example would be a requirement to provide alternative drinking water supplies in order to prevent exposures to releases from an aquifer used for drinking water purposes. Another example would be a requirement for the construction of barriers or for other controls to prevent harm arising from direct contact with waste management units. Therefore, the Permittee shall include a discussion on what types of short term remedies are appropriate for the particular facility in order to meet this standard. This information shall be provided in addition to a discussion of how the other corrective measure alternatives meet this standard.

4.2.5.b Attain media cleanup standards set by NMED

Proposed remedies should attain media cleanup standards determined in accordance with Permit Attachment 7. The media cleanup standards for a remedy will often play a large role in determining the extent of and technical approaches to the remedy. In some cases, certain technical aspects of the remedy, such as the practical capabilities of remedial technologies, may influence to some degree the media cleanup standards that are established.

As part of the necessary information for satisfying this requirement, the Permittee shall address whether the potential remedy shall achieve the preliminary remediation objective as identified by NMED as well as other, alternative remediation objectives that may be proposed by the Permittee. The Permittee shall also include an estimate of the time frame necessary for each alternative to meet these standards.

4.2.5.c Control the sources of releases

A critical objective of any proposed remedy shall be to stop further environmental degradation by controlling and/or eliminating further releases that may pose a threat to human health and the environment. Unless source control measures are taken, efforts to clean up releases may be ineffective or, at best, will essentially involve a perpetual cleanup. Therefore, an effective source control program is essential to ensure the long-term effectiveness and protectiveness of the corrective action program.

The source control standard is not intended to mandate a specific remedy or class of remedies. Instead, the Permittee is encouraged to examine a wide range of options. This standard should not be interpreted to preclude the equal consideration of using other protective remedies to control the source, such as partial waste removal, capping, slurry walls, in-situ treatment/stabilization, and consolidation.

As part of the CMS Report, the Permittee shall address the issue of whether source control measures are necessary, and if so, the type of actions that would be appropriate. Any source control measure proposed should include a discussion on how well the method is anticipated to work given the particular situation at the facility and the known track record of the specific technology.

4.2.5.d Comply with any applicable standards for management of wastes.

The proposed remedies shall comply with any applicable standards for management of wastes. Permittee shall include a discussion of how the specific waste management activities shall be conducted in compliance with all applicable state and federal regulations (e.g., closure requirements, land disposal restrictions).

4.2.5.e Other factors

There are five general factors that NMED will consider in selecting/approving a remedy that meets the four standards listed

above. These factors represent a combination of technical measures and management controls for addressing the environmental problems at the facility. The five general decision factors include:

- Long-term reliability and effectiveness;
- Reduction in the toxicity, mobility, or volume of wastes;
- Short-term effectiveness;
- Implementability; and,
- Cost.

NMED may require the Permittee to provide additional information to support the use of these factors in the evaluation of viable remedial alternatives. Examples of the types of information that may be requested are provided below:

4.2.5.e.i Long-term reliability and effectiveness

Demonstrated and expected long-term reliability is a way of assessing the risk and effect of failure. The Permittee may consider whether the technology or a combination of technologies have been used effectively under analogous site conditions, whether failure of any one technology in the alternative would have an immediate impact on receptors, and whether the alternative would have the flexibility to deal with uncontrollable changes at the site (e.g., heavy rain storms, earthquakes, etc.).

Most corrective measure technologies, with the exception of destruction or removal, deteriorate with time. Often, deterioration can be slowed through proper system operation and maintenance, but the technology eventually may require replacement. Each corrective measure alternative should be evaluated in terms of the projected useful life of the overall alternative and of its component technologies. Useful life is defined as the length of time the level of effectiveness can be maintained.

4.2.5.e.ii Reduction in the toxicity, mobility, or volume of wastes

As a general goal, remedies will be preferred that employ techniques, such as removal or treatment technologies, that are capable of eliminating or substantially reducing the inherent potential for the hazardous waste or constituents in SWMUs, AOCs,

and other source areas to cause future environmental releases or other risks to human health and the environment.

Estimates of how much the corrective measures alternatives will reduce the waste toxicity, volume, and/or mobility may be helpful in applying this factor. This may be done through a comparison of initial site conditions to expected post-corrective measure conditions.

4.2.5.e.iii Short-term effectiveness

Short-term effectiveness may be particularly relevant when remedial activities will be conducted in densely populated areas, or where waste characteristics are such that risks to workers or to the environment are high and special protective measures are needed. Possible factors to consider include fire, explosion, exposure to hazardous substances, and potential threats associated with treatment, excavation, transportation, and redisposal or containment of waste material.

4.2.5.e.iv Implementability

Implementability will often be a determining variable in shaping remedies. Some technologies will require state or local approvals prior to construction, which may increase the time necessary to implement the remedy. In some cases, state or local restrictions or concerns may necessitate eliminating or deferring certain technologies or remedial approaches from consideration in remedy selection. Information to consider when assessing implementability may include:

- The administrative activities needed to implement the corrective measure alternative (e.g., permits, rights of way, off-site approvals, etc.) and the length of time these activities will take;
- The constructibility, time for implementation, and time for beneficial results;
- The availability of adequate off-site treatment, storage capacity, disposal services, needed technical services and materials; and,
- The availability of prospective technologies for each corrective measure alternative.

4.2.5.e.v Cost

The relative cost of a remedy may be an appropriate consideration, especially in those situations where several different technical alternatives to remediation will offer

equivalent protection of human health and the environment, but may vary widely in cost. However, in those situations where only one remedy is being proposed, the issue of cost would not need to be considered. Cost estimates could include costs for: engineering, site preparation, construction, materials, labor, sampling/analysis, waste management/disposal, permitting, health and safety measures, training, operation and maintenance, etc.

4.2.6 Recommendation by Permittee for a Final Corrective Measure Alternative

In the CMS Report, the Permittee may recommend a preferred remedial alternative for consideration by NMED. Such a recommendation should include a description and supporting rationale for the proposed remedy, consistent with the remedial standards and the decision factors discussed above. Such a recommendation is not required and NMED still retains the role of remedy selection.

4.2.7 Public Involvement Plan

After the CMS has been performed by the Permittee, NMED will select a preferred remedy, and will request public comment on the proposed corrective measure(s). NMED may change the proposed corrective measure(s) after consideration of public comment. NMED may also require that the Permittee perform additional corrective measures studies. If the public is interested, a public meeting may be held. After consideration of the public's comments on the proposed corrective measure(s), NMED will select the final corrective measure(s), and document NMED's justification for such selection and NMED's response to the public's comment. Additional public involvement activities may be necessary, based on facility specific circumstances.

4.3 PROGRESS REPORTS

The Permittee shall, at a minimum, provide NMED with signed quarterly progress reports. These reports may be required to contain the following information, but NMED's requirements are not limited to this list:

- A description and estimate of the percentage of the CMS completed;
- Summaries of all findings in the reporting period, including results of any pilot studies;
- Summaries of all changes made in the CMS during the reporting period;

- Summaries of all contacts with representative of the local community, public interest groups, and State government, etc., during the reporting period;
- Summaries of all contacts made regarding access to off-site property;
- Summaries of all problems encountered during the reporting period;
- Actions being taken to rectify problems;
- Changes in relevant personnel during the reporting period;
- Projected work for the next reporting period; and,
- Copies of daily reports, inspection reports, laboratory/monitoring data, etc.

4.4 PROPOSED SCHEDULE

The Permittee shall provide NMED with CMS progress reports in accordance with the Schedule of Compliance specified in Permit Attachment 6.

ATTACHMENT 5

CORRECTIVE MEASURES IMPLEMENTATION (CMI) SCOPE OF WORK

PURPOSE

The purpose of the Corrective Measures Implementation (CMI) program is to design, construct, operate, maintain, and monitor the performance of the corrective measure or measures selected by NMED. Corrective measures are intended to protect human health and the environment from releases from the facility.

SCOPE

The documents required for Corrective Measures Implementation are, unless NMED specifies otherwise, a Conceptual Design Plan; Operation and Maintenance Plan; Plans and Specifications; Construction Work Plan; Construction Completion Report; Corrective Measure Completion Report; Health and Safety Plan; Public Involvement Plan; Progress Reports; and, a Proposed Schedule. The scope of work (SOW) for each document is specified below. The SOWs are intended to be flexible documents capable of addressing both simple and complex site situations. If the Permittee can justify to the satisfaction of NMED that a plan and/or report or portions thereof are not needed in the given site-specific situation, then NMED may waive that requirement.

NMED may require the Permittee to conduct additional tasks or provide additional information beyond what is discussed in the SOWs or in the approved CMI documents in order to support the CMI program. The Permittee shall furnish all personnel, materials, and services necessary to conduct the CMI and additional tasks.

5.1 CONCEPTUAL DESIGN

The Permittee shall prepare a Conceptual Design Plan that clearly describes the size, shape, form, and content of the proposed corrective measure; the key components or elements that are needed; the designer's vision of the corrective measure in the form of conceptual drawings and schematics; and, the procedures and schedules for implementing the corrective measure(s). More that one conceptual design may be needed in situations where there is a complex site with multiple technologies being employed at different locations. The Permittee shall obtain NMED approval of the Conceptual Design Plan prior to implementation. The Conceptual Design Plan shall, at a minimum, include the elements specified below.

5.1.1 Introduction/Purpose

The Permittee shall describe the purpose of the document and provide a summary description of the project.

5.1.2 Corrective Measures Objectives

The Permittee shall discuss the corrective measure objectives including applicable media cleanup standards.

5.1.3 Conceptual Model of Hazardous Waste or Constituent Migration

The Permittee shall present a conceptual model of the site and of migration of hazardous waste or constituents. The conceptual site model shall consist of a working hypothesis of how the hazardous waste or constituents may move from the release source to the receptor population. Conceptual models are developed by looking at the applicable physical parameters (e.g., water solubility, density, Henry's Law Constant, etc.) for each hazardous waste or constituent and assessing how the hazardous waste or constituent may migrate given the existing site conditions (geologic features, depth to ground water, etc.). The Permittee shall describe the phase (water, soil, gas, non-aqueous) and location where hazardous waste or constituents are likely to be found. This analysis may have already been done as part of earlier work (e.g., Current Conditions Report). If this is the case, then the Permittee shall provide a summary of the conceptual model with a reference to the earlier document.

5.1.4 Description of Corrective Measures

The Permittee's conceptual model of hazardous waste or constituent migration shall qualitatively describe what the corrective measure is supposed to do and how it will function at the facility. The Permittee shall discuss the feasibility of the corrective measure and its ability to meet the corrective measure objectives.

5.1.5 Data Sufficiency

The Permittee shall review existing data needed to support the design effort and establish if there is sufficient accurate data available for this purpose. The Permittee shall summarize the assessment findings and specify any additional data needed to complete the corrective measure design. NMED may require, or the Permittee may propose, that sampling and analysis plans and/or treatability study Work Plans be developed to obtain the additional data. NMED will determine the submittal times for any

new sampling and analysis plans and/or treatability study Work Plans.

5.1.6 Project Management

The Permittee shall describe the management approach including levels of authority and responsibility (include organization chart), lines of communication and the qualifications of key personnel who shall direct the corrective measure design and the implementation effort (including contractor personnel).

5.1.7 Project Schedule

The Permittee's project schedule shall specify all significant steps in the process and when all CMI deliverables (e.g., Operation and Maintenance Plan, Corrective Measure Construction Work Plan, etc.) shall be submitted to NMED.

5.1.8 Design Criteria

The Permittee shall specify performance requirements for the overall corrective measure and for each major component. The Permittee shall select equipment that meets the performance requirements.

5.1.9 Design Basis

The Permittee shall discuss the process and methods for designing all major components of the corrective measure and shall discuss the significant assumptions made and possible sources of error. The Permittee shall provide justification for the assumptions. The discussion of the Design Basis shall include the following:

- Conceptual process/schematic diagrams;
- Site plan showing preliminary corrective measures layout including treatment areas;
- Tables listing number and type of major components with approximate dimensions;
- Tables giving preliminary mass balances; and
- Site safety and security provisions (e.g., fences, fire control, etc.).

5.1.10 Waste Management Practices

The Permittee shall describe the wastes generated during the implementation of the corrective measures and how and where they shall be managed. The Permittee shall also discuss drainage at

the site and indicate how rainwater run on and runoff shall be managed.

5.1.11 Required Permits

The Permittee shall list and describe any permits needed to construct and operate the corrective measure. The Permittee shall indicate on the project schedule when the permit applications shall be submitted to the applicable agencies and an estimate of the permit issuance date.

5.1.12 Long-Lead Procurement Considerations

The Permittee shall prepare a list of any elements or components of the corrective measure that will require custom fabrication or will for some other reason is considered as long-lead procurement items. The list shall include the reason why the items are considered long-lead items, the length of time necessary for procurement, and the recognized sources of such procurement.

5.1.13 Appendices including

- Design data - Tabulations of significant data used in the design effort;
- Equations - List and describe the source of all equations used in the design process;
- Sample calculations - Present and explain one example calculation for significant or unique design calculations; and,
- Laboratory or field test results.

5.2 OPERATION AND MAINTENANCE PLAN

The Permittee shall prepare an Operation and Maintenance (O&M) Plan that outlines procedures for performing operations, long term maintenance, and monitoring of the corrective measure. A CMI O&M Plan shall be submitted to NMED simultaneously with the CMI Plans and Specifications. A O&M Plan shall be submitted to NMED simultaneously with the Plans and Specifications. The O&M plan shall, at a minimum, include the elements specified below.

5.2.1 Introduction/Purpose

The Permittee shall describe the purpose of the document and provide a summary description of the project.

5.2.2 Project Management

The Permittee shall describe the management approach including levels of authority and responsibility (include organization chart), lines of communication and the qualifications of key personnel who shall operate and maintain the corrective measures (including contractor personnel).

5.2.3 System Description

The Permittee shall describe the corrective measure and identify significant equipment.

5.2.4 Personnel Training

The Permittee shall describe the training process for O&M personnel. The Permittee shall prepare, and include in the technical specifications governing treatment systems, the contractor requirements for providing: appropriate service visits by experienced personnel to supervise the installation, adjustment, start up and operation of the treatment systems, and training covering appropriate operational procedures once the start-up has been successfully accomplished.

5.2.5 Start-Up Procedures

The Permittee shall describe system start-up procedures including any operational testing.

5.2.6 Operation and Maintenance Procedures

The Permittee shall describe normal operation and maintenance procedures including:

- Description of tasks for operation;
- Description of tasks for maintenance;
- Description of prescribed treatment or operation conditions;
- Schedule showing frequency of each O&M task; and,
- Replacement schedule for equipment and installed components.

5.2.7 Waste Management Practices

The Permittee shall describe the wastes generated by operation of the corrective measure and how and where they shall be managed.

The Permittee shall also discuss site drainage and indicate how rainwater run on, and runoff shall be managed.

5.2.8 Sampling and Analysis

Sampling and monitoring activities may be needed for effective operation and maintenance of the corrective measure. To ensure that all information, data and resulting decisions are technically sound, statistically valid, and properly documented, the Permittee shall prepare a Quality Assurance Project Plan (QAPP) to document all monitoring procedures, sampling, field measurements and sample analyses performed during these activities. The Quality Assurance Project Plan shall, at a minimum, include the elements of a quality assurance program for data collection activities as specified in Chapter One of SW-846. The Permittee shall use quality assurance, quality control, and chain-of-custody procedures approved by NMED.

5.2.9 Corrective Measure Completion Criteria

The Permittee shall describe the process and criteria (e.g., ground water cleanup goal met at all compliance points for 1 year) for determining when corrective measures have achieved media cleanup goals. The Permittee shall also describe the process and criteria for determining when maintenance and monitoring may cease. Criteria for corrective measures such as a landfill cap shall reflect the need for long-term monitoring and maintenance. Satisfaction of the completion criteria shall trigger preparation and submittal of the Corrective Measures Completion Report.

5.2.10 O&M Contingency Procedures

- Procedures to address system breakdowns and operational problems including a list of redundant and emergency back-up equipment and procedures;
- Alternate procedures to be implemented if the corrective measure suffers complete failure. The alternate procedures shall be able to prevent release or threatened releases of hazardous wastes or constituents which may endanger human health and the environment or exceed media cleanup standards;
- The O&M Plan shall specify that, in the event of a major breakdown and/or complete failure of the corrective measure (includes emergency situations), the Permittee shall orally notify NMED within 24 hours of the event and shall notify NMED in writing within 72 hours of the event.

Written notification shall, at a minimum, specify what happened, what response action shall be or has been, and any potential impacts on human health and the environment; and,

- Procedures to be implemented in the event that the corrective measure is experiencing major operational problems, is not performing to design specifications, and/or will not achieve the cleanup goals in the expected time frame. For example, in certain circumstances both a primary and secondary corrective measure may be selected for the facility. If the primary corrective measure were to fail, then the secondary measure would be implemented. This section shall specify that if the primary corrective measure failed, then design plans would be developed for the secondary measure.

5.2.11 Data Management and Documentation Requirements

The O&M Plan shall specify that the Permittee shall collect and maintain the following information:

- Progress Report information;
- Monitoring and laboratory data;
- Records of operating costs; and,
- Personnel, maintenance and inspection records.

This data and information shall be used to prepare Progress Reports and the Corrective Measure Completion Report.

5.3 PLANS AND SPECIFICATIONS

The Permittee shall prepare Plans and Specifications that are sufficient to be included in a contract document and be advertised for bid. The O&M Plan and Construction Work Plan shall be submitted to NMED simultaneously with the Plans and Specifications. The design package shall consist of the detailed drawings and specifications needed to construct the corrective measure. Depending on the nature of the corrective measure, many different types of drawings and specifications may be needed. Some of the elements that may be required include:

- General site plans;
- Process flow diagrams;
- Mechanical drawings;

- Electrical drawings;
- Piping and instrumentation diagrams;
- Structural drawings;
- Excavation and earthwork drawings;
- Site preparation and field work standards;
- Construction drawings;
- Installation drawings;
- Equipment lists; and,
- Detailed specifications for equipment and material.

General correlation between drawings and technical specifications is a basic requirement of any set of working construction plans and specifications. Before submitting the final project specifications to NMED, the Permittee shall proofread the specifications for accuracy and consistency with the preliminary design; and, coordinate and cross-check the specifications and drawings.

5.4 CONSTRUCTION WORK PLAN

The Permittee shall prepare a Construction Work Plan which documents the overall management strategy, construction quality assurance procedures, and schedule for constructing the corrective measure. A CMI Construction Work Plan shall be submitted to NMED simultaneously with the CMI Plans and Specifications and CMI Operation and Maintenance Plan. A Construction Work Plan shall be submitted to NMED simultaneously with the Plans and Specifications and Operation and Maintenance Plan. Upon receipt of written approval from NMED, the Permittee shall commence the construction process and implement the Construction Work Plan in accordance with the schedule and provisions contained therein. The Construction Work Plan shall be submitted to NMED for review and approval prior to its implementation. The Construction Work Plan shall, at a minimum, include the elements specified below.

5.4.1 Introduction/Purpose

The Permittee shall describe the purpose of the document and provide a summary description of the project.

5.4.2 Project Management

The Permittee shall describe the construction management approach including levels of authority and responsibility (include organization chart), lines of communication and the qualifications of key personnel who shall direct the corrective measure construction effort and provide construction quality assurance/quality control (including contractor personnel).

5.4.3 Project Schedule

The project schedule shall include timing for key elements of the bidding process, timing for initiation and completion of all major corrective measure construction tasks as specified in the Plans and Specifications, and specify when the Construction Completion Report shall be submitted to NMED.

5.4.4 Construction Quality Assurance/Quality Control Programs

The purpose of construction quality assurance is to ensure, with a reasonable degree of certainty, that a completed corrective measure will meet or exceed all design criteria, plans, and specifications. The Construction Work Plan shall include a complete Construction Quality Assurance Program to be implemented by the Permittee.

5.4.5 Waste Management Procedures

The Permittee shall describe the wastes generated during the CMI and how and where they shall be managed.

5.4.6 Sampling and Analysis

Sampling and monitoring activities may be needed for construction quality assurance/quality control and/or other construction related purposes. To ensure that all information, data and resulting decisions are technically sound, statistically valid, and properly documented, the Permittee shall prepare a Quality Assurance Project Plan to document all monitoring procedures, sampling, field measurements and sample analysis performed during these activities. The Permittee shall use quality assurance, quality control, and chain-of-custody procedures approved by NMED.

5.4.7 Construction Contingency Procedures

Changes to the design and/or specifications may be needed during construction to address unforeseen problems encountered in the field. Procedures to address such circumstances, including

notification of NMED, shall be included in the Construction Work Plan.

The Construction Work Plan shall specify that, in the event of a construction emergency (e.g., fire, earthwork failure, etc.), the Permittee shall orally notify NMED within 24 hours of the event and shall notify NMED in writing within 72 hours of the event. The written notification shall, at a minimum, specify what happened, what response action shall be or has been, and any potential impacts on human health and the environment.

The Permittee shall specify procedures to be implemented if unforeseen events prevent corrective measure construction. For example, in certain circumstances both a primary and secondary corrective measure may be selected for the Facility. If the primary corrective measure could not be constructed, then the secondary measure would be implemented. This section shall specify that if the primary corrective measure could not be constructed, then design plans would be developed for the secondary measure.

5.4.8 Construction Safety Procedures

The Permittee shall specify Construction safety procedures in a separate Health and Safety Plan.

5.4.9 Documentation Requirements

The Permittee shall describe how analytical data and results shall be evaluated, documented, and managed.

5.5 CONSTRUCTION COMPLETION REPORT

The Permittee shall prepare a Construction Completion Report which documents how the completed project is consistent with the Plans and Specifications. The Construction Completion Report shall be submitted to NMED when the construction and any operational tests have been completed. The Construction Completion Report shall, at a minimum, include the following elements:

- Purpose;
- Synopsis of the corrective measure, design criteria, and certification that the corrective measure was constructed in accordance with the Plans and Specifications;
- Explanation and description of any modifications to the Plans and Specifications and why these were necessary for the project;

- Results of any operational testing and/or monitoring, indicating how initial operation of the corrective measure compares to the design criteria;

- Summary of significant activities that occurred during construction. Include a discussion of problems encountered and how they were addressed;

- Summary of any inspection findings (include copies of key inspection documents in appendices);

- As built drawings and/or photographs; and,

- Schedule indicating when any treatment systems shall begin full scale operations.

5.6 CORRECTIVE MEASURE COMPLETION REPORT

The Permittee shall prepare a Corrective Measure Completion Report when the Permittee believes that the corrective measure completion criteria have been satisfied or as required by NMED.

The purpose of the Corrective Measure Completion Report shall is to fully document how the corrective measure completion criteria have been satisfied and to justify why the corrective measure and/or monitoring may cease. The Corrective Measure Completion Report shall, at a minimum, include the following elements:

- Purpose;

- Synopsis of the corrective measure;

- Corrective Measure Completion Criteria: Describe the process and criteria for determining when corrective measures, maintenance, and monitoring may cease. Corrective measure completion criteria were specified in the Operation and Maintenance (O&M) Plan;

- Demonstration that the completion criteria have been met. Include results of testing and/or monitoring, indicating how operation of the corrective measure compares to the completion criteria;

- Summary of work accomplishments (e.g., performance levels achieved, total hours of treatment operation, total treated and/or excavated volumes, nature and volume of wastes generated, etc.);

- Summary of significant activities that occurred during operations. Include a discussion of problems encountered and how they were addressed;
- Summary of inspection findings (include copies of key inspection documents in appendices); and,
- Summary of total operation and maintenance costs.

5.7 HEALTH AND SAFETY PLAN

The Permittee shall submit a Health and Safety Plan for all field activity, although it does not require review and approval by NMED. The Health and Safety Plan shall be developed as a stand alone document but may be submitted with the CMI Work Plan. The Health and Safety Plan should, at a minimum, include the elements specified below.

5.7.1 Objectives

The Permittee shall describe the goals and objectives of the health and safety program (shall apply to on-site personnel and visitors). The health and safety plan shall be consistent with the Facility Contingency Plan, OSHA Regulations, NIOSH Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities (1985), all state and local regulations, and other NMED guidance, as provided.

5.7.2 Hazard Assessment

The Permittee shall list and describe the potentially hazardous substances, hazardous wastes or constituents, and conditions that could be encountered by field personnel during construction and/or operation and maintenance activities.

The Hazard Assessment section shall discuss the following:

- Inhalation hazards;
- Dermal exposure;
- Ingestion hazards;
- Physical hazards; and
- Overall hazard rating

The Permittee shall include a table that, at a minimum, lists known hazardous waste or constituents, highest observed concentration, media, and symptoms/effects of acute exposure.

5.7.3 Personal Protection/Monitoring Equipment

The Health and Safety Plan shall describe the following:

- Personal protection levels and identify all monitoring equipment for each operational task;
- Any action levels and corresponding response actions (i.e., when will levels of safety be upgraded); and
- Decontamination procedures and areas.

5.7.4 Site Organization and Emergency Contacts

The Health and Safety Plan shall list and identify all emergency contacts (include phone numbers), identify the nearest hospital and provide a regional map showing the shortest route from the facility to the hospital. The Health and Safety Plan shall describe site emergency procedures and any site safety organizations and shall include evacuation procedures for neighbors (where applicable). The Health and Safety Plan shall include a facility map showing emergency station locations (first aid, eye wash areas, etc.).

5.8 PUBLIC INVOLVEMENT PLAN

All Public Involvement Plans prepared by the Permittee shall be submitted to NMED for approval prior to use. The Permittee shall never appear to represent or speak for NMED before the public, other government officials, or the media.

Public involvement activities that may be required of the Permittee include, the following:

- Conducting an open house or informal meeting (i.e., availability session) in a public location where people can talk to NMED and the Permittee on a one-to-one basis;
- Preparing fact sheets summarizing current or proposed corrective action activities (all fact sheets shall be reviewed by NMED prior to public distribution);
- Communicating effectively with people who have vested interest in the corrective action activities, (e.g., providing written or verbal information in the foreign language of a predominantly non-English-speaking community); and,

- Maintaining an easily accessible repository (such as a town hall or public library or the facility itself, in some limited circumstances) of information on the facility-specific corrective action program, including the order or permit, approved Work Plans, and/or other reports.

The Public Involvement Plan shall include a schedule for community relations activities.

5.9 PROGRESS REPORTS

The Permittee shall, at a minimum, provide NMED with signed quarterly progress reports during corrective measure design, construction, operation and maintenance. NMED may adjust the frequency of progress reporting to address site-specific needs. For example, more frequent progress reports may be needed to track critical activities such as corrective measure construction and start-up. Progress reports shall, at a minimum, include the following elements:

- A description of significant activities (e.g., sampling events, inspections, etc.) and work completed/work accomplishments (e.g., performance levels achieved, hours of treatment operation, treated and/or excavated volumes, concentration of hazardous waste or constituents in treated and/or excavated volumes, nature and volume of wastes generated, etc.) during the reporting period;

- Summary of system effectiveness. Provide a comparison of system operation to predicted performance levels (applicable only during operation of the corrective measure);

- Summaries of all findings (including any inspection results);

- Summaries of all contacts with representatives of the local community, public interest groups, and State government, etc., during the reporting period;

- Summaries of all problems or potential problems encountered during the reporting period;

- Actions being taken and/or planned to rectify problems;

- Changes in personnel during the reporting period;

- Projected work for the next reporting period; and,

- If requested by NMED, the results of any sampling tests and/or other data generated during the reporting period.

5.10 PROPOSED SCHEDULE

The Permittee shall submit CMI reports to NMED in accordance with the Schedule of Compliance specified in Permit Attachment 6 or as required by NMED.

ATTACHMENT 6

SCHEDULE OF COMPLIANCE

SCHEDULE OF COMPLIANCE	DUE DATE
Notification of newly identified SWMUs/AOCs. (§ 5.3.1)	Within fifteen (15) calendar days of discovery.
SWMU/AOC assessment report. (§ 5.3.2)	Within ninety (90) calendar days of notification.
RFI work plan for newly identified SWMUs/AOCs identified under § 5.3.1.	Within ninety (90) calendar days after receipt of notification by NMED which SWMUs/AOCs require an RFI.
Notification for newly discovered releases at previously identified SWMUs/AOCs (§ 5.4.1)	Within fifteen (15) calendar days of discovery.
RFI report (§ 5.5.3)	In accordance with the approved RFI Work Plan.
Quarterly RFI progress reports (§ 5.5.3.d)	Quarterly, beginning ninety (90) calendar days from the start date specified by the Secretary *
Interim Measures Work Plan (§ 5.6.1)	Within thirty (30) calendar days of notification by Secretary.
Interim measures progress reports (§ 5.6.3.a)	In accordance with the approved Interim Measures Work Plan ** or semi-annually for Permittee initiated IM.
Interim Measures Report (§ 5.6.3.b)	Within ninety (90) calendar days of completion.
CMS work plan (§ 5.7.1)	Within ninety (90) calendar days of notification by Secretary that a CMS is required.
Implementation of CMW Work Plan (§ 5.7.2)	Within fifteen (15) calendar days after receipt of Secretary's approval of Plan
CMS report (§ 5.7.3)	In accordance with the schedule in the approved CMS Work Plan
RFI Work Plan for SWMUs	Within 180 days of permit issuance
RFI Work Plan	Within 270 days of permit issuance
RFI Work Plan	Within 365 days of permit issuance

* This applies to Work Plan execution that requires more than one hundred eighty (180) calendar days.

** This applies to Work Plan execution that requires more than one year.
The Permittee shall sign and certify all work plans and reports in accordance with 20.4.1.900 NMAC, incorporating 40 CFR 270.11.

ATTACHMENT 7

ACTION LEVELS AND CLEANUP LEVELS FOR ENVIRONMENTAL MEDIA

OVERVIEW

Action levels are single constituent health- and environmental-based concentrations of hazardous waste or constituents in environmental media (*i.e.*, ground water, surface water, soils, sediment, or the air) that NMED has determined to be indicators for the protection of human health and the environment. The Permittee shall establish action levels for all hazardous wastes or constituents which NMED has reason to believe may have been released from a SWMU, AOC, and other source areas at the facility using the procedures specified in this Permit Attachment.

If the concentration of a hazardous constituent in environmental media exceeds its action level for any environmental medium, then NMED may require the Permittee to conduct either a site-specific risk assessment or a Corrective Measure Study (CMS), or to implement interim measures. If NMED determines that a constituent that has been released from a SWMU, AOC, and other source areas in concentrations less than its respective action level(s) may pose a threat to human health and the environment, given site-specific exposure conditions, cumulative effects, ecological concerns, etc., then NMED may also require the Permittee to conduct either a site-specific risk assessment or a CMS, or to implement interim measures.

Cleanup levels are concentrations in environmental media based on excess lifetime cancer risk levels that are consistent with EPA's National Contingency Plan (55 *FR* 8666 *et seq.*); EPA recommends a range of 10^{-4} to 10^{-6} as being "acceptable." In general, NMED has selected a target risk level of 10^{-5} for establishing cleanup levels for hazardous waste or constituents. NMED has established cleanup levels, methods of calculating cleanup goals, and reporting requirements at SWMU, AOC, and other source areas where corrective action is required in response to a release of hazardous waste or constituents to the environment. NMED has generally selected a target hazard quotient of one (1.0) for individual noncarcinogenic hazardous waste or constituents and a target hazard quotient of 0.1 for contamination involving two or more noncarcinogenic hazardous waste or constituents. The Permittee shall comply with NMED's cleanup levels and reporting requirements as specified in this Permit Attachment.

For hazardous waste or constituents detected in environmental media for which a concentration level that meets the criteria specified above is not available or possible, the action level

and/or cleanup level for the hazardous waste or constituents shall be the background concentration of hazardous waste or constituents.

7.1 GROUND WATER

7.1.1 Ground water Cleanup Levels

The Permittee shall comply with the New Mexico Water Quality Control Commission (WQCC) ground water standards specified in 20.6.2.3103 NMAC and EPA's National Primary Drinking Water Standards Maximum Contaminant Levels (MCLs). If both a WQCC ground water standard and an MCL have been established for an individual hazardous waste or constituent, then the lower of the two levels shall be the cleanup level for that hazardous waste or constituent. If a WQCC ground water standard or MCL has not been established for a specific hazardous waste or constituent, then the Permittee shall comply with the most recent version of the EPA Region VI *Human Health Medium Specific Screening Level* for tap water as the target cleanup level.

7.1.2 Ground water Radionuclide Reporting Levels

NMED has not established ground water cleanup standards for radionuclides in environmental media; however, the Permittee shall determine if ground water has been affected by radiological contamination. The Permittee shall determine the nature and extent of radionuclide contamination and implement ground water monitoring at sites where radiological contamination is suspected or has been detected. EPA has published both current and proposed drinking water MCLs for radionuclides. These generic screening levels are specified in Table 2.3 of EPA's *Screening Guidance for Radionuclides: Technical Background Document* (October 2000, OSWER 9355.4-16). The Permittee shall report all radionuclide concentrations in ground water exceeding background and/or either of the EPA screening levels listed in Table 2.3 to NMED. The Permittee also shall submit the results of all investigations and testing for the presence of radionuclides to NMED.

7.1.3 Ground water Perchlorate Cleanup Levels

At the time that this permit was issued EPA has established a provisional reference dose for perchlorate in drinking water of 4 micrograms per liter (µg/L) to 18 µg/L. NMED has adopted the EPA provisional drinking water reference dose as an interim ground water cleanup level. The NMED drinking water cleanup level for perchlorate may be updated if EPA revises the reference dose for perchlorate in the future or publishes a drinking water standard

7.2 SURFACE WATER

7.2.1 Surface Water Cleanup Levels

The Permittee shall comply with the surface water quality standards outlined in the Clean Water Act (33 U.S.C. 1251 *et seq.*), the New Mexico Water Quality Control Commission Regulations (20.6.1 NMAC), and the State of New Mexico Standards for Interstate and Intrastate Surface Waters (20.6.4 NMAC).

7.2.2 Surface Water Radionuclide Reporting Levels

NMED has not established surface water cleanup standards for radionuclides in environmental media; however, the Permittee shall determine if surface water has been affected by radiological contamination. The Permittee shall determine the nature and extent of radionuclide contamination and implement surface water monitoring at sites where radiological contamination is suspected or has been detected. EPA has published both current and proposed drinking water MCLs for radionuclides. These generic screening levels are specified in Table 2.3 of EPA's *Screening Guidance for Radionuclides: Technical Background Document* (October 2000, OSWER 9355.4-16). The Permittee shall report all radionuclide concentrations in surface water exceeding background and/or either of the EPA screening levels listed in Table 2.3 to NMED. The Permittee shall submit the results of all investigations and testing for the presence of radionuclides to NMED.

7.2.3 Surface Water Perchlorate Cleanup Levels

At the time that this permit was issued EPA has established a provisional reference dose for perchlorate in drinking water of 4 micrograms per liter (µg/L) to 18 µg/L. NMED has adopted the EPA provisional drinking water reference dose as a interim ground water cleanup level. The NMED drinking water cleanup level for perchlorate may be updated if EPA revises the reference dose for perchlorate in the future.

7.3 SOILS

7.3.1 Soil Cleanup Levels

NMED has established soil cleanup levels for 133 elements and compounds. In general, the cleanup levels are based on a target total risk of 10^{-5} for carcinogenic substances and a target hazard index of one for all noncarcinogenic chemicals. The target soil cleanup levels for selected substances are listed in NMED's *Technical Background Document for Development of Soil Screening Levels* (NMED SSLs). NMED also uses the most recent

version of the EPA Region VI *Human Health Medium Specific Screening Level* (HHMSSL) for residential soil as the target cleanup level for compounds designated as "n" (noncarcinogen effects), "max", and "sat", or ten times the EPA Region VI HHMSSL for compounds designated "c" (carcinogen effects) if a NMED soil cleanup level has not been established for hazardous waste or constituents. The Permittee shall use NMED's SSLs, as modified, as cleanup levels. For hazardous waste and/or hazardous constituents that NMED has not specified a cleanup level, the Permittee shall use either (1) cleanup levels equivalent to the screening levels in EPA Region VI's HHMSSLs for non-carcinogens and 10x the concentration for carcinogens, or (2) use cleanup levels developed using the same process, assumptions, and default values that were used to develop screening levels in NMED Guidance *"Assessing Human Health Risks Posed by Chemicals: Screening Level Risk Assessment"* (March 2000).

7.3.2 Soil Polychlorinated Biphenyls Cleanup Levels

NMED has established soil cleanup levels for polychlorinated biphenyls (PCBs). Soil cleanup levels for PCBs are discussed in the NMED Position Paper *Risk-based Remediation of Polychlorinated Biphenyls at RCRA Corrective Action Sites*. The default soil cleanup level for PCBs is 1 milligram per kilogram (mg/kg).

7.3.3 Soil Perchlorate Cleanup Levels

At the time that this permit was issued, a soil cleanup level for perchlorate has not been established by NMED. NMED will determine a soil cleanup level for perchlorate based on the reference dose when one is established by EPA. The soil cleanup level for perchlorate will be updated if EPA revises the reference dose for perchlorate in the future.

7.3.4 Soil Radionuclide Reporting Levels

NMED has not established soil cleanup levels for radionuclides in environmental media; the Permittee shall determine if soil has been affected by radiological contamination. The Permittee shall determine the nature and extent of radioactive contamination in soil or other solid-phase media and implement monitoring programs at sites where radiological contamination is suspected or has been detected. EPA has developed screening levels for radionuclides in soil that correspond to a 10^{-6} excess risk for its standard residential scenario. These generic screening levels appear in Appendix A of EPA's *Soil Screening Guidance for Radionuclides: Technical Background Document* (October 2000, OSWER 9355.4-16). The Permittee shall report all radionuclide concentrations in soil exceeding background and/or the EPA screening levels to NMED. The Permittee also shall submit the

results of all investigations and testing for the presence of radionuclides to NMED.

7.4 ECOLOGICAL EVALUATION

The Permittee shall evaluate ecological risk for all affected media at each site consistent with the NMED Hazardous Waste Bureau (HWB) *Guidance for Assessing Ecological Risks Posed by Chemicals: Screening-Level Ecological Risk Assessment* (March 2000) and the NMED HWB *Guidance for Assessing Ecological Risks Posed by Radionuclides: Screening-Level Ecological Risk Assessment* (April 2000).

7.5 ALTERNATIVE CLEANUP LEVELS

The Permittee may perform a risk-based evaluation to establish alternative cleanup levels for specific media at individual SWMU, AOC, and other source areas. The Permittee shall conduct its risk-based evaluation in accordance with the NMED HWB *Assessing Human Health Risks Posed by Chemicals: Screening Level Risk Assessment* (March 2000) and using the equations in the NMED HWB *Technical Background Document for Development of Soil Screening Levels: Cleanup Levels for Ecological Risk.* The risk-based evaluation shall be developed in accordance with the NMED HWB *Guidance for Assessing Ecological Risks Posed by Chemicals: Screening-level Ecological Risk Assessment* (March 2000). For performing a risk-based evaluation to establish alternative cleanup levels, the Permittee shall use the NMED guidance documents (March 2000 and December 2000), any modifications of these documents made by NMED, or any new risk assessment guidance as directed by NMED.