

**DUGWAY PERMIT**

**MODULE VII**

**ATTACHMENT 22**

**SWMU 200  
POST-CLOSURE PLAN**

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## **LIST OF ACRONYMS, ABBREVIATIONS, AND SYMBOLS**

bgs	below ground surface
CFR	Code of Federal Regulations
CMI	Corrective Measures Implementation
CMIR	Corrective Measures Implementation Report
CWM	Chemical Warfare Materiel
DPG	Dugway Proving Ground
DSHW	Divisions of Solid and Hazardous Waste
DWQ	Division of Water Quality
ft	feet
GCL	Geosynthetic Clay Liner
HWMU	Hazardous Waste Management Units
msl	mean sea level
OE	Ordnance and Explosive
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
Shaw	Shaw Environmental, Inc.
SWMU	Solid Waste Management Unit
UAC	Utah Administrative Code
UDEQ	Utah Department of Environmental Quality
USGS	United States Geological Survey
UXO	Unexploded Ordnance

## 1.0 INTRODUCTION

The two objectives of this Post-Closure Plan are: 1) ensure that Dugway Proving Ground (DPG or Dugway) complies with the Post-Closure Permit issued by the State of Utah in accordance with Title 40 Code of Federal Regulations (CFR) §264.117, with respect to post-closure inspection requirements; 2) outline the requirements needed to prevent exposure or contact with waste left in place at this landfill site. To meet these objectives, this Post-Closure Plan provides detailed information regarding the location, regulatory criteria, and post-closure inspections at Solid Waste Management Unit (SWMU) 200, herein referred to as DPG-200. Post-closure requirements will continue for a minimum of 30 years after closure of DPG-200. The post-closure care period may be extended or shortened, as deemed necessary (40 CFR §264.117(a)(2)).

In accordance with 40 CFR §270.28 and Utah Administrative Code (UAC) R315-3-2.5, the Post-Closure Plan is required to include specific information for a closed facility. As applicable to DPG-200, the information requirements include:

- General description of the facility;
- Description of security procedures;
- General inspection schedule;
- Preparedness and Prevention Plan;
- Facility location information (including seismic and flood plain considerations);
- Closure Plan or Closure Proposal;
- Certificate of Closure;
- Topographic map, with specific scale;
- Summary of groundwater monitoring data; and
- Identification of uppermost aquifer and interconnected aquifers.

Table 1 provides the regulatory citations for the general information requirements and the specific locations in this Post-Closure Plan where the information is presented.

**Table 1: Summary of DPG-200 Post-Closure Information Requirements  
 Under 40 CFR §270.14, UAC R315-3-2.19, and UAC R315-3-2.5**

Regulation Citation	Requirement Description	Location Requirement is Addressed
40 CFR §270.14(b)(1) UAC R315-3-2.5(b)(1)	General Description of the Facility	Section 2.0
40 CFR §270.14(b)(4) UAC R315-3-2.5(b)(4)	Description of Security Procedures	Section 3.0
40 CFR §270.14(b)(5) UAC R315-3-2.5(b)(5)	General Inspection Schedule	Section 6.0, Module VII Table VII-3, and Module VII Form B
40 CFR §270.14(b)(6) UAC R315-3-2.5(b)(6)	Preparedness and Prevention	Section 3.0

**Table 1: Summary of DPG-200 Post-Closure Information Requirements  
Under 40 CFR §270.14, UAC R315-3-2.19, and UAC R315-3-2.5 (Continued)**

<b>Regulation Citation</b>	<b>Requirement Description</b>	<b>Location Requirement is Addressed</b>
40 CFR §§270.14(b)(11)(i-ii, v) UAC R315-3-2.5(b)(11) (i-ii, v)	Facility Location Information Applicable seismic standard	Section 4.3.1
40 CFR §§270.14(b)(11) (iii-v) UAC R315-3-2.5(b)(11) (iii-v)	Facility Location Information 100-year floodplain	Section 4.3.2
40 CFR §270.14(b)(13) UAC R315-3-2.5(b)(13)	Copy of the Closure Plan	Phase II Resource Conservation and Recovery Act (RCRA) Facility Investigation Report was approved 10/06/2003 with no comments received.
40 CFR §270.14(b)(14) UAC R315-3-2.5(b)(14)	Closure Certification and Notification	Section 2.7 and Appendix A.
40 CFR §270.14(b)(16) UAC R315-3-2.5(b)(16)	Post-Closure Cost Estimate	Federal Facilities are exempt from this requirement.
40 CFR §270.14(b)(18) UAC R315-3-2.5(b)(18)	Proof of Financial Coverage	Federal Facilities are exempt from this requirement.
40 CFR §270.14(b)(19) UAC R315-3-2.5(b)(19) (i)	Topographic Map Map Scale and Date	Figure 2 (1 inch = 1000 feet [ft]).
40 CFR §270.14(b)(19) UAC R315-3-2.5(b)(19) (ii)	Topographic Map 100-year floodplain area	DPG-200 is not located within a verified 100-year floodplain area.
40 CFR §270.14(b)(19) UAC R315-3-2.5(b)(19) (iii)	Topographic Map Surface waters including intermittent streams	Figure 2
40 CFR §270.14(b)(19) UAC R315-3-2.5(b)(19) (iv)	Topographic Map Surrounding land uses	DPG-200 is within a military base. There are no nearby operations in the vicinity of DPG-200.
40 CFR §270.14(b)(19) UAC R315-3-2.5(b)(19) (v)	Topographic Map A wind rose (i.e., prevailing windspeed and direction)	There are no residential populations abutting DPG-200. The closest residential area is English Village (approximately 8.5 miles away). A wind rose is not deemed necessary for DPG-200.
40 CFR §270.14(b)(19) UAC R315-3-2.5(b)(19) (vi)	Topographic Map Orientation of Map, North Arrow	Figure 2.
40 CFR §270.14(b)(19) UAC R315-3-2.5(b)(19) (vii)	Topographic Map Legal boundaries of the hazardous waste management facility.	Figure 2.
40 CFR §270.14(b)(19) UAC R315-3-2.5(b)(19) (viii)	Topographic Map Access control, fence, gates	Figure 3. The site is not surrounded by a fence.

**Table 1: Summary of DPG-200 Post-Closure Information Requirements  
Under 40 CFR §270.14, UAC R315-3-2.19, and UAC R315-3-2.5 (Continued)**

<b>Regulation Citation</b>	<b>Requirement Description</b>	<b>Location Requirement is Addressed</b>
40 CFR §270.14(b)(19) UAC R315-3-2.5(b)(19) (ix)	Topographic Map Injection and withdrawal wells	Figure 2
40 CFR §270.14(b)(19) UAC R315-3-2.5(b)(19) (xi)	Topographic Map Barriers for drainage or flood control	Figure 4. DPG-200 is graded to drain surface water away from the engineered cover. There are no barriers to drainage or flood control.
40 CFR §270.14(c) UAC R315-3-2.5(c)(1)	Groundwater Monitoring Information Summary of Groundwater Data	Post-closure groundwater monitoring is not required at DPG-200.
40 CFR §270.14(c) UAC R315-3-2.5(c)(2)	Groundwater Monitoring Information Identification of uppermost aquifer	Post-closure groundwater monitoring is not required at DPG-200.
40 CFR §270.14(c) UAC R315-3-2.5(c)(3)	Groundwater Monitoring Information Delineation of the Waste Management Area	Post-closure groundwater monitoring is not required at DPG-200.
40 CFR §270.14(c) UAC R315-3-2.5(c)(4)	Groundwater Monitoring Information Extent of Plume	Post-closure groundwater monitoring is not required at DPG-200.
40 CFR §270.14(c) UAC R315-3-2.5(c)(5)	Groundwater Monitoring Information Detailed Plans/Engineering Report for Proposed Groundwater Program	Post-closure groundwater monitoring is not required at DPG-200.
40 CFR §270.14(c) UAC R315-3-2.5(c)(6)(i)	Groundwater Monitoring Information Proposed List of Parameters	Post-closure groundwater monitoring is not required at DPG-200.
40 CFR §270.14(c) UAC R315-3-2.5(c)(6)(ii)	Groundwater Monitoring Information Proposed Groundwater Monitoring System	Post-closure groundwater monitoring is not required at DPG-200.
40 CFR §270.14(c) UAC R315-3-2.5(c)(6)(iii)	Groundwater Monitoring Information Background Values	Post-closure groundwater monitoring is not required at DPG-200.
40 CFR §270.14(c) UAC R315-3-2.5(c)(6)(iv)	Groundwater Monitoring Information A description of the Proposed Sampling	Post-closure groundwater monitoring is not required at DPG-200.

## **2.0 FACILITY DESCRIPTION**

The following provides a general description of DPG-200, also known as the Burial Site Southeast of Carr at DPG, as required by UAC R315-3-2.5(b)(1) (Figures 1 and 2).

### **2.1 DPG-200 LOCATION AND HISTORY**

DPG-200 was a landfill site that occupied 0.7 acres along an unnamed dirt road approximately 0.9 miles east of the Carr Facility. The site consisted of a waste cell and two soil mounds that covered an affected area of approximately 0.3 acres. The site is relatively flat with an average elevation of 4,368 feet (ft) above mean sea level (msl). Site history and visual observations indicated that buried wastes may contain material potentially presenting an explosive hazard, chemical warfare materiel (CWM), and other ordnance and explosives (OE) debris. Given the potential for encountering unexploded ordnance (UXO) or CWM, buried subsurface wastes could not be sampled and have not been characterized.

### **2.2 PAST OPERATIONS**

In the 1960s and 1970s DPG-200 was reportedly used for disposal of miscellaneous items including potential chemical munitions demilitarization. Facility site maps indicate that the entire site lies within a mortar and illumination range used in the 1950s and 1960s, suggesting potential periodic use during that time frame. Aerial photos indicate the site was present in 1950. No additional historical information could be obtained regarding materials used, activities performed, or disposal conducted at this site. No evidence of contamination in either of the two mounds was observed or detected during the Phase II RFI.

### **2.3 PREVIOUS INVESTIGATIONS DOCUMENTATION**

The detailed results of previous material, soil, and groundwater sampling, and closure information including the risk assessment are available, for DPG-200, in the Division of Solid and Hazardous Waste (DSHW) public documents listed below in Table 2 (UAC R315-3-2.5(b)(13)).

**Table 2: DSHW Library Documents Detailing DPG-200 Investigations**

Document Title	Received Date	DSHW Library No.
Parsons Engineering Science, Inc. (Parsons), 1999. <i>Final Phase I RCRA Facility Investigation, Investigation Report, Revision 1.</i> September.	09/99	DPG00007
Parsons, 2003a. <i>Final Phase II RCRA Facility Investigation Report, SWMU 200 Addendum, Revision 1.</i> July.	07/03	DPG00320
Parson 2003b. <i>Draft Final Corrective Measures Study Report, SWMU 200.</i> June.	06/03	DPG0528
Shaw Environmental, Inc. (Shaw), 2006a. <i>Final Corrective Measures Study Report, Firm Fixed-Priced Remediation, Landfill Sites, Dugway Proving Ground, Dugway, Utah.</i> July.	07/06	DPG00521
Shaw Environmental, Inc., 2006b. <i>Final Corrective Measures Implementation (CMI) Plan, Firm Fixed-Priced Remediation at Landfill Sites, Dugway Proving Ground, Dugway, Utah.</i> August.	11/06	DPG00572
Shaw Environmental, Inc., 2007. <i>Corrective Measures Implementation Report for DPG-200.</i>	03/07	00573

## 2.4 CLOSURE ACTIVITIES

In compliance with UAC R315-7-21, closure at DPG-200 has been completed with the construction of an engineered cover system consisting of a geomembrane-supported geosynthetic clay liner (GCL) placed over the identified waste trench. Approval for the DGP-200 Corrective Measures Implementation Report (CMIR) (Shaw, 2007) was received from Mr. Dennis R. Downs, Utah Solid and Hazardous Waste Control Board. Appendix A includes a copy of the DGP-200 Closure Certification signed and stamped by a Utah-licensed Professional Engineer.

The final cover system, as designed and constructed, satisfies the requirements of UAC R315-7-14 and R315-7-21 (by reference 40 CFR §264, Subpart N, 265.310) for the closure and post-closure of DPG-200, namely:

- Provide long-term minimization of migration of liquids through the closed landfill;
- Function with minimum maintenance;
- Promote drainage and minimize erosion or abrasion of the cover;
- Accommodate settling and subsidence so that the integrity of the cover is maintained; and
- Achieve a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

In meeting the above performance standards, the major closure activities completed at DPG-200 included:

- Installation of the final engineered cover system; and
- Final grading of the site, including enhancement of drainage features, to help control erosion and minimize long-term maintenance requirements.

These measures will prevent human contact with the waste and provide protection of groundwater. A general post-closure site inspection checklist for landfill sites (Form B) designed to insure that these objectives are maintained is presented in Module VII.

The investigative and closure activities performed at DPG-200 are described in detail in the CMIR (Shaw, 2007) and the Final Phase II RFI, SWMU-200 Addendum. (Parsons, 2003a).

## **2.5 HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT**

Based on the results of the Phase II RFI, no evidence of a release to the environment from the waste cell or from activities previously conducted at DPG-200 was detected or observed. Therefore, Human Health and Ecological Risk Assessments were not conducted.

## **2.6 SURFACE WATER AND GROUNDWATER**

There are no defined surface water features within or near DPG-200. The general direction of surface water drainage in the area surrounding this unit would be to the west.

Based on the nature and extent of contamination as defined in the RFI and Carr GMA, groundwater monitoring is not required at SWMU 200.

## **2.7 CLOSURE NOTIFICATIONS**

The Certification of Closure (Appendix A) was received and verified by the Executive Secretary of the Utah Solid and Hazardous Waste Control Board.

Federal facilities are exempt from submitting notifications to the local zoning authority as required by 40 CFR §§264.116 and 264.119, which are incorporated by reference in UAC R315-8-7.

## **3.0 SECURITY REQUIREMENTS**

The following security conditions are applicable to DPG-200:

1. DPG-200 is located within a federal, military installation (DPG). As such, the installation is restricted for the common population.
2. In addition at DPG-200, signs are present warning against unauthorized entry.
3. Security facilities will be maintained and inspected throughout the post-closure care period. The security facilities (i.e., posted signs) to be inspected and the frequency of inspection are listed on the Post-Closure Inspection Schedule. Dugway shall report to the DSHW any decrease of Dugway's Base Security, which could affect the security conditions as applicable to DPG-200.

4. Damaged security facilities shall be noted in the general site inspection checklist which is included as Form B, General Post-Closure Site Inspection Checklist for Landfill Sites, in Module VII. Repairs shall be completed as soon as practicable after the problem is discovered, in compliance with UAC R315-8-2.6(c).

## **4.0 POST-CLOSURE OPERATIONS AND INSPECTIONS**

### **4.1 INTRODUCTION**

DPG-200 has been closed under the DPG RCRA part B Permit requirements and specifications of the CMI Plan (Shaw, 2006b). Disturbance of the waste will not be allowed. To ensure that the area is not reused or developed, semi-annual site inspections and a biennial Post-Closure Report shall be required.

### **4.2 ROUTINE SITE INSPECTIONS**

During its post-closure period, general inspections of DPG-200 shall be conducted annually by November 1<sup>st</sup> to ensure that the integrity of the engineered cap is maintained and to verify the Dugway Dig Permit process as described in Module VII.I has been followed. Any modifications to the frequency of inspections will be in accordance with amendments submitted in the form of proposed permit modifications.

Site inspections will consist of a complete walkthrough and visual inspection of the covered areas as well as surface water drainage features. Module VII includes a general post-closure site inspection checklist for landfill sites (Form B). Completed inspection forms (Form B) shall be filed with the Dugway Environmental Office.

#### **4.2.1 Protective Soil Layer Inspections**

Maintenance of the protective soil layer is an essential step in ensuring that the integrity of the final cover system is preserved. During each site visit, observations will be made to ensure that the protective soil layer is functioning as designed (i.e., protecting the underlying GCL). Repairs to the protective soil layer may include removal of vegetation species having tap roots greater than 12 inches, re-grading through the placement of fill in areas where a potential for ponding water on the cover exists due to settlement, or repair and stabilization of areas that have been eroded.

If signs of soil erosion are excessive (for example, cracks or rills greater than two inches wide) and continual (recurring in the same area) corrective action may be necessary. Significant cracks or rills that have the potential to impact the functionality of the cover system will be documented on the inspection forms. Corrective action may include filling in the eroded or cracked area, re-grading slopes, establishing vegetation (if soil salinity is favorable) or adding mulch to the soil surface. Soil samples will be collected in accordance with Field Work Variance 119350-02-006 (August 6, 2009) and analyzed for salinity as a contingency in case additional erosion control measures are necessary in the future.

For most routine repairs, corrective action should be initiated as soon as possible after identifying the problem or as directed by DPG. If the corrective action requires substantial effort and/or a technical plan, a brief plan will be prepared to summarize the problem, the potential impacts, and the time-frame in which corrective action will be implemented and the planning involved.

#### **4.2.2 Survey Monument Inspections**

During each visit, the survey monument installed during remediation (Figure 4) will be inspected to determine if any damage has made its use questionable as a reference point. If missing or badly damaged, it will be replaced as soon as possible after discovery of the problem.

As part of the routine inspection, the survey monument location and elevation should be surveyed at least once per year for the first two years after construction. Once a settlement of 0.1 ft or less has been measured for two consecutive years, surveys can be scaled back to once every five years. The baseline northing, easting, and elevation of the survey monument (SM-200) are summarized in Table 3. In addition, the survey coordinates for locations around the perimeter of the cover system, shown on Figure 4, are presented for future reference.

**Table 3: DPG-200 Survey Coordinates**

Description	Northing (ft)	Easting (ft)	Elevation <sup>a</sup> (ft above msl)
Survey Monument (SM-200)	7229527	1255914	4,371.2
7000	7,229,583	1,255,939	4,370.0
7001	7,229,559	1,255,948	4,370.3
7002	7,229,524	1,255,932	4,370.8
7003	7,229,473	1,255,923	4,370.6
7004	7,229,475	1,255,881	4,370.3
7005	7,229,550	1,255,899	4,370.0
7006	7,229,579	1,255,912	4,370.0

<sup>a</sup> The locations and elevations of the survey monument are design locations. The final elevations are provided in the 2008 Biennial report.

ft = feet

msl = mean sea level

Table 4 summarizes the Post-Closure Inspection Schedule for DPG-200, and lists the items to be inspected and potential problems. Inspection personnel shall note any problems found and shall inform appropriate Dugway representatives.

**Table 4: DPG-200 Post-Closure Inspection Schedule**

Inspection / Monitoring Item	Method of Documentation	Frequency of Inspection
Landfill Cap	General Post-Closure Site Inspection Checklist for Landfill Sites (Module VII, Form B)	Annual
Salinity Testing	General Post-Closure Site Inspection Checklist for Landfill Sites (Module VII, Form B)	In accordance with Field Work Variance 119350-02-006
Survey Monument	General Post-Closure Site Inspection Checklist for Landfill Sites (Module VII, Form B)	Annual / 5 year intervals
Signs	General Post-Closure Site Inspection Checklist for Landfill Sites (Module VII, Form B)	Annual

Inspection / Monitoring Item	Method of Documentation	Frequency of Inspection
	Form B)	
Drainage Swales	General Post-Closure Site Inspection Checklist for Landfill Sites (Module VII, Form B)	Annual

### 4.3 CONTINGENCY INSPECTIONS

This section provides information about emergency response inspection procedures to be implemented in the event of any natural disaster in the DPG area that may affect the final engineered cover at DPG-200. A general post-closure site inspection checklist for landfill sites is provided as Form B in Module VII.

The Dugway Emergency Response and Contingency Plan (Part B Permit), where applicable to this site, shall be used to announce and respond to emergency conditions. At a minimum, the site inspector should have a radio or phone and a First Aid kit available during inspections.

#### 4.3.1 Earthquakes

DPG is located in Seismic Zone 2 with a maximum acceleration of 0.2 gravity force (Hunt, 1984). DPG-200 is not located within 200 ft of any active faults. Although Utah is tectonically active, most of the earthquake activity occurs about 55 miles to the east along the Wasatch Range Foothills.

A geologic map completed in a 1988 study by the United States Geological Survey (USGS) (Barnhard and Dodge, 1988), was used to determine the distribution, relative age, and amount and extent of surface rupture on Quaternary fault scarps, in the area of DPG-200.

The USGS study (Barnhard and Dodge, 1988) concluded that morphologic and geologic data collected along the fault scarps in the area indicate that all were formed during the later Pleistocene era and there is not any clear evidence of Holocene surface rupture. Several faults inferred on geophysical evidence are located at DPG; however, there is no evidence of displacement during Holocene time.

In the event of a 6.5-magnitude or higher earthquake centered within 50 miles of the site, qualified personnel will visually inspect the landfill cap for signs of damage as soon as it is safe and practical to do so. Any damage to the landfill cap will be repaired to ensure the integrity of the cap. If the landfill cap has sustained extensive damage, Dugway will implement corrective actions to ensure that contaminants are contained and human health is protected. Post-earthquake site inspection records will be submitted to the Dugway Environmental Department.

Following an earthquake, the landfill and landfill cap will also be inspected for lateral shifting of debris. The survey monument will be resurveyed to determine any horizontal or vertical movement of the cap.

#### 4.3.2 Floods or Major Storms

DPG-200 is not located within a 100-year verified floodplain. The National Flood Insurance Rate Map, identifying the boundary of the 100-year flood, does not include DPG. There are no permanent streams or other surface water bodies on DPG.

Surface water run off generated from precipitation flows through drainage swales constructed or enhanced during the capping of DPG-200. Most of the surface water evaporates rather than percolates into the ground. Like other arid regions, DPG is subject to flash flooding following high-precipitation events. Flash floods have occurred only four times in the history of the installation, in 1944, 1952, 1973, and 1983. The major area affected during flash floods has been the Government Creek drainage channel, which has overflowed and caused minor inundation of roads at the Ditto Technical Center.

In the event of a flood or major storm, Dugway will inspect the landfill cap to ensure its integrity within 72 business hours of the event. A general post-closure site inspection checklist for landfill sites is included as Form B in Module VII. A major storm is defined in this plan as a storm with one inch of precipitation or more over a 24-hour period. Any damage to the landfill cap will be repaired as soon as possible to ensure the integrity of the cap.

### **4.3.3 Fires**

In the event of a surface fire near the landfill cap, the Dugway fire department will be notified and the Dugway integrated contingency plan will be implemented. In the event of a landfill fire, if the cap is observed to have been breached, other firefighting methods (such as using foam or smothering with dirt) will be considered and used, as appropriate. Following the incident, Dugway will perform a thorough inspection of the landfill cap using the general post-closure site checklist for landfill sites included as Form B in Module VII, to ensure that the integrity of the soil cover has not been compromised and waste is not exposed. If there is fire damage, Dugway will implement corrective actions to ensure that contaminants are contained and human health is protected.

## **4.4 INSPECTION FOLLOW-UP**

Copies of completed general post-closure site inspection checklists for landfill sites (Module VII, Form B) shall be forwarded to the Dugway Environmental Office. The Point-of-Contact for the Dugway Environmental Office is as follows:

Environmental Programs Compliance Representative  
Dugway Proving Ground Environmental Program Office  
Dugway Proving Ground, UT 84022  
Telephone: (435) 831-3560

The Dugway Environmental Office shall notify the appropriate personnel to implement corrective action as needed.

Corrective action shall be initiated as soon as practical after identifying the problem, or as directed by Dugway. If the corrective action requires substantial effort, a technical plan shall be prepared to summarize the problem, the potential impacts, the proposed plan for action, and the time-frame in which corrective action shall be implemented as required under this Permit. This plan shall be approved by the Executive Secretary and shall be submitted within 30 days of Dugway's decision to implement corrective action.

## **5.0 SUBMITTALS/REPORTING**

Based on the evaluation presented in the CMIR for DPG-200 (Shaw, 2007), post-closure inspection is required. Groundwater monitoring is not required for DPG-200.

**5.1 NON-COMPLIANCE REPORTING**

The conditions at DPG-200 are such that the impact to human health and the environment is very unlikely. Hazardous wastes are no longer managed at the site. Nonetheless, if there is any type of non-compliance with any condition of this Permit, notifications shall be submitted per Permit conditions VII.C.5.

**5.2 BIENNIAL POST-CLOSURE REPORT**

In accordance with UAC R315-3-3.1(1)(9), a Biennial Post-Closure Report shall be prepared for all Dugway closed HWMUs and SWMUs undergoing post-closure care by March 1, of the reporting year. The first Post-Closure Report for DPG-200 shall be due by March, 2008. Specifically for DPG-200, the Biennial Post-Closure Report shall include, at a minimum, the following:

- General site description and conditions;
- Areas of cap repair; and
- Inspection records.

**5.3 REQUIRED SUBMITTALS**

Table 5 summarizes the requirements for the Biennial Post-Closure Report for DPG-200 and reporting for any non-compliance issues.

**Table 5: Summary Table of Required Submittals**

<b>Required Submittals</b>	<b>Frequency and Submittal Date</b>
<u>Biennial Post-Closure Report</u>	Post-Closure Reports shall be submitted to the DSHW no later than March, of the year the report is due. Reporting years are even numbered years beginning with March 2008, for the duration of the Post-Closure Monitoring Period.

<u>Non-Compliance Reporting</u>	
Anticipated Non-Compliance	30 days advance notice of any change which may result in noncompliance
24-hour Notification for information concerning the non-compliance, which may endanger public drinking water supplies or human health or the environment	Orally within 24 hours of discovery
Five-day written notification for information concerning the non-compliance, which may endanger public drinking water supplies or human health or the environment including evidence of groundwater contamination, significant data quality issues, or a request for reduced monitoring frequency. The Executive Secretary may waive the 5-day notice, in favor of a 15-day notice	Within 5 days of discovery
Written notification for information concerning the non-compliance, which does not endanger human health or the environment.	Submitted when the Biennial Post Closure Reports are submitted.

**6.0 POST-CLOSURE CERTIFICATION**

No later than 60 days after post-closure activities are completed and approved by the Executive Secretary, Dugway representatives shall submit a certification to the Board, signed by Dugway and an independent professional engineer registered in the State of Utah, stating why post-closure care is no longer needed.

## 7.0 REFERENCES

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- Parsons Engineering Science, Inc. (Parsons), 2006. *Final Hydrogeological Assessment and Regional Groundwater Management Plan, Volume II, Carr Groundwater Management Area, Dugway Proving Ground, Dugway, Utah.*
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- Shaw Environmental, Inc (Shaw), 2007. *Corrective Measure Implementation Report for DPG-200.*
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- Shaw, 2006b. *Final Corrective Measures Implementation Plan (CMI Plan), Firm Fixed-Price Remediation at Landfill Sites, Dugway Proving Ground, Dugway, Utah.* August.
- Shaw, 2006c. *Final Field Activity Report for Hazardous Waste Management Unit 55, Old 3x Disposal Site East of the Carr Facility.* June.
- Parsons, 2006. *Final Hydrogeological Assessment and Regional Groundwater Management Plan, Volume II, Carr Groundwater Management Area, Dugway Proving Ground, Dugway, Utah.*

**APPENDIX A**

**COPY OF**

**CERTIFICATION OF CLOSURE**

## **CERTIFICATION OF CLOSURE**

The Closure Certification Report for DPG-200 at Dugway Proving Ground, Utah has been prepared by Shaw Environmental in accordance with the closure requirements specified under the DPG Part B RCRA Permit and the CMI Plan. The requirements of UAC R315-101 form the basis for the risk-based criteria in the closure of DPG-200. The site has been managed in accordance with the specifications in the approved CMI Plan, except for re-vegetation (Section 2.4.5).

In accordance with the DPG Part B RCRA Permit, the signature and seal certify that a licensed professional has reviewed the Corrective Measures Implementation Report in accordance with the above referenced regulatory requirements.

Respectfully submitted,

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Scott Reed  
Directorate of Environmental Programs  
Dugway Proving Ground

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Sunil Kishnani, P.E.  
Utah Registered Civil Engineer No. 6027103  
Shaw Environmental, Inc.