National Nuclear Security Administration
Sandia Site Office
P.O. Box 5400
Albuquerque, New Mexico 87185-5400

JUL 1 6 2007

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

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JUL 2007
NMED Hazardous Waste Bureau

Mr. John Kieling
Manager
RCRA Permits Program
New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Road East, Building 1
Santa Fe, New Mexico 87505-6303

Dear Mr. Kieling:

On behalf of Sandia Corporation (Sandia) and the Department of Energy (DOE), DOE is submitting comments on the New Mexico Environment Department (NMED) Intent to Approve a Closure Plan Amendment, Select a Final Remedy, and Issue a Post-Closure Care Permit under the New Mexico Hazardous Waste Act for the Sandia National Laboratories Chemical Waste Landfill (CWL). The associated public notice, dated May 21, 2007, established a public comment period terminating on July 20, 2007.

DOE and Sandia oppose the issuance of the CWL post-closure care permit as drafted and offer a number of comments, the most important of which are related to groundwater and vadose zone monitoring. In particular, we request that the post-closure monitoring requirements reflect the current state of the CWL following the successful completion of two voluntary corrective measures. To that end, we offer several methods which each allow a more flexible post-closure monitoring program under the regulatory requirements. Please see the enclosed comments on the draft CWL permit (Enclosure 1 – Major Comments, and Enclosure 2 – Specific Comments). In addition, we are providing editorial comments to update the CWL Closure Plan Chapter 12 amendment (Enclosure 3).

With this notice of opposition and the associated comments within Enclosures 1 and 2, the Permittees, DOE and Sandia, request that a public hearing be scheduled to address these outstanding issues. DOE and Sandia hope to reach resolution with NMED in advance of a hearing and, if accomplished, will immediately withdraw the hearing request.

If you have any questions regarding this submittal, please contact me at (505) 845-6036, or Dan Pellegrino of my staff at (505) 845-5398.

Sincerely,

Kimberly A Davis for

Patty Wagner
Manager

Enclosures (3)

cc w/enclosures:
W. Moats, NMED-HWB (Via Certified Mail)
L. King, EPA, Region 6 (Via Certified Mail)
T. Skibitski, NMED-OB

cc w/o enclosures:
A. Blumberg, SNL/NM, Org. 11100, MS 0141
D. Miller, SNL/NM, Org. 6765, MS 0718
P. Freshour, SNL/NM, Org. 6765, MS 1089
M. Davis, SNL/NM, Org. 6765, MS 1089
Records Center, SNL/NM, Org. 6765, MS 1089
T. Longo, HQ/GTN, NA-56
M. Reynolds, SSO, MS 0184
J. Estrada, SSO, MS 0184

AOP 95-45, 06

CERTIFICATION STATEMENT FOR APPROVAL AND FINAL RELEASE OF DOCUMENTS

Document title: **Comments on the Chemical Waste Landfill Draft Post-Closure Permit, July 2007**

Document author: **Mike Mitchell, 6765**

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

Signature: Francis B Nimick 7/9/07
Date

Francis B. Nimick
Deputy to the
Nuclear Energy & Global Security Technologies
Center 6700
Sandia National Laboratories/New Mexico
Albuquerque, New Mexico 87185
Operator

and

Signature: Kimberly A Davis for 7/17/07
Date

Patty Wagner
Manager
U.S. Department of Energy
National Nuclear Security Administration
Sandia Site Office
Owner and Co-Operator

Enclosure 1
Major Comments

DOE/Sandia Major Comments on the Draft Post-Closure Care Permit for the Chemical Waste Landfill at Sandia National Laboratories, New Mexico Permit No. NM5890110518-2

Comment 1. Applicability of Subpart F Groundwater Monitoring Requirements

The Chemical Waste Landfill (CWL) has successfully undergone two extensive voluntary corrective measures (VCMs) designed to achieve NMED-approved risk-based standards through contaminant source removal actions (the landfill excavation [LE] VCM and the vapor extraction [VE] VCM). The success of these VCMs has been demonstrated by nine years of groundwater monitoring data and supported by volatile organic compound (VOC) soil-gas plume monitoring data collected since completion of the VE VCM in 1998.

Based on the completion of two VCMs and the existence of many years of groundwater monitoring data, a flexible set of groundwater monitoring requirements should be developed for the Chemical Waste Landfill (CWL). The draft permit issued by the New Mexico Environment Department (NMED) adopts the groundwater compliance monitoring program of 20.4.1.500 NMAC, incorporating 40 CFR 264 Subpart F. Subpart F establishes a set of requirements for monitoring, imposing elements that are not suited to a landfill that has undergone extensive corrective action such as the CWL.

Application of Subpart F, without credit for source removal, is questionable. Examples of monitoring requirements under Subpart F that would appear questionable due to this source removal include the following:

(1) a 45-year compliance period;
(2) semi-annual sampling, consisting of one event for specified contaminants, and one event for Appendix IX constituents;
(3) the automatic addition of any detected Appendix IX contaminants to the specified contaminants list, resulting in a growing list of analytes; and,
(4) the automatic activation of corrective action when a trigger level is exceeded and confirmed.

Despite these prescriptive requirements, Subpart F does provide, under specified conditions, flexible provisions allowing for customization of groundwater monitoring requirements. Requirements within 40 CFR 270.1(c) also confirm this flexibility by stating that "if a post-closure permit is required, the permit must address applicable groundwater monitoring, unsaturated zone monitoring, corrective action, and post-closure care requirements of this chapter." The Department of Energy (DOE) and Sandia Corporation (Sandia) acknowledge that groundwater monitoring during the CWL post-closure period is warranted, provided that the monitoring program incorporates the CWL current state: the source has been removed (original waste was the source of the VOC soil gas plume), much of the soil gas plume has been extracted (source of the groundwater contamination), both vadose zone and groundwater monitoring systems are in place, and all monitoring results to date demonstrate the effectiveness of the corrective actions.

Sandia is a multiprogram laboratory operated by Sandia Corporation, a Lockheed Martin Company, for the United States Department of Energy's National Nuclear Security Administration under contract DE-AC04-94AL85000.

DOE and Sandia have identified three different methods under Subpart F (along with the regulatory basis for each) toward implementing a more flexible groundwater monitoring program at the CWL.

Method 1. Groundwater Monitoring under 20.4.1.500 NMAC, incorporating 40 CFR 264.100(d)

As a regulated unit subject to a post-closure permit, the CWL must comply with the requirements of 20.4.1.500 NMAC, incorporating 40 CFR 264.91 through 264.100 (Subpart F). (See 40 CFR 264.90(a)(2)) The corrective action program for permitted regulated units is established in 40 CFR 264.100. Under these provisions, if a regulated unit must perform corrective action, the groundwater monitoring program may be tailored to address the end state of the unit following corrective action.

The CWL corrective action program was conducted under the CWL Closure Plan, authorized by NMED under the interim status provisions of 40 CFR 265. Because the interim status regulations contain no corrective action provisions, the CWL cleanup was conducted under the same process and standards used for corrective actions under 40 CFR 264. The goal of the CWL cleanup was the same as that of a permitted unit under Subpart F: protection of the uppermost aquifer. The view of U. S. Environmental Protection Agency (EPA) regarding corrective action for an interim status unit is summarized in their Advance Notice of Proposed Rulemaking on corrective action: "EPA's long-standing view has been that the requirements to address facility-wide corrective action at interim status facilities are consistent with those for permitted facilities." (61 FR 19432, 19458, May 1, 1996)

The CWL cleanup was subject to Subtitle C regulation and NMED oversight throughout the lengthy remediation process. The result was the same as would be expected for a permitted unit. Because the measure of success of the cleanup is dependent upon continued monitoring, the corrective action may be viewed as ongoing. As the CWL corrective action continues into the post-closure phase, the corrective action may be regulated under 40 CFR 264.100. Under these provisions, the NMED can authorize "...a groundwater monitoring program to demonstrate the effectiveness of the corrective action program. Such a monitoring program may be based on the requirements for a compliance monitoring program under 264.99 and must be as effective as that program in determining compliance with the groundwater protection standard under 264.92 and in determining the success of a corrective action program...[defined in 264.100(e)]." (See 40 CFR 264.100(d)) Thus, the provisions of 40 CFR 264.100 appear to offer flexibility in defining a CWL-specific groundwater monitoring program that is based on the results of the corrective action program.

Method 2. Demonstrate that all waste and contaminated soils have been removed from the CWL.

Based on the success of the two source removal VCMs, the CWL may qualify for an exemption contained in the applicability section of Subpart F, 40 CFR 264.90(c)(1). This section states: "After closure of the regulated unit, the regulations in this subpart do not apply if all waste, waste residues, contaminated containment system components, and contaminated subsoils are removed or decontaminated at closure." (20.4.1.500 NMAC incorporating 40 CFR 264.90(c)(1)) Existing documentation demonstrates that the source of contamination has been removed and that "contaminated subsoils" exist only at a level that do not pose a risk. (SNL/NM August 2000, Lewis October 2000, SNL/NM April 2003, and Moats December 2003) A determination by the NMED that the CWL qualifies for this exemption would allow the development of monitoring provisions tailored to the post-remediation state of the CWL.

Method 3. Demonstrate that there is no potential for migration of liquid from a regulated unit to the uppermost aquifer during the post-closure period.

Based on the success of the VCMs, the collection of many years of monitoring data, and the development (and continued confirmation) of a conceptual hydrologic model, the CWL also may qualify for an exemption under the applicability section of Subpart F, 40 CFR 264.90(b)(4). Under 20.4.1.500 NMAC incorporating 40 CFR 264.90(b)(4), the regulated unit "is not subject to regulation for releases into the uppermost aquifer" under this subpart, provided "...that there is no potential for migration of liquid from a regulated unit to the uppermost aquifer during the active life of the regulated unit...and the post-closure care period." This demonstration must be certified by a qualified geologist or geotechnical engineer and must use assumptions that maximize the rate of liquid migration. The hydrologic analysis in the CWL Corrective Measures Study (CMS) Report supports this demonstration; if NMED is amenable to consideration of this exemption, DOE and Sandia will prepare and submit a certified demonstration using the maximum rate of liquid migration.

NMED acceptance of any of these three methods would allow groundwater monitoring provisions to be tailored to the post-remediation state of the CWL. The groundwater monitoring program could then focus resources toward ensuring the groundwater protection standard is met and the corrective action program is effective.

DOE/Sandia Major Comments on the Draft Post-Closure Care Permit for the Chemical Waste Landfill at Sandia National Laboratories, New Mexico Permit No. NM5890110518-2

Comment #2. Conceptual Corrective Measures Evaluation Process (CCMEP)

The draft Permit does not include the conceptual corrective measures evaluation process (CCMEP) that defined the process for confirming and evaluating any exceedance of a "trigger level." The CCMEP was developed in response to NMED comments on the CMS Report and was the subject of numerous discussions with NMED staff. The CCMEP was approved when NMED concurred with the CWL CMS Comment Response Document in December 2004 (Bearzi December 2004). Instead of the CCMEP, the draft Permit contains the following language (from Section 1.8.2.2): "If the results [soil gas verification sample] confirm that the trigger level of 20 ppmv has been exceeded, the Permittees shall conduct corrective action." Although DOE and Sandia recognize that this requirement of automatic corrective action is an artifact of Subpart F (see Major Comment 1), the CCMEP is the product of previous discussion and agreement with the NMED, and it reflects a reasonable approach given the extensive corrective actions already completed. The history of the development of the CCMEP follows.

When NMED rejected the May 2003 CWL CMS Report, the letter contained a number of comments, as well as a table of both general and specific comments (Kieling December 2003). Because of the complexity of the comments and the long lead-time needed to address additional monitoring data requested by NMED (both groundwater and soil gas), DOE/Sandia staff and NMED staff held seven technical meetings over a 9 month period to reach a mutually agreeable resolution to each comment. To ensure that the informal agreements reflected an approach acceptable to the NMED, DOE and Sandia documented the resolution of all comments in the CMS Comment Response Document that was submitted to the NMED on October 12, 2004 (Wagner October 2004). The NMED concurred with the CMS Comment Response document on December 17, 2004 prior to formal submittal of the revised CWL CMS Report (SNL/NM December 2004).

The CMS Comment Response document addressed comments related to 1) establishing action or "trigger" levels for VOC soil gas based upon calculations, and 2) defining a "conceptual corrective measures alternative" for both the VOC soil gas plume and groundwater should future monitoring results indicate groundwater contamination exceeds a regulatory standard or may potentially exceed a regulatory standard based upon increased soil gas concentrations (Letter Comments L-3, L-5, and L-8, General Comments #4, and Specific Comment #7, Wagner October 2004). The NMED also required the collection of additional groundwater and VOC soil gas monitoring results to support the conclusion that the post-Corrective Action Program (CAP) condition of the CWL was protective of human health and the environment. The CAP at the CWL, conducted under the CWL Closure Plan, included a Vapor Extraction (VE) and Landfill Excavation (LE) Voluntary Corrective Measures (VCM) that were conducted from July 1997 through February 2002 (end of the main excavation phase of the LE VCM). The requested additional monitoring data was collected and resolution of these comments was negotiated and documented, including:

- A calculation package and supporting information for a VOC soil gas trigger level for the deepest sampling ports of the three deepest soil gas monitoring wells (Attachment A to the CMS Comment Response document).

- A conceptual corrective measures evaluation process (CCMEP) that defined specific steps to be taken if a groundwater standard and/or soil gas trigger level were exceeded during post-closure care monitoring (Attachment B to CMS Comment Response document).

The CCMEP was negotiated to satisfy the "conceptual corrective measure" that NMED had requested be included in the revised CMS Report (Kieling December 2003), and to take into account that an extensive, costly CAP had already been completed at the CWL under the CWL Closure Plan. The CCMEP was subsequently documented in the CMS Comment Response document and December 2004 CMS Report. The success of the CAP is further supported by groundwater and soil gas monitoring data collected since submittal of the December 2004 CMS Report as documented in subsequent CWL Quarterly Closure Progress Reports.

Furthermore, during initial discussions to resolve these comments, DOE and Sandia expressed concern with the designation of a soil gas action or trigger level that would lead directly to "implement corrective action" because, unlike groundwater, no regulatory standard for soil gas exists and, accordingly, there appears to be no basis for mandating corrective action based upon soil gas data. DOE and Sandia were, however, willing to establish a soil gas trigger level, provided that a process could be agreed upon for evaluating the significance of the exceedance and recommending any needed corrective action. That process was defined as the CCMEP. As negotiated and documented in the CMS Comment Response document (SNL/NM October 2004), CMS Report (SNL/NM December 2004), and Post-Closure Care Plan (SNL/NM September 2005), if a VOC soil gas trigger level or groundwater standard were to be exceeded in the future, it would activate a defined process that would include the following steps:

- collect additional monitoring data at an increased frequency (semi-annual versus annual) over a specified period of time (2 years);
- evaluate this data in a technical report submitted to NMED within 3 months of receipt of the final data set; and,
- the technical report would provide the means to address all data collected over that time period, compare the trends in both soil gas and groundwater data, if any, and propose an integrated interpretation as to what is occurring as the basis for a final "recommendation."

The NMED concurred with the CMS Comment Response document on December 17, 2004, including the CCMEP as described above and documented in the CWL CMS Report. In addition, NMED staff worked closely with DOE/Sandia staff during the preparation of the Post-Closure Care Plan, which defined the CCMEP as part of the post-closure care monitoring and assessment program.

Consistent with Major Comment #1, a more flexible approach should be adopted that includes the mutually agreed upon CCMEP, recognizing the current conditions of the CWL and the successful completion of an extensive corrective action program. DOE and Sandia's acceptance of a trigger level for soil gas is dependent upon the inclusion of the CCMEP in the Permit.

Comment 3. Liability Coverage Requirement for Sandia Corporation

Section 2.9 (and Subsection 2.18.1 [sic]) of the draft Permit contains a requirement that Sandia maintain liability coverage for the post-closure period of the CWL. Please delete this section. Sandia is exempt from all financial responsibility requirements under Subpart H for post-closure care. (See Sec. 127 of Publ. L 108-199: "Funds appropriated in this, or any other Act hereafter, may not be obligated to pay, on behalf of the United States or a contractor or subcontractor of the United States, to post a bond or fulfill any other financial responsibility requirement relating to closure or post-closure care and monitoring of Sandia National Laboratories and properties held or managed by Sandia National Laboratories prior to implementation of closure or post-closure monitoring. The State of New Mexico or any other entity may not enforce against the United States or a contractor or subcontractor of the United States, in this year or any other fiscal year, a requirement to post bond or any other financial responsibility requirement relating to closure or post-closure care and monitoring of Sandia National Laboratories in New Mexico and properties held or managed by Sandia National Laboratories in New Mexico."). The intention of Congress for this exemption was due to the fact that this would involve setting aside public monies for any such effort. Furthermore, it is clear that the regulation specifies demonstrating "financial responsibility." As this Permit is relating to the post-closure care at the CWL, this is a financial responsibility in which Sandia remains exempt.

DOE/Sandia Major Comments on the Draft Post-Closure Care Permit for the Chemical Waste Landfill at Sandia National Laboratories, New Mexico Permit No. NM5890110518-2

References for Major Comments

Bearzi, J.P. (New Mexico Environment Department), December 2004a. Letter to P. Wagner (U.S. Department of Energy) and P.B. Davies (Sandia Corporation), "Sandia National Laboratories Response to Comments on the Chemical Waste Landfill, Corrective Measures Study Report, May 2003, Sandia National Laboratories, EPA ID#NM5890110518, HWB-SNL-03-013." December 17, 2004.

Kieling, J. E. (New Mexico Environment Department), December 2003. Letter to Karen K.L. Boardman (U.S. Department of Energy) and Peter P.B. Davies (Sandia Corporation), "Chemical Waste Landfill, Corrective Measures Study, May 2003, Sandia National Laboratories NM5890110518, HWB-SNL-03-013." December 12, 2003.

Lewis, G. (New Mexico Environment Department), October 2000. Letter to M.J. Zamorski (U.S. Department of Energy), "Approval of Risk-Based Approach for Excavation of the Chemical Waste Landfill." October 11, 2000.

Moats, W. P. (New Mexico Environment Department), December 2003. Letter to Karen K.L. Boardman (U.S. Department of Energy) and Peter P.B. Davies (Sandia Corporation), "Approval of the Chemical Waste Landfill, Landfill Excavation Voluntary Corrective Measure Final Report, April 2003." December 16, 2003.

Sandia National Laboratories/New Mexico (SNL/NM), August 2000. "Risk-Based Approach for Excavation and Backfilling of the Chemical Waste Landfill," Sandia National Laboratories, Albuquerque, New Mexico.

Sandia National Laboratories/New Mexico (SNL/NM), April 2003. "Chemical Waste Landfill – Landfill Excavation Voluntary Corrective Measure – Final Report," Sandia National Laboratories, Albuquerque, New Mexico.

Sandia National Laboratories/New Mexico (SNL/NM), October 2004. "Responses to NMED Comments on the CWL CMS Report," Sandia National Laboratories, Albuquerque, New Mexico.

DOE/Sandia Major Comments on the Draft Post-Closure Care Permit for the Chemical Waste Landfill at Sandia National Laboratories, New Mexico Permit No. NM5890110518-2

References for Major Comments (concluded)

Sandia National Laboratories/New Mexico (SNL/NM), December 2004. "Chemical Waste Landfill – Revised Corrective Measures Study Report," Sandia National Laboratories, Albuquerque, New Mexico.

Sandia National Laboratories/New Mexico (SNL/NM), September 2005. "Post-Closure Care Plan for the Chemical Waste Landfill," Sandia National Laboratories, Albuquerque, New Mexico.

Wagner, P. (U.S. Department of Energy), October 2004. Letter to J. Bearzi (New Mexico Environment Department) "Responses to NMED Comments on Chemical Waste Landfill Corrective Measures Study Report." October 12, 2004.

Enclosure 2
Specific Comments

DOE/SANDIA SPECIFIC COMMENTS: DRAFT CHEMICAL WASTE LANDFILL POST-CLOSURE CARE PERMIT
SANDIA NATIONAL LABOROATORIES

NO.	SECTION	PAGE	TEXT	COMMENT
1	Part 1 Section 1.4	2	**"Area of Concern" (AOC)** means any area of the Facility under the control or ownership of the Permittees which is not a solid waste management unit, where a release of a hazardous waste or hazardous constituent has occurred, is suspected to have occurred, or may occur, regardless of the frequency or duration. An area of concern includes areas and structures at which releases of hazardous waste or hazardous constituents were not remediated, including one time and accidental events.	The definition of area of concern includes the phrases "where a release of hazardous waste…is suspected to have occurred, or may occur." Inclusion of this phrase expands the historical regulatory definition of area of concern for releases and attempts to regulate areas outside the authority of RCRA. Please incorporate the definition contained in the Compliance Order on Consent: Area of Concern or "AOC" means any area that may have had a release of a hazardous waste or hazardous constituent, which is not a Solid Waste Management Unit.
2	Part 1 Section 1.4	3	**"Hazardous waste"** means a solid waste that is not excluded from regulation under 40 C.F.R. § 261.4(b) and that either is listed in 40 C.F.R. Part 261 Subpart D, exhibits any of the characteristics identified in 40 C.F.R. Part 261 Subpart C, or is a mixture of solid waste and one or more wastes listed in 40 C.F.R. Part 261 Subpart D. However, for purposes of corrective action for solid waste management units and areas of concern conducted pursuant to 40 C.F.R. § 264.101, 40 C.F.R. Part 264 and 40 C.F.R. § 270.32(b)(2), "hazardous waste" shall have the meaning set forth in the HWA, Section 74-4-3(K).	Please replace this definition with the definition of hazardous waste as it appears in the Compliance Order on Consent: "Hazardous Waste" means any solid waste or combination of solid wastes which because of its quantity, concentration, or physical, chemical, or infectious characteristics meets the description set forth in NMSA 1978, § 74-4-3(K), and is listed as a hazardous waste or exhibits a hazardous waste characteristic under 40 C.F.R. Part 261 (incorporated by 20.4.1.200 NMAC).
3	Part 1 Section 1.4	4	**"Solid Waste Management Unit"** means any discernible unit at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous waste. Such units include any area at the Facility at which solid wastes have been routinely and systematically released.	The definition leaves out the necessary function by the Department to determine if there may be a risk from release. Therefore, DOE/Sandia recommend adoption of the Compliance Order on Consent definition: Solid Waste Management Unit or "SWMU" means any discernible unit at which solid waste has been placed at any time, and from which the Department determines there may be a risk of a release of hazardous waste or hazardous constituents, irrespective of whether the unit was intended for the management of solid or hazardous waste. Such units include any area at the Facility at which solid wastes have been routinely and systematically released.
4	Part 1 Section 1.6.3	5	The Permittees shall renew this Permit by submitting an application for a new permit at least two hundred forty (240) days before the expiration date of this Permit.	This sentence should be revised to specify that applications for permit renewal are due 180 days before expiration of the current permit, in accordance with 40 CFR 270.10(h). Note that 40 CFR 270.10 is referenced in Section 1.6.4 which discusses continuation of expiring permit.

NO.	SECTION	PAGE	TEXT	COMMENT
5	Part 1 Section 1.7	6	Points of contact during the compliance monitoring and post-closure care periods are identified below. The DOE contact person is: Ms. Patty Wagner Manager U.S. Department of Energy National Nuclear Security Administration Sandia Site Office P.O. Box 5400, M/S 0184 Albuquerque, NM 87185-0184 (505) 845-6036 The Sandia contact person is: Mr. Francisco A. Figueroa Vice President Department 10000 Sandia National Laboratories P.O. Box 5800, MS 0112 Albuquerque, NM 87185-5800	Please revise the contact information as follows: The DOE contact person is: Site Office Manager U.S. Department of Energy P.O. Box 5400, M/S 0184 Albuquerque, NM 87185-0184 (505) 845-6036 The Sandia contact person is: Vice President Waste Management Operations Sandia National Laboratories P.O. Box 5800 Albuquerque, NM 87185-5800 For purposes of implementing the Permit, use of position/title is more efficient and is consistent with the NMED contact information provided in Section 1.9.1 of the draft Permit. In accordance with 40 CFR 270.11, the names of responsible corporate officers and their delegated representatives will be provided to NMED by letter transmittal.
6	Part 1 Section 1.8.10	9	In accordance with 40 C.F.R. § 270.30(l)(2), if the CWL is modified, the Permittees shall not treat or store hazardous, mixed, or energetic waste in the modified portion of the CWL, except as provided in Section 1.6.3 of this Permit and 40 C.F.R. § 270.42, unless the following conditions have been satisfied:	Please clarify or delete this sentence. The CWL permit is not authorizing any active management of hazardous waste and the reference to Section 1.6.3 should be "Section 1.6.2 and 1.6.3."
7	Part 1 Section 1.9.1	11	Two (2) copies each of these plans, reports, notifications or other submissions shall be submitted to the Department by Certified Mail or hand delivered to: New Mexico Environment Department Hazardous Waste Bureau 2905 Rodeo Park Drive East, Building 1 Santa Fe, New Mexico 87505-6303 Telephone Number: (505) 476-6000 Facsimile Number: (505) 476-6030	Courier/delivery services such as Federal Express may meet the requirements (timeliness and documentation of delivery/receipt), yet these services are currently excluded from the list of delivery options available to the Permittees. The choices should be updated to explicitly include <u>any</u> courier/delivery service that provides documentation of delivery equivalent to certified mail. In addition, the NMED locations for hand delivery should include: Hazardous Waste Bureau 5500 San Antonio NE Albuquerque NM 87109

NO.	SECTION	PAGE	TEXT	COMMENT
8	Part 2 Section 2.5.2	14	The Permittees shall maintain copies of the Contingency Plan and all revisions and amendments to the Plan at the CAMU, the Facility EOC and the Facility Records Center, in accordance with 40 C.F.R. § 264.53 and Section 6-1 of Attachment 6 of this Permit. Any person working at the CWL shall have a copy of the current Contingency Plan in their possession while at the CWL.	Reference to the "CAMU" should be "CAMU administration office." In addition, please delete the sentence, "Any person working at the CWL shall have a copy of the current Contingency Plan in their possession while at the CWL." The only workers associated with CWL activities are monitoring and maintenance personnel. The requirement for such personnel to have a copy of the plan in their possession is unwieldy. The Contingency Plan will be available and readily accessible in the nearby CAMU administration office.
9	Part 2 Section 2.5.4	15	Within 30 days of the issuance of this Permit, the Permittees shall submit to the Department a revision of Table 6-5 of Permit Attachment 6 that includes the office (specific office locations, not mailing addresses) and home addresses of the Emergency Coordinators in addition to the information already presented in the table.	Please delete this sentence. The current Table 6-5 adequately addresses the requirements for emergency coordinator information. 40 CFR 264.52(d) states "The plan must list names, addresses, and phone numbers (office and home) of all persons qualified to act as emergency coordinator"; the home address is not required. The "office and home" qualifier in the regulations applies <u>only</u> to the phone numbers, not to names or addresses. Including home addresses in the plan is not necessary or relevant to SNL/NM emergency preparedness or emergency response activities.
10	Part 2 Section 2.6.4	15	The Permittees shall inform the Department in writing of changes in its management personnel and Emergency Coordinators and their telephone numbers and addresses within fifteen (15) calendar days of the changes.	Please revise to more fully distinguish between Emergency Coordinators and management personnel. Changes in Emergency Coordinators are Class 1 permit modifications under 40 CFR 270.42, Appendix I. Changes in DOE and Sandia personnel serving as responsible corporate officers are addressed in specific comment #5.
11	Part 2 Section 2.8	17	All obligations of the Permittees arising under this Permit shall be fully funded. The Department reserves the right to take appropriate enforcement action if the requirements of this Permit are not fulfilled.	Please modify this language as follows to be consistent with the Compliance Order on Consent: "It is the expectation of the Pemittees that all obligations arising under this Permit will be fully funded. The Permittees shall take all necessary steps and make efforts to obtain timely funding to meet its obligations under this Permit. No provision of this Permit shall be interpreted as, or constitute, a commitment or requirement that the United States shall obligate or pay funds in contravention of the Anti-Deficiency Act, 31 U.S.C. § 1341. Payment or obligation of funds by the United States is subject to the availability of appropriated funds."
12	Part 2 Section 2.9.1 and 2.18.1 (sic)	17	Sandia Corporation shall have and maintain liability coverage for sudden accidental occurrences …….	Please see major comment #3 in Enclosure 1 as Sandia is exempt from all financial responsibility requirements.

NO.	SECTION	PAGE	TEXT	COMMENT
13	Part 3 3.0	19	Therefore, in accordance with 40 C.F.R. § 264.91(a)(1), the Permittees must institute a compliance groundwater monitoring program meeting the requirements of 40 C.F.R. § 264.99. In accordance with 40 C.F.R. § 264.96(a), the compliance period shall last for 45 years, and shall begin when the Permittees initiate the required compliance monitoring program in accordance with 40 C.F.R. § 264.99.	DOE/Sandia request that the NMED authorize a groundwater monitoring program that is tailored to the current, post-remediation condition of the CWL. Two voluntary corrective measures (VCMs) [vapor extraction (VE) followed by landfill excavation (LE)] were completed from 1997 through 2002 under the CWL Closure Plan. The success of these VCMs has been documented in the CWL CMS Report (SNL/NM December 2004) and demonstrated with groundwater and soil gas monitoring results covering over 9 years since completion of the VE VCM and 4 years since completion of the LE VCM. Based upon current conditions, the requirements of Subpart F for a 45-year compliance period and associated specific groundwater monitoring requirements appear questionable. Please refer to major comment #1 in Enclosure 1.
14	Part 3 3.1	19	Within 30 days from the issuance of this Permit, the Permittees shall submit to the Department a description of the quantities of replaceable soils placed back into the CWL as part of the Landfill Excavation Voluntary Corrective Measures. The description shall indicate the concentration or levels of the contaminants contained in the replaceable soils.	The requested information (quantities and levels of contaminants of replaceable soils) will be included in the Final RCRA Closure Report. Consistent with the timeframe for submittal of the Closure Report, please change the wording to "Within 60 days from issuance...." Also please note that much of the replaceable soil information was previously provided in the LE VCM Final Report (SNL/NM April 2003).
15	Part 3 Section 3.1 and Table 3-1	19-20	A maximum of 31,800 cubic yards of hazardous and solid waste were disposed of in the CWL. **Maximum Waste Inventory:** 31,800 yd^3 (title of Table 3-1)	The maximum waste inventory should be revised to 52,000 cubic yards. 52,000 cubic yards of soil and debris were removed during the Landfill Excavation voluntary corrective measure. 31,800 cubic yards of treated soil were placed in the CAMU containment cell. This will then be consistent with the language contained in Attachment 1, Section 1.2.2.
16	Part 3 Table 3-2	21-25	Entire table	Table 3-2 does not reflect the final information related to hazardous constituents excavated from the CWL. Please reformat and revise the table to reflect the final information as contained in the CAMU permit application (Word file is included in a CD attached to the last page of these specific comments).
17	Part 3 Table 3-2	23-25	Additional Hazardous Waste Types Removed from the Chemical Waste Landfill[a] (title of Table 3-2)	Please modify the title of Table 3-2 to "Detailed Information on Hazardous Waste Types Removed From the CWL" to indicate that Table 3-2 contains more details of the information contained in Table 3-1, not additional waste types.
18	Part 3 3.2.1	26	1. In accordance with 40 C.F.R. § 264.117(a)(2)(i), the Department may, in accordance with the permit modification procedures in 40 C.F.R. Part 270 and 20.4.1.901 NMAC, shorten the post-closure care period if it finds that human health and the environment will be protected sufficiently.	Please add to either Section 3.2.1 or 3.2.2 or 3.2.3 the following language explaining the rationale for shortened and flexible post-closure care groundwater and soil gas monitoring as discussed in specific comment #13 and major comment #1 in Enclosure 1: "A decision to shorten the post-closure care period may consider factors such as the successful completion of the Corrective Action Program (CAP) and the continued demonstration of the effectiveness of the CAP as verified by monitoring results."

NO.	SECTION	PAGE	TEXT	COMMENT
19	Part 3 3.2.2	26	The Permittees shall operate and maintain the groundwater monitoring system and shall comply with all applicable requirements of 40 C.F.R. Part 264, Subpart F during the post-closure care and compliance periods, in accordance with 40 C.F.R. § 264.117(a)(1), and as specified in this Permit.	Please refer to specific comment #13 and major comment #1 in Enclosure 1.
20	Att. 1 Section 1.1	28	Sandia National Laboratories (the Facility), EPA Identification Number NM5890110518-CWL, is a multidisciplinary laboratory	Please revise the EPA Identification Number to the number for Sandia National Laboratories: NM5890110518
21	Att.1 Section 1.2.1	28	From 1981 through 1985, only solid waste, including hazardous waste, was disposed of at the CWL. After 1985, all waste disposals ended, and after 1989, the CWL was no longer used as a hazardous waste storage unit.	Please modify and add the following clarifying text: "Disposal of liquid waste in unlined pits and trenches ended in 1981, and after 1982 all liquid waste disposal was terminated. From 1982 through 1985, only solid waste was disposed of at the CWL, and after 1985 all waste disposal ended. After 1989, the CWL was no longer used as a hazardous waste storage unit."
22	Att. 1 Section 1.4.1	31	Groundwater monitoring shall be conducted during the compliance and post-closure care periods.	DOE/Sandia request that the NMED authorize a groundwater monitoring program that is tailored to the current, post-remediation condition of the CWL. Please delete the reference to "compliance period", and refer to specific comment #13 and major comment #1 in Enclosure 1.
23	Att. 1 Section 1.4.1	31	Any well that is part of the monitoring network that cannot be sampled shall be replaced.	Please delete or modify this sentence. If a monitoring well can no longer be sampled for any reason, a Permit Modification will be requested as required. At that time it will be determined by NMED whether or not a replacement well is required based upon current conditions.

NO.	SECTION	PAGE	TEXT	COMMENT
24	Att. 1 Section 1.4.1	32	Hazardous constituents, especially TCE, have long been known to be present in the groundwater at the CWL. Therefore, the Permittees shall institute a compliance monitoring program at the CWL that meets the requirements of 40 C.F.R. § 264.99. In accordance with 40 C.F.R. § 264.96, the compliance period during which the groundwater protection standard of 40 C.F.R. § 264.92 applies is hereby established as 45 years. (The compliance period is the number of years equal to the active life of the waste management area, including the closure period. The CWL was established in 1962; thus, the compliance period for the CWL is 45 years.) In accordance with 40 C.F.R. § 264.96(b), the compliance period begins when the Permittees initiate a compliance monitoring program meeting the requirements of 40 C.F.R. § 264.99.	Please add to this discussion that in response to TCE being present in groundwater at levels exceeding the regulatory standard, the Permittees have already conducted an extensive and successful (based upon monitoring results) CAP under the CWL Closure Plan from 1997 through 2002 (VE and LE VCMs). Also, please refer to specific comment #13 and major comment #1 in Enclosure 1.
25	Att. 1 Section 1.4.2	35	BaroBalls™ shall be maintained on all soil-gas monitoring wells, except for CWL-D3, to facilitate passive venting during the post-closure care period.	Please change the word "shall" to "may". Baroballs™ were not intended for use over extended time periods (i.e., 30 year post-closure care period), as they only allow a monitoring well to "exhale" during periods of low barometric pressure, and prevent "inhaling" during periods of high barometric pressure. This could potentially cause a "pulling downward effect" (i.e. suction effect) of volatile organic compound (VOC) soil gas within and immediately surrounding the monitoring well screened intervals over longer periods of time, which are located at the bottom of the wells. Although the Baroballs™ have been used successfully up to this point since the completion of the VE VCM in 1998, flexibility should be included in the permit language to allow for periods of time where they can be removed from wells to prevent low concentrations of remaining VOC soil gas in the vadose zone from being pulled downward, closer to the water table.

NO.	SECTION	PAGE	TEXT	COMMENT
26	Att. 1 Section 1.7 and 1.8	36-41	All text within Sections 1.7 and 1.8.	As DOE/Sandia request in specific comment #13, the NMED should authorize a groundwater monitoring program that is tailored to the current, post-remediation condition of the CWL that takes into account the extensive groundwater monitoring program implemented at the CWL since 1985. For post-closure care groundwater monitoring, please eliminate the requirement for Appendix IX sampling/analysis, include only identified CWL constituents of concern (COCs), and change the required frequency to annual. Sufficient historic and post-remediation groundwater monitoring has been completed to narrow the list of potential contaminants of concern to EPA method 8260 VOCs (including TCE) and metals (including chromium and nickel) as specified in Table 1-4. Please change these sections to address a more flexible groundwater and soil gas monitoring approach consistent with major comment #1 (for groundwater monitoring) and major comment #2 (for soil gas monitoring) in Enclosure 1. Also, please refer to specific comment #13.
27	Att. 1 Section 1.8	37	Footnote c in Table 1-4 "[c]Semi-Annually: All 40 C.F.R. Part 264 Appendix IX constituents must be analyzed on an annual basis." and the following text: "Additionally, in accordance with 40 C.F.R. § 264.99(g), the Permittees shall collect water samples at least annually from wells located at the point of compliance and analyze them for all constituents contained in Appendix IX of 40 C.F.R. Part 264."	Consistent with specific comment #26, all references to the analyte list should identify only the CWL COCs, not Appendix IX constituents. In addition, references throughout the text to the analyte list should be to Table 2-3 (as revised to address only CWL COCs) to avoid internal inconsistency. Please refer to major comment #1 in Enclosure 1.
28	Att.1 Section 1.8.1.1	38	Additionally, in accordance with 40 C.F.R. § 264.99(e), the Permittees shall determine the groundwater flow rate, hydraulic gradient, and flow direction at least annually.	In addition to specific comment #26, please delete "groundwater flow rate;" a range of groundwater flow rate has already been determined for the CWL and is unlikely to change significantly over the post-closure care period. Please note that this requirement does not appear in corresponding Section 2.8 of Attachment 2.
29	Att.1 Section 1.8.1.1	38	In accordance with 40 C.F.R. § 264.99(f), the Permittees shall collect and analyze at least four samples from each well (background and compliance wells) at least semi-annually during the compliance period. The Permittees shall also collect groundwater samples at least annually from wells located at the point of compliance and analyze them for all constituents contained in Appendix IX of 40 C.F.R. Part 264.	The cited wording appears to suggest DOE/Sandia must collect 4 samples per well per semi-annual monitoring event (i.e., quadruplicate sampling), which is not consistent with 40 C.F.R. 264.99(f), which states "A sequence of at least 4 samples from each well (background and compliance wells) must be collected at least semi-annually during the compliance period". In other words, different sampling events, not 4 samples from each well during each sampling event (i.e., quadruplicate sampling) as implied in the cited text. In addition, consistent with specific comments #26 and 27, all references to the analyte list should identify only the CWL COCs, not Appendix IX constituents. References throughout the text to the analyte list should be to Table 2-3 (as revised to address only CWL COCs) to avoid internal inconsistency.

NO.	SECTION	PAGE	TEXT	COMMENT
30	Att. 1 Section 1.8.1.2	38	The Permittees shall monitor the groundwater for the hazardous constituents listed in Table 1-2 of this Permit Attachment semi-annually (twice each year), and annually for 40 C.F.R. Part 264 Appendix IX constituents, to determine.....	Consistent with specific comments #26 and #27, all references to the analyte list should identify only the CWL COCs, not Appendix IX constituents. References throughout the text to the analyte list should be to Table 2-3 (as revised to address only CWL COCs) to avoid internal inconsistency.
31	Att. 1 Section 1.8.1.2	38	The Permittees shall also record the groundwater data for the determination of statistical significance under 40 C.F.R. § 264.97(h) for the compliance period, pursuant to 40 C.F.R. § 269.99(c).	In addition to specific comment #26, data results should be compared to the regulatory standards presented in Table 1-2 only. Appendix IX sampling requirements and the analysis to indicate a statistically significant increase in concentration of a hazardous constituent should not apply to the CWL.
32	Att. 1 Section 1.8.1.2	38	In accordance with 40 C.F.R. § 264.99(g), if the Permittees find 40 C.F.R. Part 264 Appendix IX constituents in the groundwater that are not already identified in the Permit, the Permittees may resample within one month and repeat the Appendix IX analysis. If the second analysis confirms the presence of new constituents, the Permittees must report the concentrations of the new constituents to the Department within seven days of receipt of the results of the second analysis and add them to the monitoring list (See Table 1-2). If the Permittees choose not to resample, then the Permittees must report the concentrations of the new constituents to the Department within seven days of receipt of the results of the analysis and add them to the monitoring list (Table 1-2).	Please refer to specific comments #26 and #27. Appendix IX sampling requirements and the process of resampling and/or adding new constituents to the monitoring list according to the Appendix IX sampling results should not apply to the CWL.
33	Att. 1 Section 1.8.1.2	38	In accordance with 40 C.F.R. § 264.99(d), the Permittees must determine after each semi-annual sampling event whether there is statistically significant evidence of increased contamination for each of the hazardous constituents specified in Table 1-2.	Please refer to specific comment #26 and 31.

NO.	SECTION	PAGE	TEXT	COMMENT
34	Att. 1 Section 1.8.1.2	38	Within 180 days of the determination that a concentration limit has been exceeded, the Permittees must submit to the Department an application for a permit modification to establish a corrective action program for the CWL meeting the requirements of 40 C.F.R. § 264.100. The application at a minimum shall meet the requirements of 40 C.F.R. § 264.99(h)(2)(i-ii).	Please replace this text with the Conceptual Corrective Measures Evaluation Process (CCMEP) as previously agreed to and documented in the CWL CMS Report (SNL/NM December 2004) and CWL Post-Closure Care Plan (SNL/NM September 2005). Please refer to specific comment #26, and major comment #2 in Enclosure 1.
35	Att. 1 Section 1.8.2.2	39	If the results confirm that the trigger level of 20 ppmv has been exceeded, the Permittees shall conduct corrective action.	Please replace this text with the CCMEP as previously agreed to and documented in the CWL CMS Report (SNL/NM December 2004) and CWL Post-Closure Care Plan (SNL/NM September 2005). Please refer to specific comment #26, and major comment #2 in Enclosure 1.
36	Att. 1 Section 1.9	41	Inspection, maintenance and repair of these systems shall be performed throughout the compliance monitoring and post-closure care periods on a regularly scheduled basis.....	Consistent with specific comment #13, only a post-closure care period should apply to the CWL based upon current conditions. Please refer to major comment #1 in Enclosure 1.
37	Att. 1 Section 1.9.1.1	42	This phase is anticipated to take from three to five years, but shall not exceed 5 years.	Please delete the text "but shall not exceed 5 years." The revegetation process, and more specifically the transition from annual species to native perennial species, is dependant upon natural conditions and cannot be controlled by the Permittees. The inspection/monitoring program defined in this Permit documents a reasonable approach, based upon inspections by a qualified biologist and a list of potential corrective actions that can be implemented based upon the biologist recommendations, to ensure the criteria for "successful revegetation" are achieved. CWL annual post-closure care annual reports will document the biologist's inspections, observations, and recommendations, as well as the corrective actions initiated.
38	Att. 1 Section 1.9.1.1	42	Normal succession processes should occur and continue once native flora has been established over greater than 50% of the cover area.	Please change the text to be consistent with the stated criteria for successful revegetation as follows: "Normal succession processes should occur and continue once native flora have been established, which is when native perennials comprise 50% of the 25% foliar coverage."
39	Att. 1 Section 1.9.1.3	42	Damage to cover vegetation that exceeds the above mentioned criteria.....	Please change the text to "Cover damage or vegetation observations that exceed the above mentioned criteria....." as the text is referring to both potential erosional damage to the cover (i.e., cover damage) and vegetation coverage (i.e., vegetation observations) that do not meet specific criteria.

NO.	SECTION	PAGE	TEXT	COMMENT
40	Att. 1, Section 1.9.1.3,	43	Backfilling and compacting settlement areas, areas of ponding water, animal intrusion burrows, and areas of erosion in excess of 6 inches deep using either stockpiled clean soil from the cover installation or locally derived clean fill with properties identical to the soil used to construct the CWL cover.	For clarity, please replace "with properties identical to" with "meeting the same criteria as".
41	Att 1 Section 1.9.4.1	44	Inspection of the TA-III perimeter fence shall be performed by routine security patrols.	Please delete this requirement related to inspection of the TA-III fence. Although the TA-III fence is an added security measure, it is not integral to the protection of the CWL for the post-closure care period. As required in the draft Permit, the CWL is surrounded by a perimeter fence and is posted with warning signs. Routine inspections and maintenance will ensure the continuing integrity of the cover and associated systems. Imposing a permit condition for the TA-III fence is unnecessary and overly burdensome.
42	Att. 1 Section 1.9.4.2	44	The Permittees shall also perform repair and maintenance of the TA-III perimeter fence.	Please delete this requirement. See specific comment #41.
43	Att. 1 Table 1-6	46	Soil Gas and Monitoring Wells Groundwater Network Components: semi-annually by a qualified field technician during sampling events	Please refer to specific comment #26 and major comment #1 in Enclosure 1.
44	Att. 1 Section 1.12	48	4. Indicate whether there has been any statistically significant increase in the concentration of a hazardous constituent in groundwater in any of the wells at the point of compliance; 6. Indicate whether any new hazardous constituents (40 C.F.R. Part 261 Appendix VIII) were identified and whether they were added to the monitoring list; and	Consistent with specific comments #26, 32, and 33, the analysis to indicate a statistically significant increase in concentration of a hazardous constituent and the identification of new constituents according to Appendix IX sampling should not apply to the CWL. Please delete these requirements for the annual report. Also, please refer to major comment #1 in Enclosure 1.
45	Att. 1 Section 1.12	48	The annual reports are due by March 31 of each calendar year.	Please include that the Permittees may combine the CWL post-closure care annual report with other site annual reports.

NO.	SECTION	PAGE	TEXT	COMMENT
46	Att. 2, Section 2.0	53	All procedures contained within the FOPs and AOPs concerning sampling and analysis are subject to approval by the Department.	Please modify this sentence. The requirement of an approval by the Department is inappropriate for SNL/NM internal documents; however, submittal to the Department for written concurrence that these internal procedures are in accordance with regulatory requirements is appropriate. Also, DOE/Sandia request that the following clarifying sentences be added: "Where no regulatory impact is at issue, the Permittees may implement updated versions of the internal procedures without prior written concurrence from the Department. Revisions to these internal procedures do not constitute a permit modification."
47	Att. 2, Table 2-1	54	Table 2-1, Reference Documentation, CWL Groundwater Monitoring	Please add a footnote to the title of this table to indicate these procedures/documents will be used "as revised and updated".
48	Att. 2 Section 2.2	55	The acceptable range for %R shall be 50-130% for volatile organic compounds (VOCs), 10-130% for semi-volatile organics (SVOCs), and 75-125% for metals.	Please change the text to refer to the Table 2-1 Reference Documentation, as the acceptable range for %R is defined in Section 3.5 of the SNL/NM Statement of Work for Analytical Laboratories for each individual compound and analytical method. In addition, compliance with the acceptable range for %R is a required element of the data review and validation procedures (SMO-05-03 and AOP 00-03, Table 2-1). This approach was developed using performance-based historical data and represents the most up-to-date approach for ensuring overall data quality, especially for organic constituents.
49	Att. 2 Section 2.3	55	The acceptable range for RPD is 20% for VOCs, 25% for SVOCs, and 35% for metals.	Please change the text to refer to the Table 2-1 Reference Documentation, as the acceptable range for RPD is defined in Section 3.5 of the SNL/NM Statement of Work for Analytical Laboratories for each individual compound and analytical method. Compliance with the acceptable range for RPD is a required element of the data review and validation procedures (SMO-05-03 and AOP 00-03, Table 2-1). This approach was developed using performance-based historical data and represents the most up-to-date approach for ensuring overall data quality, especially for organic constituents.

NO.	SECTION	PAGE	TEXT	COMMENT
50	Att. 2 Section 2.3	55	Accuracy and Precision, Sections 2.2 and 2.3	Setting accuracy and precision requirements for inorganic analyses is a generally accepted practice, but setting rigid criteria for organic compounds, such as those included in Sections 2.2 and 2.3 of Attachment 2 of the draft Permit, is generally not an accepted practice. The analytical performance for the measurement of organic compounds varies significantly between compounds and for different methods. This variation is widely accepted and can be seen in the performance tables published in the methods and in the performance requirements for accreditation in programs such as the National Environmental Laboratory Accreditation Conference. The Sandia Sample Management Office (SMO) requires that analytical performance criteria be established using industry standard practices, be compared to generally accepted criteria, and not include specific requirements. Recognizing accepted industry practices allows Sandia to use criteria that represent significant improvements in analytical measurement techniques. This approach is incorporated into the Permit via referenced procedures and the SMO SOW for Analytical Laboratories (Table 2-1), and by changing the Permit text as requested in specific comments #48 and 49 above.
51	Att. 2 Section 2.4	55	Otherwise, the incomplete portion of the sampling shall be made complete by repeating the sampling and analysis as necessary.	Please change text to "Otherwise, the incomplete portion of the sampling shall be reviewed against historical data for that particular monitoring well. The sampling shall be made complete by repeating the sampling and analysis only if the incomplete portion of the sampling results is significant, considering the constituent, the history of results for that constituent, and regulatory status of the constituent."
52	Att. 2 Section 2.5	56	To help ensure that samples are representative of formation water, the Permittees shall implement the procedures in this Permit and regulatory guidance for groundwater purging and sampling found in Section IX of the Compliance Order on Consent (NMED April 2004).	Please add the following sentence after the cited sentence: "Where inconsistencies exist between the requirements and/or procedures of this Permit and the guidance cited in Section IX of the Compliance Order on Consent (NMED April 2004), the requirements of this SAP and the CWL Post-Closure Care Permit shall take precedence."
53	Att. 2 Section 2.7	56	The compliance and post-closure care groundwater monitoring network at the CWL consists of four monitoring wells.	Please refer to specific comments #13 and major comment #1 in Enclosure 1.
54	Att. 2 Section 2.7	56	In accordance with 40 C.F.R. § 264.97(g)(1), a sequence of at least four duplicate water samples shall be collected from each well (background and compliance wells) during each of two semi-annual sampling events and shall be analyzed for trichloroethene (TCE), chromium (Cr), and nickel (Ni).	Please refer to specific comment #29. The cited wording appears to suggest DOE/Sandia must collect 4 samples per well per semi-annual monitoring event, which is not consistent with 40 C.F.R. 264.97(g)(l). The intent of 40 C.F.R. 264.97(g)(l) is similar to 40 C.F.R. § 264.99(f); which states "A sequence of at least 4 samples from each well (background and compliance wells) must be collected at least semi-annually during the compliance period" (i.e., different sampling events). Not 4 samples from each well during each sampling event (i.e., quadruplicate sampling) as implied in the cited text.

NO.	SECTION	PAGE	TEXT	COMMENT
55	Att. 2 Section 2.7	56	Additionally, in accordance with 40 C.F.R. § 264.99(g), the Permittees shall collect and analyze water samples at least annually from wells located at the point of compliance for all constituents contained in Appendix IX of 40 C.F.R. Part 264.	Please refer to specific comments #13, 26, and 27; and major comment #1 in Enclosure 1.
56	Att. 2 Table 2-2	56	TABLE 2-2 CWL Groundwater Monitoring Wells and Sampling Frequency	Consistent with specific comments #13, 26, and 27, please change to reflect annual sampling for EPA method 8260 VOCs (including TCE) and metals (including chromium and nickel) as specified in Table 1-4. Please refer to specific comments #13, 26, and 27; and major comment #1 in Enclosure 1.
57	Att. 2 Section 2.12	56	The pump discharge rate shall not exceed 0.1 liter per minute during the collection of VOC and SVOC samples.	Please change the text to "The pump discharge rate shall be the minimum discharge rate reasonably achievable based upon the sampling method used and the depth of groundwater, which is approximately 500 feet below the surface at the CWL." The requested discharge rate from the sampling pump is not achievable using the Bennett™ pump, which is the sample collection method/equipment currently required by NMED, and considering the low-yield characteristics of the CWL wells.
58	Att. 2, Section 2.12	58	Samples collected for other analytical parameters shall be collected after those obtained for analysis of VOCs and metals.	Please delete the sentence. Sampling requirements should be changed to only EPA method 8260 VOCs (including TCE) and metals (including chromium and nickel) consistent with specific comment #26 (i.e., there should be no other analytical parameters to collect samples for besides VOCs and metals).

NO.	SECTION	PAGE	TEXT	COMMENT
59	Att. 2, Section 2.12	58	Samples shall not be filtered.	Please change the sentence to "Only samples for inorganic analyses shall be filtered, all other samples shall not be filtered." Results from the CWL groundwater monitoring program have already demonstrated that unfiltered metals sample results are biased high due to turbidity and/or stainless steel well screen corrosion, and do not reflect actual dissolved-phase contamination in groundwater (refer to chromium investigation results in the CMS Report [SNL/NM December 2004]). Chromium has historically exceeded the regulatory standard in background well CWL-BW3 because of its construction (i.e., stainless steel screen). CWL-MW4 has a stainless steel screen and has historically shown elevated chromium results in unfiltered samples. Because CWL post-closure care groundwater monitoring results are directly compared to EPA and NMED drinking water standards (i.e., water coming from the tap in a home), filtering metals groundwater samples is an acceptable practice based upon both NMED and EPA guidance. The EPA Primary Drinking Water Standards (for water from the tap) have the following note: "Turbidity: .....As of January 1, 2002, turbidity may never exceed 1 nephelolometric turbidity units (NTUs), and must not exceed 0.3 NTU in 95% of daily samples in any month." (http://www.epa.gov/safewater/contaminants/index.html). Unfiltered samples from the CWL consistently exceed this drinking water requirement without filtering. In addition, NMAC 20.6.2 states that groundwater standards shall apply to the dissolved portion of contaminants as specified in "Methods for Chemical Analysis of Water and Waste of the US EPA," except for mercury, organics, and non-aqueous phase liquids (refer to page 12 of NMAC 20.6.2).
60	Att. 2, Section 2.18	59	The Permittees shall ensure that the analytical laboratory analyzes samples using EPA-approved analytical methods. The analytical laboratory shall provide appropriate sample containers prepared with the required preservative. The analytical laboratory shall prepare and submit to the Permittees an analysis data report as described in Section 1.10.3 of the SOW for Analytical Laboratories and as required by the conditions of this Permit. Table 2-3 summarizes EPA Methods (EPA, November 1986), container types and preservation methods applicable to groundwater sampling at the CWL.	DOE/Sandia request the permit language be generalized to require "the use of appropriate methods and technologies to meet the data quality requirements". This approach is consistent with guidance from the EPA Office of Solid Waste (Method Innovation Rule) and the EPA in general (performance approach initiatives). Not taking this approach has been identified as a major obstacle in obtaining the highest quality, most cost-effective data by both the EPA and the National Environmental Laboratory Accreditation Conference accreditation organization. DOE/Sandia recommend the Permit be modified to minimize the use of prescriptive methods and not require the use of specific revisions. Please modify Table 2-3 and associated text to clarify this approach (i.e., make the reference to the stated EPA methods more flexible through additional text and/or a footnote to the table).

NO.	SECTION	PAGE	TEXT	COMMENT
61	Att. 2, Table 2-3	60	Table 2-3 summarizes EPA Methods (EPA, November 1986), container types and preservation methods applicable to groundwater sampling at the CWL.	Consistent with specific comment #26, Table 2-3 should include only the methods, container types, and preservatives relevant to monitoring for EPA method 8260 VOCs (including TCE) and metals (including chromium and nickel). Please refer to major comment #1 in Enclosure 1.
62	Att 3 Section 3.9	72	All FOPs and AOPs are subject to approval by the Department.	Please modify this sentence per specific comment #46.
63	Att. 3, Table 3-2	73	Table 3-2, Reference Documentation, CWL Post-Closure Care Soil Gas Monitoring	Please add a footnote to the title of this table to indicate these procedures/documents will be used "as revised and updated".
64	Att. 5, Section 5.5	91	The Training Director must complete the CWL Operating Procedures and Refresher Training outlined in Table 5-1 before discharging his/her duties.	Please clarify by changing "complete" to "review" with respect to the operating procedures.
65	Att. 6, Section 6.0	94	Facility personnel shall clean up spills immediately, and shall make the notifications as required by Section 6.4 of this Contingency Plan.	Please rewrite as follows to clarify that all of the steps in Section 6.4 will be followed, including the first step "Facility personnel shall clean up spills immediately, and shall notify the Emergency Coordinator (EC) of the incident as required by Section 6.4 of this Contingency Plan; the EC will determine if the incident is an emergency."
66	Att. 6 Section 6.2.2	96	An IC shall be on site at the Facility at all times (24 hours per day, 7 days per week). Facility security and the KAFB Fire Department personnel shall also be available at all times. Facility technical personnel are available on site from 8:00 am to 4:30 pm Monday through Friday and are on call the rest of the time. Facility EOC staff shall include an Emergency Director and a staff of Sandia Corporation and Department of Energy (DOE) personnel who are responsible for management decisions and notifications to outside parties that are required during an emergency response. EOC staff personnel shall be available on site at the Facility from 8:00 am to 4:30 pm, Monday through Friday, and shall be on call the rest of the time.	Please remove KAFB from this sentence and include a separate sentence that refers to Section 6.2.4 of Draft Permit as the MOU between DOE/NNSA and KAFB 377th ABW addresses involvement by KAFB Fire Department. Also, please revise the final sentence of the cited text to add "except for holidays and facility closure" after ".....Monday through Friday".

NO.	SECTION	PAGE	TEXT	COMMENT
67	Att. 6 Table 6-5	106	TABLE 6-5 Emergency Coordinator List for the Chemical Waste Landfill Primary: Franz Lauffer P.O. Box 5800 Environmental Management MS-1042 Albuquerque, NM 87185 Home Phone: 867-2043 Office Phone: 845-7697 Cell or Pager: 540-5513 (Pager)	Please change Table 6-5 "Emergency Coordinator List for the Chemical Waste Landfill" information for the Primary contact. Replace Franz Lauffer with: Primary: Donald P. Schofield P.O. Box 5800 Environmental Management MS-1089 Albuquerque, NM 87185 Home Phone: 268-6888 Office Phone: 844-4088 Cell or Pager: 259-7098 (Cell)
68	Att. 6 Table 6-5	106	2nd Alternate: Robert Ziock P.O. Box 5800 Landfills and Test Areas MS-1088 Albuquerque, NM 87185	Please change Table 6-5 "Emergency Coordinator List for the Chemical Waste Landfill" information for the 2nd Alternate. "Landfills and Test Areas" should be changed to "Environmental Management".

Specific Comment References

Sandia National Laboratories/New Mexico (SNL/NM), December 2004. "Chemical Waste Landfill – Revised Corrective Measures Study Report," Sandia National Laboratories, Albuquerque, New Mexico.

Sandia National Laboratories/New Mexico (SNL/NM), September 2005. "Post-Closure Care Plan for the Chemical Waste Landfill," Sandia National Laboratories, Albuquerque, New Mexico.

Sandia National Laboratories/New Mexico (SNL/NM), April 2003. "Chemical Waste Landfill – Landfill Excavation Voluntary Corrective Measure – Final Report," Sandia National Laboratories, Albuquerque, New Mexico.

Enclosure 3 consists of Table 3-1 on cd.

Table 3-1

RCRA Contaminant Concentrations of Soils Designated for Containment in the CAMU[a]

Superfund LDR Guide #6A Structural Functional Group[b]	ER Site 74 Contaminant	Potential EPA Hazardous Waste Numbers[c]	Concentration in ER Site 74 Waste Samples (ppm)			Superfund LDR Guide #6A Threshold Concentration[f]	Superfund LDR Guide #6A Treatment Performance Standard[g]	SNL/NM CAMU Threshold Levels[h] (mg/kg)	Toxicity Characteristic Leaching Procedure (mg/L)
			Minimum[d]	Maximum	Average[e]				
Halogenated Non-Polar Aromatics	1,2,3-Trichlorobenzene	NA	0.27	3.26	0.67	100	0.5 – 10 ppm or >90% reduction	3,000	NA
	1,2,4,5-Tetrachlorobenzene		0.46	1.41	1.0	100	0.5-10 mg/kg or >90% reduction	230	NA
	1,2,4-Trichlorobenzene	NA	0.067	16	0.92	100	0.5 – 10 ppm or >90% reduction	3,000	NA
	1,2-Dichlorobenzene	NA	0.1	72	4.52	100	0.5 – 10 ppm or >90% reduction	370	NA
	1,3-Dichlorobenzene	NA	0.089	0.86	0.39	100	0.5 – 10 ppm or >90% reduction	370	NA
	1,4-Dichlorobenzene	D027	0.081	2.5	1.53	100	0.5 – 10 ppm or >90% reduction	280	7.5
	2-Chlorotoluene		0.33	1.5	1.06	100	0.5-10 mg/kg or >90% reduction	510	NA
	3,3'-Dichlorobenzidine		0.28	0.92	0.45	100	0.5-10 mg/kg or >90% reduction	1,400	NA
	4-Chlorotoluene		1	1.236	1.12	100	0.5-10 mg/kg or >90% reduction	510	NA
	Chlorobenzene	D021, F002	0.045	0.78	0.39	100	0.5 - 10 ppm or >90% reduction	690	100
	Hexachlorobenzene	D032	0.52	3.8	1.69	100	0.5-10 mg/kg or >90% reduction	630	0.13
	Pentachlorobenzene	NA	0.58	0.58	0.58	100	0.5 – 10 ppm or >90% reduction	630	NA

Refer to footnotes at end of table.

Table 3-1 *(Continued)*

RCRA Contaminant Concentrations of Soils Designated for Containment in the CAMU[a]

Superfund LDR Guide #6A Structural Functional Group[b]	ER Site 74 Contaminant	Potential EPA Hazardous Waste Numbers[c]	Concentration in ER Site 74 Waste Samples (ppm)			Superfund LDR Guide #6A Threshold Concentration[f]	Superfund LDR Guide #6A Treatment Performance Standard[g]	SNL/NM CAMU Threshold Levels[h] (mg/kg)	Toxicity Characteristic Leaching Procedure (mg/L)
			Minimum[d]	Maximum	Average[e]				
Halogenated Phenols	2,3,4,6-Tetrachlorophenol		0.14	7.15	2.25	400	0.5-40 mg/kg or >90% reduction	2,100	NA
	2,4,5-Trichlorophenol	D041	0.088	12	1.63	400	0.5-40 mg/kg or >90% reduction	7,800	400
	2,4,6-Trichlorophenol	D042	1.6	3.9	2.75	400	0.5-40 mg/kg or >90% reduction	10,000	2
	Pentachlorophenol	D037	0.17	260	29.06	400	0.5–40 ppm or >90% reduction	10,000	100
Halogenated Aliphatics	1,1,1-Trichloroethane	F001, F002	0.55	410	89.95	40	0.5–2 ppm or >95% reduction	1,400	NA
	1,1,2,2-Tetrachloroethane		0.31	1	0.59	40	0.5-2 mg/kg or >95% reduction	380	NA
	1,1,2-Trichlorotriflouroethane	F002	0.53	0.53	0.53	40	0.5-2 mg/kg or >95% reduction	5,600	NA
	1,1-Dichloroethene		0.26	0.31	0.29	40	0.5-2 mg/kg or >95% reduction	44	NA
	1,2-Dibromo-3-chloropropane		0.26	5.1	1.24	40	0.5-2 mg/kg or >95% reduction	45	NA
	1,2-Dichloroethane	D028	1.1	1.1	1.1	40	0.5-2 mg/kg or >95% reduction	2,900	0.5
	Dichloromethane (methylene chloride)	F001, F002	0.131	0.9	0.37	40	0.5–2 ppm or >95% reduction	2,300	NA
	Tetrachloroethene (tetrachloroethylene)	D039, F001, F002	0.126	2.74	0.96	40	0.5–2 ppm or >95% reduction	370	0.7
	Trichloroethene (trichloroethylene)	D040, F001, F002	0.0008	3.8	1.03	40	0.5–2 ppm or >95% reduction	820	0.5

Refer to footnotes at end of table.

Table 3-1 *(Continued)*

RCRA Contaminant Concentrations of Soils Designated for Containment in the CAMU[a]

Superfund LDR Guide #6A Structural Functional Group[b]	ER Site 74 Contaminant	Potential EPA Hazardous Waste Numbers[c]	Concentration in ER Site 74 Waste Samples (ppm)			Superfund LDR Guide #6A Threshold Concentration[f]	Superfund LDR Guide #6A Treatment Performance Standard[g]	SNL/NM CAMU Threshold Levels[h] (mg/kg)	Toxicity Characteristic Leaching Procedure (mg/L)
			Minimum[d]	Maximum	Average[e]				
Halogenated Aliphatics (Continued)	Hexachloro-1,3-butadiene (hexachlorobutadiene)	D033	0.041	2.538	0.60	40	0.5 - 2 ppm or >95% reduction	230	0.5
	Hexachloroethane	D034	9.3	9.3	9.3	40	0.5-2 mg/kg or >95% reduction	780	3
	Iodomethane	NA	0.28	0.65	0.38	40	0.5 – 2 ppm or >95% reduction	1,100[i]	NA
	Tribromomethane	-	0.004	1.5	0.75	40	0.5-2 mg/kg or >95% reduction	10,000	NA
Other polar organics	Acetone	F003	0.032	108	10.91	100	0.5–10 ppm or >90% reduction	10,000	NA
	Ethylbenzene	F003	0.0494	8.6	1.47	100	0.5–10 ppm or >90% reduction	230	NA
	Toluene	F005	0.0006	20	1.91	100	0.5–10 ppm or >90% reduction	520	NA
	Total xylenes	F003	0.78	28.7	6.27	100	0.5–10 ppm or >90% reduction	210	NA
	1,2,4-Trimethylbenzene	NA	0.34	4.4	0.89	100	0.5 - 10 ppm or >90% reduction	6	NA
	1,3,5-Trimethylbenzene	NA	0.29	2.1	0.95	100	0.5 - 10 ppm or >90% reduction	250	NA
	2-Butanone (methyl ethyl ketone)	D035, F005	0.0039	0.519	0.28	100	0.5 – 10 ppm or >90% reduction	10,000	200

Refer to footnotes at end of table.

Table 3-1 *(Continued)*

RCRA Contaminant Concentrations of Soils Designated for Containment in the CAMU[a]

Superfund LDR Guide #6A Structural Functional Group[b]	ER Site 74 Contaminant	Potential EPA Hazardous Waste Numbers[c]	Concentration in ER Site 74 Waste Samples (ppm)			Superfund LDR Guide #6A Threshold Concentration[f]	Superfund LDR Guide #6A Treatment Performance Standard[g]	SNL/NM CAMU Threshold Levels[h] (mg/kg)	Toxicity Characteristic Leaching Procedure (mg/L)
			Minimum[d]	Maximum	Average[e]				
Other polar organics (Continued)	2-Methylphenol (o-cresol)	D023, F004	0.13	2.21	1.02	100	0.5 - 10 ppm or >90% reduction	10,000	200
	3,3'-Dimethylbenzidine	NA	3.0	3.0	3.0	100	0.5 - 10 ppm or >90% reduction	70	NA
	4-Methyl-2-pentanone	NA	0.009	7.6	2.34	100	0.5 – 10 ppm or >90% reduction	10,000[i]	NA
	4-Methylphenol	-	1.2	5.8	2.6	100	0.5-10 mg/kg or >90% reduction	3,900	NA
	Acetophenone	NA	0.34	10.8	1.83	100	0.5 – 10 ppm or >90% reduction	1,700	NA
	Aniline	NA	0.11	28	2.37	100	0.5 - 10 ppm or >90% reduction	5,500	NA
	Benzyl alcohol		0.45	2.5	1.14	100	0.5-10 mg/kg or >90% reduction	10,000	NA
	Di-n-butylphthalate	NA	0.097	8.2	1.37	100	0.5 - 10 ppm or >90% reduction	10,000	NA
	Phenol	NA	0.24	11	2.16	100	0.5 - 10 ppm or >90% reduction	10,000	NA
	Bis(2-ethylhexyl) phthalate	NA	0.0281	47	3.97	100	0.5 - 10 ppm or >90% reduction	10,000	NA
	Butylbenzylphthalate		0.072	0.99	0.28	100	0.5-10 mg/kg or >90% reduction	10,000	NA
	Di-n-octylphthalate		0.24	1.3	0.55	100	0.5-10 mg/kg or >90% reduction	10,000	NA
	Diethylphthalate		0.52	5.4	2.44	100	0.5-10 mg/kg or >90% reduction	10,000	NA
	Dimethylphthalate		0.72	0.72	0.72	100	0.5-10 mg/kg or >90% reduction	10,000	NA
	Diphenylamine		0.375	2.9	1.64	100	0.5-10 mg/kg or >90% reduction	10,000	NA

Refer to footnotes at end of table.

Table 3-1 *(Continued)*

RCRA Contaminant Concentrations of Soils Designated for Containment in the CAMU[a]

Superfund LDR Guide #6A Structural Functional Group[b]	ER Site 74 Contaminant	Potential EPA Hazardous Waste Numbers[c]	Concentration in ER Site 74 Waste Samples (ppm)			Superfund LDR Guide #6A Threshold Concentration[f]	Superfund LDR Guide #6A Treatment Performance Standard[g]	SNL/NM CAMU Threshold Levels[h] (mg/kg)	Toxicity Characteristic Leaching Procedure (mg/L)
			Minimum[d]	Maximum	Average[e]				
Other polar organics (Continued)	Isophorone		0.058	0.058	0.058	100	0.5-10 mg/kg or >90% reduction	10,000	NA
	Methyl methacrylate		1	1.5	1.25	100	0.5-10 mg/kg or >90% reduction	2,700	NA
	n-Butylbenzene		0.28	0.85	0.43	100	0.5-10 mg/kg or >90% reduction	240	NA
	n-Propylbenzene		0.28	0.28	0.28	100	0.5-10 mg/kg or >90% reduction	240	NA
	o-Toluidine		0.22	62	12	100	0.5-10 mg/kg or >90% reduction	3,400	NA
	p-Isopropyltoluene		0.9	3.04	1.97	100	0.5-10 mg/kg or >90% reduction	650[i]	NA
	sec-Butylbenzene		0.26	0.26	0.26	100	0.5-10 mg/kg or >90% reduction	240	NA
Metals	Arsenic	D004	0.714	881	16.81	10	0.3–1 mg/L or >90% reduction	230	5
	Barium	D005	47	6,600	188.90	400	0.1–40 mg/L or >90% reduction	10,000	100
	Beryllium	-	0.02	21	0.67	NA	NA	1,600	1.22
	Cadmium	D006	0.1127	432.7	5.07	40	0.2–2 mg/L or >95% reduction	390	1
	Chromium	D007	5.5	1,178	59.15	120	0.5–6 mg/L or >95% reduction	10,000	5
	Lead	D008	1.364	49,230	419.68	300	0.1–3 mg/L or >99% reduction	4,000	5
	Mercury	D009	0.043	500	8.57	0.08	0.0002–0.008 mg/L or >90% reduction	230	0.2
	Selenium	D010	0.3	120	2.68	0.05	0.005 mg/L or >90% reduction	3,900	1
	Silver	D011	0.039	51.19	1.31	NA	NA	3,900	5

Refer to footnotes at end of table.

Table 3-1 *(Continued)*

RCRA Contaminant Concentrations of Soils Designated for Containment in the CAMU[a]

Superfund LDR Guide #6A Structural Functional Group[b]	ER Site 74 Contaminant	Potential EPA Hazardous Waste Numbers[c]	Concentration in ER Site 74 Waste Samples (ppm)			Superfund LDR Guide #6A Threshold Concentration[f]	Superfund LDR Guide #6A Treatment Performance Standard[g]	SNL/NM CAMU Threshold Levels[h] (mg/kg)	Toxicity Characteristic Leaching Procedure (mg/L)
			Minimum[d]	Maximum	Average[e]				
Heterocyclics	2-Picoline		0.13	0.97	0.32	200	0.5-20 mg/kg or >90% removal	780[i]	NA
	Carbazole		0.11	16	2.69	200	0.5-20 mg/kg or >90% removal	10,000	NA
	Dibenzofuran	NA	0.17	21	2.68	200	0.5 - 20 ppm or >90% reduction	3,100	NA
	Tetrahydrofuran	NA	0.26	11	1.28	200	0.5 - 20 ppm or >90% reduction	10,000	NA
Nitrated Aromatics	1,3-Dinitrobenzene		4.9	14	10.97	10,000	2.5-10 mg/kg or >99% removal	78	NA
	2,4-Dintirophenol		0.65	0.65	0.65	10,000	2.5-10 mg/kg or >99% removal	1,600	NA
	2-Nitrophenol		0.13	0.13	0.13	10,000	2.5-10 mg/kg or >99% removal	6,300[i]	NA
	3-Nitroaniline		8.2	8.2	8.2	10,000	2.5-10 mg/kg or >99% removal	45	NA
	Nitrobenzene	D036, F004	0.35	15	1.52	10,000	2.5 - 10 ppm or >99.9% reduction	390	2.0
Polynuclear Aromatics	2-Methylnapthalene	NA	0.14	59.4	3.48	400	0.5 - 20 ppm or >95% reduction	10,000	NA
	Acenaphthene		0.0176	71	6.67	400	0.5-20 mg/kg or >95% removal	10,000	NA
	Acenaphthylene		0.17	1.6	0.7	400	0.5-20 mg/kg or >95% removal	220[i]	NA
	Anthracene		0.21	72	6.68	400	0.5-20 mg/kg or >95% removal	10,000	NA
	Benz(a)anthracene		0.14	29	2.57	400	0.5-20 mg/kg or >95% removal	880	NA

Refer to footnotes at end of table.

Table 3-1 *(Continued)*

RCRA Contaminant Concentrations of Soils Designated for Containment in the CAMU[a]

Superfund LDR Guide #6A Structural Functional Group[b]	ER Site 74 Contaminant	Potential EPA Hazardous Waste Numbers[c]	Concentration in ER Site 74 Waste Samples (ppm)			Superfund LDR Guide #6A Threshold Concentration[f]	Superfund LDR Guide #6A Treatment Performance Standard[g]	SNL/NM CAMU Threshold Levels[h] (mg/kg)	Toxicity Characteristic Leaching Procedure (mg/L)
			Minimum[d]	Maximum	Average[e]				
Polynuclear Aromatics (Continued)	Benzo(a)pyrene		0.2	11	2.06	400	0.5-20 mg/kg or >95% removal	88	NA
	Benzo(b)flouranthene		0.17	27	2.96	400	0.5-20 mg/kg or >95% removal	880	NA
	Benzo(g,h,i)perylene		0.16	3.1	0.98	400	0.5-20 mg/kg or >95% removal	10,000[i]	NA
	Benzo(k)flouranthene		0.18	27	2.91	400	0.5-20 mg/kg or >95% removal	8,800	NA
	Chrysene		0.18	31	3.18	400	0.5-20 mg/kg or >95% removal	8,800	NA
	Dibenz(a,h)anthracene		0.073	0.84	0.46	400	0.5-20 mg/kg or >95% removal	88	NA
	Flouranthene		0.0177	114	10.92	400	0.5-20 mg/kg or >95% removal	10,000	NA
	Fluorene	NA	0.0492	49	4.22	400	0.5 - 20 ppm or >95% reduction	10,000	NA
	Indeno(1,2,3-cd)pyrene		0.12	0.97	0.28	400	0.5-20 mg/kg or >95% removal	880	NA
	Napthalene	NA	0.091	81	2.26	400	0.5 - 20 ppm or >95% reduction	220	NA
	Phenanthrene		0.0377	130	9.9	400	0.5-20 mg/kg or >95% removal	10,000[i]	NA
	Pyrene	NA	0.0307	82	5.83	400	0.5 - 20 ppm or >95% reduction	10,000	NA
Radionuclide[j]	Tritium	NA				NA	NA	–	NA

[a]Constituent concentrations based on samples collected during the Landfill Excavation Voluntary Corrective Measure (LE VCM) for soils designated for containment in the CAMU, from September 1998 through February 2002.

[b]Information in this column is based on U.S. Environmental Protection Agency (EPA), 1990. "Superfund LDR Guide #6A, 2nd Edition, Obtaining a Soil and Debris Treatability Variance for Remedial Actions," Superfund Publication 9347.3-06FS, U.S. Environmental Protection Agency, Washington, D.C.

Table 3-1 *(Continued)*

RCRA Contaminant Concentrations of Soils Designated for Containment in the CAMU[a]

[c]The potential hazardous waste numbers were taken from Title 40 of the Code of Federal Regulations (40 CFR) Part 261. Entries marked NA (Not Applicable) indicate that, although the constituent was identified, there are no records to link the constituent to a source-based hazardous waste number.

[d]Minimum concentration reported includes only detected analyte (non-detects excluded).

[e]Average concentration reported is an average of detects only (non-detects not included in average).

[f]Information in this column is from EPA, 1990, "Superfund LDR Guide #6A, 2nd Edition, Obtaining a Soil and Debris Treatability Variance for Remedial Actions."

[g]Taken from EPA, 1990, "Superfund LDR Guide #6A, 2nd Edition, Obtaining a Soil and Debris Treatability Variance for Remedial Actions."

[h]Information in this column taken from "Technical Background Document: Calculation of SNL/NM CAMU Threshold Levels."

[i]Threshold value calculated based on data from a surrogate chemical based on similar chemical structure and presumed similar structure activity relationships that determine toxicity.

[j]Although tritium is not a RCRA constituent, it is included for completeness in describing contaminant concentrations that may be accepted at the CAMU.

EPA = Environmental Protection Agency.
ER = Environmental Restoration.
mg/L = Milligrams per liter.
NA = Not applicable.
ppm = Parts per million.
RCRA = Resource Conservation and Recovery Act.

Enclosure 3
Chapter 12 of CWL Closure Plan

- **Redline-Strikeout document**
- **Final (changes accepted) document**

Enclosure 3
Chapter 12 of CWL Closure Plan

- **Redline-Strikeout document**

12.0 REMEDIATION, CLOSURE, AND POST-CLOSURE CARE

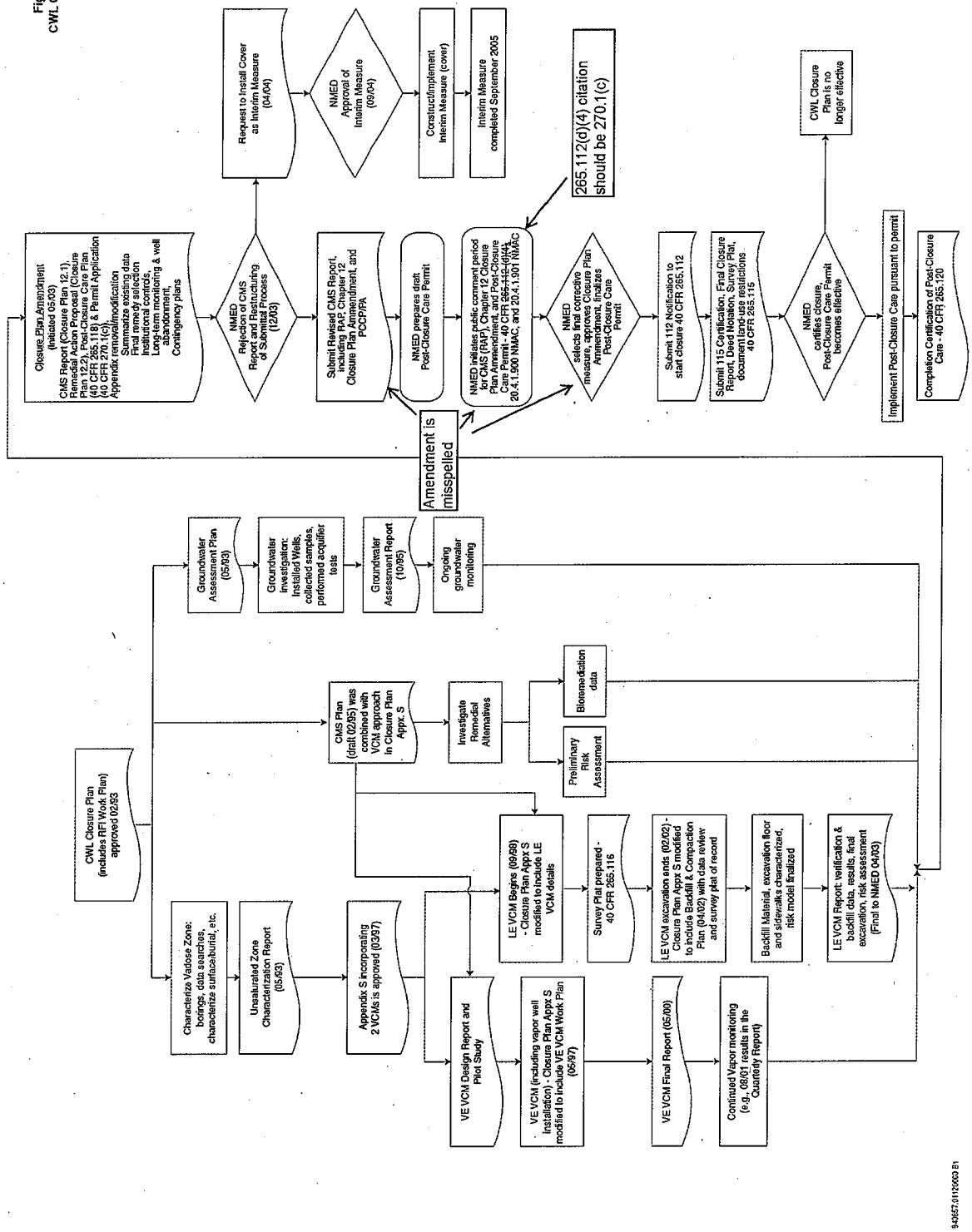
Since approval of the Chemical Waste Landfill (CWL) Closure Plan on February 22, 1993, the approach to closure of the CWL has been modified to include a Voluntary Corrective Measure (VCM) program. ~~Figure 12-1 summarizes the CWL closure process, which has been updated to reflect the NMED rejection of the May 2003 submittal of the Corrective Measures Study (CMS) Report (Kieling December 2003). The May 2003 submittal also contained the Remedial Action Proposal (RAP) and Post-Closure Care Plan and Permit Application (PCCP/PA), which were not included in the NMED review (Kieling December 2003).~~ This chapter of the Closure Plan was revised in September 2002 and again in February 2003 to incorporate the VCM part of the Corrective Action program and to include an updated discussion of the Corrective Measure Study (CMS) process, including CMS planning and the CMS Report. Updated requirements associated with final site closure and post-closure care were also presented in these earlier revisions. This revision of Chapter 12 was initiated in December 2004 (Wagner December 2004) in response to NMED direction (Kieling December 2003) and was included in the permit modification for final remedy selection and post-closure care conditions (Kieling May 2007). This revision ~~addresses~~documents the scope, submittal, and permitting requirements needed to complete remediation of, certify closure for, and establish post-closure conditions for the CWL consistent with NMED direction provided in February 2006 (Kieling February 2006)~~consistent with NMED direction (Kieling December 2003)~~. Figure 12-1 summarizes the CWL closure process.

12.1 Voluntary Corrective Measures Program

This Closure Plan was amended through a Class 1 modification requiring prior approval to include the VCM program. The VCM program is described in Appendix S that was approved on March 7, 1997. Appendix S provides a description of two VCMs; a vapor extraction (VE) VCM and a landfill excavation (LE) VCM, which have been completed at the CWL. Figure 12-1 shows how the VCMs, that were intended to be consistent with final remediation of the CWL, have been integrated into the closure process. The main objectives for these VCMs were to reduce and control the VOC soil gas plume, to prevent further degradation of groundwater beneath the CWL, and to remove wastes from the buried pits such that post-VCM site conditions are protective of human health and the environment. The VE VCM was completed in July 1998, and the LE VCM was completed in September 2005. The CWL has been excavated and the remaining soils and backfill meet NMED-approved risk-based criteria for industrial land use as per the NMED approval of the LE VCM Final Report in December 2003 (Moats December 2003).

Beginning in November 1996 and continuing to the present, quarterly reports have been prepared documenting the performance of these two VCMs. Additional information on

Figure 12-1
CWL Closure Path



the VE and LE VCMs can be found in the VE VCM Final Report (SNL/NM May 2000), and the LE VCM Final Report (SNL/NM April 2003).

12.2 LE VCM Final Report and Backfill Plan

The LE VCM Final Report was submitted to the NMED in April 2003. NMED issued a request for supplemental information in August 2003 (Moats August 2003), and DOE and Sandia responded in October 2003 (Boardman October 2003). The LE VCM Final Report was approved by the NMED in December 2003 without conditions (Moats December 2003). The LE VCM Final Report includes information associated with excavation and waste management; analytical results from the excavation and backfill material verification soil samples; and results of the final risk-screening assessment.

The Site Operational Boundary Closure Addendum to the LE VCM Final Report was submitted to the NMED in August 2005 (SNL/NM August 2005) and approved by the NMED on October 25, 2005 (Bearzi October 2005). With the submittal of the Waste Management Addendum to the LE VCM Final Report in the February 22, 2006 CWL Quarterly Closure Progress Report (SNL/NM February 2006), as Appendix B, all LE VCM regulatory deliverables have been submitted. The following information was not previously submitted to the NMED, and will be included in the Final Closure Report.

- analytical results for site operational boundary and backfill/cover materials that were not included in the LE VCM Final Report

- an updated risk assessment integrating all relevant analytical results representing end state conditions of the CWL.

~~The following information shall be submitted to the NMED in addendums to the LE VCM Final Report or in the Final Closure Report: 1) information associated with final disposition of waste, 2) a description of site operational boundary sampling and scraping activities related to closure of the LE VCM site operational boundary, 3) analytical results for site operational boundary and backfill/cover materials that were not included in the LE VCM Final Report, and 4) an updated risk assessment integrating all relevant analytical results representing end-state conditions of the CWL that were not included in the final risk assessment presented in the LE VCM Final Report.~~

~~Any addendums to the LE VCM Final Report shall be submitted to the NMED prior to the submittal of the Final Closure Report. Otherwise, such addendums shall be submitted as part of the Final Closure Report.~~

The Backfill and Compaction Plan (Addendum C to Appendix S of the Closure Plan) for the LE VCM was approved by the NMED on June 26, 2002 with three conditions (Bearzi June 2002). The NMED approval letter also required submittal of a final risk-screening assessment, which was provided later in the LE VCM Final Report. The three conditions of approval were integrated into Revision 1 of the Backfill and Compaction Plan that was submitted to NMED in August 2002 (Zamorski August 2002).

12.3 Chemical Waste Landfill Closure and Post-Closure Care Process

On May 20, 2003, DOE and Sandia submitted a compilation of documents (Boardman May 2003) containing the CWL CMS Report, RAP, and PCCP/PA transmitted as a Class 3 amendment to this Closure Plan as set forth in the amended Chapter 12 of the Closure Plan (SNL/NM February 2003). On December 12, 2003, the NMED rejected the CWL CMS Report and postponed the review of the PCCP/PA and RAP pending the approval of a revised CMS Report, and redefined the steps to closure (Kieling December 2003). The modified closure process and the modified post-closure care process are reflected in Figure 12-1 and are described in this section.

~~Two main documents shall be submitted to the NMED as part of the closure process. They are the revised CMS Report (including the RAP as an annex) and the Final Closure Report.~~ The revised CMS Report ~~has already been~~was submitted to the NMED in December 2004 (SNL/NM December 2004). The CMS Report contains information to support an NMED determination as to whether site conditions, as achieved by the two VCMs, are adequately protective of human health and the environment. The CMS Report also contains a recommendation for a final corrective measures alternative for NMED's consideration and approval.

DOE and Sandia ~~have~~ also submitted a revised PCCP/PA under 20.1.4.900 NMAC incorporating 40 CFR 270.1(c), addressing information requirements of 20.1.4.900 NMAC incorporating 40 CFR 270.28 (SNL/NM September 2005). Upon NMED issuance of a post-closure care permit (required by 20.4.1.900 NMAC incorporating 40 CFR 270.1(c)), and after NMED certification of closure, the post-closure care permit shall be considered the sole source of operating conditions for the CWL post-closure care period. The CWL Closure Plan will no longer be effective.

The CWL Closure Plan and post-closure care permit lay the groundwork for final CWL closure and post-closure care activities, respectively. The Final Closure Report will document closure of the CWL, including completion of all final corrective measures. Table 12-1 lists the main closure and post-closure care documents and provides descriptive summaries of each document and schedule information. After approval of the Closure Plan amendment, the final corrective measure selected by the NMED shall be implemented within 30 days of said approval.

Post-closure care will begin after NMED approval of the Final Closure Report and NMED certification of closure, and will be conducted in accordance with the post-closure care permit to be issued by the NMED. Table 12-2 lists the regulatory notifications and certifications required as part of the closure and post-closure process, which are also shown on Figure 12-1.

Table 12-1 Closure Reporting Requirements

Submittal	Regulatory Driver	Scope and CWL Reference	Due Date
CMS Report, including the Remedial Action Proposal (RAP)	Closure Plan	The CMS Report summarizes historic investigations, presents the results of two completed VCMs, and documents current site conditions based upon recent monitoring analytical results. The recommended final corrective measures alternative and evaluation process are also presented.	Submitted and processed in the permit modification for final remedy selection and post-closure care conditions (Kieling May 2007)~~Submitted and under NMED review~~
		The RAP is included as an annex to the CMS Report and documents the at-grade vegetative soil cover design that was approved by the NMED as an interim measure (Kieling September 2004). The RAP includes a detailed conceptual engineering design and supporting documentation so the adequacy of the design relative to design criteria/objectives can be assessed. This document will remove/replace Appendices J and K of the Closure Plan.	
Post-Closure Care Plan and Permit Application	40 CFR 270.1(c)	PCCP/PA was submitted under 40 CFR 270.1(c). The PCCP/PA addresses the information requirements of 40 CFR 270.28.	Submitted and processed in the permit modification for final remedy selection and post-closure care conditions (Kieling May 2007)~~Submitted and under NMED review~~
Final Closure Report	Closure Plan and 40 CFR 265.115	The Final Closure Report shall document completion of closure activities and corrective measures.	Within 60 days of completion of closure activities and corrective measures~~, but no later than June 30, 2007~~

Table 12-2 Closure and Post-Closure Notifications and Certifications

Notification/ Certification	Regulatory Driver	Scope and CWL Reference	Schedule/ Timing
112 Notification	40 CFR 265.112 (d)(1)	Notification to start closure.	Within 60 days of notice of approval of this closure plan amendment.
115 Notifications	40 CFR 265.115	Notifications for certification of completion of closure. As per Section 1.2.1.2 of the Closure Plan these certifications shall be submitted with the Final Report.	Within 60 days of completion of closure activities and corrective measures~~, but no later than June 30, 2007~~.
116 and 119 Notice	40 CFR Part 265.116 (survey plat) and 119 (deed notation)	Submit to County Zoning Authority a notation on the property deed. Submit survey plat as per 40 CFR 265.116 to county zoning authority, DOE property management, NMED and EPA. Document land-use restrictions. Send notification to NMED that the property deed notation has been submitted.	No later than 60 days after certification of closure.
Certification of Post-Closure Care Completion	40 CFR ~~265~~264.120	Notification for completion of post-closure care.	Within 60 days of completion of post-closure care.

12.3.1 Corrective Measures Study Report

A CMS Report has been completed for the CWL and summarizes historic investigations, presents the results of two completed VCMs, and documents current site conditions based upon recent monitoring analytical results (SNL/NM December 2004). After seeking public comment, the NMED will make a final determination regarding whether or not additional remediation of the CWL is necessary to assure protection of human health and the environment.

Section 1.0 of the CMS Report provides introductory information including site operational and regulatory history. A comprehensive summary of site investigations

and the two VCMs are also provided, focusing on groundwater (e.g. chromium and solvent contamination) and the vadose zone VOC soil gas plume.

A detailed, updated conceptual site model is presented in Section 1.0 of the CMS Report. Section 2.0 documents the identification, screening, and selection of the final corrective measures alternative based upon conditions established in Section 1.0, and presents the DOE/Sandia preferred corrective measures alternative. Section 3.0 provides an overview of the PCCP/PA and the associated monitoring program that is intended to address future uncertainty. Section 4.0 presents a brief summary of the path to closure, which is modified by this revision of Chapter 12. Several annexes are included as part of the CMS Report and contain important supporting documentation from past and recent investigations, VCMs, and monitoring activities.

12.3.2 Remedial Action Proposal

The RAP is included as an annex to the CMS Report and documents the at-grade vegetative soil cover design that was approved by the NMED as an interim measure (Kieling September 2004). A detailed conceptual engineering design and supporting documentation are presented so the adequacy of the design and related features can be assessed, including the following design criteria:

- Minimize infiltration and percolation of water through the former landfill,
- Minimize future maintenance,
- Assure adequate drainage and minimize erosion,
- Minimize damage to cover integrity caused by any settling and subsidence, and
- Ensure that the hydraulic conductivity of the cover shall be less than or equal to that of natural soil situated immediately adjacent to the bottom of the landfill.

12.3.3 Post-Closure Care Plan and Permit Application

The PCCP/PA (SNL/NM September 2005) was prepared for submittal under 20.1.4.900 NMAC incorporating 40 CFR 270.1(c). The PCCP/PA addresses the information requirements of 20.1.4.900 NMAC incorporating 40 CFR 270.28 and contains information required for the post-closure period. The NMED ~~will prepare~~has prepared a draft post-closure care permit (Kieling May 2007) from the PCCP/PA; ~~said~~ when final, the permit shall supersede the Closure Plan as the governing regulatory document for the CWL after NMED certifies closure of the CWL.

12.4 Final Closure Report

A Final Closure Report is required to document the completion of closure activities and corrective measures.

The Final Closure Report will describe the closure activities performed and include a description of the "end state" of the site. The general topics to be covered in this report include:

- Survey plat,
- Quality Assurance/Quality Control summary of the final cover, including final as-built engineering drawing(s),
- Backfill and compaction completion report (as defined in Addendum C to Appendix S of the Closure Plan),
- Summary of wastes removed from the CWL,
- Summary of remaining residual contamination and the associated risks,
- End-state conditions,
- Any additional information as described in Section 12.2 of this Chapter that is not included as an addendum to the LE VCM Final Report, and
- Certification of the accuracy of the report.

The Final Closure Report will also describe any land use restrictions and remaining risks or hazards that the site may pose to the public and the environment.

References for Section 12

Bearzi, J.P. (New Mexico Environment Department), June 2002. Letter to M.J. Zamorski (U.S. Department of Energy) and R.J. Eagan (Sandia Corporation), "Approval with Conditions: Class 1 Modification: Backfill and Compaction Plan, Addendum C to Appendix S, Chemical Waste Landfill Closure Plan, April 2002, Sandia National Laboratories NM5890110518, HWB-SNL-02-003." June 26, 2002.

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Enclosure 3
Chapter 12 of CWL Closure Plan

- **Final (changes accepted) document**

12.0 REMEDIATION, CLOSURE, AND POST-CLOSURE CARE

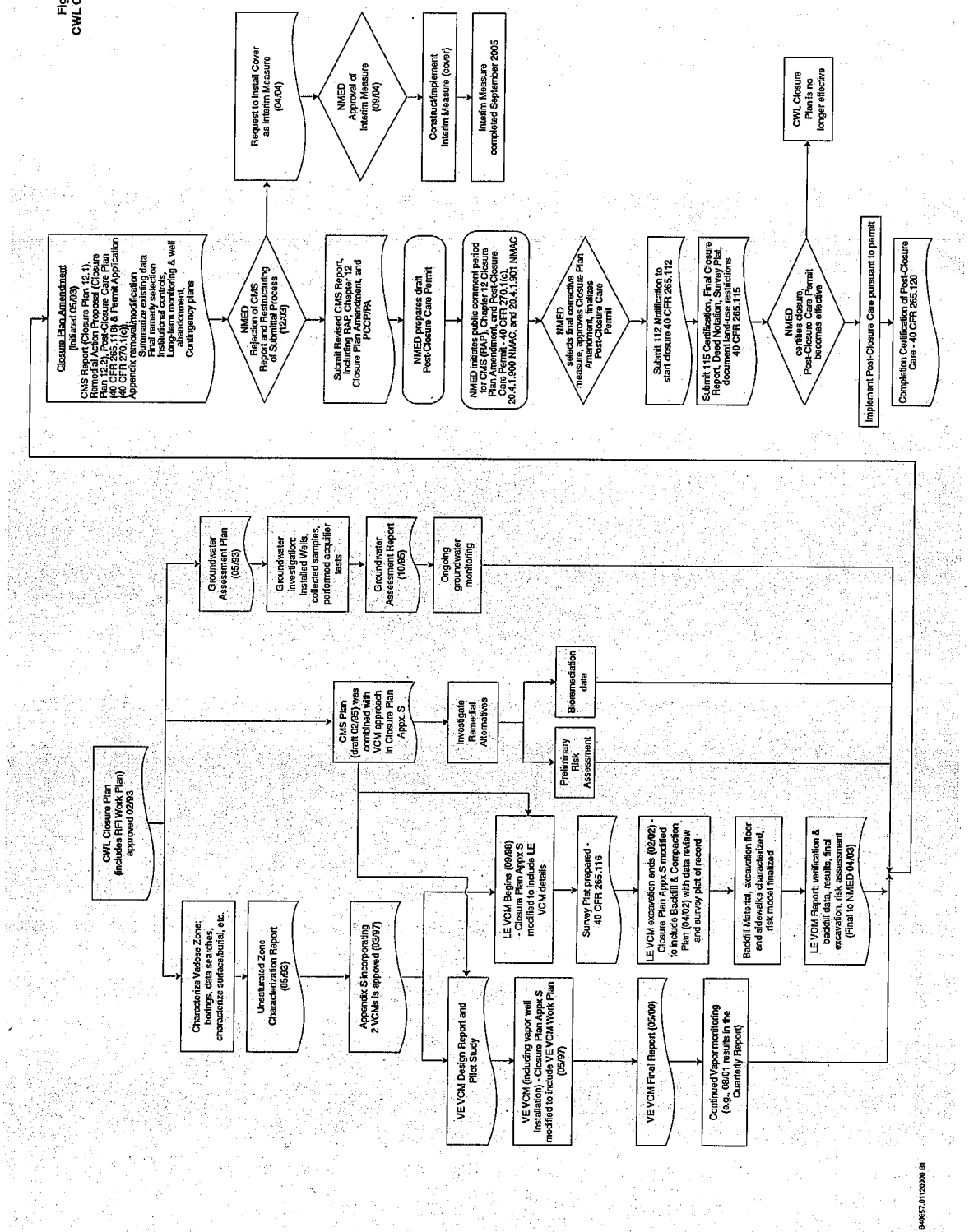
Since approval of the Chemical Waste Landfill (CWL) Closure Plan on February 22, 1993, the approach to closure of the CWL has been modified to include a Voluntary Corrective Measure (VCM) program. This chapter of the Closure Plan was revised in September 2002 and again in February 2003 to incorporate the VCM part of the Corrective Action program and to include an updated discussion of the Corrective Measure Study (CMS) process, including CMS planning and the CMS Report. Updated requirements associated with final site closure and post-closure care were also presented in these earlier revisions. This revision of Chapter 12 was initiated in December 2004 (Wagner December 2004) in response to NMED direction (Kieling December 2003) and was included in the permit modification for final remedy selection and post-closure care conditions (Kieling May 2007). This revision documents the scope, submittal, and permitting requirements needed to complete remediation of, certify closure for, and establish post-closure conditions for the CWL consistent with NMED direction provided in February 2006 (Kieling February 2006). Figure 12-1 summarizes the CWL closure process.

12.1 Voluntary Corrective Measures Program

This Closure Plan was amended through a Class 1 modification requiring prior approval to include the VCM program. The VCM program is described in Appendix S that was approved on March 7, 1997. Appendix S provides a description of two VCMs; a vapor extraction (VE) VCM and a landfill excavation (LE) VCM, which have been completed at the CWL. Figure 12-1 shows how the VCMs, that were intended to be consistent with final remediation of the CWL, have been integrated into the closure process. The main objectives for these VCMs were to reduce and control the VOC soil gas plume, to prevent further degradation of groundwater beneath the CWL, and to remove wastes from the buried pits such that post-VCM site conditions are protective of human health and the environment. The VE VCM was completed in July 1998, and the LE VCM was completed in September 2005. The CWL has been excavated and the remaining soils and backfill meet NMED-approved risk-based criteria for industrial land use as per the NMED approval of the LE VCM Final Report in December 2003 (Moats December 2003).

Beginning in November 1996 and continuing to the present, quarterly reports have been prepared documenting the performance of these two VCMs. Additional information on the VE and LE VCMs can be found in the VE VCM Final Report (SNL/NM May 2000), and the LE VCM Final Report (SNL/NM April 2003).

Figure 12-1
CWL Closure Path



12.2 LE VCM Final Report and Backfill Plan

The LE VCM Final Report was submitted to the NMED in April 2003. NMED issued a request for supplemental information in August 2003 (Moats August 2003), and DOE and Sandia responded in October 2003 (Boardman October 2003). The LE VCM Final Report was approved by the NMED in December 2003 without conditions (Moats December 2003). The LE VCM Final Report includes information associated with excavation and waste management; analytical results from the excavation and backfill material verification soil samples; and results of the final risk-screening assessment.

The Site Operational Boundary Closure Addendum to the LE VCM Final Report was submitted to the NMED in August 2005 (SNL/NM August 2005) and approved by the NMED on October 25, 2005 (Bearzi October 2005). With the submittal of the Waste Management Addendum to the LE VCM Final Report in the February 22, 2006 CWL Quarterly Closure Progress Report (SNL/NM February 2006), as Appendix B, all LE VCM regulatory deliverables have been submitted. The following information was not previously submitted to the NMED and will be included in the Final Closure Report.

- analytical results for site operational boundary and backfill/cover materials that were not included in the LE VCM Final Report
- an updated risk assessment integrating all relevant analytical results representing end state conditions of the CWL.

The Backfill and Compaction Plan (Addendum C to Appendix S of the Closure Plan) for the LE VCM was approved by the NMED on June 26, 2002 with three conditions (Bearzi June 2002). The NMED approval letter also required submittal of a final risk-screening assessment, which was provided later in the LE VCM Final Report. The three conditions of approval were integrated into Revision 1 of the Backfill and Compaction Plan that was submitted to NMED in August 2002 (Zamorski August 2002).

12.3 Chemical Waste Landfill Closure and Post-Closure Care Process

On May 20, 2003, DOE and Sandia submitted a compilation of documents (Boardman May 2003) containing the CWL CMS Report, RAP, and PCCP/PA transmitted as a Class 3 amendment to this Closure Plan as set forth in the amended Chapter 12 of the Closure Plan (SNL/NM February 2003). On December 12, 2003, the NMED rejected the CWL CMS Report and postponed the review of the PCCP/PA and RAP pending the approval of a revised CMS Report, and redefined the steps to closure (Kieling December 2003). The modified closure process and the modified post-closure care process are reflected in Figure 12-1 and are described in this section.

The revised CMS Report was submitted to the NMED in December 2004 (SNL/NM December 2004). The CMS Report contains information to support an NMED determination as to whether site conditions, as achieved by the two VCMs, are adequately protective of human health and the environment. The CMS Report also contains a recommendation for a final corrective measures alternative for NMED's consideration and approval.

DOE and Sandia also submitted a revised PCCP/PA under 20.1.4.900 NMAC incorporating 40 CFR 270.1(c), addressing information requirements of 20.1.4.900 NMAC incorporating 40 CFR 270.28 (SNL/NM September 2005). Upon NMED issuance of a post-closure care permit (required by 20.4.1.900 NMAC incorporating 40 CFR 270.1(c)), and after NMED certification of closure, the post-closure care permit shall be considered the sole source of operating conditions for the CWL post-closure care period. The CWL Closure Plan will no longer be effective.

The CWL Closure Plan and post-closure care permit lay the groundwork for final CWL closure and post-closure care activities, respectively. The Final Closure Report will document closure of the CWL, including completion of all final corrective measures. Table 12-1 lists the main closure and post-closure care documents and provides descriptive summaries of each document and schedule information. After approval of the Closure Plan amendment, the final corrective measure selected by the NMED shall be implemented within 30 days of said approval.

Post-closure care will begin after NMED approval of the Final Closure Report and NMED certification of closure, and will be conducted in accordance with the post-closure care permit to be issued by the NMED. Table 12-2 lists the regulatory notifications and certifications required as part of the closure and post-closure process, which are also shown on Figure 12-1.

12.3.1 Corrective Measures Study Report

A CMS Report has been completed for the CWL and summarizes historic investigations, presents the results of two completed VCMs, and documents current site conditions based upon recent monitoring analytical results (SNL/NM December 2004). After seeking public comment, the NMED will make a final determination regarding whether or not additional remediation of the CWL is necessary to assure protection of human health and the environment.

Section 1.0 of the CMS Report provides introductory information including site operational and regulatory history. A comprehensive summary of site investigations and the two VCMs are also provided, focusing on groundwater (e.g. chromium and solvent contamination) and the vadose zone VOC soil gas plume.

Table 12-1 Closure Reporting Requirements

Submittal	Regulatory Driver	Scope and CWL Reference	Due Date
CMS Report, including the Remedial Action Proposal (RAP)	Closure Plan	The CMS Report summarizes historic investigations, presents the results of two completed VCMs, and documents current site conditions based upon recent monitoring analytical results. The recommended final corrective measures alternative and evaluation process are also presented.	Submitted and processed in the permit modification for final remedy selection and post-closure care conditions (Kieling May 2007)
		The RAP is included as an annex to the CMS Report and documents the at-grade vegetative soil cover design that was approved by the NMED as an interim measure (Kieling September 2004). The RAP includes a detailed conceptual engineering design and supporting documentation so the adequacy of the design relative to design criteria/objectives can be assessed. This document will remove/replace Appendices J and K of the Closure Plan.	
Post-Closure Care Plan and Permit Application	40 CFR 270.1(c)	PCCP/PA was submitted under 40 CFR 270.1(c). The PCCP/PA addresses the information requirements of 40 CFR 270.28.	Submitted and processed in the permit modification for final remedy selection and post-closure care conditions (Kieling May 2007)
Final Closure Report	Closure Plan and 40 CFR 265.115	The Final Closure Report shall document completion of closure activities and corrective measures.	Within 60 days of completion of closure activities and corrective measures

Table 12-2 Closure and Post-Closure Notifications and Certifications

Notification/ Certification	Regulatory Driver	Scope and CWL Reference	Schedule/ Timing
112 Notification	40 CFR 265.112 (d)(1)	Notification to start closure.	Within 60 days of notice of approval of this closure plan amendment.
115 Notifications	40 CFR 265.115	Notifications for certification of completion of closure. As per Section 1.2.1.2 of the Closure Plan these certifications shall be submitted with the Final Report.	Within 60 days of completion of closure activities and corrective measures.
116 and 119 Notice	40 CFR Part 265.116 (survey plat) and 119 (deed notation)	Submit to County Zoning Authority a notation on the property deed. Submit survey plat as per 40 CFR 265.116 to county zoning authority, DOE property management, NMED and EPA. Document land-use restrictions. Send notification to NMED that the property deed notation has been submitted.	No later than 60 days after certification of closure.
Certification of Post-Closure Care Completion	40 CFR 264.120	Notification for completion of post-closure care.	Within 60 days of completion of post-closure care.

A detailed, updated conceptual site model is presented in Section 1.0 of the CMS Report. Section 2.0 documents the identification, screening, and selection of the final corrective measures alternative based upon conditions established in Section 1.0, and presents the DOE/Sandia preferred corrective measures alternative. Section 3.0 provides an overview of the PCCP/PA and the associated monitoring program that is intended to address future uncertainty. Section 4.0 presents a brief summary of the path to closure, which is modified by this revision of Chapter 12. Several annexes are included as part of the CMS Report and contain important supporting documentation from past and recent investigations, VCMs, and monitoring activities.

12.3.2 Remedial Action Proposal

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- Minimize infiltration and percolation of water through the former landfill,
- Minimize future maintenance,
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- Ensure that the hydraulic conductivity of the cover shall be less than or equal to that of natural soil situated immediately adjacent to the bottom of the landfill.

12.3.3 Post-Closure Care Plan and Permit Application

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12.4 Final Closure Report

A Final Closure Report is required to document the completion of closure activities and corrective measures.

The Final Closure Report will describe the closure activities performed and include a description of the "end state" of the site. The general topics to be covered in this report include:

- Survey plat,
- Quality Assurance/Quality Control summary of the final cover, including final as-built engineering drawing(s),
- Backfill and compaction completion report (as defined in Addendum C to Appendix S of the Closure Plan),
- Summary of wastes removed from the CWL,
- Summary of remaining residual contamination and the associated risks,

- End-state conditions,
- Any additional information as described in Section 12.2 of this Chapter that is not included as an addendum to the LE VCM Final Report, and
- Certification of the accuracy of the report.

The Final Closure Report will also describe any land use restrictions and remaining risks or hazards that the site may pose to the public and the environment.

References for Section 12

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