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1 **I GENERAL PERMIT CONDITIONS**

2 **I.A PERMITTEE**

3 The Secretary (Secretary) of the New Mexico Environment Department (NMED) issues this Permit  
4 to the United States, Department of the Army, (Permittee), the owner and operator of Fort Wingate  
5 Depot Activity (FWDA) (the Facility) (EPA ID No. NM6213820974) located in McKinley County,  
6 New Mexico.

7 **I.B PERMITTED ACTIVITY**

8 This Permit requires the Permittee to close the OB/OD Unit, perform post-closure care for the  
9 OB/OD Unit, if necessary, conduct corrective action activities, and conduct tasks in accordance with  
10 a schedule of compliance. This Permit establishes the general and specific standards for these  
11 activities, as required pursuant to the New Mexico Hazardous Waste Act (HWA), as amended,  
12 NMSA 1978, §§ 74-4-1 *et seq.*, and the New Mexico Hazardous Waste Management Regulations  
13 (HWMR), 20.4.1 NMAC.

14 The Permittee is not authorized to store treat or dispose of any hazardous waste at the Facility under  
15 this Permit. Any storage, treatment, or disposal of hazardous waste not authorized under 20.4.1.200  
16 or 300 (incorporating 40 CFR 261.6 and 262.34) is prohibited.

17 **I.C EFFECT OF PERMIT**

18 Compliance with this Permit during its term constitutes compliance, for purposes of enforcement,  
19 with 20.4.1.500, 700 and 800 NMAC (incorporating 40 CFR parts 264, 266 and 268), except for  
20 those requirements not included in this permit under 40 CFR 270.4(a), only for those management  
21 practices specifically authorized by this Permit. The Permittee must also comply with all applicable  
22 self-implementing provisions imposed by statute or rule, including 20.4.1.100, 200, 300, 400, 700,  
23 and 800 NMAC (incorporating 40 CFR parts 260, 261, 262, 263, 266, and 268. Compliance with  
24 this Permit shall not constitute a defense to any order issued or any action brought under Sections 74-  
25 4-10, 74-4-10.1 or 74-4-13 of the HWA; Sections 3008(a), 3008(h), 3013, 7002(a)(1)(b) or 7003 of  
26 the Resource Conservation and Recovery Act (RCRA), as amended, 42 U.S.C. 6901 to 6922k;  
27 Sections 104, 106(a), and 107 of the Comprehensive Environmental Response, Compensation, and  
28 Liability Act of 1980 (CERCLA), 42 U.S.C. 9601 *et seq.*; or any other law providing for protection  
29 of public health or the environment. This Permit does not convey any property rights of any sort or  
30 any exclusive privilege, nor authorize any injury to persons or property, any invasion of other private  
31 rights, or any infringement of State or local laws or regulation. Compliance with this Permit does  
32 not relieve the Permittee from the responsibility of complying with all applicable state or federal  
33 laws and regulations. [20.4.1.900 NMAC (incorporating 40 CFR 270.4, 270.30(g) and 270.32(b)(1));  
34 20.4.1.901.A(11); and 1100 NMAC]

1 **I.D EFFECT OF INACCURACIES IN PERMIT APPLICATION**

2 This Permit is based on the assumption that the information submitted in the Part B Permit  
3 application dated June 12, 2003 (the Application), is true and correct. Any inaccuracies found in the  
4 Application may be grounds for the termination, suspension, revocation and reissuance, or  
5 modification of this Permit in accordance with 20.4.1.900 NMAC (incorporating 40 CFR 270.41,  
6 270.42, 270.43) and for enforcement action. [20.4.1.900 NMAC (incorporating 40 CFR  
7 270.30(l)(11)) and 270.43(a)(2)]

8 **I.E PERMIT COMPONENTS**

9 This Permit consists of the regulations incorporated by reference into this Permit and the Permit  
10 Conditions in Permit Sections I through VIII and Permit Attachments 1 through 13.

11 **I.F PERMIT ACTIONS**

12 **I.F.1 Duration of Permit**

13 This Permit shall be effective for a fixed period of ten (10) years from the effective date. The  
14 effective date of this Permit shall be thirty (30) calendar days after notice of the Secretary's decision  
15 has been served on the Permittee, or such later time as the Secretary may specify. [20.4.1.900  
16 NMAC, (incorporating 40 CFR 270.50(a)) and 20.4.1.901.A(10) NMAC]

17 **I.F.2 Permit Modification, Suspension, Revocation, or Termination**

18 This Permit may be modified, suspended, revoked and reissued, or terminated for cause as specified  
19 in Section 74-4-4.2 NMSA 1978, 20.4.1.900 NMAC (incorporating 40 CFR 270.41 through 270.43),  
20 and 20.4.1.901.B NMAC. The filing of a request by the Permittee for a permit modification, or the  
21 notification of planned changes or anticipated noncompliance, shall not stay any permit condition.  
22 [20.4.1.900 NMAC (incorporating 40 CFR 270.30(f))]

23 **I.F.3 Unclassified Permit Modifications**

24 Unless a permit modification is explicitly listed in Appendix I of 40 C.F.R. 270.42 as a Class 1 or  
25 Class 2 permit modification, the Permittee shall not submit the proposed permit modification as a  
26 Class 1 or Class 2 permit modification. The Permittee shall only make such permit modifications as  
27 Class 3 modifications, or may request a determination from the Secretary that the proposed permit  
28 modification is a Class 1 or 2 modification pursuant to the requirements of 20.4.1.901 and 900  
29 NMAC (incorporating 40 CFR 270.42(d)).

30 **I.F.4 Transfer of Land Ownership**

31 The Permittee shall submit a permit modification request, in compliance with all requirements of  
32 20.4.1.901 and 900 NMAC (incorporating 40 CFR 270.42), at least one hundred eighty (180)

1 calendar days prior to the proposed effective date of transfer of ownership of any land which is part  
2 of the Facility. The permit modification request may be submitted as a Class 3 permit modification,  
3 or the Permittee may request a determination that the modification is a Class 1 or 2 pursuant to the  
4 requirements of 20.4.1.901 and 900 NMAC (incorporating 40 CFR 270.42(d)). In addition to the  
5 requirements of 20.4.1.901 and 900 NMAC (incorporating 40 CFR 270.42), a permit modification  
6 request for transfer of land that is part of the Facility shall:

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

8 2. Identify the new owner;

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

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

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

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

17 7. Propose and describe all provisions necessary to ensure that the Permittee can meet the  
18 corrective action obligations of RCRA, the HWA, and the HWMR (e.g., covenants, deed restrictions,  
19 proposed replacement of monitoring wells or enforceable agreements for access to monitoring wells  
20 on transferred land).

21 [20.4.1.500 (incorporating 40 CFR 264.101); 20.4.1.900 NMAC (incorporating 270.30(l)(1),  
22 270.32(b) and 270.42); and 20.4.1.901 NMAC]

### 23 **I.F.5 Permit Reapplications**

24 The Permittee shall submit an application for a new permit at least one hundred eighty (180) calendar  
25 days before the expiration date of this Permit, unless permission for a later date has been granted by  
26 the Secretary, pursuant to 20.4.1.900 NMAC (incorporating 40 CFR 270.10(h)). In reviewing any  
27 application for a permit renewal, the Secretary shall consider improvements in the state of control  
28 and measurement technology and changes in applicable regulations. [20.4.1.900 NMAC  
29 (incorporating 40 CFR 270.10(h) and 270.30(b)); 42 U.S.C. 6925(c)(3)]

### 30 **I.F.6 Continuation of Expiring Permit**

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

1           1. The Permittee has submitted a timely application under 20.4.1.900 NMAC (incorporating  
2 40 CFR 270.14), and the applicable sections in 20.4.1.900 NMAC(incorporating 40 CFR 270.15  
3 through 270.29), which is a complete application (under 20.4.1.900 (incorporating 40 CFR  
4 270.10(c))) for a new permit; and

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

7 While this Permit is continued under this condition, it remains fully effective and enforceable.  
8 [20.4.1.900 NMAC (incorporating 40 CFR 270.51(b))]

## 9 **I.G PERMIT CONSTRUCTION**

### 10 **I.G.1 Citations**

11 Whenever a provision of this Permit or of 20.4.1 NMAC is cited, the citation includes all subordinate  
12 provisions of the cited provision. All citations to a provision of 20.4.1 NMAC shall be considered an  
13 inclusion by reference of the cited provision of 20.4.1 NMAC and any federal regulation which it  
14 incorporates by reference. [20.4.1.900 NMAC (incorporating 40 CFR 270.30)]

### 15 **I.G.2 Severability**

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

### 19 **I.G.3 Conflict in Language**

20 If there is a conflict between the language of a Permit Condition and the language of a Permit  
21 Attachment, the language of the Permit Condition shall control over the language in the Permit  
22 Attachment. Any language in an Attachment that states or implies discretion to not comply with the  
23 minimum requirements of this Permit or 20.4.1.500, 700, and 800 NMAC is not effective and the  
24 requirements of this Permit and 20.4.1.500, 700, and 800 NMAC, shall control. [20.4.1.900 NMAC  
25 (incorporating 40 CFR 270.32(b)(1))]

## 26 **I.H DEFINITIONS**

27 For the purposes of this Permit, terms used herein shall have the same meanings as those in HWA,  
28 RCRA, and their implementing regulations, unless this Permit specifically provides otherwise.  
29 Where a term is not defined in HWA, RCRA, implementing regulations, or this Permit, the meaning  
30 of the term shall be determined by a standard dictionary reference, EPA guidelines or publications, or  
31 the generally accepted scientific or industrial meaning of the term.

1 *Area of Concern (AOC)* means any area having a known or suspected release of hazardous waste or  
2 hazardous constituents that is not from a solid waste management unit and that NMED has  
3 determined may pose a current or potential threat to human health or the environment, pursuant to  
4 20.4.1.500 NMAC (incorporating 40 CFR 270.32(b)(2)). An area of concern may include buildings,  
5 and structures at which releases of hazardous waste or constituents were not remediated, including  
6 one time and accidental events.

7 *Facility* means Fort Wingate Depot Activity (FWDA), EPA ID Number NM 6213820974, owned by  
8 the United States Department of the Army and located approximately 8 miles east of Gallup on  
9 approximately 15,843 acres in McKinley County, in western New Mexico, including all contiguous  
10 land, and structures, other appurtenances, and improvements on the land, used for treatment, storage,  
11 or disposal of hazardous waste as designated on Permit Attachment 2. For the purpose of  
12 implementing corrective action, “Facility” means all contiguous property under the control of the  
13 owner or operator as designated on Permit Attachment 2.

14 *Hazardous waste*, for the purposes of corrective action for solid waste management units and areas  
15 of concern conducted pursuant to 20.4.1.500 NMAC (incorporating 40 CFR 264, subpart F) or  
16 20.4.1.900 NMAC (incorporating 40 CFR 270.32(b)(2)), means a hazardous waste as defined in 42  
17 U.S.C. 6903(5), Section 74-4-3 of HWA. Hazardous waste, for the purposes of corrective action,  
18 includes any of the following, which are also a solid waste; any ground water contaminant listed in  
19 the Water Quality Control Commission (WQCC) Regulations at 20.6.2.3103 NMAC, any toxic  
20 pollutant listed in 20.6.2.7 NMAC, any contaminant for which the EPA has promulgated a maximum  
21 contaminant level (MCL) at 40 CFR Parts 141 and 143, perchlorate, methyl tertiary butyl ether,  
22 polychlorinated byphenyls (PCBs), dioxins, furans, waste military munitions, and munitions  
23 constituents as defined at 10 U.S.C. 2710(e)(3).

24 *Hazardous waste*, for all other purposes of this Permit, means a hazardous waste as defined in  
25 20.4.1.200 NMAC (incorporating 40 CFR 261.3).

26 *Hazardous Constituent* means any constituent identified in 20.4.1.200 NMAC (incorporating 40  
27 C.F.R. Part 261, Appendix VIII) and any constituent identified in 20.4.1.500 NMAC (incorporating  
28 40 C.F.R. Part 264, Appendix IX).

29 *Kickout Area* means the combined area of land adjacent to the OB/OD Unit, SWMU 16 (Demolition  
30 Landfill and Old Burning Ground), SWMU 17 (Old Demolition Area) and SWMU 35 (“Waste Pile”  
31 KPI) to which waste military munitions were released during the operation of the OB/OD Unit and to  
32 which solid wastes were released during the operation of SWMU 16 (Demolition Landfill and Old  
33 Burning Ground), SWMU 17 (Old Demolition Area) and SWMU 35 (“Waste Pile” KPI). The  
34 Kickout Area is described in Permit Attachment 1.

35 *OB/OD Unit* means the contiguous area of land on or in which hazardous waste was treated by the  
36 Permittee using open burning or open detonation. The OB/OD Unit includes: the area known as the  
37 Burning Ground Area, twelve Current Detonation Craters (CDC) known as CDC-1 through CDC-12,

1 and ten (10) Current Residue Piles (CRP) known as CRP-1 through CRP-10. The estimated extent of  
2 the OB/OD Unit is depicted in Permit Attachment 12.

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

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

9 *Solid Waste Management Unit (SWMU)* means any discernible unit at which solid wastes have been  
10 placed at any time, irrespective of whether the unit was intended for the management of solid or  
11 hazardous waste. Such units include any area at a Facility at which solid wastes have been routinely  
12 and systematically released.

13 *Waste Military Munitions* includes military munitions as defined in 20.4.1.100 NMAC  
14 (incorporating 40 CFR 260.10), which are solid waste as described in 20.4.1.700 NMAC  
15 (incorporating 40 CFR 266.202).

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

## 17 **II DUTIES AND REQUIREMENTS**

### 18 **II.1 Duty to Comply**

19 The Permittee shall comply with all conditions in this Permit, except to the extent and for the  
20 duration such noncompliance is authorized in an Emergency Permit, pursuant to 20.4.1.900 NMAC  
21 (incorporating 40 CFR 270.61). Any permit noncompliance, except under the terms of an  
22 Emergency Permit, constitutes a violation of the HWA and RCRA and may subject the Permittee, its  
23 successors and assigns, officers, directors, employees, parents, or subsidiaries, to an administrative or  
24 civil enforcement action, including civil penalties and injunctive relief, pursuant to Sections 74-4-10  
25 or 74-10.1 of HWA or Section 3008(a) and (g), § 3013, § 7002, or § 7003 of RCRA; to permit  
26 modification, suspension, termination, revocation, denial of a permit application or modification  
27 request under Section 74-4-4.2 of the HWA; citizen suit under § 7002(a) of RCRA; criminal  
28 penalties under § 74-4-11 of the HWA or sections 3008(d), (e), or (f) of RCRA; or a combination of  
29 the foregoing. [20.4.1.900 NMAC (incorporating 40 CFR 270.30(a))]

### 30 **II.2 Transfer of Permit**

31 The Permittee shall not transfer this permit to any person except after prior written approval of the  
32 NMED.

1 This Permit may be transferred by the Permittee to a new owner or operator only if the Permit has  
2 been modified or revoked and reissued, under 20.4.1.900 NMAC (incorporating 40 CFR 270.40(b)  
3 or 270.41(b)(2)), to identify the new Permittee and incorporate such other requirements as may be  
4 necessary under HWA and RCRA. [20.4.1.900 NMAC (incorporating 40 CFR 270.30(l)(3) and  
5 270.40(a))]

6 The Permittee may make changes in ownership or operational control of the Facility as a Class 1  
7 modification after obtaining prior written approval of the Secretary in accordance with 20.4.1.900  
8 NMAC (incorporating 40 CFR 270.42). The new owner or operator must submit a revised permit  
9 application no later than ninety (90) calendar days prior to the scheduled change including a written  
10 agreement containing a specific date for transfer of permit responsibility between the current and  
11 new Permittee.

12 The new owner or operator shall demonstrate that he or she is complying with 20.4.1.500 NMAC  
13 (incorporating 40 CFR 264, subpart H (Financial Requirements)) within six (6) months of the date of  
14 the change of ownership or operational control of the Facility. [20.4.1.900 NMAC (incorporating 40  
15 CFR 270.40(b))]

16 Before transferring ownership or operation of the Facility, the Permittee shall notify the new owner  
17 or operator in writing of the requirements of 20.4.1.500 NMAC (incorporating 40 CFR part 264) and  
18 20.4.1.900 NMAC (incorporating 40 CFR part 270), and the HWA and shall provide NMED with a  
19 copy of this notice. [20.4.1.500 NMAC (incorporating 40 CFR 264.12(c))]

### 20 **I.I.3 Need to Halt or Reduce Activity Not a Defense**

21 It shall not be a defense for the Permittee in an enforcement action that it would have been necessary  
22 to halt or reduce the permitted activity in order to maintain compliance with the conditions of this  
23 Permit. [20.4.1.900 NMAC (incorporating 40 CFR 270.30(c))]

### 24 **I.I.4 Duty to Mitigate**

25 In the event of noncompliance with this Permit, the Permittee shall take all reasonable steps to  
26 minimize releases to the environment, and shall carry out such measures as are reasonable to prevent  
27 significant adverse impacts on human health or the environment. [20.4.1.900 NMAC (incorporating  
28 40 CFR 270.30(d))]

### 29 **I.I.5 Proper Operation and Maintenance**

30 The Permittee shall at all times properly operate and maintain all facilities and systems of treatment  
31 and control (and related appurtenances) installed or used by the Permittee to achieve compliance  
32 with the conditions of this Permit. Proper operation and maintenance includes effective  
33 performance, adequate funding, adequate operator staffing and training, and adequate laboratory and  
34 process controls, including appropriate quality assurance/quality control procedures. This provision

1 requires the operation of back-up or auxiliary facilities or similar systems only when necessary to  
2 achieve compliance with this Permit. [20.4.1.900 NMAC (incorporating 40 CFR 270.30(e))]

### 3 **I.I.6 Duty to Provide Information**

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

8 The Permittee shall also furnish to NMED, upon request, copies of records required to be kept by  
9 this Permit.

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

12 This Permit Condition shall not be construed to limit in any manner NMED's authority under § 74-4-  
13 4.3 of HWA, § 3007(a) of RCRA, or other applicable law. [20.4.1.500 NMAC (incorporating 40  
14 CFR 264.74(a)) and 20.4.1.900 NMAC (incorporating 40 CFR 270.30(h))]

### 15 **I.I.7 Inspection and Entry**

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

#### 18 1. Entrance to premises

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

#### 21 2. Access to records

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

#### 24 3. Inspection

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

#### 27 4. Sampling

28 Sample, monitor or measure at reasonable times, for the purposes of assuring permit compliance or  
29 as otherwise authorized by RCRA and the HWA, any substances or parameters at any location.  
30 [20.4.1.900 NMAC (incorporating 40 CFR 270.30(i))]

1 **I.I.8 Monitoring and Records**

2 **I.I.8.a Representative sampling**

3 Samples and measurements taken for the purposes of monitoring shall be representative of the  
4 monitored activity. [20.4.1.900 NMAC (incorporating 40 CFR 270.30(j)(1))]

5 **I.I.8.b Record retention**

6 The Permittee shall retain records of all monitoring information, including all calibration and  
7 maintenance records and all original electronic and hard copy recordings for continuous monitoring  
8 instrumentation, copies of all reports and records required pursuant to this Permit, and records of all  
9 data used to complete the Permit application until the end of closure, corrective action, and any post-  
10 closure care period. This period may be extended by NMED at any time and is automatically  
11 extended during the course of any unresolved enforcement action regarding this Facility. The  
12 Permittee shall maintain records from all ground water monitoring wells and associated ground-  
13 water surface elevations, until the end of closure, corrective action, and any post-closure care period.  
14 [20.4.1.900 NMAC (incorporating 40 CFR 270.30(j)(2))]

15 **I.I.8.c Monitoring records contents**

16 Records of monitoring information shall include:

- 17 1. The dates, exact place, and times of sampling or measurements;
- 18 2. The names and qualifications of the individuals who performed the sampling or  
19 measurements;
- 20 3. The dates analyses were performed;
- 21 4. The names and qualifications of the individuals who performed the analyses;
- 22 5. The analytical techniques or methods used; and
- 23 6. The results of such analyses.

24 [20.4.1.900 NMAC (incorporating 40 CFR 270.30(j)(3))]

25 **I.I.9 Reporting Requirements**

26 **I.I.9.a Reporting planned changes**

27 The Permittee shall give notice to NMED of any planned physical alterations or additions to the  
28 permitted Facility [20.4.1.900 NMAC (incorporating 40 CFR 270.30(l)(1))] no later than sixty (60)  
29 calendar days prior to making the planned changes.

1 **II.9.b Reporting anticipated noncompliance**

2 The Permittee shall give a minimum of sixty (60) calendar days advance notice to NMED of any  
3 planned changes to the Facility or any activity that may result in noncompliance with Permit  
4 requirements. [20.4.1.900 NMAC (incorporating 40 CFR 270.30(1)(2))]

5 **II.9.c Twenty-four hour and subsequent reporting**

6 **II.9.c.i Oral report**

7 The Permittee shall orally report to NMED any noncompliance that may endanger human health or  
8 the environment within 24 hours from the time that the Permittee becomes aware of the  
9 circumstances. The report shall include the following:

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

12 2. Any information of a release or discharge of hazardous waste, or of a fire or explosion from  
13 the Facility, that could threaten the environment or human health outside the Facility.

14 The description of the occurrence and its cause shall include:

15 1. Name, address, and telephone number of the owner or operator;

16 2. Name, address, and telephone number of the Facility;

17 3. Date, time, and type of incident;

18 4. Name and quantity of materials involved;

19 5. The extent of injuries, if any;

20 6. An assessment of actual or potential hazards to the environment and human health outside  
21 the Facility, where this is applicable; and

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

23 [20.4.1.900 NMAC, incorporating 40 CFR 270.30(1)(6)(i)]

24 **II.9.c.ii Written report**

25 The Permittee shall provide a written submission to NMED within five (5) calendar days from the  
26 time the Permittee becomes aware of the circumstances. The written submission shall contain the  
27 following:

28 1. A description of the noncompliance and its cause;

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

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

4 NMED may waive the five-day written notice requirement in favor of a written report within fifteen  
5 (15) calendar days.

6 [20.4.1.900 NMAC (incorporating 40 CFR 270.30(l)(6)(iii))]

7 **I.I.9.d Biennial report**

8 The Permittee shall submit a biennial report to NMED covering Facility activities during odd  
9 numbered calendar years. [20.4.1.900 NMAC (incorporating 40 CFR 270.30(l)(9)) and 20.4.1.500  
10 NMAC (incorporating 40 CFR 264.75)]

11 **I.I.9.e Other noncompliance**

12 The Permittee shall report to NMED all instances of noncompliance not otherwise required to be  
13 reported under Permit Sections I.I.9.b and I.I.9.c at the time monitoring reports are submitted. The  
14 reports shall contain the information listed in Permit Section I.I.9.c. [20.4.1.900 NMAC  
15 (incorporating 40 CFR 270.30(l)(10))]

16 **I.I.9.f Other information**

17 Whenever the Permittee becomes aware that it failed to submit any relevant facts in the Permit  
18 Application, or submitted incorrect information in the Permit Application or in any report submitted  
19 to NMED or the Regional Administrator, the Permittee shall promptly submit such facts or  
20 information in writing to the NMED. [20.4.1.900 NMAC (incorporating 40 CFR 270.30(l)(11))]

21 **I.I.9.g Signatory requirement**

22 The Permittee shall sign and certify all applications, reports, work plans, notifications, or information  
23 submitted to NMED in compliance with the requirements of 20.4.1.900 NMAC (incorporating 40  
24 CFR 270.11). [20.4.1.900 NMAC (incorporating 40 CFR 270.30(k))]

25 **I.I.9.h Submissions to the New Mexico Environment Department**

26 All documents must be submitted as both paper copies and also in an electronic format acceptable to  
27 NMED unless specified otherwise in this permit. The Permittee shall submit all applications,  
28 reports, work plans, notifications, or other submissions that are required to be sent to NMED by this  
29 Permit to:

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8  
9

Chief  
New Mexico Environment Department  
Hazardous Waste Bureau  
2905 Rodeo Park Drive East, Building 1  
Santa Fe, New Mexico 87505-6303  
Telephone Number: 505-428-2500  
Facsimile Number: 505-428-2567

10 The Permittee shall deliver all submissions by certified mail or hand delivery.

11 **II.9.i Confidential information**

12 The Permittee may claim confidentiality for any information required pursuant to this Permit,  
13 pursuant to the provisions of Section 74-4-4.3.D and F of the HWA, 20.4.1.100 NMAC  
14 (incorporating 40 CFR 260.2), and 20.4.1.900 NMAC (incorporating 40 CFR 270.12).

15 **II.J COMPLIANCE SCHEDULES**

16 This Permit specifies Schedules of Compliance that lead to compliance with the HWA and 20.4.1  
17 NMAC. These Schedules of Compliance are specified in Section III (Closure Requirements),  
18 Section IV (Alternative Requirements for the Kickout Area), Section V (Facility-wide Ground Water  
19 Monitoring), Section VI (Ground Water Corrective Action Program For The OB/OD Unit), Section  
20 VII (Corrective Action for SWMUs and AOCs), and Section VIII (Schedule of Compliance).  
21 [20.4.1.900 NMAC (incorporating 40 CFR 270.33(a))]

22 **II.K INFORMATION REPOSITORY**

23 The Permittee shall maintain an information repository until the end of closure, corrective action, and  
24 any post-closure care period [20.4.1.900 NMAC incorporating 40 CFR 270.30(m)]. The Permittee  
25 also shall maintain the Map Room located in the Administrative Area at the Facility.

26 **II.K.1 Contents of the Information Repository**

27 The Permittee's Information Repository shall contain:

- 28 1. Complete, legible hard copies (and electronic copies, if available) of all documents relating  
29 to the Permittee's previous activities which resulted or may have resulted in the generation,  
30 management, or actual or potential release of solid waste, hazardous waste, or hazardous  
31 constituents. These documents shall include, among other things, correspondence, reports, data,  
32 glossy photographic imprints, aerial photographs, maps, figures, drawings, tables, attachments,  
33 enclosures, and appendices;

1           2. Complete, legible hard copies (and electronic copies, if available) of all documents relating  
2 to the Permittee's Part A and Part B Permit Applications, this Permit, and interim status closure  
3 plans and post-closure plans including, but not limited to, any correspondence, glossy photographic  
4 imprints, aerial photographs, maps, figures, drawings, tables, attachments, enclosures, and  
5 appendices;

6           3. Complete, legible hard copies (and electronic copies, if available) of all documents relating  
7 to any sampling, monitoring, investigation, clean up, and corrective action of solid waste, hazardous  
8 waste, or hazardous constituents, conducted at FWDA including, but not limited to, work plans,  
9 evaluations, historical reports, data aerial photographs, engineering drawings, glossy photographic  
10 imprints, maps, figures, drawings, tables, attachments, enclosures, and appendices; and

11           4. A searchable database that contains an index of all documents stored in the repository.

12 The Permittee shall add new documents, reports, data, and information to the information  
13 repository within thirty (30) calendar days after the new documents, reports, data, and  
14 information are submitted to NMED or placed in the operating record.

15 [20.4.1.900 NMAC (incorporating 40 CFR 270.30(m))]

#### 16 **I.K.2 Notice of Information Repository**

17 The Permittee shall inform the public of its Information Repository by:

18 1. Including in the public notice for any Permittee initiated permit modification, a statement  
19 discussing the existence of the Information Repository, the location and hours of availability, and any  
20 access requirements; and

21 2. Providing written and verbal notice to the public during implementation of the Community  
22 Relations Plan required under Permit Section I.L.

23 3. If changing the location of the Information Repository, by informing all persons on the Facility  
24 mailing list of the new location of the Information Repository and publishing a public notice in at  
25 least two newspapers of general circulation in the Gallup, New Mexico area.

#### 26 **I.K.3 Location and Hours of Information Repository**

27 The Permittee shall maintain the Information Repository at an approved location in Gallup, New  
28 Mexico or at the Facility and shall make it open to the public between 8:00 a.m. and 5:00 p.m. on  
29 each business day [20.4.1.900 NMAC (incorporating 40 CFR 270.30(m))]. The Permittee shall  
30 allow access to the Map Room located at the Facility during normal business hours on any business  
31 day, by appointment, no more than five business days after notification by an interested party  
32 requesting access to the Map Room.

1 **I.L COMMUNITY RELATIONS PLAN**

2 Within one hundred eighty (180) calendar days of the effective date of this Permit, the Permittee  
3 shall establish and implement a Community Relations Plan to inform the public of investigation and  
4 cleanup activities conducted under this Permit, and to inform the public of safety issues concerning  
5 waste military munitions released at the Facility and beyond the Facility boundary. The Permittee  
6 shall take best efforts in good faith to consult with the Pueblo of Zuni and the Navajo Nation when  
7 developing the Community Relations Plan, in an effort to ensure the program is responsive to the  
8 needs of the neighboring communities. The Permittee shall document this consultation, and any  
9 disagreements between the Permittee and the Navajo Nation or Pueblo of Zuni regarding the  
10 Community Relations Plan, in the operating record. The Permittee shall maintain and implement the  
11 Community Relations Plan until the later of completion of corrective action or any post-closure care  
12 period at the Facility. [20.4.1.500 NMAC (incorporating 40 CFR 264.101) and 20.4.1.900 NMAC  
13 (incorporating 40 CFR 270.32(b)(2))]

14 **I.L.1 Public Safety Program**

15 As part of the Community Relations Plan, the Permittee shall establish and implement a Public  
16 Safety Program to prevent the unknowing or unauthorized entry of persons or livestock onto portions  
17 of the Facility where waste military munitions are known or suspected to be present and to inform  
18 the public of the presence of any waste military munitions beyond the Facility boundary. As part of  
19 the Public Safety Program, the Permittee shall make the Military Munitions Map and Table required  
20 by Permit Section I.L.2, available to the public. [20.4.1.500 NMAC (incorporating 40 CFR 264.101)  
21 and 20.4.1.900 NMAC (incorporating 40 CFR 270.32(b)(2))]

22 **I.L.2 Military Munitions Map and Table**

23 The Permittee shall create and maintain a military munitions map and table. The military munitions  
24 map and table shall depict and list, respectively, all waste military munitions known to have been  
25 managed or identified as discarded at the Facility and also any known munitions or munitions  
26 constituents released beyond the Facility boundary. The military munitions map and table shall  
27 identify the specific types (e.g., submunitions, improved conventional munitions, 105 mm howitzer  
28 round, fuse), locations, and depths where each waste military munition was managed or found and its  
29 status (live or inert). The map shall also depict relevant features, including, but not limited to,  
30 locations of the OB/OD Unit, Kickout Area, SWMUs, AOCs, topographic contours, watercourses,  
31 Facility and parcel boundaries, fence type and location, gates, roads, and land owner information.  
32 The military munitions map and table shall include specific references for the sources of information  
33 to allow easy verification of the information. The map and table shall be updated annually and  
34 copies of the updated map and tables shall be submitted to NMED by March 31 of each year after the  
35 effective date of this Permit [20.4.1.500 NMAC (incorporating 40 CFR 264.101) and 20.4.1.900  
36 (incorporating 40 CFR 270.32(b)(2))]

1 **I.M PROVISIONS GOVERNING EXTENSIONS OF TIME**

2 The Permittee may seek an extension of time in which to perform a requirement of this Permit, for  
3 good cause, by sending a written request for extension of time and proposed revised schedule to the  
4 NMED. The request shall state the length of the requested extension and describe the basis for the  
5 request. NMED will respond in writing to any request for extension following receipt of the request.  
6 If the NMED denies the request for extension, it will state the reasons for the denial. Permittee shall  
7 also submit copies of all requests for extensions of time to perform permit requirements to the  
8 Pueblo of Zuni and the Navajo Nation at the same time the request is sent to NMED. NMED will  
9 provide the Navajo Nation and the Pueblo of Zuni with copies of its responses on time extensions to  
10 the Permittee.

1 **II GENERAL FACILITY CONDITIONS**

2 **II.A NOTICE OF GENERATOR REQUIREMENTS**

3 **II.A.1 Waste Generated During Closure**

4 By removing any hazardous wastes or hazardous constituents during closure, the Permittee may  
5 become a generator of hazardous waste and must handle that waste in accordance with all applicable  
6 requirements of 20.4.1.300 NMAC, incorporating 40 CFR Part 262. [20.4.1.500 NMAC  
7 (incorporating 40 CFR 264.114)]

8 **II.A.2 Waste Generated By An Explosives Or Munitions Emergency Response**

9 If solid waste is generated as a result of an explosives or munitions emergency response at the  
10 Facility, or beyond the Facility boundary in response to a waste military munition released from the  
11 Facility, the Permittee must comply with the requirements of 20.4.1.300 (incorporating 40 CFR  
12 262.11).

13 **II.A.3 Waste Shipped to an Off-Site Facility**

14 Whenever a shipment of hazardous waste is initiated from the Facility, the Permittee must comply  
15 with the requirements of 20.4.1.300 NMAC (incorporating 40 C.F.R. Part 262). [20.4.1.500 NMAC  
16 (incorporating 40 CFR 264.71(c))]

17 **II.B LAND DISPOSAL PROHIBITIONS**

18 **II.B.1 Impermissible Dilution**

19 The Permittee shall not dilute a restricted waste or the residue from treatment of a restricted waste, as  
20 a substitute for treatment. Dilution to avoid an applicable treatment standard includes, but is not  
21 limited to, the addition of solid waste to reduce a hazardous constituent's concentration, and an  
22 ineffective treatment method that does not destroy, remove, or permanently immobilize hazardous  
23 constituents. Aggregating or mixing wastes as part of a legitimate treatment process are considered  
24 permissible dilution. [20.4.1.800 NMAC (incorporating 40 CFR 268.3)]

25 **II.B.2 Dust Suppression**

26 The Permittee shall not use waste or used oil or any other material, which is contaminated with  
27 dioxin, PCB, or any other hazardous waste, other than a waste identified solely on the basis of  
28 ignitability, for dust suppression or road treatment. [20.4.1.700 NMAC (incorporating 40 CFR  
29 266.23(b))]

1 **II.C SECURITY**

2 **II.C.1 General Security Requirement**

3 To prevent the unknowing entry and to minimize the possibility of unauthorized entry of persons or  
4 livestock onto the active portion of the Facility, the Permittee shall comply with the security  
5 provisions and procedures specified in 20.4.1.500 NMAC (incorporating 40 CFR 264.14(b) and  
6 (c).[20.4.1.500 NMAC (incorporating 40 CFR 264.14)].

7 **II.C.2 Security Fence**

8 The Permittee shall install and maintain in good repair a 6-foot high chain link security fence topped  
9 with 3 strands of angled barbed wire along the western boundary of Parcel 3 (as depicted in Permit  
10 Attachments 2 and 12) and shall install and maintain in good repair a five strand barbed wire fence  
11 along any unfenced portion of the northern boundary of Parcel 3. The Permittee shall maintain in  
12 good repair the existing five-strand barbed wire fence along the southern and eastern boundaries of  
13 Parcel 3 depicted in Permit Attachment 12. The Permittee shall maintain all other existing fencing in  
14 Parcel 3. The Permittee shall install the Security Fence within one hundred eighty (180) calendar  
15 days of the effective date of this Permit. The Permittee shall submit a Certification of Fence  
16 Completion within ninety (90) calendar days after completing the installation of the Security Fence.  
17 The Certification must include, at a minimum, a topographic map depicting pertinent geographic and  
18 Facility features (e.g., roads, buildings, surrounding property owners), the location of the fence and  
19 all access gates.

20 The Permittee shall confirm the full extent of the Kickout Area pursuant to Permit Section IV. The  
21 Permittee shall upgrade the existing barbed wire fence along the southern and eastern boundaries of  
22 the Kickout Area, or Parcel 3, to a 6-foot high chain link security fence topped with 3 strands of  
23 angled barbed wire no later than 180 days after confirmation of the extent of the Kickout Area  
24 pursuant to Section IV. NMED may require the Permittee to expand the security fence if evidence  
25 indicates that the Kickout Area extends beyond the security fence. [20.4.1.500 NMAC (incorporating  
26 40 CFR 264.14(b)) and 20.4.1.900 NMAC (incorporating 40 CFR 270.32(b)(2))]

27 **II.C.3 Warning signs**

28 The Permittee shall post warning signs on all security fences required by this Permit. The warning  
29 signs shall be posted at each gate or entrance through the security fences. The warning signs shall be  
30 posted in sufficient numbers along each security fence to be visible at all angles from any approach  
31 to the fenced area and legible from a distance of no less than 25 feet. The Permittee shall post all  
32 required warning signs at intervals not to exceed 100 feet. The warning signs shall be in English,  
33 Spanish, Navajo, and Zuni. The warning signs shall have the following legend in the required four  
34 languages: "DANGER - UNAUTHORIZED PERSONNEL KEEP OUT". The warning signs shall  
35 also have graphic symbols or pictograms that indicate: "WARNING: EXPLOSIVE DANGER".

1 [20.4.1.500 NMAC (incorporating 40 CFR 264.14(c)) and 20.4.1.900 NMAC (incorporating 40 CFR  
2 270.32(b)(1))]

### 3 **II.D GENERAL INSPECTION REQUIREMENTS**

4 The Permittee shall comply with the inspection requirements of 20.4.1.500 NMAC (incorporating 40  
5 CFR 264.15 and 264.602).

6 The Permittee shall inspect each security fence annually and shall inspect any portion of a security  
7 fence adjacent to a road on a monthly basis. [20.4.1.500 NMAC (incorporating 40 CFR 264.15)]

8 The Permittee shall remedy any deterioration or malfunction discovered by an inspection on a  
9 schedule that ensures that the problem does not lead to an environmental or human health hazard.  
10 Where a hazard is imminent or has already occurred, the Permittee shall take remedial action  
11 immediately. [20.4.1.500 NMAC (incorporating 40 CFR 264.15(c))]

12 The Permittee shall record inspections in an inspection log or summary and keep these records for at  
13 least three years from the date of inspection, except that the Permittee shall keep records relating to  
14 waste military munitions for the life of the Permit. At a minimum, the records shall include the date  
15 and time of inspection, the name of the inspector, a notation of the observations made, and the date  
16 and nature of any repairs or other remedial actions. [20.4.1.500 NMAC (incorporating 40 CFR  
17 264.15(d))]

### 18 **II.E PERSONNEL TRAINING**

19 The Permittee shall comply with personnel training requirements of 20.4.1.500 NMAC  
20 (incorporating 40 CFR 264.16).

### 21 **II.F LOCATION STANDARDS**

22 The Facility must be designed, constructed, operated, and maintained to prevent washout of any  
23 hazardous waste by a 100-year flood. [20.4.1.500 NMAC (incorporating 40 CFR 264.18(b))]

### 24 **II.G IGNITABLE, REACTIVE, OR INCOMPATIBLE WASTE**

25 The Permittee shall comply with the requirements for handling ignitable, reactive, and incompatible  
26 wastes of 20.4.1.500 NMAC (incorporating 40 CFR 264.17).

### 27 **II.H PREPAREDNESS AND PREVENTION**

#### 28 **II.H.1 Operation and maintenance of Facility**

29 The Permittee shall design, construct, maintain and operate the Facility to minimize the possibility of  
30 a fire, explosion, or any unplanned, sudden or nonsudden release of hazardous waste or constituents

1 to air, soil, ground water, or surface water that could threaten human health or the environment.  
2 [20.4.1.500 NMAC (incorporating 40 CFR 264.31)]

### 3 **II.H.2 Required Equipment**

4 At a minimum, the Permittee shall maintain at the Facility the equipment specified in 20.4.1.500  
5 NMAC (incorporating 40 CFR 264.32).

### 6 **II.H.3 Testing and Maintenance of Equipment**

7 The Permittee shall test and maintain as necessary the Facility communications or alarm systems, fire  
8 protection equipment, spill control equipment, and decontamination equipment to assure its proper  
9 operation in time of emergency in compliance with 20.4.1.500 NMAC (incorporating 40 CFR  
10 264.33).

### 11 **II.H.4 Access to Communications or Alarm System**

12 The Permittee shall maintain access to the communications or alarm system in compliance with  
13 20.4.1.500 NMAC (incorporating 40 CFR 264.34).

### 14 **II.H.5 Arrangements with Local Authorities**

15 The Permittee shall maintain arrangements with state and local emergency response organizations in  
16 compliance with 20.4.1.500 NMAC (incorporating 40 CFR 264.37).

17 The Permittee shall maintain copies and descriptions of the Emergency Coordination Arrangements  
18 in the Facility operating record in compliance with Permit Section II.I.1 (Operating Record).  
19 [20.4.1.500 NMAC (incorporating 40 CFR 264.37(a))]

20 Where State or local authorities decline to enter into emergency arrangements, the Permittee shall  
21 document the refusal in the operating record in compliance with Permit Section II.I.1 (Operating  
22 Record).[20.4.1.500 NMAC (incorporating 40 CFR 264.37(b))]

### 23 **II.H.6 Emergency Coordinator**

24 An Emergency Coordinator shall be available at all times on the Facility premises or on call and  
25 available to respond to an emergency by reaching the Facility within a short period of time in case of  
26 an emergency. The Emergency Coordinator shall be thoroughly familiar with all operations and  
27 activities at the Facility, the location and characteristics of waste handled, the location of all records  
28 within the Facility, and the Facility layout, and shall have the authority to commit the resources  
29 needed to respond to an emergency. [20.4.1.500 NMAC (incorporating 40 CFR 264.55)]

## 1 **II.H.7 Emergency Procedures**

2 In the event of an imminent or actual emergency, the Emergency Coordinator shall immediately  
3 activate the internal emergency alarms or communication systems to notify all Facility personnel and  
4 notify the appropriate State or local agencies with designated response roles if their help is needed.  
5 Whenever there is a release, fire, or explosion, the Emergency Coordinator shall follow the  
6 requirements of 20.4.1.500 NMAC (incorporating 40 CFR 264.56). During an emergency, the  
7 Emergency Coordinator must take all reasonable measures necessary to ensure that fires, explosions,  
8 and releases do not occur, recur, or spread to other portions of the Facility. These measures must  
9 include, where applicable, stopping processes and operations, collecting and containing release  
10 waste, and removing or isolating containers. Immediately after an emergency, the Emergency  
11 Coordinator must provide for treating, storing, or disposing of recovered waste, contaminated soil or  
12 surface water, or any other material that results from a release, fire, or explosion at the Facility.  
13 [20.4.1.500 NMAC (incorporating 40 CFR 264.56)]

## 14 **II.I RECORD KEEPING AND REPORTING**

15 The Permittee shall maintain in paper form and in an electronic form acceptable to NMED all  
16 information and records required to be maintained by this Permit.

### 17 **II.I.1 Operating Record**

18 The Permittee shall maintain a written Operating Record at the Facility in compliance with  
19 20.4.1.500 NMAC (incorporating 40 CFR 264.73). The Permittee shall keep the Operating Record  
20 until closure, corrective action and any post-closure care of the Facility has been approved as  
21 complete by NMED.

### 22 **II.I.2 Additional Documents to be maintained at the Facility**

23 The Permittee shall maintain at the Facility, until the later of completion of final closure, corrective  
24 action or any post-closure care, the following documents and all amendments, revisions, and  
25 modifications to the following documents:

26 1. This Permit, including all Attachments, and all approved plans, documents, and other  
27 submittals required by this Permit;

28 2. Personnel training documents and records required by 20.4.1.500 NMAC (incorporating 40  
29 CFR 264.16(d));

30 3. The names, addresses, and phone numbers of the Emergency Coordinator and all persons  
31 designated as Alternate Emergency Coordinator; and a copy of all coordination arrangements  
32 required by Permit Section II.H.5 (Arrangements with Local Authorities)

1 **II.I.3 Availability, Retention, and Disposition of Records**

2 The Permittee shall furnish upon request and make available at all reasonable times for inspection by  
3 NMED or his designee, the Operating Record and all other records required to be maintained by this  
4 Permit. [20.4.1.500 NMAC (incorporating 40 CFR 264.74(a))]

5 Information and records requested by NMED pursuant to this condition shall be made available for  
6 inspection in paper form or in an electronic format or both as NMED may specify.

7 **II.I.4 Biennial Report**

8 The Permittee shall comply with the biennial reporting requirements of 20.4.1.500 NMAC  
9 (incorporating 40 CFR 264.75).

10 **II.I.5 Personnel and Telephone Number Changes**

11 The Permittee shall inform NMED in writing of changes in its management personnel and telephone  
12 numbers within fifteen (15) calendar days of the changes.

1 **III CLOSURE REQUIREMENTS**

2 **III.A CLOSURE PLAN FOR THE OB/OD UNIT**

3 The Permittee shall close the OB/OD Unit in accordance with 20.4.1.500 NMAC (incorporating 40  
4 CFR 264.111) and the NMED-approved OB/OD Unit Closure Plan.

5 **III.A.1 Disposal or Decontamination of Equipment and Structures**

6 The Permittee shall decontaminate or remove and properly dispose of all contaminated equipment  
7 and structures at the OB/OD Unit. [20.4.1.500 NMAC (incorporating 40 CFR 264.114 and  
8 264.601)]

9 **III.A.2 Removal of Wastes and Waste Residues From the OB/OD Unit**

10 The Permittee shall remove and properly dispose of all hazardous wastes and hazardous waste  
11 residues from the OB/OD Unit, including but not limited to debris, hazardous waste military  
12 munitions, and combustion residues. [20.4.1.500 NMAC (incorporating 40 CFR 264.113, 264.114  
13 and 264.601)]

14 **III.A.3 Removal or Decontamination of Contaminated Soils From the OB/OD Unit**

15 The Permittee shall remove or decontaminate all contaminated soils from the OB/OD Unit to meet  
16 cleanup levels in accordance with Permit Attachment 7. The Permittee may seek a determination  
17 from NMED that removal or decontamination of soils is not practicable using the procedures in  
18 Permit Attachment 7, Section 7.7.2. [20.4.1.500 NMAC (incorporating 40 CFR 264.114 and  
19 264.601)]

20 **III.A.4 Soil Characterization and Confirmation Sampling**

21 Following removal of hazardous wastes and hazardous waste residues and removal or  
22 decontamination of contaminated soils from the OB/OD Unit, the Permittee shall collect  
23 characterization and confirmation samples from the limits of the remedial excavations. The  
24 Permittee shall submit the soil samples to an analytical laboratory for chemical analysis of volatile  
25 organic compounds, semivolatile organic compounds, metals, explosive compounds, perchlorate,  
26 nitrate, cyanide, PCBs, dioxins, furans, and any other hazardous constituents specified by NMED.

27 The Permittee shall, based upon the results of soil sampling, effect removal or decontamination of  
28 any remaining contaminated soils discovered at the OB/OD Unit to meet cleanup levels in  
29 accordance with Permit Attachment 7. The Permittee may seek a determination from NMED that  
30 removal or decontamination of soils is not practicable using the procedures in Permit Attachment 7,  
31 Section 7.7.2. Following removal or decontamination of such soils, the Permittee shall conduct

1 further soil confirmation sampling of the limits of the new remedial excavations. [20.4.1.500  
2 NMAC (incorporating 40 CFR 264.601 and 602)

### 3 **III.A.5 Characterization of Areas Not Subject to Initial Removal Actions**

4 The Permittee shall conduct geophysical investigations encompassing the entire OB/OD Unit after  
5 the initial removal actions have been completed pursuant to Permit Sections III.A.1, III.A.2, III.A.3,  
6 and III.A.4 to evaluate for the presence of any additional treatment or disposal areas or waste military  
7 munitions not identified during previous investigation or closure activities. The Permittee shall  
8 investigate such areas where evidence of historical activities is detected and remove all remaining  
9 hazardous waste and hazardous waste residues. The Permittee shall also make all reasonable efforts  
10 to remove or decontaminate all contaminated soils to meet cleanup levels in accordance with Permit  
11 Attachment 7. The Permittee shall remove all hazardous waste and hazardous waste residues and,  
12 where practicable, remove or decontaminate all contaminated soils determined to have migrated  
13 from the OB/OD Unit. The Permittee may seek a determination from NMED that removal or  
14 decontamination of soils is not practicable using the procedures in Permit Attachment 7, Section  
15 7.7.2. Following removal and decontamination actions, the Permittee shall verify whether cleanup  
16 levels determined in accordance with Permit Attachment 7 have been achieved by collecting soil  
17 confirmation samples at intervals approved by NMED. [20.4.1.500 NMAC (incorporating 40 CFR  
18 264.114, 264.601 and 264.602)]

### 19 **III.A.6 OB/OD Unit Closure Report**

20 Within one hundred eighty (180) calendar days of the completion of removal and decontamination  
21 actions under Permit Sections III.A.1, III.A.2, III.A.3, III.A.4, and III.A.5, the Permittee shall submit  
22 to NMED a report summarizing the results of removal and decontamination actions and soil  
23 sampling conducted at the OB/OD Unit. If soil sampling results indicate that no contaminated soils  
24 remain at the OB/OD Unit, the report shall notify NMED of the Permittee's intention to certify  
25 closure under Permit Section III.C.3. [20.4.1.500 NMAC (incorporating 40 CFR 264.601 and 602)]

## 26 **III.B INVESTIGATION AND REMEDY SELECTION**

### 27 **III.B.1 Investigation Work Plan**

28 If soil sampling results indicate that contaminated soils remain at, or have migrated from, the OB/OD  
29 unit after removal and decontamination actions conducted under Permit Sections III.A.1, III.A.2,  
30 III.A.3, III.A.4, and III.A.5, the Permittee shall submit an investigation work plan to determine the  
31 nature and extent of remaining contamination to NMED for review and approval under the  
32 procedures in Section VII.L.3. The work plan shall include a schedule for implementation of  
33 specific actions and submittal of an investigation report. The work plan shall also include the  
34 proposed methods and procedures and rationale for surface and subsurface investigation including,  
35 but not limited to, non-intrusive investigation methods (e.g., geophysical surveys), drilling and well  
36 installation methods, sample collection methods, field screening procedures, chemical analytical

1 methods, quality assurance/quality control (QA/QC) sampling, management of investigation-derived  
2 waste and any other methods and procedures proposed for use during the investigation. The work  
3 plan may include consideration of releases from colocated solid waste management units and areas  
4 of concern. [20.4.1.500 NMAC (incorporating 40 CFR 264.101, 264.601 and 264.602)]

### 5 **III.B.2 Investigation Report**

6 The Permittee shall submit an investigation report summarizing the results of the investigation to  
7 NMED for review and approval under the procedures in Permit Section VII.L.3. The Report shall  
8 include, but not be limited to, background information, a summary of the actual activities conducted,  
9 descriptions of the methods and procedures used to conduct the investigation, summaries of the  
10 results of all field measurements and laboratory analyses, maps depicting relevant features including  
11 investigation locations and the locations of detected contaminants, summary tables of the results of  
12 field measurements and chemical analyses, logs and well construction diagrams, summaries of  
13 QA/QC data, data quality exceptions, final contract laboratory reports, recommendations for further  
14 action and any other information specified by NMED. [20.4.1.500 NMAC (incorporating 40 CFR  
15 264.101, 264.601 and 264.602)]

### 16 **III.B.3 Remedy Selection Work Plan**

17 Within one hundred eighty (180) calendar days of written notification by NMED, the Permittee shall  
18 submit a Remedy Selection Work Plan to NMED for review and approval. The Remedy Selection  
19 Work Plan shall include an evaluation of remedial alternatives, including an analysis of whether the  
20 remedial alternatives will meet the applicable requirements of 20.4.1.500 NMAC, incorporating 40  
21 CFR 264.601, 264.603, and 264.101, and shall contain adequate information to support a  
22 recommended remedy. The Permittee shall initiate a permit modification under 20.4.1.900 NMAC,  
23 incorporating 40 CFR 270.42, and 20.4.1.901 NMAC for approval of any selected remedy.  
24 [20.4.1.500 NMAC (incorporating 40 CFR 264.603 and 264.101)]

### 25 **III.B.4 Remedy Completion Report**

26 Within one hundred eighty (180) calendar days of the completion of the remedy selected under  
27 Section III.B.3, the Permittee shall submit to NMED a report summarizing the results of the plan  
28 implementation. The report shall notify NMED of the Permittee's intention to certify closure under  
29 Permit Section III.C.3. [20.4.1.500 NMAC (incorporating 40 CFR 264.601, 264.602, and 264.101)]

### 30 **III.B.5 Post-Closure Plan**

31 If required by NMED, the Permittee shall submit to NMED, in conjunction with the Remedy  
32 Selection Work Plan, a post-closure care plan that meets all of the requirements of 20.4.1.500  
33 NMAC, incorporating 40 CFR 264.114, 264.117, 264.118, 264.119, 264.120, and 264.603. The  
34 Post-closure Plan submittal will be considered a Class 3 permit modification.

1 **III.C GENERAL REQUIREMENTS**

2 **III.C.1 Time Allowed for Closure Activities**

3 The Permittee shall conduct final closure activities at the OB/OD Unit in accordance with the  
4 schedules specified in the NMED-approved Closure Plan or, if necessary, the remedy selected under  
5 Permit Section III.B.3.

6 **III.C.2 Amendment to Closure Plans**

7 The Permittee shall amend the NMED-approved Closure Plans required by this Section (III) as  
8 required by 20.4.1.500 NMAC (incorporating 40 CFR 264.112(c)), whenever necessary.

9 **III.C.3 Certification of Closure**

10 Within sixty (60) calendar days of the completion of closure of the OB/OD Unit, the Permittee shall  
11 submit to NMED a written closure certification, signed by an independent professional engineer  
12 registered in New Mexico, that the Permittee closed the OB/OD Unit in accordance with the NMED-  
13 approved Closure Plans or, if necessary, the remedy selected under Permit Section III.B.3.  
14 [20.4.1.500 NMAC (incorporating 40 CFR 264.115)]

1                   **IV      ALTERNATIVE REQUIREMENTS FOR THE KICKOUT AREA**

2   **IV.A    CONFIRMATION OF KICKOUT AREA**

3   The Permittee shall confirm the outer boundary of the Kickout Area by conducting an initial  
4   geophysical investigation using GPS-based, best-available technology that is selected based on a site-  
5   specific geophysical prove out. The Permittee shall establish the estimated outer boundary by adding  
6   at least 275 feet along a radial transect from the furthest detected waste military munitions or waste  
7   military munitions scrap. The Permittee shall conduct the delineation of the Kickout Area in  
8   accordance with an NMED approved work plan and implementation schedule reviewed and  
9   approved under the procedures in Permit Section VII.L.3. The Permittee shall submit the work plan  
10  to confirm the extent of the Kickout Area within sixty (60) calendar days of the submittal date of the  
11  Community Relations Plan. The work plan shall contain a schedule for implementation and  
12  submittal of a confirmation report of the activities conducted under the approved work plan.  
13  [20.4.1.500 NMAC (incorporating 40 CFR 264.101 and 264.110(c))]

14   **IV.B    SURFACE CLEARANCE IN THE KICKOUT AREA**

15  The Permittee shall conduct a surface clearance on the Kickout Area, using best available  
16  technology, to remove waste military munitions from the Kickout Area. Surface clearance shall be  
17  conducted on all portions of the Kickout Area that are readily accessible by foot without the need for  
18  vegetation removal or use of safety equipment on steep slopes. The Permittee shall conduct the  
19  geophysical investigations and removals in accordance with a work plan and implementation  
20  schedule reviewed and approved under the procedures in Permit Section VII.L.3. The work plan  
21  shall propose appropriate methods and technology to conduct a surface clearance of waste military  
22  munitions in the Kickout Area. The Permittee shall submit the work plan and implementation  
23  schedule for review and approval within ninety (90) calendar days of the submittal date of the  
24  Kickout Area Confirmation Report required in Permit Section IV.A. When preparing the Work Plan  
25  for clearance, the Permittee shall consult with the Pueblo of Zuni and Navajo Nation according to the  
26  provisions of Permit Section VIII.B.1. [20.4.1.500 NMAC (incorporating 40 CFR 264.101 and  
27  264.110(c))]

28   **IV.C    CLEARANCE OF DESIGNATED AREAS**

29  The Permittee shall conduct a geophysical survey, using best available technology, for waste military  
30  munitions in designated access areas for archaeological sites and cultural resources in the Kickout  
31  Area. The Permittee shall develop a list of the designated areas in consultation with the Navajo  
32  Nation and the Pueblo of Zuni according to the consultation procedures in Permit Section VIII.B.1.  
33  The Permittee shall excavate 100% of the detected anomalies and remove all waste military  
34  munitions in the designated areas. The Permittee shall conduct the geophysical investigations and  
35  removals in accordance with a work plan and implementation schedule reviewed and approved under  
36  the procedures in Permit Section VII.L.3. The work plan shall propose appropriate methods and

1 technology to investigate and remove any waste military munitions in the designated areas. The  
2 Permittee shall submit the work plan and implementation schedule for review and approval within  
3 ninety (90) calendar days of the submittal date of the Kickout Area Confirmation Report required in  
4 Permit Section IV.A. When preparing the Work Plan the Permittee shall consult with the Pueblo of  
5 Zuni and the Navajo Nation according to the provisions of Permit Section VIII.B.1. [20.4.1.500  
6 NMAC (incorporating 40 CFR 264.101 and 264.110(c))]

#### 7 **IV.D KICKOUT AREA REPORT**

8 Within one hundred eighty (180) calendar days of the completion of the Kickout Area clearance  
9 under Permit Sections IV.B and C, the Permittee shall submit to NMED a report summarizing the  
10 results of the clearance actions conducted in the Kickout Area. The report shall include a discussion  
11 of the adequacy of existing fencing in relation to the extent of the Kickout Area and propose fencing  
12 changes or additional clearance as appropriate to ensure protection of public health and safety.  
13 [20.4.1.500 NMAC (incorporating 40 CFR 264.101 and 264.110(c))]

#### 14 **IV.E ANNUAL INSPECTIONS AND REMOVAL**

15 After initial removal of waste military munitions from the Kickout Area under Permit Sections IV.B  
16 and IV.C, the Permittee shall conduct annual inspections of the Kickout Area and remove all  
17 observed waste military munitions. The annual inspections shall be conducted on all portions of the  
18 Kickout Area, which are readily accessible by foot without the need for significant vegetation  
19 removal or use of safety equipment on steep slopes. The Permittee shall conduct these inspections  
20 and removals in accordance with an NMED-approved work plan and implementation schedule  
21 reviewed and approved under the procedures in Permit Section VII.L.3. The work plan shall propose  
22 appropriate methods for inspection and removal that are adequate to discover and remove any waste  
23 military munitions visible on the ground surface of the Kickout Area. The Permittee shall submit the  
24 work plan and implementation schedule to NMED for review and approval within ninety (90)  
25 calendar days of completion of the initial Kickout Area clearance under Permit Section IV.B.  
26 [20.4.1.500 NMAC (incorporating 40 CFR 264.101 and 264.110(c))]

#### 27 **IV.F TRANSFER OF LANDS WITHIN THE KICKOUT AREA**

28 If the Permittee transfers lands within the Kickout Area to another owner, the Permittee shall conduct  
29 additional clearance of the land proposed for transfer. The Permittee shall conduct a geophysical  
30 survey, using best available technology, for waste military munitions in the area designated for  
31 transfer. The Permittee shall excavate 100% of the detected anomalies and remove all waste military  
32 munitions in the designated areas. The Permittee shall conduct the geophysical investigations and  
33 removals in accordance with a work plan and implementation schedule reviewed and approved under  
34 the procedures in Permit Section VII.L.3. The work plan shall propose appropriate methods and  
35 technology to investigate and remove any waste military munitions in the designated area. The  
36 Permittee shall submit the work plan and implementation schedule for review and approval at least  
37 one hundred eighty (180) days prior to the proposed date of transfer. When preparing the work plan

1 the Permittee shall consult with the Navajo Nation and the Pueblo of Zuni according to the  
2 provisions of Permit Section VIII.B.1. The Permittee is not required to conduct additional clearance  
3 on portions of the land that were already cleared as designated areas under Permit Section IV.C.  
4 [20.4.1.500 NMAC (incorporating 40 CFR 264.101 and 264.110(c))]

5

1                                   **V            FACILITY-WIDE GROUND WATER MONITORING**

2    **V.A INTERIM PLAN**

3    The Permittee shall implement an NMED-approved Interim Facility-Wide Ground Water Monitoring  
4    Plan (Interim Plan). The Interim Plan shall provide for interim ground water monitoring for the  
5    entire Facility, and off site, if necessary, prior to implementation of long-term monitoring pursuant to  
6    Section V.B. All ground water monitoring and sampling implemented pursuant to this Permit shall  
7    begin after the Interim Plan that has been approved by NMED. When preparing the Interim Plan, the  
8    Permittee shall consult with the Pueblo of Zuni and the Navajo Nation according to the provisions of  
9    Permit Section VIII.B.1. [20.4.1.500 NMAC (incorporating 40 CFR 264.101)]

10

11    **V.A.1 Ground Water Monitoring and Sampling**

12    The Interim Plan shall, at a minimum, propose the following: locations and frequency of monitoring  
13    and sampling of existing wells, the start date for the initial monitoring and sampling event, the  
14    methods for collecting field measurements, the parameters and methods for field water quality and  
15    laboratory chemical analyses, sample collection methods, quality assurance/quality control sampling,  
16    methods for management of investigation derived waste and any other ground water monitoring or  
17    sampling method or procedure required by NMED. The Permittee shall use valid data from previous  
18    ground water monitoring and sampling at the Facility to develop the Interim Plan. [20.4.1.500  
19    NMAC (incorporating 40 CFR 264.101)]

20

21    **V.A.2 Monitoring Reports**

22    The format for periodic monitoring reports shall follow the format included in NMED's *General*  
23    *Reporting Requirements For Routine Groundwater Monitoring At RCRA Sites*. The submittal date  
24    for of the initial periodic monitoring report and the frequency of submittal of subsequent periodic  
25    monitoring reports shall be proposed in the plan. [20.4.1.500 NMAC (incorporating 40 CFR  
26    264.101)]

27

28    **V.A.3 Initial Submission of the Interim Plan**

29    The Permittee shall submit an Interim Plan that meets all requirements of this Section to NMED  
30    within ninety (90) calendar days of the submittal date of the Community Relations Plan. NMED  
31    shall review and approve the Interim Plan under the procedures in Permit Section VII.L.3.  
32    [20.4.1.500 NMAC (incorporating 40 CFR 264.101)]

1

2 **V.A.4 Annual Revision to the Interim Plan**

3 The Permittee shall revise and update the Interim Plan annually to propose changes to the monitoring  
4 plan (e.g., to include monitoring wells installed pursuant to Sections VI and VII; to remove wells not  
5 providing valid data; to evaluate new off-site wells that have the potential to be impacted; to make  
6 any other appropriate changes). Within ninety (90) calendar days after each anniversary of the  
7 effective date of this Permit (with the exception of the first anniversary), the Permittee shall submit a  
8 revised and updated Interim Plan to NMED for review and approval. NMED will review the revised  
9 Interim Plan under the procedures in Permit Section VII.L.3 [20.4.1.500 NMAC (incorporating 40  
10 CFR 264.101)]. When reviewing and revising the Interim Plan, the Permittee shall consult with the  
11 Navajo Nation and Pueblo of Zuni in accordance with the provisions of Permit Section VIII.B.1.

12 **V.B LONG-TERM PLAN**

13 Within one hundred eighty (180) calendar days after completing the installation of all additional  
14 monitoring wells pursuant to Permit Sections VI and VII the Permittee shall submit to NMED for  
15 review and approval a long-term Facility-wide ground water monitoring plan (Long-term Plan). The  
16 Long-term Plan shall meet all requirements for the Interim Plan and shall provide for ground water  
17 monitoring for the entire Facility until the end of ground water monitoring pursuant to Section VII or  
18 ground water monitoring pursuant to Section VI. The Long-term Plan shall be submitted and  
19 reviewed as a Class 3 permit modification. Upon NMED approval, the Long-term Plan shall  
20 supersede the requirements of the Interim Plan. [20.4.1.500 NMAC (incorporating 40 CFR 264.101)]



1 **VI.A.2 Ground Water Investigation Report**

2 Within one hundred eighty (180) calendar days after completion of the ground water investigation  
3 field activities, the Permittee shall submit to NMED a ground water investigation report  
4 summarizing the results of the investigation. The Report shall include, but not be limited to,  
5 background information, a summary of the actual activities conducted, descriptions of the methods  
6 and procedures used to conduct the investigation, summaries of the results of all field measurements  
7 and laboratory analyses, maps depicting relevant features, investigation locations and locations of  
8 detected contaminants, summary tables of the results of field measurements and chemical analyses,  
9 boring logs and well construction diagrams, QA/QC data, summaries of data quality exceptions, final  
10 contract laboratory reports, proposed corrective actions, and any other information specified by the  
11 NMED. NMED shall review and approve the report under the procedures in Permit Section VII.L.3.  
12 [20.4.1.500 NMAC (incorporating 40 CFR 264.101, 264.601 and 264.602)]

13 **VI.B GROUND WATER CORRECTIVE ACTION PROGRAM**

14 Within ninety (90) calendar days of NMED approval of the Ground Water Investigation Report, the  
15 Permittee shall submit to NMED a Ground Water Corrective Action Program Plan. The Ground  
16 Water Corrective Action Program shall include, at a minimum, methods for remediation of releases  
17 of hazardous waste and hazardous constituents to ground water, methods to control releases and  
18 migration of hazardous constituents in ground water, additional well installation and remediation  
19 system methods, sample collection methods, field screening procedures, chemical analytical  
20 methods, schedules, management of investigation derived waste, QA/QC procedures, aquifer and  
21 remediation system pilot testing methods, the locations and frequency of ground water monitoring  
22 and any other methods and procedures proposed for use during the corrective action program. The  
23 Permittee shall initiate a Class 3 permit modification under 20.4.1.900 NMAC (incorporating 40  
24 CFR 270.42) and 20.4.1.901 NMAC for approval of the Ground Water Corrective Action Program.  
25 [20.4.1.500 NMAC (incorporating 40 CFR 264.100)]

26 **VI.B.1 Well locations, installation, and construction**

27 The Permittee shall install and maintain a ground water monitoring system associated with the  
28 OB/OD Unit. [20.4.1.500 NMAC (incorporating 40 CFR 264.100(d))]

29 **VI.B.1.a Well Locations**

30 The Permittee shall install and maintain ground water monitoring wells at the locations specified in  
31 the NMED-approved Ground Water Corrective Action Program. [20.4.1.500 NMAC (incorporating  
32 40 CFR 264.100(a)(3) and (d))]

33 **VI.B.1.b Construction and Maintenance of Wells**

34 The Permittee shall construct and maintain all monitoring wells in accordance with plans and  
35 specifications presented in the NMED-approved Ground Water Corrective Action Program.

1 [20.4.1.500 NMAC (incorporating 40 CFR 264.100(d))]. The plans and specifications shall meet the  
2 requirements of 20.4.1.500 NMAC (incorporating 40 CFR 264.97 (a) through (f)).

3 **VI.B.1.c Abandoned Wells**

4 The Permittee shall plug and abandon all wells removed from the monitoring program using methods  
5 approved, in writing, by NMED.

6 **VI.B.2 Cleanup Levels (Ground Water Protection Standard)**

7 **VI.B.2.a Hazardous Waste and Hazardous Constituents**

8 The Permittee shall achieve the cleanup levels in Permit Attachment 7 for the following hazardous  
9 waste and hazardous constituents: RDX; perchlorate, 2,4-dinitrotoluene; 4-amino-2,6-  
10 dinitrotoluene;2-amino-4,6-dinitrotoluene; cadmium; chromium; selenium; lead; and any additional  
11 hazardous waste or hazardous constituent discovered under Permit Section VI.B.6.a.

12 **VI.B.2.b Point of Compliance**

13 The point of compliance shall be at all points in ground water. The Permittee may seek a variance or  
14 determination of impracticability of obtaining cleanup levels in ground water according to the  
15 provisions of Permit Attachment 7, Section 7.7, and modify this permit as necessary to provide for  
16 any post closure care. [20.4.1.500 NMAC (incorporating 40 CFR 264.100, 264.101, and 264.603)]

17 **VI.B.2.c Compliance Period**

18 The Permittee shall monitor for the hazardous waste and hazardous constituents as specified in  
19 Permit Section VI.B.2.a during the compliance period. The compliance period shall be the number  
20 of years equal to the active life of the OB/OD Unit including any waste management activity prior to  
21 permitting and the closure period. NMED shall calculate the compliance period when closure of the  
22 OB/OD Unit is certified. [20.4.1.500 NMAC (incorporating 40 CFR 264.96(a) and 40 CFR  
23 264.100(f))]

24 **VI.B.3 Corrective Action**

25 **VI.B.3.a Implementation of Corrective Action**

26 The Permittee shall implement corrective action in accordance with the schedule specified in the  
27 NMED-approved Ground Water Corrective Action Program. [20.4.1.500 NMAC (incorporating 40  
28 CFR 264.100(c))]

1 **VI.B.3.b Prevention of Exceedances**

2 The Permittee shall conduct corrective action to prevent hazardous waste and hazardous constituents  
3 released from the OB/OD Unit from exceeding their respective cleanup levels by removing the  
4 hazardous waste and hazardous constituents or by treating them in place. [20.4.1.500 NMAC  
5 (incorporating 40 CFR 264.100(b))]

6 **VI.B.3.c Remediation of Exceedances**

7 The Permittee shall conduct corrective action to remove or treat in place any hazardous waste or  
8 hazardous constituents released from the OB/OD Unit that exceed cleanup levels, including  
9 hazardous waste or hazardous constituents beyond the Facility boundary where necessary to protect  
10 human health and the environment. [20.4.1.500 NMAC (incorporating 40 CFR 264.100(e)(1) and  
11 (2))]

12 **VI.B.3.d Duration of Corrective Action**

13 The Permittee shall continue corrective action during the compliance period or longer, if necessary,  
14 to ensure that the cleanup levels are not exceeded. If a cleanup level is exceeded during the  
15 compliance period, the Permittee shall continue corrective action until the cleanup level has not been  
16 exceeded for at least three (3) consecutive years. [20.4.1.500 NMAC (incorporating 40 CFR  
17 264.100(f))]

18 **VI.B.4 Sampling and Analysis Procedures**

19 The Permittee shall collect, preserve, ship (if applicable), analyze, and track and control all samples  
20 taken from monitoring wells in accordance with NMED-approved sampling and analysis procedures.  
21

22 **VI.B.5 Ground Water Surface Elevation**

23 **VI.B.5.a Periodic Elevation Determinations**

24 The Permittee shall determine the ground water potentiometric surface elevation, relative to mean  
25 sea level, at each well each time ground water is sampled to an accuracy of 0.01 foot. [20.4.1.500  
26 NMAC (incorporating 40 CFR 264.97(f))]

27 **VI.B.5.b Reporting of Elevation at Installation**

28 The Permittee shall survey the elevation of the top of the well casing above mean sea level of each  
29 newly installed monitoring well to an accuracy of 0.01 foot and the horizontal location of each newly  
30 installed monitoring well to an accuracy of 0.1 foot within thirty (30) calendar days after well  
31 installation.

1 **VI.B.6 Ground Water Monitoring and Data Evaluation**

2 The Permittee shall establish and implement ground water monitoring to demonstrate the  
3 effectiveness of corrective action. Ground water monitoring shall meet the requirements of  
4 20.4.1.500 NMAC (incorporating 40 CFR 264.97) and shall be effective as the program for  
5 compliance monitoring under 20.4.1.500 NMAC (incorporating 40 CFR 264.99 and 264.100 (d)).

6 **VI.B.6.a Monitoring of Hazardous Constituents**

7 The Permittee shall determine the concentration of hazardous waste and hazardous constituents  
8 specified in Permit Section I.H throughout the compliance period and any extensions due to  
9 corrective action implementation to demonstrate compliance with the cleanup levels. The Permittee  
10 shall determine the concentration of such hazardous waste and hazardous constituents in ground  
11 water at each monitoring well at the frequency specified in the NMED-approved ground water  
12 monitoring plan. [20.4.1.500 NMAC (incorporating 40 CFR 264.96 and 264.100(d))]

13 The Permittee shall analyze samples at each monitoring well for additional hazardous waste and  
14 hazardous constituents (i.e., not specified in Permit Section VI.B.2.a) at the frequency specified in  
15 the NMED-approved Ground Water Corrective Action Program to determine if additional hazardous  
16 waste or hazardous constituents are present in ground water. If the Permittee finds that additional  
17 hazardous waste or hazardous constituents are present, their concentrations shall be reported to  
18 NMED in writing within seven (7) calendar days from receipt of the results of analysis. The  
19 Permittee shall conduct corrective action for additional hazardous waste or hazardous constituents  
20 that exceed respective cleanup levels in accordance with this Section. [20.4.1.500 NMAC  
21 (incorporating 40 CFR 264.100(d))]

22 **VI.B.6.b Monitoring of Ground Water Flow Rate and Direction**

23 The Permittee shall determine the ground water flow rate and direction in the uppermost aquifer and  
24 any other aquifer being monitored during each sampling event. [20.4.1.500 NMAC (incorporating  
25 40 CFR 264.98(e))]

26 **VI.B.7 Recordkeeping and Reporting**

27 **VI.B.7.a Recordkeeping**

28 The Permittee shall enter all monitoring, testing and analytical data obtained during ground water  
29 corrective action in the operating record. [20.4.1.500 NMAC (incorporating 40 CFR 264.73(b)(6))]

30 **VI.B.7.b Reporting**

31 The Permittee shall report to NMED in writing the results of all ground water monitoring and  
32 sampling conducted under this Section. The Permittee shall submit these reports within ninety (90)

1 calendar days of completion of the field activities conducted during the associated periodic  
2 monitoring event, unless another time period is specified by NMED.

3 **VI.B.8 Request for Permit Modification**

4 If the Permittee determines that the Ground Water Corrective Action Program no longer satisfies the  
5 requirements of 20.4.1.500 NMAC (incorporating 40 CFR 264.100) the Permittee shall, within  
6 ninety (90) calendar days, submit an application for a permit modification to make any appropriate  
7 changes to the program. [20.4.1.500 NMAC (incorporating 40 CFR 264.100(h))]

8 If the requirements of this Section (VI) are met, the Permittee shall, within ninety (90) calendar days,  
9 submit an application for a permit modification to implement a ground water compliance monitoring  
10 program. [20.4.1.500 NMAC (incorporating 40 CFR 264.100(h))]

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

3 **VII.A APPLICABILITY**

4 The conditions of this Section apply to all Solid Waste Management Units (SWMUs) and Areas of  
5 Concern (AOCs) identified in Permit Attachment 8, any newly identified SWMUs and AOCs, and  
6 any releases of hazardous waste or hazardous constituents from SWMUs and AOCs.

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

8 The Permittee shall implement corrective action beyond the Facility boundary where necessary to  
9 protect human health and the environment, unless the Permittee demonstrates to the satisfaction of  
10 NMED that, despite the Permittee's best efforts, as determined by the NMED, the Permittee was  
11 unable to obtain the necessary permission to undertake such actions. The Permittee is not relieved of  
12 all responsibility to cleanup a release that has migrated beyond the Facility boundary where off-site  
13 access is denied. On-site measures to address such releases will be determined on a case-by-case  
14 basis. [20.4.1.500 NMAC (incorporating 40 CFR 264.101(c))]

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

16 Any corrective action tasks required under this Section that Permittee has already completed may be  
17 used to meet the requirements of this Section, in whole or in part, as determined by NMED. The  
18 Permittee may submit prior work to meet these requirements for NMED's approval.

19 **VII.D NOTIFICATION AND ASSESSMENT FOR NEWLY IDENTIFIED SMWUS AND**  
20 **AOCs**

21 The Permittee shall notify NMED in writing, within fifteen (15) calendar days of discovery, of any  
22 newly discovered SWMU or AOC. The notification shall include, at a minimum, the location of the  
23 newly discovered SWMU or AOC and all available information pertaining to the site history and  
24 nature of the release (e.g., media affected, hazardous waste or hazardous constituents released,  
25 magnitude of release). NMED may require the Permittee to submit a Release Assessment Report in  
26 accordance with Permit Section VII.F.1 to determine the status of the newly discovered SWMU or  
27 AOC. Alternatively, NMED may require a RFI for the newly discovered SWMU or AOC in  
28 accordance with Permit Section VII.H without requiring a Release Assessment. If NMED  
29 determines that a RFI for a newly discovered SWMU or AOC is required, the Permittee shall modify  
30 this Permit to add the SMWU or AOC to Permit Attachment 8 in accordance with 20.4.1.900 NMAC  
31 (incorporating 40 CFR 270.42).

32 If the Permittee conducts an explosives or munitions emergency response at the Facility, or beyond  
33 the Facility boundary, in response to a waste military munition released from the Facility, the

1 Permittee shall treat that response location as a newly discovered AOC, unless the response is  
2 conducted within the boundaries of an existing AOC, SWMU, the Kickout Area, or the OB/OD Unit.

3 **VII.E NOTIFICATION REQUIREMENTS FOR NEWLY DISCOVERED RELEASES**  
4 **FROM SMWUS OR AOCs**

5 The Permittee shall notify NMED in writing, within fifteen (15) calendar days of discovery, of any  
6 newly discovered release(s) of hazardous waste or hazardous constituents from a SWMU or AOC  
7 that explains the location and circumstances of the release.

8 If NMED determines that investigation of the release is needed, the Permittee shall prepare and  
9 submit a RFI Work Plan in accordance with Permit Section VII.H.

10 **VII.F RELEASE ASSESSMENT**

11 **VII.F.1 Release Assessment Report**

12 The Permittee shall prepare and submit to NMED a Release Assessment Report, in conjunction with  
13 the associated Parcel RFI Work Plan submittal, for each AOC listed in Permit Attachment 8. If  
14 required by NMED, the Permittee shall submit a Release Assessment Report for newly discovered  
15 SWMUs or AOCs under Permit Section VII.D. Any revisions to the Release Assessment Report  
16 required by NMED shall be submitted within thirty (30) calendar days of receipt of NMED's  
17 comments on the Release Assessment Report.

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

- 19 1. Location of unit(s) on a topographic map of appropriate scale such as required under  
20 20.4.1.900 NMAC (incorporating 40 CFR 270.14(b)(19));
- 21 2. Designation of type and function of unit(s);
- 22 3. General dimensions, capacities and structural description of unit(s) (supply any available  
23 plans/drawings);
- 24 4. Dates that the unit(s) was operated;
- 25 5. All available site history information;
- 26 6. Specification of all wastes that have been managed at/in the unit(s) to the extent available.  
27 Include any available data on hazardous waste or hazardous constituents in the wastes; and
- 28 7. All available information pertaining to any release of hazardous waste or hazardous  
29 constituents from such unit(s) (to include ground water data, soil analyses, air, and surface  
30 water data).

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

2 NMED will review the Release Assessment Report to determine whether any further investigative  
3 action is required. NMED shall notify the Permittee of the need for confirmatory sampling if  
4 necessary, or notify the Permittee of the need for a RFI in accordance with the requirements in  
5 Permit Section VII.H. NMED shall notify the Permittee of any corrective action complete decision.

6 **VII.G INTERIM MEASURES**

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

8 Upon written notification by NMED, the Permittee shall prepare and submit an Interim Measures  
9 (IM) Work Plan in accordance with Permit Attachment 3 (Interim Measures Implementation Scope  
10 Of Work) at any SWMU or AOC where NMED determines that interim measures are necessary to  
11 minimize or prevent the migration of hazardous waste or hazardous constituents and limit actual or  
12 potential human and environmental exposure to hazardous waste or hazardous constituents while  
13 long term corrective action remedies are evaluated and implemented. The Permittee shall submit its  
14 IM Work Plan to NMED within thirty (30) calendar days of NMED's notification, unless another  
15 time period is specified by the NMED. Such interim measures may be conducted concurrently with  
16 any required corrective action.

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

18 The Permittee shall prepare and submit an IM Work Plan in accordance with Permit Attachment 3  
19 for each of the below-listed interim measures. The Permittee shall consult with the Pueblo of Zuni  
20 and the Navajo Nation according to the provisions of Permit Section VIII.B.1 prior to submittal of  
21 IM Work Plans.

22 **VII.G.2.a Sampling of Offsite Water Supply Wells**

23 The Permittee shall sample offsite water supply wells as identified in Permit Attachment 13 to ensure  
24 that the public is not using contaminated ground water released from the Facility. The Permittee  
25 shall submit an Interim Measures Work Plan for off-site water supply well sampling to NMED  
26 within ninety (90) calendar days of the submittal date of the Community Relations Plan. The  
27 Permittee's Interim Measures Work Plan shall include detailed well information including the  
28 following: well identification numbers, location (provided on a map and including New Mexico  
29 State Coordinate System coordinates, owner name and phone number, any well boring logs and well  
30 construction diagrams, depths to water, dates of measurement, and type of well (e.g., domestic  
31 supply well, municipal supply well, monitoring well, irrigation well, etc.). All information in the  
32 Work Plan shall be accompanied by appropriate references identifying the specific source document  
33 and specific location of the referenced information (e.g., page numbers).

1 **VII.G.2.b Cleanup of Kickout Beyond the Facility Boundary**

2 If the Permittee is notified of a planned change in land use of off-facility lands that are located within  
3 the Kickout Area, the Permittee shall conduct an interim measure to remove waste military  
4 munitions from the affected lands as follows: the Permittee shall remove all waste military  
5 munitions released to the Kickout Area beyond the Facility boundary by conducting a geophysical  
6 investigation, using best available technology, to detect and remove waste military munitions at a  
7 depth consistent with the proposed land use. The Permittee shall submit a work plan, within 60 days  
8 of notification of a planned land use change, to remove all waste military munitions released beyond  
9 the Facility boundary within the area designated by the neighboring jurisdiction. The plan shall  
10 contain provisions for identifying the extent of, and removing, waste military munitions released  
11 beyond the Facility boundary and a schedule for implementation. The Permittee shall consult with  
12 affected parties in accordance with the consultation provisions in Permit Section VIII.B.1.

13 **VII.G.3 Permittee-initiated Interim Measures**

14 The Permittee may initiate interim measures at a SWMU or AOC by notifying NMED, in writing, at  
15 least thirty (30) calendar days prior to beginning the Interim Measures. NMED will approve the  
16 Permittee-initiated IM, conditionally approve the IM, or require submittal of an IM work plan for  
17 NMED approval prior to implementation of the Interim Measure.

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

19 The Permittee may determine, during implementation of site investigation activities, that emergency  
20 interim measures are necessary to address an immediate threat of harm to human health or the  
21 environment. The Permittee shall notify the NMED within one business day of discovery of the facts  
22 giving rise to the threat, and shall propose emergency interim measures to address the threat. If the  
23 NMED approves the emergency interim measures in writing, the Permittee may implement the  
24 proposed emergency interim measures without submitting an interim measures work plan. If  
25 circumstances arise resulting in an immediate threat to human health or the environment such that  
26 initiation of emergency interim measures are necessary prior to obtaining written approval from the  
27 NMED, the Permittee shall notify the NMED within one business day of taking the emergency  
28 interim measure. The notification shall contain a description of the emergency situation, the types  
29 and quantities of contaminants involved, the emergency interim measures taken, and contact  
30 information for the emergency coordinator who handled the situation. The notification shall also  
31 include a written statement justifying the need to take the emergency action without prior written  
32 approval from the NMED. This requirement shall not be construed to conflict with 20.4.1.500  
33 NMAC (incorporating 40 CFR 264.1(g)(8)) or 20.4.1.900 NMAC (incorporating 40 CFR 270.61).

34 **VII.G.5 IM work plan requirements**

35 The IM Work Plan shall ensure that the interim measures are designed to mitigate any current or  
36 potential threat(s) to human health or the environment and is consistent with, and integrated into, any

1 final corrective measures at the Facility. The IM Work Plan shall include the interim measures  
2 objectives, procedures for implementation (including any designs, plans, or specifications), and  
3 schedules for implementation.

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

##### 5 **VII.G.6.a Implementation and Completion of Approved IM Work Plan**

6 The Permittee shall implement interim measures required under Permit Section VII.G. in accordance  
7 with the NMED-approved IM Work Plan. The Permittee shall complete interim measures within one  
8 hundred eighty (180) calendar days of the start of implementation of the interim measure. The  
9 Permittee may submit a written request to the NMED to extend the period for implementation of the  
10 interim measure. The request must provide justification for the extension and a proposed schedule  
11 for completion of the interim measure. The NMED will notify the Permittee, in writing, of the  
12 approval or disapproval of the request within thirty (30) calendar days of receipt of the IM  
13 implementation extension request.

##### 14 **VII.G.6.b Notification of changes**

15 The Permittee shall give notice to NMED as soon as possible of any planned changes, reductions or  
16 additions to the IM Work Plan required by NMED under Permit Section VII.G.1 or initiated by the  
17 Permittee in accordance with Permit Section VII.G.3.

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

19 The Permittee shall submit to NMED for review and approval, within ninety (90) calendar days of  
20 completion of interim measures, an Interim Measures (IM) Report for each SWMU or AOC. The IM  
21 Report shall contain, at a minimum, the following information:

- 22 1. A description of interim measures implemented;
- 23 2. Summaries of results;
- 24 3. Summaries of all problems encountered;
- 25 4. Summaries of accomplishments and/or effectiveness of interim measures; and,
- 26 5. Copies of all relevant laboratory/monitoring data, *etc.*

1 **VII.H RCRA FACILITY INVESTIGATION**

2 **VII.H.1 RFI Work Plan**

3 **VII.H.1.a RFI work plan submittal**

4 The Permittee shall submit to NMED RCRA Facility Investigation (“RFI”) Work Plans for the  
5 SWMUs and AOCs identified in Permit Attachment 8 in accordance with the schedule set forth in  
6 Table VII.2. The Permittee shall consult with the Navajo Nation and the Pueblo of Zuni regarding  
7 RFI Work Plans pursuant to Permit Section VIII.B.1.

8 The Permittee shall submit RFI Work Plans for those SWMUs and AOCs requiring further  
9 investigation under Permit Section VII.F.2 within ninety (90) calendar days of notification by  
10 NMED.

11 **VII.H.1.b RCRA Facility investigation work plan requirements**

12 The RFI Work Plan shall meet the requirements specified in Permit Attachment 4 (RCRA Facility  
13 Investigation Scope of Work). The RFI Work Plan shall include schedules of implementation and  
14 completion of specific actions necessary to determine the nature and extent of contamination and the  
15 potential pathways of contaminant releases to the air, soil, surface water, and ground water. The  
16 Permittee shall provide sufficient justification and associated documentation that a release is not  
17 probable or has already been characterized if a unit or a media/pathway associated with a unit  
18 (ground water, surface water, soil, subsurface gas, or air) is not included in the RFI Work Plan. Such  
19 deletions of a unit, medium, or pathway from the RFI(s) are subject to the approval of NMED. The  
20 Permittee shall provide sufficient written justification for any omissions or deviations from the  
21 minimum requirements specified in Permit Attachment 4. Such omissions or deviations are subject  
22 to the approval of NMED. In addition, the RFI Work Plan shall include all investigations necessary  
23 to ensure compliance with 20.4.1.500 NMAC (incorporating 40 CFR 264.101(c)).

24 **VII.H.2 RCRA Facility Investigation Implementation**

25 The Permittee shall implement the RFIs in accordance with the NMED-approved RFI Work Plans.  
26 The Permittee shall notify NMED at least thirty (30) calendar days prior to any permit- or corrective  
27 action-related field activity (e.g., drilling, sampling).

28 **VII.H.3 RCRA Facility Investigation Reports**

29 **VII.H.3.a RCRA Facility investigation report**

30 The Permittee shall prepare and submit to NMED RFI Reports for the investigations conducted in  
31 accordance with RFI Work Plans submitted under Permit Section VII.H.1. The Permittee shall  
32 submit the RFI Reports to NMED for review and approval in accordance with the schedules in its  
33 approved RFI Work Plans.

1 The RFI Reports shall include an analysis and summary of all required investigations of SWMUs and  
2 AOCs and their results. The summary shall describe the type and extent of contamination at each  
3 SWMU and AOC investigated, including sources and migration pathways, identify all hazardous  
4 waste or constituents present in all media, and describe actual or potential receptors. The RFI Report  
5 shall also describe the extent of contamination (qualitative and quantitative) in relation to  
6 background levels of the area. If the RFI Report concludes that further work is necessary, the report  
7 shall include a schedule for submission of a work plan for the next phase of investigation.

### 8 **VII.H.3.b Cleanup levels**

9 The RFI Reports shall identify the applicable cleanup levels in accordance with Permit Attachment 7  
10 (Cleanup Levels) for each hazardous waste or hazardous constituent found at each SWMU and AOC.  
11 The Permittee shall propose in the RFI Report appropriate cleanup levels for those hazardous wastes  
12 or hazardous constituents without established cleanup levels based upon human and ecological risk.

### 13 **VII.H.3.c Requirement to proceed**

14 Based upon NMED's review of the RFI Report, NMED will notify the Permittee of the need for  
15 further investigative action, if necessary, and inform the Permittee, if not already notified, of the need  
16 for a Corrective Measures Study. NMED will notify the Permittee if corrective action is complete.  
17 If NMED determines that further investigation is necessary, NMED will require the Permittee to  
18 submit a work plan for approval that includes a proposed schedule for additional investigation(s).

## 19 **VII.I CORRECTIVE MEASURES STUDY**

### 20 **VII.I.1 Corrective Measures Study Work Plan**

#### 21 **VII.I.1.a Submittal of corrective measures study work plan**

22 The Permittee shall submit a Corrective Measures Study (CMS) Work Plan within ninety (90)  
23 calendar days of notification by the NMED that a CMS is required, unless another time period is  
24 specified by the NMED. The Permittee shall consult with the Pueblo of Zuni and the Navajo Nation  
25 regarding CMS Work Plans pursuant to Permit Section VIII.B.1.

#### 26 **VII.I.1.b Corrective measures study work plan requirements**

27 The CMS Work Plan shall meet the requirements of Permit Attachment 5 (Corrective Measures  
28 Study Scope of Work). The CMS Work Plan shall include schedules of implementation and  
29 completion of specific actions necessary to complete a CMS. The scope of the CMS Work Plan  
30 shall include all investigations necessary to ensure compliance with 20.4.1.500 NMAC  
31 (incorporating 40 CFR 264.101).

1 **VII.I.2 Corrective measures study implementation**

2 The Permittee shall implement the NMED-approved CMS in accordance with the CMS Work Plan.

3 **VII.I.3 Corrective Measure Study Reports**

4 **VII.I.3.a Corrective measures study report**

5 The Permittee shall submit a CMS Report to the NMED for review and approval in accordance with  
6 the schedule specified in the approved CMS Work Plan. The CMS Report shall present all  
7 information gathered under the approved CMS Work Plan. The CMS Report must contain adequate  
8 information to support the recommended remedy. The CMS Report shall summarize any bench  
9 scale or pilot tests conducted. The CMS Report shall include an evaluation of each remedial  
10 alternative. If a remedial alternative requires the use of a Corrective Action Management Unit  
11 (CAMU), the CMS report shall include all information necessary to establish and operate the  
12 CAMU.

13 **VII.I.3.b Requirement to evaluate additional remedies**

14 NMED may require the Permittee to evaluate additional remedies or particular elements of one or  
15 more proposed remedies.

16 **VII.I.3.c Remedy Selection And Permit Modification**

17 NMED shall select a remedy based, at a minimum, upon protection of human health and the  
18 environment, specific site conditions, and existing regulations. The selected remedy may include any  
19 interim measures implemented to date. The Permittee shall initiate a permit modification after  
20 selection of a remedy in accordance with 20.4.1.900 NMAC (incorporating 40 CFR 270.42) and  
21 20.4.1.901 NMAC to incorporate the remedy into this Permit.

22 **VII.J CORRECTIVE MEASURES IMPLEMENTATION (CMI)**

23 **VII.J.1 Submittal of Corrective Measures Implementation Program Documents**

24 The Permittee shall submit a Corrective Measures Implementation Work Plan within ninety (90)  
25 calendar days after approval of the permit modification for the remedy, unless another time period is  
26 specified by the NMED. The Permittee shall consult with the Navajo Nation and the Pueblo of Zuni  
27 regarding CMI Work Plans pursuant to Permit Section VIII.B.1. The Corrective Measures  
28 Implementation Work Plan shall include the conceptual design, an operation and maintenance plan,  
29 plans and specifications, construction plans and a schedule for implementation in accordance with  
30 Permit Attachment 5 (Corrective Measures Implementation (CMI) Scope Of Work).

1 **VII.J.2 Implementation of Corrective Measures**

2 The Permittee shall implement corrective measures in accordance with the NMED-approved CMI  
3 Work Plan and the schedule specified therein.

4 **VII.J.3 Corrective Measures Implementation Reports**

5 **VII.J.3.a Quarterly Progress Reports**

6 The Permittee shall, at a minimum, submit to NMED signed quarterly progress reports during  
7 implementation of corrective measures. NMED may adjust the frequency of progress reporting to  
8 address site-specific needs. Progress reports shall, at a minimum, include the following elements:

- 9 1. A description of significant activities (e.g., sampling events, inspections, etc.) and work  
10 completed/work accomplishments (e.g., performance levels achieved, hours of treatment operation,  
11 treated and/or excavated volumes, concentration of hazardous waste or constituents in treated and/or  
12 excavated volumes, nature and volume of wastes generated, etc.) during the reporting period;
- 13 2. Summary of system effectiveness. Provide a comparison of system operation to predicted  
14 performance levels (applicable only during operation of the corrective measure);
- 15 3. Summaries of all findings (including any inspection results);
- 16 4. Summaries of all contacts with representatives of the local community, public interest  
17 groups, and State government, etc., during the reporting period;
- 18 5. Summaries of all problems or potential problems encountered during the reporting period;
- 19 6. Actions being taken and/or planned to rectify problems;
- 20 7. Changes in personnel during the reporting period;
- 21 8. Projected work for the next reporting period; and,
- 22 9. If requested by NMED, the results of any sampling tests and/or other data generated during  
23 the reporting period.

24 **VII.J.3.b Construction Completion Report**

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

- 30 1. Synopsis of the corrective measure, design criteria, and certification that the corrective  
31 measure was constructed in accordance with the Plans and Specifications;

- 1        2. Explanation and description of any modifications to the Plans and Specifications and why  
2 these were necessary for the project;
- 3        3. Results of any operational testing and/or monitoring, indicating how initial operation of the  
4 corrective measure compares to the design criteria;
- 5        4. Summary of significant activities that occurred during construction. Include a discussion of  
6 problems encountered and how they were addressed;
- 7        5. Summary of any inspection findings (include copies of key inspection documents in  
8 appendices);
- 9        6. As built drawings and/or photographs; and
- 10       7. Schedule indicating when any treatment systems shall begin full scale operations.

### 11 **VII.J.3.c Corrective Measure Completion Report**

12 The Permittee shall submit to NMED a Corrective Measure Completion Report when the Permittee  
13 believes that the corrective measure completion criteria have been satisfied. The Corrective Measure  
14 Completion Report shall, at a minimum, include the following elements:

- 15       1. Synopsis of the corrective measure;
- 16       2. Corrective Measure Completion Criteria: Describe the process and criteria for determining  
17 when corrective measures, maintenance, and monitoring may cease. Corrective measure completion  
18 criteria were specified in the Operation and Maintenance (O&M) Plan;
- 19       3. Demonstration that the completion criteria have been met. Include results of testing and/or  
20 monitoring, indicating how operation of the corrective measure compares to the completion criteria;
- 21       4. Summary of work accomplishments (e.g., performance levels achieved, total hours of  
22 treatment operation, total treated and/or excavated volumes, nature and volume of wastes generated,  
23 etc.);
- 24       5. Summary of significant activities that occurred during operations. Include a discussion of  
25 problems encountered and how they were addressed; and
- 26       6. Summary of inspection findings (include copies of key inspection documents in  
27 appendices).

### 28 **VII.K WORK PLAN AMENDMENTS**

29 If the Permittee or NMED determines at any time that any RFI Work Plan, IM Work Plan, CMS  
30 Work Plan, or CMI Work Plan no longer satisfies the requirements of 20.4.1.500 NMAC  
31 (incorporating 40 CFR 264.101) or this Permit for prior or continuing releases of hazardous waste or  
32 hazardous constituents from a SWMU or AOC, the Permittee shall submit an amended Plan to  
33 NMED within ninety (90) calendar days of such determination. The Permittee shall consult with the

1 Pueblo of Zuni and the Navajo Nation regarding work plan amendments pursuant to Permit Section  
2 VIII.B.1.

### 3 **VII.L SUBMITTALS**

#### 4 **VII.L.1 Submittal of Work Plans and Schedules**

5 The Permittee shall submit all work plans and schedules required under this Section to NMED for  
6 review and approval prior to implementation.

#### 7 **VII.L.2 Schedule for Submittal of Work Plans and Reports**

8 The Permittee shall submit all required plans and reports to NMED for review and approval in  
9 accordance with the schedules included in this Permit. NMED may grant extensions of the due date  
10 for submittals based on the Permittee's demonstration that sufficient justification for the extension  
11 exists.

#### 12 **VII.L.3 Approval/Disapproval of Submittals**

13 NMED will review work plans, reports, schedules, and other documents (“submittals”) submitted by  
14 the Permittee for review and approval under this Section. Upon completing review, the Secretary  
15 will send the Permittee a written notice of approval, approval with conditions, or disapproval of the  
16 submittal. If the Secretary disapproves a submittal, the Secretary will notify the Permittee in writing  
17 of the submittal’s deficiencies and specify a due date for submission of a revised submittal. If the  
18 Secretary approves the submittal with conditions, the Secretary will notify the Permittee in writing of  
19 the condition(s) and the reasons for the imposition of such condition(s), and specify a due date for  
20 completion of the required actions.

#### 21 **VII.L.4 Incorporation of Approved Work Plans and Schedules**

22 All submittals required by this Section are, upon approval by the Secretary, incorporated into this  
23 Permit and become an enforceable part of this Permit. Failure to submit any of the required items,  
24 the submission of inadequate or insufficient information, or failure to comply with the approved  
25 work plans or schedules may subject the Permittee to enforcement action.

### 26 **VII.M DISPUTE RESOLUTION**

27 In the event the Permittee disagrees, in whole or in part, with a condition or disapproval of any  
28 submittal, the Permittee may seek dispute resolution.

#### 29 **VII.M.1 Notice to NMED**

30 To invoke dispute resolution, the Permittee shall notify NMED in writing within thirty (30) calendar  
31 days of receipt of the Secretary’s approval of a submittal with conditions or disapproval of a

1 submittal. Such notice shall set forth the specific matters in dispute, the position the Permittee  
2 asserts should be adopted, the basis for the Permittee's position, and any matters considered  
3 necessary for the Secretary's determination.

4 **VII.M.2 Agreement or Disagreement Between the Parties**

5 NMED and the Permittee shall have thirty (30) calendar days from NMED's receipt of notification  
6 provided under Permit Section VII.M.1 to meet or confer to resolve any disagreement.

7 In the event an agreement is reached, the Permittee shall comply with the terms of such agreement  
8 or, if appropriate, submit a revised submittal and implement the same in accordance with, and within  
9 the time frame specified in, such agreement.

10 **VII.M.3 Final Decision of the Secretary**

11 If agreement is not reached within the thirty (30) calendar day period, the Secretary will notify the  
12 Permittee in writing of its decision on the dispute, and the Permittee shall comply with the terms and  
13 conditions of the decision. Such decision shall be the final resolution of the dispute and shall be  
14 incorporated as an enforceable part of this Permit. The Permittee shall implement the decision in  
15 accordance with, and within the time frame specified in, such decision.

16 **VII.M.4 Actions Not Affected By Dispute**

17 With the exception of those conditions under dispute, the Permittee shall proceed to take any action  
18 required by those portions of the submission and of this Permit that NMED determines are not  
19 affected by the dispute.

20

TABLE VII.1 SCHEDULE FOR SUBMITTAL OF CORRECTIVE ACTION DOCUMENTS	
DOCUMENT	DUE DATE
Notification of newly identified SWMUs and AOCs.	Within fifteen (15) calendar days of discovery.
SWMU and AOC Release Assessment Report.	Within ninety (90) calendar days of notification.

TABLE VII.1 SCHEDULE FOR SUBMITTAL OF CORRECTIVE ACTION DOCUMENTS	
DOCUMENT	DUE DATE
RFI Work Plan for newly identified SWMUs and AOCs	Within ninety (90) calendar days after receipt of notification by NMED which SWMUs and AOCs require an RFI.
Notification for newly discovered releases at previously identified SWMUs and AOCs	Within fifteen (15) calendar days of discovery.
RFI Report	In accordance with the approved RFI Work Plan.
Interim Measures Work Plan	Within thirty (30) calendar days of notification by NMED.
Interim Measures Report	Within ninety (90) calendar days of completion.
CMS Work Plan	Within ninety (90) calendar days, or other time specified by NMED, of notification by NMED that a CMS is required.
Implementation of CMS Work Plan	Within fifteen (15) calendar days after receipt of NMED's approval of Plan
CMS Report	In accordance with the schedule in the approved CMS Work Plan
CMI Work Plan	As specified by the NMED in the CMS approval
CMI Progress Reports	As specified by the NMED in the CMI approval
CMI Corrective Measure Completion Report	As specified by the NMED in the CMI approval

TABLE VII.2 SCHEDULE FOR RFI WORK PLAN, HISTORICAL INFORMATION ASSESSMENT AND RELEASE ASSESSMENT SUBMITTALS			
PRIORITY	PARCEL NUMBER	GENERAL DESCRIPTION	DOCUMENTS SUBMITTAL DATE
1	21	Parcel 21 includes the TNT Workshop Area, TNT Leach Beds, electrical transformers, and the pre-1940s munitions storage area.	09/01/06
2	11	Parcel 11 includes a portion of the Administration Area, Sewage Treatment Plant, electrical transformers, and the pre-1940s munitions storage area.	03/01/07
3	22	Parcel 22 includes the TNT Workshop Area, Igloo Block D, electrical transformers, the pre-1940s munitions storage area, and land occupied by TPL.	11/01/07
4	6	Parcel 6 includes a portion of the Administration Area, TNT Workshop Area, Igloo Block B, Buildings 537, 542, electrical transformers, the pre-1940s munitions storage area, and land occupied by TPL.	05/01/08
5	4	Parcel 4 (west central) includes Igloo Block C and may include the pre-1940s munitions storage area). Parcel 4 may also include electrical transformers.	11/01/08
6	23	Parcel 23 (west central) includes the Central Landfill, and the pre-1940s munitions storage area. Parcel 23 may include electrical transformers.	05/01/09
7	10	Parcel 10 (northwest) includes the Suspected POL Area, Former Administration and Utilities Area, and may include electrical transformers and the pre-1940s munitions storage area.	11/01/09

TABLE VII.2 SCHEDULE FOR RFI WORK PLAN, HISTORICAL INFORMATION ASSESSMENT AND RELEASE ASSESSMENT SUBMITTALS			
PRIORITY	PARCEL NUMBER	GENERAL DESCRIPTION	DOCUMENTS SUBMITTAL DATE
8	5	Parcel 5 (west central) includes former structures or buildings and may also include the pre-1940s munitions storage area. Parcel 5 may include electrical transformers.	05/01/10
9	8	Parcel 8 (northwest).	11/01/10
10	16	Parcel 16 (northeast corner) includes the Functional Test Range 2/3, buildings near Lake Knudson, Igloo Block K, and the pre-1940s munitions storage area. Parcel 16 may also include electrical transformers.	05/01/11
11	13	Parcel 13 (north central) includes the area around Lake Knudson, electrical transformers, and the pre-1940s munitions storage area.	11/01/11
12	18	Parcel 18 (north central) includes the Eastern Landfill and the pre-1940s munitions storage area. Parcel 18 may include electrical transformers.	05/01/12
13	12	Parcel 12 (north) includes electrical transformers, and may include the pre-1940s munitions storage area.	11/01/12
14	14	Parcel 14 (north) may also include electrical transformers and the pre-1940s munitions storage area).	05/01/13
15	7	Parcel 7 (west of Administration Area) includes the Western Landfill, POL Disposal Area, Trash Burning Grounds, electrical transformers, and the pre-1940s munitions storage area.	11/01/13
16	24	Parcel 24 (northwest) includes Igloo Block A	05/01/14

TABLE VII.2 SCHEDULE FOR RFI WORK PLAN, HISTORICAL INFORMATION ASSESSMENT AND RELEASE ASSESSMENT SUBMITTALS			
PRIORITY	PARCEL NUMBER	GENERAL DESCRIPTION	DOCUMENTS SUBMITTAL DATE
		and the pre-1940s munitions storage area. Parcel 24 may include electrical transformers.	
17	25	Parcel 25 (north) is located along Interstate 40.	11/01/14
18	20	Parcel 20 (southeast corner) includes the Functional Test Range 1, and is being used by the Missile Defense Agency (MDA). Parcel 20 may also include electrical transformers.	05/01/15
19	2	Parcel 2 (southwest corner, directly north of the OB/OD Area) includes Igloo Blocks C, H and J, Group C Landfill, Western Rifle Range, and is being used by the Missile Defense Agency (MDA). Parcel 2 may also include electrical transformers.	11/01/15
20	19	Parcel 19 (east central) includes Igloo Blocks D, E, F, and G, Building T-422 (Normal Maintenance Bldg., Bomb and Shell Paint Bldg.), electrical transformers, and the pre-1940s munitions storage area.	05/01/16
21	9	Parcel 9 includes Igloo Block A and the pre-1940s munitions storage area. Parcel 9 is being used by the Missile Defense Agency (MDA). Parcel 9 may include electrical transformers.	11/01/16
22	3	Parcel 3 includes the OB/OD Area SWMUs and AOCs.	05/01/17

1 **VIII SCHEDULE OF COMPLIANCE**

2 **VIII.A COMPLIANCE SCHEDULE REQUIREMENTS**

3 **VIII.A.1 DATA GAPS IN SITE HISTORY**

4 **VIII.A.1.a Historical Documents**

5 The Permittee shall submit to NMED copies of all historical documents, reports, data, and  
6 information relating to the Facility within ninety (90) calendar days of the effective date of this  
7 Permit. The Permittee shall also submit to the NMED a summary of the historical information and  
8 assessment of potential contaminant releases relating to each parcel in conjunction with the parcel-  
9 specific RFI Work Plan including complete, legible copies of all associated photographic imprints,  
10 maps, figures, drawings, tables, attachments, enclosures, and appendices and other related supporting  
11 documentation. The historical information assessment shall identify each historic aerial  
12 photographic feature or anomaly in each subject parcel and make a comparison of each feature or  
13 anomaly through time.

14 **VIII.A.1.b Interviews**

15 The Permittee shall interview persons, familiar with current and past activities and operations at the  
16 Facility, who were not interviewed previously or who may not have provided complete information  
17 during the initial interview. The Permittee shall consult with the Navajo Nation and Pueblo of Zuni  
18 regarding the interviews. The Permittee shall submit copies of all past and newly conducted  
19 interviews to NMED within one hundred eighty (180) calendar days of the submittal date of the  
20 Community Relations Plan.

21 **VIII.A.1.c Historic Aerial Photo Interpretation**

22 The Permittee shall perform a historic aerial photograph time sequence analysis and submit a historic  
23 aerial photograph analysis in accordance with Permit Section VIII.A.1.a.

24 The historic aerial photograph analysis shall include photographs that depicts and identifies each  
25 feature or anomaly, including features such as SWMUs, AOCs and any location that has actual or  
26 potential site contamination. The historic aerial photographic analysis shall include:

- 27 1. Time sequence analyses of aerial photographs organized by date and Parcel from the earliest  
28 dated photos to the present at intervals of no more than 5-years, or other interval approved  
29 by NMED;
- 30 2. Master photomap that is based on a current digital aerial photomap that contains all  
31 prominent surface features;
- 32 3. Digital files on CD of all aerial photographs in a GIS format acceptable to NMED;

- 1       4. Historic aerial photographs shall be glossy photographic prints or electronic submittals in  
2       format acceptable to NMED (*e.g.*, SHP, PDF format);
- 3       5. Each aerial photograph shall be oriented using the New Mexico State Plane Coordinate  
4       System or other NMED approved coordinate system; and,
- 5       6. Scale with units of measurement in feet for each photograph.

6 The historic aerial photograph analysis shall include written interpretations of each feature or  
7 anomaly, including each SWMU, AOC, and any location that has actual or potential site  
8 contamination. [20.4.1.500 NMAC (incorporating 40 C.F.R. 264.101) and 20.4.1.900 NMAC  
9 (incorporating 40 CFR 270.14(d))]

#### 10 **VIII.A.1.d Submittal of Updated SWMU and AOC List**

11 Pursuant to the requirements of Permit Section VII.D, the Permittee shall submit a list of newly  
12 identified SWMUs and AOCs within fifteen (15) calendar days after completing the requirements of  
13 Permit Section VIII.A.1.a for each Parcel. [20.4.1.500 NMAC (incorporating 40 C.F.R. 264.101)]

#### 14 **VIII.A.1.e Asbestos Evaluation**

15 The Permittee shall prepare an asbestos evaluation report for submittal to NMED in conjunction with  
16 the associated parcel RFI Work Plans. The reports shall identify sites, that are not SWMUs or  
17 AOCs, where there is the potential for asbestos contamination. The reports also shall establish  
18 action levels for cleanup or abatement of asbestos, where necessary. In preparing these reports, the  
19 Permittee shall consult with Pueblo of Zuni and Navajo Nation in accordance with the provisions of  
20 Permit Section VIII.B.1. Any required action to address asbestos contamination in soil identified  
21 under this Permit Section (VIII.A.1.e) shall be addressed pursuant to CERCLA [42 U.S.C. 9601 *et*  
22 *seq.*]. Nothing in this Section (VIII.A.1.e) shall be construed to limit or waive the rights or claims of  
23 any person as defined in NMSA 1978, Section 74-4-3(M) (HWA) and 20.4.1.100 NMAC  
24 (incorporating 40 CFR 260.10).

#### 25 **VIII.A.2 Closure**

26 The Permittee shall submit the following information relating to closure of the OB/OD Unit:

- 27       1. Closure Plan for the OB/OD Unit within one hundred eighty (180) calendar days of the  
28       submittal date of the Community Relations Plan that includes all of the information required  
29       in 20.4.1.500 NMAC (incorporating 40 CFR 264.111 through 264.115, 264.601, and  
30       264.602) and that provides for compliance with the requirements of Permit Section III.A.  
31       The Closure Plan shall be submitted and reviewed as a Class 3 permit modification. The  
32       Permittee shall consult with the Navajo Nation and Pueblo of Zuni regarding the Closure  
33       Plan according to Permit Section VIII.B.1. The Closure Plan shall also include, at a  
34       minimum:

- 1 a. a proposed schedule for implementation of closure activities,
  - 2 b. methods for characterization and removal of all hazardous waste and hazardous waste
  - 3 residues, and characterization and removal or decontamination of all contaminated
  - 4 structures, equipment, and known contaminated soils,
  - 5 c. the methods and procedures for collection of characterization and confirmation
  - 6 samples,
  - 7 d. the methods and procedures for sample field screening and field analysis,
  - 8 e. laboratory chemical analytical methods,
  - 9 f. sample handling and QA/QC procedures,
  - 10 g. the methods for management of investigation derived waste,
  - 11 h. the methods for conducting geophysical investigations pursuant to Permit Section
  - 12 III.A.5, and
  - 13 i. the proposed format for reporting on the results of closure activities.
- 14 2. A summary report of historical information within one hundred eighty (180) calendar days of
  - 15 the submittal date of the Community Relations Plan, including maps and data tables, of
  - 16 historical documents and records relating to the OB/OD Unit, including records, maps,
  - 17 photographs, Department of Defense and other governmental databases, environmental site
  - 18 investigation and remedial action documents, construction records, treatment and disposal
  - 19 records, interviews, and other sources of historical information;
  - 20 3. A proposal to modify this Permit to include a Corrective Action Management Unit for
  - 21 management of waste generated during closure activities at the OB/OD Unit within one
  - 22 hundred eighty (180) calendar days of the submittal date of the Community Relations Plan;

23 [20.4.1.900 NMAC (incorporating 40 CFR 270.14(b)(13))]

### 24 **VIII.A.3 Topographic Map**

25 The Permittee shall provide a revised Permit Attachment 2 to NMED within ninety (90) calendar  
26 days of the effective date of this Permit, including:

- 27 1. all of the information required by 20.4.1.900 NMAC (incorporating 40 CFR 270.14(b)(19));
- 28 2. identification and depiction of the OB/OD Unit and SWMUs and AOCs with known
- 29 locations;

- 1           3. identification, depiction, and labeling of parcels and parcel boundaries; and
- 2           4. the known extent of the Kickout Area.

#### 3   **VIII.A.4    Hydrogeologic Information**

4   The Permittee shall submit a summary of Facility hydrologic and geologic data that the Permittee has  
5   used to characterize the site hydrogeology and characterize any releases of hazardous waste or  
6   constituents to the ground water and surface water to NMED within sixty (60) calendar days of the  
7   effective date of this Permit. The summary shall include:

- 8           1. Hydrogeologic data regarding the uppermost aquifer and all aquifers hydraulically  
9           interconnected beneath the Facility, including the Quaternary alluvium, Painted Desert  
10           Member of the Chinle Formation (the nomenclature is being changed to the Painted  
11           Desert Formation of the Chinle Group), Sonsela Sandstone Member, Mancos Shale;
- 12          2. Provide copies of all Facility well logs and well construction diagrams.
- 13          3. Provide ground water flow direction and rate data and the basis for such identification,  
14           potentiometric surface summary data tables and contour maps, aquifer test data, flow  
15           zone or preferential flow path data, seasonal and spatial fluctuations in flow directions,  
16           vertical and horizontal gradients, and any other available hydrogeologic information.

17 [20.4.1.900 NMAC (incorporating 40 CFR 270.14(c)(2), 270.14(c)(4), and 270.28) and 20.4.1.500  
18 NMAC (incorporating 40 CFR 264.602)]

#### 19   **VIII.B   APPROVAL OF SUBMITTALS**

20 All plans, schedules, maps, and other documents required by this Schedule of Compliance shall be  
21 submitted to the NMED for review and approval. All plans, schedules, maps, and other documents  
22 required by this Schedule of Compliance are, upon approval by the NMED, incorporated into this  
23 Permit and become an enforceable part of this Permit. Any noncompliance with approved plans,  
24 schedules or other approved documents constitutes noncompliance with this Permit and may subject  
25 the Permittee to enforcement action.

#### 26   **VIII.B.1   Prior Consultation Requirements**

27 Prior to submittal, the Permittee shall consult with the Pueblo of Zuni and the Navajo Nation  
28 regarding plans and reports that are specifically subject to consultation requirements. The Permittee  
29 shall:

- 30           a. Take best efforts in good faith to consult with the Navajo Nation and the Pueblo of Zuni  
31           regarding the impact of the proposed actions in the plan on archaeological sites, historic sites, and  
32           traditional uses of the land. The Permittee shall attempt to identify and negotiate agreement on  
33           mitigating measures or alternatives to minimize the impact of the proposed actions in the plan on

1 archaeological sites, historic sites, and traditional uses of the land. This consultation may be  
2 performed in conjunction with federal requirements for consultation with affected tribes.

3 b. When submitting a plan or report subject to consultation requirements, the Permittee shall  
4 include a statement summarizing the consultation process and results of the process, including any  
5 agreements or disagreements between the Permittee and the Pueblo of Zuni or Navajo Nation.

6 c. When submitting a plan or report subject to consultation requirements, the Permittee shall  
7 certify the statement summarizing the consultation process in accordance with Permit Section I.I.9.g.

8 d. The Permittee shall maintain documentation in the operating record of the attempts at  
9 consultation and any written agreements reached or written documentation indicating refusal to  
10 consult or enter into agreement.

## PERMIT ATTACHMENTS

<b>ATTACHMENT 1 GENERAL FACILITY DESCRIPTION .....</b>	<b>1</b>
<b>ATTACHMENT 2 FACILITY MAP.....</b>	<b>1</b>
<b>ATTACHMENT 3 INTERIM MEASURES IMPLEMENTATION SCOPE OF WORK....</b>	<b>1</b>
<b>ATTACHMENT 4 RCRA FACILITY INVESTIGATION SCOPE OF WORK.....</b>	<b>1</b>
<b>ATTACHMENT 5 CORRECTIVE MEASURES STUDY SCOPE OF WORK .....</b>	<b>1</b>
<b>ATTACHMENT 6 CORRECTIVE MEASURES IMPLEMENTATION SCOPE OF WORK .....</b>	<b>1</b>
<b>ATTACHMENT 7 CLEANUP LEVELS .....</b>	<b>1</b>
<b>ATTACHMENT 8 HAZARDOUS WASTE MANAGEMENT UNIT, SOLID WASTE MANAGEMENT UNIT, AND AREA OF CONCERN TABLE.....</b>	<b>1</b>
<b>ATTACHMENT 9 CLOSURE PLAN .....</b>	<b>1</b>
<b>ATTACHMENT 10 FACILITY-WIDE GROUND WATER MONITORING PLAN .....</b>	<b>1</b>
<b>ATTACHMENT 11 GROUND WATER CORRECTIVE ACTION PROGRAM .....</b>	<b>1</b>
<b>ATTACHMENT 12 MAP OF OB/OD UNIT .....</b>	<b>1</b>
<b>ATTACHMENT 13 OFF-SITE WELLS.....</b>	<b>1</b>

## **1 ATTACHMENT 1 GENERAL FACILITY DESCRIPTION**

Fort Wingate Depot Activity (FWDA or the Facility) is a former Ammunition Depot under the command of the United States Army. The Facility is located in western New Mexico in McKinley County and is approximately 8 miles east of the city of Gallup at latitude 35 degrees, 27 minutes, and 30 seconds North and longitude 108 degrees, 34 minutes, and 30 seconds West.

The Facility is surrounded by developed land to the north and east and by relatively undeveloped land to the south and west. The Facility is almost entirely surrounded by BIA administered land, national forest land, Navajo tribal land, Zuni tribal land, and individual Native American allotments.

During its active life, the Facility's mission was to store, ship, and receive military munitions and material; conduct functional tests on military munitions; reclaim, maintain, and renovate military munitions; and, demilitarize and destroy obsolete or deteriorated military munitions. In January 1993 the active mission of the Facility ended and operations ceased as a result of the Defense Authorization Amendments and Base Realignment and Closure Act (BRAC) of 1988.

In the 1980s, when the Facility became subject to RCRA permit requirements, it occupied approximately 22,120 acres. Since that time, the Facility has transferred approximately 6,277 acres to the Department of Interior. Currently, the Facility occupies approximately 15,843 acres (25 square miles).

### **THE OB/OD UNIT**

The OB/OD Unit is located in the southwest part of the Facility. The OB/OD Unit is an inactive open burn/open detonation (OB/OD) unit that, when active, was used to treat waste military munitions and explosive contaminated waste from 1955 to 1993. After 1980, the OB/OD Unit was classified as a RCRA interim status, thermal treatment unit (see 20.4.1.600 NMAC (incorporating 40 CFR part 265, subpart P)) The OB/OD Unit includes; the area known as the Burning Ground Area, twelve Current Detonation Craters (CDC) known as CDC-1 through CDC-12, and ten (10) Current Residue Piles (CRP) known as CRP-1 through CRP-10.

The Burning Ground Area was used to destroy waste military munitions burned on the ground surface in unlined trenches and in metal burn pans or trays. The estimated area of the Burning Ground Area is approximately 7 acres (see Figure 3, Permit Attachment 2 (Topographic Map Showing Fort Wingate Depot Activity)). The Burning Ground Area is located on the east side and extends into the bottom of a large arroyo.

CDCs 1-12 are open detonation craters that were used to destroy waste military munitions. The areal extent of CDCs 1-12 is estimated to be approximately 6.5 acres. CDCs 1-12 are adjacent to and separated by a large arroyo that floods on occasion. Prior to 1993, the Permittee conducted both covered and uncovered detonations at CDCs 1-12. The Permittee conducted detonation of explosives of up to 5,000 pounds above ground and detonation of explosives between 5,000 to 10,000 pounds with ten feet of earthen cover.

The Permittee periodically bulldozed the wastes and waste residue from the Burning Ground Area and CDCs 1-12 toward the arroyo, resulting in the formation of ten Residue Piles (CRP 1 through CRP 10). Waste military munitions have also been released from the OB/OD Unit and deposited within the arroyo due to waste management activities and natural processes.

### **THE KICKOUT AREA**

The Kickout Area is the land surrounding the OB/OD Unit that received releases of hazardous waste and hazardous constituents from the OB/OD operations and historic operations associated with SWMU 16 (Demolition Landfill and Old Burning Ground), SWMU 17 (Old Demolition Area) and SWMU 35 ("Waste Pile" KPI). Waste military munitions in the Kickout Area were expelled or "kicked out" during detonation activities.

### **HAZARDOUS WASTES**

The Permittee used the OB/OD Unit to thermally treat various waste military munitions including propellants, explosives, pyrotechnics, and explosive-contaminated items to render them inert. The following EPA hazardous waste numbers are associated with the hazardous wastes which may have been treated at the OB/OD Unit: D001 (ignitability), D003 (reactivity), D005 (barium), D006 (cadmium), D007 (chromium), D008 (lead), D009 (mercury), D030 (2,4-dinitrotoluene), F003 and F005 (explosive-contaminated solvents and rags), and K044 (wastewater treatment sludges from the manufacturing and processing of explosives). The OB/OD Unit may also contain wastes with other EPA hazardous waste numbers.

### **WASTE CHARACTERISTICS**

The Permittee primarily treated waste military munitions at the OB/OD Unit. However, the Permittee also treated explosive-contaminated items such as rags, gloves, wood, and equipment. The Permittee used oils, fuels, solvents, and dunnage to initiate the burns. The Permittee also burned and detonated incidental solid wastes, such as wooden ammunition boxes, containers, and pallets.

The OB/OD Unit is underlain by wastes and waste residues. The burning and detonation of waste military munitions, explosive-contaminated items, and incidental solid waste is associated with a variety of contaminants (e.g., metals, explosive and propellant constituents, perchlorate, white phosphorus, volatile organic compounds, semi-volatile organic compounds, and potentially asbestos, dioxins and furans, cyanide, PCBs, pesticides, and herbicides).

**2 ATTACHMENT 2**  
**FACILITY MAP**

### **3 ATTACHMENT 3 INTERIM MEASURES IMPLEMENTATION SCOPE OF WORK**

#### **PURPOSE**

Interim measures (IM) are actions to control and/or eliminate releases or potential releases of hazardous waste and/or hazardous constituents at a facility prior to the implementation of a final corrective measure. The Permittee shall implement interim measures whenever necessary to control or abate threats to human health and the environment and to prevent or minimize the spread of hazardous waste or hazardous constituents while long-term corrective action alternatives are being evaluated. Controlling exposures or controlling the migration of a release does not necessarily mean that the site has been completely investigated or cleaned up. At some sites where interim measures are taken, additional investigations or remediation may be required.

#### **SCOPE**

The documents required for Interim Measures are, unless NMED specifies otherwise, an IM Work Plan, an Operation and Maintenance Plan, 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 scope of work (SOW) for each document is specified below. 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, NMED may waive that requirement.

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 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.

#### **3.1 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 shall, at a minimum, include the elements specified below.

##### **3.1.1 Introduction/Purpose**

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

##### **3.1.2 Conceptual Site Model Of Hazardous Waste or Constituent Migration**

The Permittee shall present a conceptual site model (CSM) of hazardous waste or hazardous constituent migration. The conceptual site model shall consist of a working hypothesis of how the hazardous waste or hazardous constituent may move from the release source to the receptor population. The Permittee shall develop the conceptual site model considering the applicable

physical parameters (e.g., water solubility, density, Henry's Law Constant, etc.) for each hazardous waste or hazardous constituent and assessing how the hazardous waste or hazardous 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 hazardous 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, the IM Work Plan shall provide a summary of the conceptual site model with a reference to the earlier document.

### **3.1.3 Evaluation of Interim Measure alternatives**

The Permittee shall list, describe, and evaluate interim measure alternatives that have the potential to stabilize the release or potential release under consideration. 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.

### **3.1.4 Description of Interim Measures**

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

### **3.1.5 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.

### **3.1.6 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.

### **3.1.7 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:

- 1) Conceptual process/Schematic diagram;
- 2) Site plan showing preliminary plant layout and/or treatment area;

- 3) Tables listing number and type of major components with approximate dimensions;
- 4) Tables giving preliminary mass balances; and
- 5) Site safety and security provisions (e.g., fences, fire control, etc.)

### **3.1.8 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 runoff and runoff shall be managed.

### **3.1.9 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.

### **3.1.10 Investigation, sampling and monitoring activities**

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

- 1) Description and purpose of investigation, sampling, monitoring tasks;
- 2) List and description of what the Permittee will investigate, sample, or monitor (e.g., hazardous waste or hazardous constituents, chemicals, substances, parameters, and properties);
- 3) Data quality objectives;
- 4) 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);
- 5) 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,
- 6) Investigation, sample collection, and monitoring procedures and equipment;
- 7) Field quality control procedures;

- 8) Criteria for data acceptance and rejection; and,
- 9) 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 hazardous 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.

### **3.1.11 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.

### **3.1.12 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.

#### **3.1.12.a Data Record**

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

- 1) Description and purpose of the investigation, sampling, and monitoring tasks;
- 2) Data quality objectives;
- 3) Analytical test methods, dilution factors, method detection limits, practical quantitation limits, and actual detection limits;
- 4) Laboratory quality control sample results;
- 5) Sample collection procedures and equipment;
- 6) Field quality control procedures;
- 7) Evaluation of data acceptance and rejection and criteria used;
- 8) Unique sample collection code for each sample (i.e., fixed laboratory and field sample) and each field measurement;

- 9) Location and depth of each sample (i.e., fixed laboratory and field sample) and field measurement;
- 10) 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;
- 11) Raw data for each sample (i.e., fixed laboratory and field sample) and field measurement;
- 12) Laboratory analysis ID number;
- 13) Time and date of collection of each sample (i.e., fixed laboratory and field sample) and field measurement;
- 14) Hazardous waste or constituent, chemical, substance, parameter, and property measured;
- 15) Result of analysis (e.g., concentration);
- 16) Cleanup levels used for comparison;
- 17) Conditions during sampling; and,
- 18) Identity of the individuals performing the investigation, sampling, and monitoring.

### **3.1.12.b Tabular Displays**

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

- 1) Unsorted (raw) data;
- 2) Results for each medium and for each hazardous waste or constituent, chemical, substance, parameter, and property investigated, sampled, and monitored;
- 3) Data reduction for statistical analysis;
- 4) Sorting of data by potential stratification factors (e.g., location, soil layer, topography); and,
- 5) Summary data.

### **3.1.12.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.):

- 1) Sampling location and sampling grid;
- 2) Boundaries of sampling area, and areas where additional data are required;

- 3) Contamination concentrations at each sampling location;
- 4) Geographical extent of contamination;
- 5) Contamination concentrations, averages, and maxima;
- 6) Changes in concentration in relation to distance from the source, time, depth or other parameters;
- 7) Features affecting intramedia transport; and,
- 8) Potential receptors.

### **3.1.13 Appendices**

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

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

## **3.2 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. The Permittee shall submit the IM O&M Plan to NMED simultaneously with the Plans and Specifications. The O&M Plan shall, at a minimum, include the following elements:

### **3.2.1 Purpose/Approach**

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

### **3.2.2 Project Management**

The Permittee shall specify 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).

### **3.2.3 System Description**

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

### **3.2.4 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.

### **3.2.5 Start-up Procedures**

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

### **3.2.6 Operation and Maintenance Procedures**

The Permittee shall describe normal operation and maintenance procedures including:

- 1) Description of task for operation;
- 2) Description of tasks for maintenance;
- 3) Description of prescribed treatment or operation conditions; and,
- 4) Schedule showing frequency of each O&M task.

### **3.2.7 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 runoff and runoff shall be managed.

### **3.2.8 Sampling and monitoring activities**

If sampling and monitoring activities are necessary for effective operation and maintenance of the IM, the Permittee shall provide a complete sampling and analysis section in the IM Work Plan that specifies the methods and procedures to be used during IM implementation.

The Permittee shall analyze for hazardous waste or hazardous 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.

### **3.2.9 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, the Permittee shall specify alternate procedures to prevent the release and/or threatened releases of hazardous substances, pollutants, or

hazardous waste or hazardous 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.

### **3.2.10 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:

- 1) 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 hazardous 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.).
- 2) Monitoring and laboratory data;
- 3) Records of operating costs; and,
- 4) 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.

### **3.3 INTERIM MEASURES PLANS AND SPECIFICATIONS**

NMED may require the Permittee to prepare Plans and Specifications for the interim measure that are based upon 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:

- 1) General site plans;
- 2) Process flow diagrams;

- 3) Mechanical drawings;
- 4) Electrical drawings;
- 5) Structural drawings;
- 6) Piping and instrumentation diagrams;
- 7) Excavation and earthwork drawings;
- 8) Equipment lists;
- 9) Site preparation and field work standards; and,
- 10) Preliminary specifications for equipment and material.

## **4 ATTACHMENT 4 RCRA FACILITY INVESTIGATION 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.

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.

#### **4.1 PRE-INVESTIGATION TASKS**

Pre-investigation tasks shall include the preparation and submittal of the following documents: a Current Conditions Report; a Health and Safety Plan; and, a Proposed Schedule.

##### **4.1.1 Current Conditions Report**

The Permittee shall submit for NMED's review and approval a Current Conditions Report that provides information on site conditions, historical site use, contamination, and interim measures for the SWMUs and AOCs under investigation. 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.

##### **4.1.1.a Facility Background**

The Current Conditions Report shall summarize the regional location, pertinent boundary features, general physiography, hydrogeology, and historical uses of the area in the vicinity of and including the SWMUs and AOCs under investigation for the treatment, storage, and/or disposal of solid and hazardous waste or hazardous constituents. The Current Conditions Report shall include the items specified below.

#### **4.1.1.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 SWMUs and AOCs under investigation. The Current Conditions Report shall also include aerial photographs of the subject, SWMUs, AOCs, and source areas superimposed on them.

All maps shall also depict the following:

- 1) General geographic location;
- 2) Property lines, with the owners of all adjacent property clearly indicated;
- 3) Topography and surface drainage depicting all waterways, wetlands, flood plains, water features, drainage patterns, and surface-water containment areas;
- 4) All tanks, buildings, utilities, paved areas, easements, rights-of-way, and other features;
- 5) Surrounding land uses (residential, commercial, industrial, agricultural, recreational);
- 6) The location of all production and ground water monitoring wells at and in the vicinity of the SWMUs and AOCs under investigation and within a quarter-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);
- 7) Wind rose and meteorology; and
- 8) 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:

- 1) All known or suspected solid or hazardous waste treatment, storage, management, handling, or disposal areas that were active before or after November 19, 1980;
- 2) All known or suspected product storage, management, or handling areas including aboveground and underground product tanks or piping;
- 3) All former or existing buildings and structures that are known or suspected to contain lead-based paint, PCBs in paint, or asbestos containing material;
- 4) All former or existing buildings and structures that have associated floor drains, piping, septic tanks, cesspools, sumps, dry wells, piping, drain fields, or outfalls;
- 5) All former or existing indoor and outdoor electrical transformers;

- 6) All known or suspected spill areas; and
- 7) 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.

#### **4.1.1.a.ii History**

The Permittee shall provide all existing site history information for the SWMUs and AOCs under investigation in the Current Conditions Report.

#### **4.1.1.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.

#### **4.1.1.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 at the SWMUs and AOCs under investigation based on existing information. The Current Conditions Report shall, at a minimum, identify the following:

- 1) Location and boundaries of each unit/area;
- 2) Quantities of solid and/or hazardous wastes (managed, spilled, placed, disposed of, or released);
- 3) Type of hazardous waste or hazardous constituents (both causing or potentially causing contamination), to the extent known;
- 4) Identification of areas where additional information is necessary;
- 5) A list and brief description of all previous investigations that have occurred at the SWMUs and AOCs under investigation, who they were conducted for (i.e., which bureau, agency, etc.) and contacts; and
- 6) The results of previous investigations and studies including the RCRA Facility Assessment (RFA) and a summary of suggested further actions for all SWMUs and AOCs under investigation.

#### **4.1.1.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:

- 1) All potential migration pathways including information on geology, pedology, hydrogeology, physiography, hydrology, water quality, food webs, meteorology, and air quality;
- 2) Physical properties of hazardous waste or hazardous constituents; and,
- 3) An assessment of whether off-site migration of hazardous waste or hazardous constituents has occurred (may include a conceptual site 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.

#### **4.1.1.d Data Record**

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

- 1) Description and purpose of the investigation, sampling, and monitoring tasks;
- 2) Data quality objectives;
- 3) Hazardous constituents analyzed for;
- 4) Sample collection procedures and equipment;
- 5) Field quality control procedures;
- 6) Conditions during sampling;
- 7) Identity of the individuals performing the investigation, sampling, monitoring;
- 8) Evaluation of data acceptance and rejection and criteria used;
- 9) Unique sample collection code for each sample (i.e., fixed laboratory and field sample) and each field measurement;
- 10) Location and depth of each sample (i.e., fixed laboratory and field sample) and field measurement;
- 11) 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;
- 12) Raw data for each sample (i.e., fixed laboratory and field sample) and field measurement;
- 13) Laboratory analysis identification number;

- 14) Time and date of collection of each sample (i.e., fixed laboratory and field sample) and field measurement;
- 15) Hazardous waste or hazardous constituent, chemical, substance, parameter, and property measured;
- 16) Result of analysis (e.g., concentration);
- 17) 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);
- 18) 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,
- 19) Cleanup levels used for comparison.

#### **4.1.1.e Tabular Displays**

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

- 1) Unsorted (raw) data;
- 2) Results for each medium, hazardous waste or hazardous constituent, chemical, substance, parameter, and property investigated, sampled, and monitored;
- 3) Data reduction for statistical analysis;
- 4) Sorting of data by potential stratification factors (e.g., location, soil layer, topography); and,
- 5) Summary data.

#### **4.1.1.f 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.):

- 1) Sampling location and sampling grid;
- 2) Boundaries of sampling area, and areas where additional data are required;
- 3) Contamination concentrations at each sampling location;
- 4) Geographical extent of contamination;
- 5) Contamination concentrations, averages, and maxima;

- 6) Changes in concentration in relation to distance from the source, time, depth or other parameters;
- 7) Features affecting intramedia transport; and,
- 8) Potential receptors.

#### **4.1.2 Health and Safety Plan**

The Permittee shall submit a Health and Safety Plan for all field activity. The Health and Safety Plan shall be developed as a stand-alone document.

### **4.2 RCRA FACILITY INVESTIGATION**

#### **4.2.1 Purpose/Objectives**

The Permittee shall prepare and submit for NMED's review and approval a RFI Work Plan (RFI WP) to: characterize the environmental setting of the SWMUs and AOCs under investigation; 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 hazardous 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 Work Plan (RFI WP) and upon completion of the investigation the Permittee shall prepare and submit a RFI Report.

#### **4.2.2 RFI Work Plan**

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

- 1) Update the current conditions in accordance with Permit Attachment 4.1;
- 2) Description of the solid and/or hazardous wastes;
- 3) Waste and media characterization; and,
- 4) Potential receptor identification.

##### **4.2.2.a Environmental Setting**

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

#### **4.2.2.a.i Hydrogeology**

The Permittee shall evaluate the hydrogeologic conditions at the SWMUs and AOCs under investigation. This evaluation shall include, but not be limited to, the following:

- 1) A description of the geologic and hydrogeologic characteristics affecting ground water flow beneath the SWMUs and AOCs under investigation, including:
  - (a) stratigraphy including a description of strata including strike and dip, and identification of stratigraphic contacts;
  - (b) Structural geology including: description of local and regional structural features (e.g., folding, faulting, tilting, jointing, etc.);
  - (c) Depositional history;
  - (d) Areas and amounts of recharge and discharge;
  - (e) Regional and facility-specific ground water flow patterns; and,
  - (f) Seasonal variations in the ground water flow regime.
- 2) An analysis of any topographic features that might influence the ground water flow system.
- 3) 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 SWMUs and AOCs under investigation (i.e., the aquifers and any intervening saturated and unsaturated zones), including, but not limited to:
  - (a) Hydraulic conductivity, intrinsic permeability, and porosity (total and effective);
  - (b) Lithology, grain size, sorting, degree of cementation;
  - (c) An interpretation of hydraulic interconnections between saturated zones; and,
  - (d) The attenuation capacity and mechanisms of the natural earth materials (e.g., ion exchange capacity, organic carbon content, mineral content, etc.).
- 4) 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:
  - (a) Sand and gravel in unconsolidated deposits;
  - (b) Zones of fracturing or channeling in consolidated and unconsolidated deposits;
  - (c) Zones of higher permeability or low permeability that might direct and restrict the flow of hazardous waste or constituents;

- (d) The uppermost aquifer;
  - (e) 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,
  - (f) All other geologic formations, or parts thereof, yielding a significant amount of ground water.
- 5) Based upon 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:
- (a) Water level contour and/or potentiometric maps;
  - (b) Hydrologic cross-sections showing vertical flow gradients;
  - (c) The flow system, including the vertical and horizontal components of flow; and,
  - (d) Any temporal changes in hydraulic gradients, (due to seasonal influences, etc.)
  - (e) A description of man-made influences that may affect the hydrogeology of the site, identifying:
    - (i) Active and inactive local water-supply and production wells with an approximate schedule of pumping; and,
    - (ii) Man-made hydraulic structures (pipelines, french drains, ditches, unlined ponds, septic tanks, NPDES outfalls, retention areas, etc.).

#### **4.2.2.a.ii                      Soils**

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

- 1) 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).
- 2) 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:

- (a) Depth to bedrock and the characteristics of the bedrock including discontinuities such as faults, fissures, joints, fractures, sinkholes, etc.;
  - (b) A detailed soil survey conducted according to USDA Soil Conservation Service (SCS) procedures including:
  - (c) USDA Textural Soil Classification and soil profiles showing stratifications or zones that may affect or direct the subsurface flow;
  - (d) Hydraulic conductivity and the SCS hydrologic group classification of A, B, C or D;
  - (e) Relative permeability (only if the waste may have changed the soil's hydraulic conductivity, such as concentrated organics);
  - (f) Storage capacity (if excavated soil will be stored);
  - (g) Shrink-swell potential (where extreme dry weather could lead to the formation of cracks);
  - (h) Potential for hazardous waste or hazardous constituent transport via erosion, using the Universal Soil Loss Equation;
  - (i) Soil sorptive capacity;
  - (j) Cation exchange capacity;
  - (k) Soil organic content; and,
  - (l) Soil pH.
- 3) The following hazardous waste or hazardous constituent characteristics shall be included:
- (a) Physical state;
  - (b) Viscosity;
  - (c) pH;
  - (d) pKa;
  - (e) Density;
  - (f) Water solubility;
  - (g) Henry's Law Constant;
  - (h) Kow;

- (i) Biodegradability; and,
  - (j) Rates of hydrolysis, photolysis, and oxidation.
- 4) Where in-situ soil treatment is likely to be implemented, the above information and the following additional information shall be provided:
- (a) Bulk density;
  - (b) Porosity;
  - (c) Grain size distribution;
  - (d) Mineral content;
  - (e) Soil moisture profile;
  - (f) Unsaturated hydraulic conductivity;
  - (g) Effect of stratification on unsaturated flow; and,
  - (h) Infiltration and evapotranspiration.

#### **4.2.2.a.iii Surface Water and Sediment**

The Permittee shall characterize the surface water bodies likely to be affected by releases at or from the SWMUs and AOCs under investigation. Such characterization shall include the following activities and information:

- 1) Description of the temporal and permanent surface water bodies including:
  - (a) Lakes and ponds: location, elevation, surface area, inflow, outflow, depth, temperature stratification, and volume;
  - (b) Impoundments: location, elevation, surface area, depth, volume, freeboard, and purpose of impoundment;
  - (c) Arroyos, streams, ditches, drains, and channels: location, elevation, flow, velocity, depth, width, seasonal fluctuations, and flooding tendencies (e.g., 100-year event, arial extent, channels);
  - (d) Wetlands;
  - (e) Containment measures in place (e.g., levees, concrete lining, etc.)
  - (f) Drainage patterns; and,
  - (g) Evapotranspiration rates.

- 2) Description of the chemistry of the natural surface water and sediments, including:
  - (a) pH;
  - (b) Total dissolved solids;
  - (c) Total suspended solids;
  - (d) Biological oxygen demand;
  - (e) Alkalinity;
  - (f) Conductivity;
  - (g) Dissolved oxygen profiles;
  - (h) Nutrients ( $\text{NH}_3$ ,  $\text{NO}_3/\text{NO}_2$ ,  $\text{PO}_4^{-3}$ );
  - (i) Chemical oxygen demand;
  - (j) Total organic carbon; and,
  - (k) Specific hazardous waste or constituent concentrations.
  
- 3) Description of sediment characteristics including:
  - (a) Deposition area;
  - (b) Thickness profile; and,
  - (c) Physical and chemical parameters (e.g., grain size, density, organic carbon content, ion exchange capacity, pH, etc.).

**4.2.2.a.iv Air**

The Permittee shall characterize the climate in the vicinity of the SWMUs and AOCs under investigation. Such characterization shall include the following information:

- 1) A description of the following parameters:
  - (a) Annual and monthly rainfall averages;
  - (b) Monthly temperature averages and extremes;
  - (c) Wind speed and direction;
  - (d) Relative humidity/dew point;
  - (e) Atmospheric pressure;

- (f) Evaporation data;
  - (g) Development of inversions; and,
  - (h) Climate extremes that have been known to occur in the vicinity of the SWMUs and AOCs under investigation, including frequency of occurrence.
- 2) A description of topographic and man-made features that affect air flow and emission patterns, including:
- (a) Ridges, hills, or mountain areas;
  - (b) Canyons or valleys;
  - (c) Surface water bodies (e.g., rivers, lakes, ponds, etc.);
  - (d) Wind breaks and forests; and,
  - (e) Buildings and structures.

#### **4.2.2.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:

- 1) Location, boundaries, dimensions, and depth below ground surface of the SWMU and/or AOC;
- 2) Type of SWMU and/or AOC;
- 3) Design and construction features;
- 4) Operating practices (past and present) including the history of releases;
- 5) Period of operation;
- 6) Age of SWMU and/or AOC;
- 7) General physical conditions; and,
- 8) Method used to close or remediate the SWMU and/or AOC.
- 9) Solid/Hazardous Waste Description;

- 10) Type of waste released, placed or disposed of in the SWMU and/or AOC;
  - (a) Hazardous classification (e.g., flammable, reactive, corrosive, oxidizing or reducing agent);
  - (b) Location and depth;
  - (c) Quantity and volume; and,
  - (d) Chemical composition.
  
- 11) Physical and chemical characteristics of waste;
  - (a) Physical form (solid, liquid, gas);
  - (b) Physical description (e.g., powder, oily sludge);
  - (c) Size and dimensions (e.g., size of military munitions);
  - (d) Temperature;
  - (e) pH;
  - (f) General chemical class (e.g., acid, base, solvent);
  - (g) Molecular weight;
  - (h) Density;
  - (i) Boiling point;
  - (j) Viscosity;
  - (k) Solubility in water;
  - (l) Cohesiveness;
  - (m) Vapor pressure;
  - (n) Flash point; and
  - (o) Waste constituents including hazardous constituents.
  
- 12) Migration, dispersal, and fate characteristics;
  - (a) Sorption;
  - (b) Hazardous constituents and chemical composition;
  - (c) Biodegradability, bioconcentration, biotransformation;

- (d) Photodegradation rates;
- (e) Combustion and detonation products;
- (f) Hydrolysis rates;
- (g) Chemical transformation and degradation; and,
- (h) Physical migration due to erosion, freeze thaw, flood events, etc.

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

#### **4.2.2.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 SWMUs and AOCs under investigation. This data shall be sufficient to define the location, nature, extent, origin, direction, and rate of movement of hazardous waste or hazardous 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:

- 1) Description and purpose of investigation, sampling, and monitoring tasks;
- 2) List of hazardous waste or hazardous constituents to be investigated, sampled, and monitored;
- 3) Data quality objectives;
- 4) 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);
- 5) 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,
- 6) Cleanup levels used for comparison;
- 7) Investigation, sample collection, and monitoring procedures and equipment;
- 8) Field quality control procedures;
- 9) Criteria for data acceptance and rejection; and,
- 10) Schedule and frequency for investigation, sampling, and monitoring.

The Permittee shall provide complete work plans to characterize all wastes and media at the SWMUs and AOCs under investigation, including the following:

**4.2.2.c.i Waste Characterization**

The Permittee shall conduct an investigation to characterize solid waste and hazardous waste or hazardous constituents associated with releases at or from the SWMUs or AOCs under investigation. The Permittee shall analyze for hazardous waste or hazardous 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:

- 1) A description and delineation of the maximum concentrations of the waste;
- 2) A description and delineation of the horizontal and vertical extent of the waste;
- 3) Specific concentrations of hazardous wastes or hazardous constituents;
- 4) A description of the chemical properties of the hazardous waste or hazardous constituents. This includes hazardous waste characteristics, stability, contaminant solubility, speciation, adsorption, biodegradability, oxidation and other factors that might affect remediation, migration, transformation;
- 5) An evaluation of factors influencing waste movement; and,
- 6) 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.).

**4.2.2.c.ii Ground water characterization**

The Permittee shall conduct an investigation to characterize any ground water plumes at or from the SWMUs and AOCs under investigation. The Permittee shall analyze for hazardous waste or hazardous 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:

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

- 2) A description and delineation of the horizontal and vertical extent of any immiscible or dissolved plume(s) originating at or from the SWMUs and AOCs under investigation;
- 3) The horizontal and vertical direction of hazardous waste or hazardous constituent movement;
- 4) The velocity of hazardous waste or hazardous constituent movement;
- 5) Specific concentrations of hazardous wastes or hazardous constituents;
- 6) Background concentrations for naturally occurring constituents;
- 7) A description and delineation of the chemical properties of the hazardous waste or hazardous 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;
- 8) The horizontal and vertical concentration profiles of hazardous waste or hazardous constituents in the plume(s);
- 9) An evaluation of factors influencing the plume movement; and,
- 10) 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.).

#### **4.2.2.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 from the SWMUs and AOCs under investigation. The Permittee shall analyze for hazardous waste or hazardous 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:

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

- 3) A description and delineation of hazardous wastes or hazardous 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;
- 4) Background concentrations for naturally occurring constituents;
- 5) Specific concentrations of hazardous wastes or hazardous constituents;
- 6) 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.

#### **4.2.2.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 SWMUs and AOCs under investigation. The Permittee may also be required to characterize releases from storm water runoff. The Permittee shall analyze for hazardous waste or hazardous 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:

- 1) A description and delineation of the horizontal and vertical extent of any immiscible or dissolved plume(s) originating at or from SWMUs and AOCs under investigation, and the extent of contamination in sediments;
- 2) 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.
- 3) Background concentrations for naturally occurring constituents;
- 4) A description and delineation of the maximum concentrations (e.g., hot spots, source areas) of hazardous wastes or hazardous constituents;
- 5) The horizontal and vertical direction of movement of hazardous wastes or hazardous constituents;
- 6) The contaminant velocity or rate of movement;
- 7) An evaluation of the physical, biological, and chemical factors influencing contaminant movement; and

- 8) 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.

#### **4.2.2.c.v Air Characterization**

The Permittee shall conduct an investigation to characterize the particulate and gaseous contaminants released into the atmosphere from the SWMUs and AOCs under investigation. The Permittee shall analyze for hazardous waste or hazardous 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:

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

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

#### **4.2.2.c.vi Subsurface gas characterization**

The Permittee shall conduct an investigation to characterize subsurface gases emitted from hazardous waste or hazardous constituents at the SWMUs and AOCs under investigation. The Permittee shall analyze for hazardous waste or hazardous 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:

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

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

#### **4.2.2.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 at or from the SWMUs or AOCs under investigation. 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:

**4.2.2.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:

- 1) Type of use (e.g., drinking water source: municipal or residential, agricultural, domestic/non-potable, and industrial);
- 2) Location of ground water users including wells and discharge areas;
- 3) Domestic and municipal (e.g., potable and lawn/gardening watering);
- 4) Recreational (e.g., swimming, fishing);
- 5) Agricultural;
- 6) Industrial; and,
- 7) Environmental (e.g., fish and wildlife propagation).

**4.2.2.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 parcels on which the SWMUs and AOCs under investigation are located and adjacent lands with respect to the following considerations: recreation; hunting; residential; commercial; zoning; and, relationship between population locations and prevailing wind direction.

**4.2.2.d.iii Demographic Profile**

The Permittee shall submit a demographic profile of the people who use and have access (authorized and unauthorized) to the parcel on which the SWMUs and AOCs under investigation are located and adjacent lands. The Permittee shall detail the following: age; sex; sensitive subgroups; and, environmental justice concerns.

**4.2.2.d.iv Ecology**

The Permittee shall submit a description of the ecology of the parcel on which the SWMUs and AOCs under investigation are located and adjacent areas, including habitat and species present and expected to be present.

**4.2.2.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 parcel on which the SWMUs or AOCs are located.

#### **4.2.2.d.vi Tribal, State and Federal Regulations**

The Permittee shall provide a description of any tribal, state and federal threatened and/or endangered species (both proposed and listed), cultural sites or other regulated areas located near the parcel on which the SWMUs or AOCs under investigation.

#### **4.3 PRELIMINARY EVALUATION OF CORRECTIVE MEASURE TECHNOLOGIES BY LABORATORY OR BENCH-SCALE STUDIES**

NMED may require the Permittee to conduct laboratory and/or bench scale studies to determine the applicability of a corrective measure technology or technologies to conditions at the SWMUs and AOCs under investigation.

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.

#### **4.4 PROJECT SCHEDULE**

The Permittee's proposed project schedule shall specify all significant steps in the RFI process and when all RFI deliverables (*e.g.*, Current Conditions Report, a Health and Safety Plan; RFI WP, *etc.*) shall be submitted to NMED.

## **5 ATTACHMENT 5 CORRECTIVE MEASURES STUDY SCOPE OF WORK**

### **PURPOSE**

The purpose of the Corrective Measures Study (CMS) is to identify and evaluate potential remedial alternatives for all releases. 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 hazardous constituents exceed the cleanup levels specified in Permit Attachment 7 (Cleanup Levels for Environmental Media), 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.

#### **5.1 CORRECTIVE MEASURES STUDY WORK PLAN**

The CMS Work Plan shall include the following elements:

- 1) A site-specific description of the overall purpose of the Corrective Measure Study;
- 2) A description of the corrective measure objectives, including applicable cleanup levels;
- 3) A description of how a risk assessment shall be performed, if required;
- 4) A description of the specific corrective measure technologies and/or corrective measure alternatives that the Permittee shall study;
- 5) A description of the general approach to investigating and evaluating potential corrective measures;
- 6) A detailed description of any proposed pilot, laboratory and/or bench scale studies;
- 7) A proposed outline for the CMS Report including a description of how information shall be presented; and,
- 8) 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.

### **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 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 that could significantly affect the evaluation and selection of the corrective measures alternative(s).

### **5.1.3 Cleanup and Screening Levels**

Cleanup and screening levels shall be determined in accordance with Permit Attachment 7.

### **5.1.4 Corrective Measure Alternatives**

#### **5.1.4.a Identification**

For sites with simple contamination and/or obvious remedies, the Permittee shall propose appropriate “presumptive remedies.” For more complex sites and/or as required by NMED, the Permittee shall list and briefly describe potentially applicable technologies for each affected media that the Permittee may use 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.

#### **5.1.4.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.

#### **5.1.4.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 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 SWMUs and/or AOCs. The Permittee shall list and briefly describe each corrective measure alternative.

### **5.1.5 Evaluation of a Final Corrective Measure Alternative**

For each remedy that 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.

- 1) Protect human health and the environment;
- 2) Attain media cleanup standards set by NMED;
- 3) 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;
- 4) Comply with any applicable standards for management of wastes; and,
- 5) 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 Permittee shall use the following standards in evaluating each proposed remedy.

#### **5.1.5.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 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 to meet this standard. This information shall be provided in addition to a discussion of how the other corrective measure alternatives meet this standard.

#### **5.1.5.b Attain media cleanup standards set by NMED**

Proposed remedies shall attain approved media cleanup standards. The Permittee shall also include an estimate of the time frame necessary for each alternative to meet these standards.

#### **5.1.5.c Control the sources of releases**

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 specific SWMUs and/or AOCs and the known track record of the specific technology.

#### **5.1.5.d Comply with any applicable standards for management of wastes.**

The 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).

#### **5.1.5.e Other factors**

There are five general factors that NMED will consider as appropriate 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 environmental problems. The five general decision factors include:

- 1) Long-term reliability and effectiveness;
- 2) Reduction in the toxicity, mobility, or volume of wastes;
- 3) Short-term effectiveness;
- 4) Implementability; and,
- 5) 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 required are provided below:

#### **5.1.5.e.i Long-term reliability and effectiveness**

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.).

#### **5.1.5.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.

#### **5.1.5.e.iii                    Short-term effectiveness**

The Permittee shall evaluate each corrective measure alternative for short-term effectiveness. 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.

#### **5.1.5.e.iv                    Implementability**

The Permittee shall evaluate the implementability of each remedial option. Information to consider when assessing implementability may include:

- 1)     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;
- 2)     The constructibility, time for implementation, and time for beneficial results;
- 3)     The availability of adequate off-site treatment, storage capacity, disposal services, needed technical services and materials; and,
- 4)     The availability of prospective technologies for each corrective measure alternative.

#### **5.1.5.e.v                    Cost**

The Permittee shall develop an estimate of the cost of each corrective measure alternative (and for each phase or segment of the alternative). The cost estimate shall include both capital and operation and maintenance costs. The capital costs shall include, but are not limited to, costs for: engineering, site preparation, construction, materials, labor, sampling/analysis, waste management/disposal, permitting, health and safety measures, training, operation and maintenance, etc. The operation and maintenance costs shall include, but are not limited to, labor, training, sampling and analysis, maintenance materials, utilities, waste management, equipment replacement or repair, etc. Costs shall be calculated as the net present value of the capital and operation and maintenance costs.

### **5.1.6 Recommendation by Permittee for a Final Corrective Measure Alternative**

In the CMS Report, the Permittee shall justify and recommend in the CMS report a preferred remedial option(s) 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.

### **5.2 PROJECT SCHEDULE**

The Permittee's proposed project schedule shall specify all significant steps in the CMS process and when all CMS deliverables (*e.g.*, CMS Work Plan, a CMS Report, Progress Reports, *etc.*) shall be submitted to NMED.

## **6 ATTACHMENT 6 CORRECTIVE MEASURES IMPLEMENTATION 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 at or from the facility.

### **6.1 SCOPE**

The CMI Work Plan includes, unless otherwise specified by NMED, Conceptual Design, Operation and Maintenance Plan, Plans and Specifications, Construction Work Plan, Health and Safety Plan, 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 CMI documents in order to support the CMI program. The Permittee shall furnish all personnel, materials, and services necessary to conduct the CMI and any additional tasks.

#### **6.1.1 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 than 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.

#### **6.1.2 Introduction/Purpose**

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

#### **6.1.3 Corrective Measures Objectives**

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

#### **6.1.4 Conceptual Site Model of Hazardous Waste or Constituent Migration**

The Permittee shall present a conceptual site model of migration of hazardous waste or hazardous constituents. The conceptual site model shall consist of a working hypothesis of how the hazardous waste or hazardous constituents may move from the release source to the receptor population. The Permittee shall develop the conceptual site models by looking at the applicable

physical parameters (e.g., water solubility, density, Henry's Law Constant, etc.) for each hazardous waste or hazardous constituent and assessing how the hazardous waste or hazardous 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 hazardous constituents are likely to be found.

#### **6.1.5 Description of Corrective Measures**

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

#### **6.1.6 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 data already collected 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.

#### **6.1.7 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).

#### **6.1.8 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.

#### **6.1.9 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.

#### **6.1.10 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:

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

#### **6.1.11 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 runoff and runoff shall be managed.

#### **6.1.12 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.

#### **6.1.13 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 are considered 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.

#### **6.1.14 The Permittee shall include the following appendices:**

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

### **6.2 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 and Construction Work Plan. The O&M plan shall, at a minimum, include the elements specified below.

### **6.2.1 Introduction/Purpose**

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

### **6.2.2 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).

### **6.2.3 System Description**

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

### **6.2.4 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.

### **6.2.5 Start-Up Procedures**

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

### **6.2.6 Operation and Maintenance Procedures**

The Permittee shall describe normal operation and maintenance procedures including:

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

### **6.2.7 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 runoff, and runoff shall be managed.

### **6.2.8 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.

### **6.2.9 Corrective Measure Completion Criteria**

The Permittee shall describe the process and criteria (e.g., ground water cleanup level met for 3 years) for determining when corrective measures have achieved media cleanup levels. 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.

### **6.2.10 O&M Contingency Procedures**

The Permittee shall describe O&M Contingency Procedures including:

- 1) Procedures to address system breakdowns and operational problems including a list of redundant and emergency back-up equipment and procedures;
- 2) 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 hazardous constituents which may endanger human health and the environment or exceed media cleanup levels;
- 3) Contingency 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,
- 4) 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, 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.

### **6.2.11 Data Management and Documentation Requirements**

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

- 1) Progress Report information;
- 2) Monitoring and laboratory data;
- 3) Records of operating costs; and,
- 4) Personnel, maintenance and inspection records.

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

### **6.3 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 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:

- 1) General site plans;
- 2) Process flow diagrams;
- 3) Mechanical drawings;
- 4) Electrical drawings;
- 5) Piping and instrumentation diagrams;
- 6) Structural drawings;
- 7) Excavation and earthwork drawings;
- 8) Site preparation and field work standards;
- 9) Construction drawings;
- 10) Facility drawings;
- 11) Equipment lists; and,
- 12) Detailed specifications for equipment and material.

## **6.4 CONSTRUCTION WORK PLAN**

The Permittee shall prepare a Construction Work Plan that documents the overall management strategy, construction quality assurance procedures, and schedule for constructing the corrective measure. 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, at a minimum, include the elements specified below.

### **6.4.1 Introduction/Purpose**

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

### **6.4.2 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).

### **6.4.3 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.

### **6.4.4 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.

### **6.4.5 Waste Management Procedures**

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

### **6.4.6 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 (QAPjP) 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.

#### **6.4.7 Construction Contingency Procedures**

The Construction Work Plan shall include procedures to notice NMED and to address changes to the design and/or specifications caused by unforeseen problems encountered in the field.

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, the secondary measure would be implemented. This section shall specify that if the primary corrective measure could not be constructed, design plans would be developed for the secondary measure.

#### **6.4.8 Construction Safety Procedures**

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

#### **6.4.9 Documentation Requirements**

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

### **6.5 HEALTH AND SAFETY PLAN**

The Permittee shall submit a Health and Safety Plan for all field activity. 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.

#### **6.5.1 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.

## **6.5.2 Hazard Assessment**

The Permittee shall list and describe the potentially hazardous substances, hazardous wastes or hazardous 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:

- 1) Inhalation hazards;
- 2) Dermal exposure;
- 3) Ingestion hazards;
- 4) Physical hazards; and
- 5) 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.

## **6.5.3 Personal Protection/Monitoring Equipment**

The Health and Safety Plan shall describe the following:

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

## **6.5.4 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 at or 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.).

## **6.6 PROJECT SCHEDULE**

The Permittee's proposed project schedule shall specify all significant steps in the CMI process and when all CMI deliverables (*e.g.*, CMS Work Plan, a CMS Report, Progress Reports, *etc.*) shall be submitted to NMED.

## **7 ATTACHMENT 7 CLEANUP LEVELS**

### **GROUND WATER, SOIL AND SURFACE WATER CLEANUP LEVELS**

The Permittee shall attain the cleanup levels specified below when implementing the closure and corrective action requirements of this Permit.

#### **7.1 GROUND WATER CLEANUP LEVELS**

The Permittee shall attain the following cleanup levels for hazardous waste and hazardous constituents in ground water:

1. For all contaminants listed in 20.6.2.7.VV and 3103 NMAC the Permittee shall attain the WQCC standards of 20.6.2.4103.A and B NMAC,
2. For all contaminants for which EPA has adopted a drinking water maximum contaminant level (MCL) under 40 CFR Parts 141 and 143, the Permittee shall attain the MCL,
3. If both a WQCC standard and an EPA MCL have been established for a contaminant, then the Permittee shall attain the lower of the two,
4. If no WQCC standard or EPA MCL has been established for a carcinogenic hazardous waste or hazardous constituent, then the Permittee shall use the most recent version of the EPA Region VI *Human Health Medium-Specific Screening Levels* (HHMSSL) for tap water and a target excess cancer risk level of  $10^{-5}$  to develop a proposed cleanup level for NMED approval, and
5. If no WQCC standard or EPA MCL has been established for a noncarcinogenic hazardous waste or hazardous constituent, then the Permittee shall use the most recent version of the EPA Region VI *Human Health Medium-Specific Screening Levels* (HHMSSL) for tap water and a Hazard Index (HI) of one (1.0) to develop a proposed cleanup level for NMED approval.
6. There currently is no WQCC groundwater standard or MCL for perchlorate; however, the Permittee shall determine the nature and extent of the perchlorate contamination at the Facility and, if necessary, down gradient of the Facility. If either the WQCC adopts a groundwater standard for perchlorate, or EPA or the EIB adopts an MCL for perchlorate, such standard shall be followed in accordance with this Attachment (7). If perchlorate is detected at concentrations at or greater than 6 µg/L and no groundwater standard or MCL has been adopted by the EIB, WQCC or EPA for perchlorate, then the Permittee shall use the cleanup goal with a HI of one (1.0) to develop the proposed cleanup level for use in their site investigation or corrective measure evaluation.

## 7.2 SOIL CLEANUP LEVELS

The Permittee shall attain the following cleanup levels for hazardous waste and hazardous constituents in soil:

1. For all contaminants for which NMED has specified a soil screening level in NMED's *Technical Background Document for Development of Soil Screening Levels*, the cleanup level shall be the screening level specified in the most recent version of that document.
2. The Permittee shall propose a soil cleanup level for PCBs based on NMED's Position Paper Risk-based Remediation of Polychlorinated Biphenyls at RCRA Corrective Action Sites (March 2000 as updated).
3. If an NMED soil screening level has not been established for a hazardous waste or hazardous constituent the Permittee shall propose for NMED approval, a cleanup level based on the most recent version of the EPA Region VI HHMSSL (based on a HI of one (1.0) for compounds designated as "n" (noncarcinogen effects), "max" (maximum concentration), and "sat" (soil saturation concentration), or ten times the EPA Region VI HHMSSL for compounds designated "c" (carcinogen effects) (*i.e.* a target excess cancer risk level of  $10^{-5}$ ).

## 7.3 LAND USE DETERMINATION

All soil cleanup levels shall be based on a residential land use scenario unless the Secretary determines that an alternate land use is appropriate (*e.g.* subsistence farming, cultural, or industrial). The Permittee may only propose an alternate land use with higher cleanup levels (*e.g.* industrial) if NMED or EPA can legally and practicably enforce the institutional controls limiting the land use. If an alternate land use for which NMED or EPA has not established soil cleanup levels is determined to be the current and reasonably foreseeable future land use, then the Permittee may propose cleanup levels based on a risk assessment using a target excess cancer risk level of  $10^{-5}$  for carcinogenic hazardous waste or hazardous constituent or, for noncarcinogenic hazardous waste or hazardous constituent, a HI of one (1.0).

## 7.4 SURFACE WATER CLEANUP LEVELS

The Permittee shall comply with the surface water quality standards specified in 20.6.2.2000-2201 NMAC and the Standards for Interstate and Intrastate Surface Waters (20.6.4 NMAC).

## 7.5 ECOLOGICAL RISK CLEANUP LEVELS

The Permittee shall derive cleanup levels for each hazardous waste and hazardous constituent for each ecological zone at the Facility using the methodology in the Department's "*Guidance for Assessing Ecological Risks Posed by Chemicals: Screening-Level Ecological Risk Assessment.*" If the ecological risk evaluation indicates that a lower cleanup level for a hazardous waste or hazardous constituent in groundwater, soil, or surface water is necessary to protect environmental receptors, NMED may establish cleanup levels based on ecological risk for hazardous waste or hazardous constituents in groundwater, soil, or surface water that are lower than levels that are solely protective of human health.

## **7.6 BACKGROUND CONCENTRATIONS**

If the naturally occurring (background) concentration of a hazardous waste or hazardous constituent in ground water, soil, or surface water exceeds the standards specified above, then the cleanup level shall be the background concentration. To use background concentration as a cleanup level, the Permittee must obtain a written background determination from NMED.

## **7.7 VARIANCE FROM CLEANUP LEVELS**

The Permittee may seek a variance from a cleanup level for soil or ground water as follows;

### **7.7.1 WQCC Standards**

The Permittee may seek a variance from a WQCC standard in accordance with 20.6.2.4103.E or F NMAC.

### **7.7.2 Soil Standards and Non-WQCC Ground water Standards**

The Permittee may seek a variance from any cleanup level for soil or for ground water (other than a WQCC standard) by submitting a written request to NMED for a determination that attainment of the cleanup level is technically infeasible or otherwise impracticable due to conflict with other environmental laws or requirements for the preservation of cultural resources. If based on technical infeasibility, the request shall include; a demonstration of technical or physical impossibility of attaining the cleanup level using potential corrective action remedies. If based on conflict with other environmental laws or requirements for the preservation of cultural resources, the request shall include documentation showing that Permittee has attempted to resolve the conflict or mitigate the impact on cultural or natural resources and shall explain why mitigating measures cannot resolve the conflict or adequately protect the cultural or natural resource (e.g. consultation and a determination of incidental taking or reasonable and prudent measures to minimize the impact under 16 U.S.C. § 1536). All requests shall include a discussion of the effectiveness of potential corrective action remedies, whether the proposed variance will allow a present or future hazard to public health or the environment, and any other information required by the Secretary. In addition, the request shall propose alternate cleanup levels for NMED approval, based on the effectiveness of potential corrective action remedies and a site-specific risk assessment based on NMED's guidance, *Technical Background Document for Development of Soil Screening Levels* (February 2004 as updated), *Assessing Human Health Risks Posed by Chemicals: Screening Level Risk Assessment* (March 2000), and *Guidance for Assessing Ecological Risks Posed by Chemicals: Screening-Level Ecological Risk Assessment* (March 2000, as updated).

**8 ATTACHMENT 8  
 HAZARDOUS WASTE MANAGEMENT UNIT, SOLID WASTE MANAGEMENT UNIT,  
 AND AREA OF CONCERN TABLE**

<b>TABLE 1                  SOLID WASTE MANAGEMENT UNITS (SWMUS)                  AND AREAS OF CONCERN (AOCS)                  THAT REQUIRE CORRECTIVE ACTION</b>		
<b>SWMU/ AOC.</b>	<b>Parcel</b>	<b>Description</b>
SWMU 1	21	TNT Leaching Beds & Building 503
SWMU 2	21	Building 515 (Painting and Acid Washout Building and Acid Holding Pond)
SWMU 3	11	Fenced Storage Yard (Former Storage Yard or DRMO Area, Extended Storage Yard, Former Coal Storage Area)
SWMU 4	6	Building 600 (Building 539, Ammunition Work Shop Area Change House and Laundry)
SWMU 5	11	Building 5
SWMU 6	11	Building 11 (Former Locomotive Shop)
SWMU 7	21	Fire Training Ground
SWMU 8	6	Building 537 (Pesticide and Field Battery Shop)
SWMU 9	7	POL Waste Discharge Area
SWMU 10	11	Sewage Treatment Plant (includes Buildings/ Structures 22, T-37, 63, 69, 70, 71, 72, 73, 74a, 74b, 74c, 74d, 82, 83, document incinerator, Structure 745, drainage ditch, septic system at sewage treatment plant)
SWMU 11A	UK	Structure 745 (includes Structure 746)

**TABLE 1  
 SOLID WASTE MANAGEMENT UNITS (SWMUS)  
 AND AREAS OF CONCERN (AOCs)  
 THAT REQUIRE CORRECTIVE ACTION**

<b>SWMU/ AOC.</b>	<b>Parcel</b>	<b>Description</b>
SWMU 11B	6	Building 542 (Ammunition Workshop) and Building 541
SWMU 12	22	Building 536 (Inspectors Workshop and Ammunition Renovation Depot) (includes one former PCB transformer)
SWMU 13	18	Eastern Landfill
SWMU 14	3	Old Burning Ground and Demolition Landfill Area (Includes KGA-3, KGA-4, KGA-5, KP-2, KP-3, KP-4, Arroyo in Fenced Up Horse Valley, and Dump Pile)
SWMU 15	3	Old Demolition Area (includes Inactive EOD Area, KGA-1, KGA-2, Old OB/OD & Buried White Phosphorus Rounds, and Three Mounds in Fenced-Up Horse Valley)
SWMU 16	16, may include 15	Functional Test Range 2/3
SWMU 17	2	Western Rifle Range
AOC 18	9, 24	Igloo Block A
SWMU 19	21	Building 501 (Former Boiler House and Heating Plant No. 7)
SWMU 20	7	Western Landfill, includes Features 3 and 4 on 1962 air photo API-3 (1995 Archive Search Report)
SWMU 21	23	Central Landfill
SWMU 22	2	Group C Landfill
SWMU 23	11	Building 8 (Paint Shop or Carpenter Shop) and Building 7 (Paint Shop and Paint Storage Warehouse)

**TABLE 1  
 SOLID WASTE MANAGEMENT UNITS (SWMUS)  
 AND AREAS OF CONCERN (AOCS)  
 THAT REQUIRE CORRECTIVE ACTION**

<b>SWMU/ AOC.</b>	<b>Parcel</b>	<b>Description</b>
SWMU 24	11	Building 15 (Garage and Storage Bldg.)
SWMU 25	7	Trash Burning Ground Property Disposal Office includes Features 1, 2 and 5 on the 1962 aerial photo API-3 (from the 1995 Archive Search Report)
SWMU 26	10	Suspected POL Area. Large berm north of the railroad classification yard.
SWMU 27	22	Building 528 Complex. Includes Building 528 (Ammunition Normal Maintenance Building), Building 528A (temporary storage igloo), AOC 121 (Building 528B, temporary storage igloo), AOC 122 (Building 529), AOC 125 (Building 550, vacuum collector barricade), AOC126 (Building 551, service magazine)
AOC 28	6	Igloo Block B
AOC 29	2, 4, 19, 23	Igloo Block C
AOC 30	19, 22	Igloo Block D
AOC 31	19	Igloo Block E
AOC 32	19	Igloo Block F
SWMU 33	3	Waste Pile KP1
AOC 34	19	Igloo Block G
AOC 35	2	Igloo Block H
AOC 36	2	Igloo Block J (includes Missile Launch Pad used by MDA)
SWMU 37	11	Building 9 (Machine Shop and Signal Shop)
SWMU 38	20	Functional Test Range 1
SWMU 39	19	Pistol Range

**TABLE 1  
SOLID WASTE MANAGEMENT UNITS (SWMUS)  
AND AREAS OF CONCERN (AOCs)  
THAT REQUIRE CORRECTIVE ACTION**

<b>SWMU/ AOC.</b>	<b>Parcel</b>	<b>Description</b>
SWMU 40	11	South Administration Area Formerly named the Coal Tar Storage Tanks (Structures 58, 59, and 60), SWMU 48 (Building 10), SWMU 49 (Building 12), SWMU 50 (Building 13), SWMU 51 (Building 29), SWMU 52 (Building T-33), SWMU 53 (Building 36), SWMU 54 (UST #5), AOC 55 (Structure T-49), AOC 56 (Building T-50), AOC 72 (Building 14), SWMU 77 (Building T-34), AOC 83 (Structure 63), and AOC 87 (Structure 57)
AOC 41	16	Igloo Block K
AOC 42	6	Building 516 (Ammunition Receiving Building)
AOC 43	7	Railroad Classification Yard
AOC 44	10	Former Administration and Utilities Area
SWMU 45	11	Building 6 (Gas Station)
AOC 46	11	Above Ground Tank located near Blg. 11
AOC 47	11	TPL spill of photoflash powder west of Blg. 11
AOC 48	11	Building 34 (Fire Station)
AOC 49	11	Structure 38 (End Loading Dock) and Structure 39 (Side Loading Dock)
SWMU 50	11	Structure 35 (Underground Storage Tank (UST #7) located by Building 45)
AOC 51	6 or 11	Structure 64 (Underground Storage Tank)
AOC 52	11	Building 79 and Building 80 (Storage Vaults)
AOC 53	13	Lake Knudson
AOC 54	13	Building 311 (Standard Magazine)

**TABLE 1  
 SOLID WASTE MANAGEMENT UNITS (SWMUS)  
 AND AREAS OF CONCERN (AOCS)  
 THAT REQUIRE CORRECTIVE ACTION**

<b>SWMU/ AOC.</b>	<b>Parcel</b>	<b>Description</b>
AOC 55	13	Structure 506 (TNT Storage Barricade)
AOC 56	13	Structure 533 (Explosive Barricade)
AOC 57	16	Buildings 306, 307, 308, 309, 310 (Standard Magazines near Knudson Lake)
AOC 58	19	Buildings 303 and 304 (Standard Magazines) and 320 (Field Dunnage Building along Arterial Road No. 3)
AOC 59	19	Building T-422 (former Blg. X-11, Normal Maintenance Blg., Bomb and Shell Paint Blg.)
AOC 60	21	Building 522 formerly designated as Building 500 (Ammunition Receiving Bldg.)
AOC 61	21	Building 507 (Smokeless Powder Magazine)
AOC 62	21	Building 508 (Smokeless Powder Magazine)
AOC 63	21	Building 509 (Primary Collector Barricade or Propellant Baghouse)
AOC 64	21	Building 510 (Vacuum Producer Building)
AOC 65	21	Building 511 (Service Magazine)
AOC 66	21	Building 512 (Service Magazine)
AOC 67	21	Building 513 (Service Magazine)
AOC 68	21	Structure 514 (Deboostering Barricade) and Structure 545 (Earthen Barricade)
AOC 69	22	Buildings 301, 302, and 312 (Standard Magazines), Building 316 (Field Lunch Room),

**TABLE 1  
 SOLID WASTE MANAGEMENT UNITS (SWMUS)  
 AND AREAS OF CONCERN (AOCs)  
 THAT REQUIRE CORRECTIVE ACTION**

<b>SWMU/ AOC.</b>	<b>Parcel</b>	<b>Description</b>
SWMU 70	22	Disassembly Plant and TPL QA Test Area (Disassembly Plant includes Building 517, Structure 518, Building 519, Structure 520, Structure 521, Structure 547) Disassembly Plant and TPL QA Test and OB/OD Area
AOC 71	22	Former rectangular structure near TMW-5 and north of Blg. 528
SWMU 72	21 and may include 22	Deactivation Furnace, Deactivation Furnace Acid Pits, and surrounding area (includes pre-1958 buildings and areas in the vicinity of Blg. 530)
AOC 73	23	Former buildings or structures along Road C-3.
SWMU 74	3	Area 16 or Site 16 (Proposed Burning Ground) – to be addressed under the Kickout Area requirements unless the location is determined to be outside the Kickout Area boundary as defined Section IV.A
AOC 75	6, 7, 11, 12, 13, 19, 21, 22, and may include other parcels	Electrical Transformers (at least 65 former or existing transformers)
AOC 76	2	Feature 19 on the 1973 aerial photo (API-5) in the 1995 Archive Search Report.
AOC 77	2	Feature 20 on the 1973 aerial photo (API-5) in the 1995 Archive Search Report.
AOC 78	5	Feature 18 on 1973 aerial photo (API-5) in 1995 Archive Search Report
AOC 79	6	Feature 2 on 1973 aerial photo (API-5) in 1995 Archive Search Report
AOC 80	6	Feature 9 on 1962 aerial photo (API-3) in 1995 Archive Search Report
AOC 81	6	Feature 11 on 1962 aerial photo (API-3) in 1995 Archive Search Report
AOC 82	6 and 5	Feature 18 on 1973 aerial photo (API-5) in 1995 Archive Search Report

**TABLE 1  
 SOLID WASTE MANAGEMENT UNITS (SWMUS)  
 AND AREAS OF CONCERN (AOCs)  
 THAT REQUIRE CORRECTIVE ACTION**

<b>SWMU/ AOC.</b>	<b>Parcel</b>	<b>Description</b>
AOC 83	6	Feature 22 on 1973 aerial photo (API-5) in 1995 Archive Search Report
AOC 84	6	Feature 12 on 1962 aerial photo (API-3) in 1995 Archive Search Report
AOC 85	9	Feature 11-1 on 1962 aerial photo (API-3) in 1995 Archive Search Report and Feature 1 on 1973 aerial photo (API-5) in 1995 Archive Search Report.
AOC 86	13	Feature 15 on 1973 aerial photo (API-5) in 1995 Archive Search Report.
AOC 87	21	Feature 18 on 1962 aerial photo (API-3) and Feature 23 on 1973 aerial photo (API-5) in 1995 Archive Search Report.
AOC 88	22	Former buildings or structures and disposal areas southwest, south, and southeast of Blg. 528.
AOC 89	3	Feature 30 and Feature 34 on 1973 aerial photo (API-5) in 1995 Archive Search Report
AOC 90	3	Feature 36 on 1973 aerial photo (API-5) in 1995 Archive Search Report
AOC 91	3	Feature 41 in the 1973 aerial photo (API-5) and Feature 27 on the 1978 historic aerial photo (API-7) in the 1995 Archive Search Report.
AOC 92	3	Feature 31 on the 1973 historic aerial photo (API-5) and Feature 21 on the 1978 aerial photo (API-7) in 1995 Archive Search Report
AOC 93	Un-known	Bivouac and Tank Training Area

<b>TABLE 2 HAZARDOUS WASTE MANAGEMENT UNITS (HWMUS)</b>		
<b>HWMU</b>	<b>PARCEL NO.</b>	<b>DESCRIPTION</b>
OB/OD Unit	3	The OB/OD Unit is an inactive open burn/open detonation (OB/OD) unit (see Permit Attachment 1) subject to the Permitting Requirements. The OB/OD Unit includes: the area known as the Burning Ground Area, twelve Current Detonation Craters (CDC) known as CDC-1 through CDC-12, ten (10) Current Residue Piles (CRP) known as CRP-1 through CRP-10.

<b>TABLE 3</b> <b>SOLID WASTE MANAGEMENT UNITS (SWMUS) AND AREAS OF CONCERN (AOCS)</b> <b>CORRECTIVE ACTION COMPLETE WITH CONTROLS</b>

<b>TABLE 4</b> <b>SOLID WASTE MANAGEMENT UNITS (SWMUS) AND AREAS OF CONCERN (AOCS)</b> <b>CORRECTIVE ACTION COMPLETE WITHOUT CONTROLS</b>

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**9ATTACHMENT 9  
CLOSURE PLAN**

[To be submitted and approved pursuant to Permit Part VIII. ]

**10 ATTACHMENT 10**  
**FACILITY-WIDE GROUND WATER MONITORING PLAN**

[To be submitted and approved pursuant to Permit Part V and VII.]

**11 ATTACHMENT 11**  
**GROUND WATER CORRECTIVE ACTION PROGRAM**

[To be submitted pursuant to Permit Part VIII.]

**12ATTACHMENT 12**  
**MAP OF OB/OD UNIT**



**14ATTACHMENT 13**  
**OFF-SITE WELLS**

The following off-site water supply wells are subject to ground water monitoring and sampling.

16T-538C

16T-538D

16T-538E

16T-538UNC

16T-602

16T-603

19



