8-28-2017

Multi-Sector General Permit Stormwater Pollution Prevention Plan

National Technology and Engineering Solutions

STORMWATER

POLLUTION PREVENTION PLAN

For coverage under the National Pollutant Discharge Elimination System

Multi-Sector General Permit

for stormwater discharges associated with industrial activities at

Sandia National Laboratories

U.S. Department of Energy
National Nuclear Security Administration
Sandia Field Office
Albuquerque, NM

Revision Date: August 28, 2017

Sandia National Laboratories is a multimission laboratory managed and operated by National Technology & Engineering Solutions of Sandia, LLC., a wholly owned subsidiary of Honeywell International Inc., for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-NA-0003525.
SAND2017-9649 O

Facility Location:

Sandia National Laboratories
1515 Eubank Blvd SE
Albuquerque, NM 87123
within the boundary of Bernalillo County on Kirtland Air Force Base

Permittees:

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Revisions

SWPPP Version	Reason for Revision, Amendment, or Modification
v.0, September 1996	New document associated with 1995 MSGP.
v.1, November 2000	Complete revision for compliance with 2000 MSGP.
v.2, November 2001	Clarifies and expands Revision v.1 information; added Figure 2-2.
v.2a, November 2005	Updated in anticipation of new MSGP (later the 2008 MSGP). Revision not formally issued.
v.3, December 2008	Complete rewrite for compliance with 2008 MSGP.
v.4, May 2010	Revised the stormwater monitoring schedule to the four periods of June, July, August, and September.
v.5, April 2011	Removed Building 840 (Sector AA).
v.6, February 2012	Associated TA-III Borrow Site to Sector J-1 Construction Sand and Gravel.
v.6a, June 2014 (Modification)	Changed monitoring periods to July, August, September, and October. Added Surface Discharge Site (SWMU 502). Addressed corrective actions on the TA-IV Escarpment. Associated TA-III Borrow Site to Sector N in addition to Sector J-1 and updated sector-specific inspection frequency.
v.7, August 2015	Complete rewrite for compliance with 2015 MSGP.
v.8, May 2016	Minor revisions: Removed Mixed Waste Landfill; added Thunder Range/Range 6; changed Outdoor Mixed Waste Storage Lot site name to TA-V Sandlot; changed Sector N sampling plan; added priority of parameters; revised visual assessment section; updated tables, appendices, and maps to reflect changes in text. Updated certification page for SWPPP signatures. This SWPPP Revision meets the SWPPP Modification requirements for 2017.
v.9, August 2017	Prime contract transition changes; corporation name change, Appendix E3 added, professional editor revisions (grammar, syntax, etc.) through-out without content or context change. Appendix H, USGS hardness data updated. This SWPPP revision meets the SWPPP Modification requirements for 2018.

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Units of Measure

°F	degrees Fahrenheit
ft	foot
L	liter
µm	micrometer
mg	milligram
mg/L	milligrams per liter
mL	milliliter
mph	miles per hour
NTU	nephelometric turbidity unit
ppm	parts per million
sq ft	square feet

Acronyms and Abbreviations

ABCWUA	Albuquerque Bernalillo County Water Utility Authority
AHCU	Auxiliary Hot Cell Unit
AMPL	Advanced Manufacturing Processes Laboratory
amsl	above mean sea level
AU	assessment unit
bgs	below ground surface
BMP	best management practice
CAC	Corrective Action Complete
CFR	Code of Federal Regulations
CGP	Construction General Permit
CINT	Center for Integrated Nanotechnology
CIS	Chemical Information System
ClWL	Classified Waste Landfill
COD	chemical oxygen demand
DMR	Discharge Monitoring Report
DOE	U.S. Department of Energy
EDS	Emergency Detonation Site
EMS	Environmental Management System
EOC	Emergency Operations Center
EPA	U.S. Environmental Protection Agency
ES&H	Environment, Safety and Health
FDCP	Fugitive Dust Control Permit
FMOC	Facilities Management and Operations Center
FOP	field operating procedure
GI	green infrastructure
HNO_3	nitric acid
H_2SO_4	sulfuric acid
HWHU	Hazardous Waste Handling Unit
HWMU	Hazardous Waste Management Unit
KAFB	Kirtland Air Force Base

Acronyms and Abbreviations (continued)

LID	low impact development
MRG	Middle Rio Grande
MS4	Municipal Separate Storm Sewer System
MSB	Manzano Storage Bunker
MSGP	Multi-Sector General Permit
MSP2	Materials Sustainability and Pollution Prevention
N/A	not applicable
NaOH	sodium hydroxide
NEPA	National Environmental Policy Act
NGF	Neutron Generator Facility
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
NNSA	National Nuclear Security Administration
NOI	Notice of Intent
NOT	Notice of Termination
NPDES	National Pollutant Discharge Elimination System
NPN	nitrate plus nitrite
NSRC	Nanoscale Science Research Center
NTESS	National Technology and Engineering Solutions of Sandia, LLC
PLA	plan
R&D	research and development
RCRA	Resource Conservation and Recovery Act
RMWMU	Radioactive and Mixed Waste Management Unit
SFO	Sandia Field Office
SIC	Standard Industrial Classification
SNL/NM	Sandia National Laboratories/New Mexico
SPCC	Spill Prevention, Control, and Countermeasures
SWCRC	Solid Waste Collection and Recycling Center
SWMU	Solid Waste Management Unit
SWPPP	Stormwater Pollution Prevention Plan

Acronyms and Abbreviations (concluded)

SWQB	Surface Water Quality Bureau
SWSP	stormwater sampling point
TA	Technical Area
TMDL	total maximum daily load
TSDF	treatment, storage, or disposal facility
TSS	total suspended solid
TTU	Thermal Treatment Unit
UNM	University of New Mexico
U.S.	United States
USGS	U.S. Geological Survey
WONM	waters of the State of New Mexico
WOTUS	waters of the United States

1. Introduction and Purpose

Stormwater discharges from industrial activities at Sandia National Laboratories/New Mexico (SNL/NM) are eligible for coverage under the National Pollutant Discharge Elimination System (NPDES) Multi-Sector General Permit (MSGP). National Technology and Engineering Solutions of Sandia, LLC (NTESS) prepared this Stormwater Pollution Prevention Plan (SWPPP) for the U.S. Department of Energy (DOE) National Nuclear Security Administration (NNSA) Sandia Field Office (SFO), owner of SNL/NM, located in Albuquerque, New Mexico. This SWPPP was prepared in compliance with the 2015 MSGP (effective June 4, 2015) and includes a description of each permitted site, potential pollutant sources, and control measures, as well as stormwater monitoring and compliance plans. This SWPPP will be updated as necessary to reflect current operational conditions at SNL/NM as they relate to the MSGP.

The link to the 2015 MSGP is provided in Appendix A. Copies of the approved Notices of Intent (NOIs) for coverage under the MSGP are provided in Appendix B.

2. Facility Description

2.1 Ownership, Operation, and Mission

SNL/NM is a multimission laboratory managed and operated by NTESS, a wholly owned subsidiary of Honeywell International, Inc., for the DOE, NNSA. The DOE/NNSA, SFO administers the contract (DE-NA-0003525) and oversees contractor operations at the site. On May 1st, 2017, the management and operation contract for SNL changed and as a result the name changed from Sandia Corporation to NTESS. The operator under the MSGP remains the same; therefore, there is no transfer of requirements to a new operator.

SNL/NM is engaged in research and development (R&D) of nonnuclear components of weapons systems, energy projects, and other programs in the national interest. NTESS management encourages and seeks partnerships with appropriate United States (U.S.) industry and government groups to collaborate on emerging technologies that support the mission. R&D at SNL/NM covers a broad spectrum of activities and new emerging technologies in nonmilitary areas such as microelectronics and electronic products; computer systems; materials studies; robotics; microelectromechanical systems; biomedical engineering; and solar, wind, and fusion energy research.

2.2 Facility Location

"Facility" is defined herein as the entire area of property known as SNL/NM, owned by the DOE and operated by NTESS. "Site" or "activity area" are used interchangeably and are defined herein as the area where there is a potential to generate or release stormwater pollutants as a result of the specific industrial activities (permitted activities) described in the MSGP. The boundaries of the "sites" or "activity areas" are defined by the area where permitted activities take place. Facility and site maps are provided in Appendix C.

Facility Name
Sandia National Laboratories

Physical Address
1515 Eubank Blvd. SE
Albuquerque, NM 87123
within the boundary of Bernalillo County, on Kirtland Air Force Base (KAFB)

Facility Latitude/Longitude (decimal degrees)
Latitude: 35.046
Longitude: -106.54
Method for determining latitude/longitude: Environmental Geographic Information System - SNL (Horizontal Reference Datum: NAD 83)

Additional Facility Information
Is the project/site located on Indian country lands or located on a property of religious or cultural significance to an Indian tribe?
☐ Yes ☒ No

Is this facility considered a "federal facility"?
☒ Yes ☐ No

Combined acreage of the industrial activity areas within the facility boundary: 971.25[1]

2015 MSGP NOI Tracking Numbers
NMR053122 (DOE)
NMR053114 (NTESS[2])

2.3 Summary of Technical Areas

SNL/NM-applicable sectors and subsectors are presented in **Table 2-1**. Technical Area (TA) I is the focus of operations at SNL/NM and covers 350 acres at the north end of KAFB. This technical area houses the main administrative center and a close grouping of laboratories and offices. Operations in TA-I occur inside buildings and include assembly and manufacturing, as well as various laboratory activity areas, such as the Advanced Manufacturing Processes Laboratory (AMPL), the Neutron Generation Facility (NGF), the Microsystems and Engineering Sciences Applications, and the Building 858 Complex.

TA-II is 188 acres located south of TA-I and north of TA-IV. The area consists of operational buildings and activity areas as well as some undeveloped land. Activity areas include the Hazardous Waste Handling Unit (HWHU), the Facilities Maintenance Storage Area, and the Solid Waste Collection and Recycling Center (SWCRC).

TA-III is the largest and most remote technical area, covering three square miles in the southwest portion of KAFB. TA-III is used to accommodate large-scale engineering test activities that require large safety and/or security area buffers such as collision testing, sled tracks, centrifuges, and the Thermal Test Complex. Other sites include the Radioactive and Mixed Waste Management Unit (RMWMU) and the TA-III Borrow Site.

TA-IV covers 78 acres located south of TA-II and reaches to the northern escarpment of the Tijeras Arroyo. This technical area bounds sites used to conduct R&D activities in fusion, pulsed power, and particle acceleration as well as office building space in support of these operations. Large-scale check dam and sediment basin features have been constructed along the escarpment as part of a phased development plan to stabilize and protect the steep escarpment.

[1] Acreage may not match acreage reported in the NOI due to changes in coverage of permitted sites. Refer to Appendix E for details.
[2] Effective May 1, 2017, Sandia Corporation changed its name to NTESS.

TA-V is a 21-acre operational area located adjacent to the northeast corner of TA-III. Operations at sites in TA-V routinely involve the handling of radioactive materials used in experimental R&D programs. This small technical area houses the Auxiliary Hot Cell Unit (AHCU) and the TA-V Sandlot.

A wide range of R&D testing activities are conducted in remote areas of SNL/NM located east and southeast of TA-III and within the canyons and foothills of the land withdrawn from the U.S. Forest Service (e.g., Lurance and Coyote canyons). Many of the Solid Waste Management Units (SWMUs), most of which have been cleaned up and approved under the SNL/NM Resource Conservation and Recovery Act Facilities Operating Permit (NMED 2015), are also located in the remote areas.

The Center for Integrated Nanotechnology (CINT) is an SNL/NM operations area located outside the boundaries of KAFB to the northeast, in Research Park.

Table 2-1. SNL/NM-Applicable Sectors and Subsectors

Sector (Subsector)	SIC Code	SIC Activity	SNL/NM Sites
J (J1)	1442	Construction Sand and Gravel	TA-III Borrow Site
K (K1)	HZ	Hazardous Waste Treatment, Storage, or Disposal Facilities	Auxiliary Hot Cell Unit (AHCU)
			Coyote Canyon Blast Area (SWMUs 8/58)
			Gun Facilities (SWMU 84)
			Hazardous Waste Handling Unit (HWHU)
			Long Sled Track (SWMU 83)
			Manzano Storage Bunkers (MSBs)
			Old Burn Site (SWMU 68)
			Radioactive and Mixed Waste Management Unit (RMWMU)
			Short Sled Track (SWMU 240)
			Surface Discharge Site (SWMU 502)
			TA-V Sandlot
			Thermal Treatment Unit (TTU)
			Thunder Range/Range 6 Emergency Detonation Site (Range 6 EDS)
L (L1 and L2)	LF	Landfills, Land Application Sites and Open Dumps	Classified Waste Landfill (ClWL)

Sector (Subsector)	SIC Code	SIC Activity	SNL/NM Sites
N (N1)	5093	Scrap and Waste Recycling, except Source-separated Recycling	TA-III Borrow Site
N (N2)		Source-separated Recycling	Reapplication Yard
			Solid Waste Collection and Recycling Center (SWCRC)
P (P1)	4173	Local and Highway Passenger Transportation	Fleet Services
AC (AC1)	3679	Electronic Components, Not Elsewhere Classified	Neutron Generator Facility (NGF)
	Industrial Group 367	Electronic Components and Accessories	Advanced Manufacturing Processes Laboratory (AMPL)
			Building 858 Complex
			Center for Integrated Nanotechnology (CINT)

SIC = Standard Industrial Classification

2.4 Topography, Geology, and Soils

SNL/NM is set in the high desert region in central New Mexico (Appendix C-1). The most prominent topographic features in the vicinity of SNL/NM are the Sandia and Manzano mountains, which form the eastern boundary of KAFB. The Sandia Mountains form a 13-mile-long escarpment distinguished by steep cliffs, pinnacles, and narrow canyons; the tallest point is Sandia Crest at 10,678 ft. The Sandia Mountains are divided from the Manzano Mountains (to the south) by Tijeras Canyon. West of the mountains lies a broad upland bench called the Llano de Sandia. Approximately 6 miles west of the KAFB boundary lies the Rio Grande. The mountains to the east and plains on the west create a diverse range of geological, hydrological, ecological, and climatic settings.

The MSGP-permitted sites are all located to the west of the mountains on the Llano de Sandia. Topography of the Llano de Sandia is gently sloping to level. Elevations range from approximately 5,800 ft above mean sea level (amsl) along its eastern extent to approximately 5,300 ft amsl along its western extent. The predominant direction of surface drainage is from the east to the west with an average slope of about 2.5 percent; however, localized drainage directions vary.

KAFB is located within the Albuquerque geologic basin. The Albuquerque Basin is one of several north–south-trending sediment-filled basins formed by the Rio Grande Rift. This major structural feature is approximately 30 miles wide, 100 miles long, and 3,000 square miles in area. The Rio Grande has been an aggrading stream for much of its history and has filled the Albuquerque-Belen Basin with up to 10,000 ft of alluvial sediments. Sediments are divided into two separate geologic units: the Santa Fe Group and recent alluvium. Santa Fe Group sediments

are characterized by poorly to moderately consolidated alluvial and colluvial deposits ranging in size from boulders to clays. Quaternary alluvium overlying deposits of the Santa Fe Group were deposited as a series of coalescing alluvial fans extending westward from the base of the mountains. These sediments range from poorly sorted mudflow material to well-sorted stream gravel. The contact between the Quaternary alluvium and underlying Santa Fe Group sediments is not readily evident from well logs.

The hydrogeological system beneath SNL/NM is separated into two zones by the Tijeras Fault Complex, which marks a distinct geological boundary. To the east of the Tijeras Fault Complex, the hydrogeology is characterized by fractured and faulted bedrock covered by a thin layer of alluvium with depths to groundwater ranging from 45 to 325 ft below ground surface (bgs) within the Albuquerque Basin. On the west side of the Tijeras Fault Complex, groundwater is contained in sediments of the Santa Fe Group at depths ranging from 295 to 570 ft bgs.

Five primary soil series are present in and around SNL/NM: Embudo, Latene, Madurez, Tijeras, and Wink. These soils are similar in composition and structure and are classified as "B" soils in the hydrologic soil grouping scheme. Group B soils consist chiefly of well-drained soils with moderately fine to moderately coarse textures.

2.5 Climate

Large diurnal temperature ranges, summer monsoons, and frequent drying winds are characteristic of the regional climate in the Albuquerque Basin and the Sandia, Manzanito, and Manzano mountains. Temperatures are typical of midlatitude dry continental climates, with summer high temperatures in the basin of approximately 90°F and winter high temperatures around 50°F. Daily low temperatures range from approximately 60°F in the summer to approximately 20°F in the winter. The dry continental climate also produces low average humidity in the late spring and summer prior to the onset of the monsoon season. Daytime relative humidity can be between 10 and 20 percent in the spring and early summer, with an average humidity near 30 percent. Winter relative humidity averages near 50 percent.

Site-specific meteorology at SNL/NM is influenced by the proximity to topographic features, such as mountains, canyons, and arroyos. These features influence local wind patterns across the site. Canyons and arroyos tend to channel or funnel wind, whereas mountains create an upslope/downslope diurnal pattern to wind flows. Winds tend to blow toward the mountains or up the Rio Grande Valley during the day, and nocturnal winds tend to blow down the mountain toward the Rio Grande Valley. These topographically induced wind flows can be enhanced or negated by weather systems that move across the southwestern U.S. The strongest winds occur in the spring when monthly wind speeds average 10.3 mph. Wind gusts commonly reach 50 mph.

Precipitation varies across the region with many locations in the higher elevations of the mountains receiving annual rainfall twice that of locations in the Albuquerque Basin. Nearly all of SNL/NM west of the foothills is considered to be arid, receiving less than 10 inches of rain annually. Some remote test areas in the mountains and foothills may have annual rainfall in excess of 10 inches. Data collected at SNL from 1994 to 2012 indicate that approximately

60 percent (approximately 5 inches) of the annual rainfall occurs in four months of the year: July, August, September, and October (see Appendix D). Precipitation at this time of year is mainly in the form of brief, heavy storm events. The winter season in the Albuquerque Basin and around SNL/NM is generally dry, with an average of less than 2 inches of precipitation falling between December and February.

2.6 Hydrology and Drainage Basins

The major drainage features within KAFB are the Arroyo del Coyote and the Tijeras Arroyo. Both arroyos are ephemeral[3] and flow for short durations in response to precipitation. They are both tributaries to the Rio Grande and waters of the United States (WOTUS) (Appendix C-1). There are rural areas of land on KAFB that are considered to be part of SNL/NM, including most of TA-III and the Coyote Test Field. These areas are located within the boundary of a 12-digit[4] closed basin or drain to unnamed playa lakes located southwest of the KAFB boundary, such that the first receiving water is not a WOTUS. Playa lakes are not WOTUS, but are considered surface waters of the State of New Mexico (WONM) as defined in Paragraph (5) of Subsection S of 20.6.4.7 of the New Mexico Administrative Code (NMAC).

The Arroyo del Coyote drains much of the eastern mountainous portion of KAFB, including the drainages of Madera Canyon, Lurance Canyon, and Sol se Mete Canyon. The channel flows from east to west and joins the Tijeras Arroyo. The Tijeras Arroyo drains the west slopes of the Sandia and the Manzano mountains, as well as Tijeras Canyon, before entering the northeast boundary of KAFB. The Tijeras Arroyo flows through KAFB in a generally southwestern direction. Immediately upstream (northeast) of KAFB, the arroyo channel widens as it leaves the igneous and metamorphic terrain of Tijeras Canyon and enters the poorly consolidated basin sediments that comprise the Santa Fe Group and Quaternary alluvium. This change in channel morphology and bed material results in a significant increase in infiltration potential. Only during very heavy or prolonged rainfall or rapid snowmelt does the Tijeras Arroyo have the potential to carry water all the way through KAFB. After leaving KAFB, the Tijeras Arroyo flows through portions of the Bernalillo County and the City of Albuquerque Municipal Separate Storm Sewer System (MS4) jurisdictions before reaching the Rio Grande, approximately 4 miles downstream of the KAFB border.

2.6.1 First Receiving Waters [MSGP Part 2.2.2]

The first WOTUS to receive stormwater discharged from SNL/NM sites covered under the MSGP are listed in Table 2-2. Appendix A of the 2016–2018 State of New Mexico Clean Water

[3] According to Appendix A of the 2016-2018 State of New Mexico Clean Water Act §303(d)/§305(b) Integrated List, application of the NMED Surface Water Quality Bureau's Hydrology Protocol (survey date 6/24/09) indicates Tijeras Arroyo Assessment Unit NM-9000.A_070 as ephemeral; however, until such time that the process detailed in 20.6.4.15 NMAC Subsection C is completed to regulate the waterbody under 20.6.4.97 NMAC, it will remain under 20.6.4.98 NMAC.

[4] The hydrologic unit code (HUC) system was developed by USGS. Current 12-digit maps show SNL/NM's TA-V and most of TA-III to be located within the boundary of Closed Basin HUC 130202030403. A "Closed Basin" HU is defined as a drainage area that is 100 percent non-contributing; all surface flow is internal and no overland flow leaves the HU through the outlet point such that it would contribute surface flow to a stream or river.

Act §303(d)/§305(b) Integrated List, approved by the U.S. Environmental Protection Agency (EPA) on September 23, 2016 (U.S. EPA 2016), was used to determine whether the first receiving waters are listed as impaired and/or have associated total maximum daily loads (TMDLs). The segments of the WOTUS to which SNL/NM MSGP first discharge stormwater are not included on the §303(d)/§305(b) list as impaired, nor do they have TMDLs.

With regard to the Tijeras Arroyo (Rio Grande to Four Hills Bridge), listed as Assessment Unit (AU) NM-9000.A_070, Appendix A of the 2016-2018 §303(d)/§305(b) Integrated List, the ephemeral status is acknowledged by labeling its "water type" as "ephemeral stream" and explaining the absence of administrative process to publish the reclassification. The AU comment states: "Application of the SWQB [Surface Water Quality Bureau] Hydrology Protocol (survey date 6/24/09) indicate this assessment unit is ephemeral (Hydrology Protocol score of 3.0 with 89.1% days with no flow at (U.S. Geological Survey) USGS gage 08330600—see http://www.nmenv.state.nm.us/swqb/Hydrology/ for additional details on the protocol). New Mexico Environment Department (NMED) must complete the process detailed in 20.6.4.15 NMAC Subsection C in order to discharge to a waterbody under 20.6.4.97 NMAC. Until such time, this waterbody will remain under 20.6.4.98 NMAC." Therefore, although this section of Tijeras Arroyo meets the definition of "ephemeral" (NMAC 20.6.4.97), until the proper administrative process is completed, the water body will be monitored using the designated uses for classification as defined under 20.6.4.98 NMAC.

Table 2-2. First Receiving Waters

Surface Waters That First Receive Stormwater from the Permitted Sites	Surface Water Listed as "Impaired"	Pollutant(s) Causing the Impairment	TMDL	Pollutant(s) for Which There Is a TMDL
Tijeras Arroyo, AU NM-9000.A_070	☐YES ☒NO	N/A	N/A	N/A
Arroyo del Coyote	☐ YES ☒ NO	N/A	N/A	N/A
Unnamed playa lakes	☐ YES ☒ NO	N/A	N/A	N/A

N/A = not applicable

SNL/NM also discharges to the SNL MS4 (pursuant to NPDES MS4 Permit Numbers NMR04A011 and NMR04A012), which discharges to the Tijeras Arroyo and the KAFB MS4. Sites permitted under the MSGP discharge to the portion of the SNL MS4 that eventually discharges to the Tijeras Arroyo with the exception of the Reapplication Yard, which discharges to the KAFB MS4 before discharging to Tijeras Arroyo. Table 5-1 lists all of the permitted sites, identifies the outfalls where stormwater discharged from the sites is monitored, and lists the name and type of first receiving water.

2.7 Stormwater Pollution Prevention Team [MSGP Part 5.2.1]

The Stormwater Team is responsible for implementing activities necessary to meet the requirements of the MSGP, developing and revising the SWPPP, implementing and maintaining control measures and best management practices (BMPs), and implementing necessary

corrective actions. The team members, listed in Table 2-3, are familiar with the requirements of the MSGP and SWPPP as they relate to his/her job roles and responsibilities.

Table 2-3. Stormwater Team

Permittee / Organization	Permittee / Organization Roles and Responsibilities	Contact Information
DOE/NNSA/SFO	• Owner and operator • Certifies SWPPP • Certifies and submits NOIs and NOTs • Certifies inspection reports and visual assessments • Certifies discharge monitoring reports • Certifies Annual Reports • Certifies SWPPP modifications	Steven R. Black, Water Quality Program Manager (505) 845-6885 Steven.black@nnsa.doe.gov
NTESS Environmental Compliance and Monitoring Department (00641)	• Operator • Prepares, certifies, and implements SWPPP • Prepares, certifies, and submits NOIs and NOTs • Performs routine stormwater inspections • Performs visual assessments and stormwater monitoring • Prepares and certifies inspection reports and visual assessments • Prepares and certifies discharge monitoring reports • Prepares and certifies Annual Report • Prepares and certifies SWPPP modifications • Documents SWPPP amendments that do not require recertification	Kathie Deal, CPESC, CISEC Stormwater Program Lead (505) 844-8503 kjdeal@sandia.gov
		Carolyn Daniel, CISEC Water Quality Specialist and Qualified Stormwater Inspector (505) 284-9986 cdaniel@sandia.gov
		Jamie Gomez, CISEC Water Quality Specialist and Qualified Stormwater Inspector (505) 844-0863 jlgome@sandia.gov
		John Kay, CPESC Water Quality Specialist and Qualified Stormwater Inspector (505) 844-9485 jtkay@sandia.gov
		Danielle Nieto Stormwater Sampling Field Lead (505) 845-7706 dmnieto@sandia.gov

NOT = Notice of Termination

2.8 Conditional Exclusion for No Exposure [MSGP Part 1.4]

Under 40 Code of Federal Regulations (CFR) 122.26(g), discharges composed entirely of stormwater are not stormwater discharges associated with industrial activity if there is ‘‘no

exposure’’ of industrial materials and activities to rain, snow, snowmelt, and/or runoff. This conditional exclusion from the requirement for an NPDES permit (in this case, the MSGP) is available on a facility-wide basis only, not for individual outfalls (sites or activity areas). The Conditional Exclusion for No Exposure therefore does not apply to SNL/NM.

3. Site Descriptions, Associated Potential Pollutant Sources and Control Measures [MSGP Parts 5.2.2 through 5.2.4]

Industrial activities conducted at SNL/NM are evaluated to determine whether they are eligible for coverage under the industry sector-specific requirements as set forth in the 2015 MSGP. Primary considerations in determining eligibility under the MSGP include whether materials or wastes associated with the activities qualify as stormwater pollutants, and whether materials or wastes that are stored or used at the site are exposed or potentially exposed to stormwater.

Stormwater discharges from industrial activities at SNL/NM are permitted under Sectors J, L, N, K, P, and AC. Potential pollutant sources for each site and sector can be found in Table 3-1. Permitted industrial activities, stormwater control measures, and sector-specific requirements are included in the following site descriptions. Site maps compiled in Appendices C and G show the site boundary and site details within those boundaries, including stormwater flow direction, control measures, storm drains and inlets, and a stormwater sampling point(s) at the site outfall(s).

Table 3-1. Potential Pollutant Sources

Subsector	Site / Activity Area	Industrial Activities Exposed to Stormwater	Potential Pollutant Sources	Potential Stormwater Pollutants
J1and N1	TA-III Borrow Site	No outfall.	Multilayer controls prevent discharge of stormwater	N/A
K1	Auxiliary Hot Cell Unit	Loading and unloading of materials associated with permitted activities. Majority of loading and unloading occurs inside the building.	Chemical deactivation, stabilization and solidification	Metals, ammonia, cyanide, COD
K1	Coyote Canyon Blast Area (SWMUs 8/58)	Final phases of groundwater monitoring have been completed recently, initiating the process for NMED approval for CAC.	Metals	Metals, ammonia, cyanide, COD
K1	Gun Facilities (SWMU 84)	Activities associated with gun propellants. Refer to Section 3.2 for details.	Metals	Metals, ammonia, Cyanide, COD

Subsector	Site / Activity Area	Industrial Activities Exposed to Stormwater	Potential Pollutant Sources	Potential Stormwater Pollutants
K1	Hazardous Waste Handling Unit	Loading and unloading of materials associated with permitted activities.	Waste quantity and composition are highly variable. Storage, sorting, and repackaging occurs under cover in specialized bays or inside enclosed building.	Metals, ammonia, cyanide, COD, other hazardous wastes (e.g., lab chemicals, oils, process wastes, contaminated soil, or batteries)
K1	Long Sled Track (SWMU 83)	Activities associated with sled track testing. Refer to Section 3.2 for details.	Metals	Metals, ammonia, cyanide, COD
K1	Manzano Storage Bunkers	Loading and unloading of materials associated with permitted activities.	All materials are containerized.	Metals, ammonia, cyanide, COD, radioactive waste
K1	Old Burn Site (SWMU 68)	Final phases of groundwater monitoring have been completed recently, initiating the process for NMED approval for CAC.	Metals	Metals, ammonia, cyanide, COD
K1	Radioactive and Mixed Waste Management Unit	Loading and unloading of materials associated with permitted activities.	Sorting, repackaging, treatment (e.g.: chemical and thermal deactivation, stabilization and solidification, microencapsulation)	Metals, ammonia, cyanide, COD, other hazardous, radioactive, and mixed wastes.
K1	Short Sled Track (SWMU 240)	Activities associated with sled rack testing. Refer to Section 3.2 for details.	Metals	Metals, ammonia, cyanide, COD
K1	Surface Discharge Site (SWMU 502)	Field investigations and proposal for CAC completed, request of final approval in preparation.	The CAC proposal determined a recommendation of CAC without controls based on soil sample analytical data and human health and ecological risk assessment analyses.	Metals, ammonia, cyanide, COD

Subsector	Site / Activity Area	Industrial Activities Exposed to Stormwater	Potential Pollutant Sources	Potential Stormwater Pollutants
K1	TA-V Sandlot	No hazardous waste is currently stored at this lot. Radioactive materials may be stored inside the storage shed with required controls.	Radioactive materials may be stored with required controls.	Metals, ammonia, cyanide, COD
K1	Thermal Treatment Unit	Thermal treatment of explosive wastes.	Metals	Metals, ammonia, cyanide, COD
K1	Thunder Range/ Range 6 Emergency Detonation Site	Infrequent emergency destruction (treatment) of hazardous wastes.	Hazardous wastes	Hazardous wastes
L1 and L2	Classified Waste Landfill	Landfill is inactive and covered with soil and stable vegetation.	Sediment	Sediment
N2	Reapplication Yard	Solid waste handling and materials storage.	Oil and grease leakage from stored mechanical equipment, solid waste	Metals, oil and grease, organics, sediment, particulates, solid waste
N2	Solid Waste Collection and Recycling Center	Waste transfer facility. Solid waste handling and materials sorting and storage.	Solid waste (office waste)	Solid waste (office waste)
P1	Fleet Services	Vehicle and equipment maintenance.	Maintenance, cleaning areas, fueling, and material storage	Oil, grease, solvents, acids (batteries), detergents
AC1	Advanced Manufacturing Processes Laboratory	Permitted activities occur indoors; loading and unloading of materials associated with permitted activities is possible.	Materials and process research, standard wet chemistry, high-tech chemical techniques, microcircuits, thin-film brazing. All chemicals are stored inside.	Plastics, organics, adhesives, nonexplosive powders, potting compounds, ceramics, laminates
AC1	Building 858 Complex	Permitted activities occur indoors; loading and unloading of materials associated with permitted activities is possible.	Microsystems technology	Metals, acids, bases, solvents, organics

Subsector	Site / Activity Area	Industrial Activities Exposed to Stormwater	Potential Pollutant Sources	Potential Stormwater Pollutants
AC1	Center for Integrated Nanotechnology	Permitted activities occur indoors; loading and unloading of materials associated with permitted activities.	Nanomaterials and nanofabrication	Acids, bases, solvents, organics
AC1	Neutron Generator Facility	Permitted activities occur indoors; loading and unloading of materials associated with permitted activities.	Low-hazard, nonnuclear facility. Processing and assembly occurs in interior areas with air-handling systems and site-specific emergency response training.	Small-quantity usage of corrosives, solvents, alcohols, ketones, tritium

CAC = Corrective Action Complete
COD = chemical oxygen demand

3.1 Sector J—Nonmetallic Mineral Mining and Dressing

The TA-III Borrow Site is the only activity area at SNL/NM that conducts nonmetallic mineral mining and dressing as a primary industrial activity.

3.1.1 TA-III Borrow Site, Mining Activity Area

The TA-III Borrow Site is defined by a 20-acre lot. Activity areas are confined to a subgrade portion of the lot, which is surrounded by a soil berm and fence (Appendix C-3). A divergence ditch designed to eliminate run-on from the northeast has been constructed outside the eastern boundary of the 20-acre site. Because the activity area is excavated below grade, runoff is prevented to the extent that there is no designated site outfall. A berm has been constructed around the perimeter of the site and a retention basin has been constructed on the inside of the western perimeter as additional BMPs that prevent runoff.

Borrowing activities are conducted in the northern two thirds of the site. Sand and gravel, as well as recyclable concrete and asphalt, are staged in the southern half of the site. Crushing of concrete and asphalt, as part of a recycling program, are conducted in the southern activity area. The recycling activities that occur at the TA-III Borrow Site are covered under Subsector N1 of the Permit and described in Section 3.4.

3.1.2 Sector-Specific Requirements for Sector J

The TA-III Borrow Site is an active mining activity that does not meet the definition of "Earth-disturbing activities conducted prior to active mining activities" provided in MSGP Part 8. J.3.2. As a result, MSGP Part (and Subparts of) 8.J.4: "Requirements Applicable to Earth-Disturbing Activities Conducted Prior to Active Mining Activities," does not apply to the TA-III Borrow Site.

3.1.2.1 Technology-Based Effluent Limits for Active Mining Sites

Capping and treatment does not occur at the TA-III Borrow Pit. The following stormwater controls have been implemented to prevent discharge from this borrow site:

- The borrow site is excavated to a below-grade activity surface.
- A perimeter berm is constructed around the boundary of the site.
- A diversion ditch that prevents run-on has been constructed upstream of the site.
- A retention basin extends along the interior, downstream perimeter of site.

3.1.2.2 Sector-Specific Benchmark Requirements

Due to the implemented control measures listed in Section 3.1.2.1, there is no outfall at the site. If, at any time, discharge from the site is identified, a monitoring plan will be implemented to include the sampling of sector-specific parameters.

3.1.2.3 Effluent Limitations Based on Effluent Limitations Guidelines

No dewatering discharges occur at the TA-III Borrow Site that would trigger effluent limitations guidelines. Stormwater collected in the retention basin of the TA-III Borrow Site is removed by infiltration and evaporation.

3.1.2.4 Sector-Specific Inspection Requirements

For active mining sites, there are no sector-specific inspection requirements in addition to routine inspections.

3.2 Sector K—Hazardous Waste Treatment, Storage, or Disposal Sector

The majority of MSGP sites at SNL/NM are treatment, storage, or disposal facilities (TSDFs), which are regulated under Sector K requirements. The TSDFs consist of Hazardous Waste Management Units (HWMUs) and SWMUs[5]. Disposal of hazardous waste does not occur at SNL/NM; all hazardous and mixed wastes are transported to off-site permitted facilities for disposal.

HWMUs and SWMUs at SNL/NM are regulated under the SNL/NM RCRA Facility Operating Permit (NMED 2015). Those SWMUs where corrective action is not yet approved under state and federal requirements are regulated by the MSGP.

Each HWMU is built with perimeter controls designed to eliminate stormwater run-on and runoff. Specific stormwater controls at each unit are described in this section (3.2).

[5] A HWMU is a facility that manages hazardous waste in compliance with RCRA regulations under a Hazardous Waste Permit. A SWMU is identified by hazardous waste that has been or could potentially be released regardless of whether the unit was intended for the management of solid or hazardous waste, and is remediated as required under the RCRA regulatory process until it is approved for Corrective Action Complete.

Areas used for hazardous waste accumulation (e.g., Less Than 90 Day Accumulation Areas) are not "storage" areas and do not require RCRA permit coverage; therefore, they do not require MSGP coverage. [40 CFR 262.34]

3.2.1 Auxiliary Hot Cell Unit

The AHCU is located within the high bay of Building 6597 (Appendix C-8). Activity areas consist of the hot cell, work areas near the hot cell, storage silos, and a container storage area. Waste management activities consist of repackaging hazardous and mixed wastes for shipment to off-site TSDFs. Treatment involves reducing waste volumes by separating hazardous waste materials from larger items. The AHCU is regulated under the RCRA Permit.

The majority of loading and unloading is performed inside the roll-up door on the east side of the building, minimizing the potential for materials coming into contact with stormwater. The ground surface is sloped away from the building and the floor of the high bay is raised to prevent run-on of stormwater. Diversion berms around the eastern, upstream side of TA-V direct stormwater to the north and south of the technical area.

3.2.2 Hazardous Waste Handling Unit

The HWHU is located in TA-II and covers 1.35 acres (Appendix C-4). Waste management operations at the HWHU include storing containers and large self-contained items, and sorting, repackaging, and loading and unloading containers as regulated under the RCRA and other applicable permits. RCRA Permit regulations require routine monitoring and enforcement of measures that prevent discharges of wastes within the site area and are conducted independently of activities conducted under the MSGP.

The perimeter of this paved site is higher than surrounding land on all sides, preventing sheet-flow run-on. The western edge of the unit rises 6 inches above the paved surface, preventing runoff. A 74,800-gallon, lined retention basin is located at the northwest quadrant of the site. All runoff from the paved area inside the fence is directed toward the basin. The unit is constructed and regulated to prevent hazardous waste from entering the retention basin. Stormwater collected in the basin is screened for hazardous constituents prior to being discharged to the SNL MS4. If hazardous constituents are detected, the collected stormwater is pumped into drums, characterized and managed appropriately as waste.

3.2.3 Manzano Storage Bunkers

The MSBs are located in the Manzano Base on KAFB and leased to the DOE. Five noncontiguous MSBs are used to store hazardous and mixed wastes, which are covered under this SWPPP (Appendix C-5). All hazardous waste operations associated with the MSBs are regulated under the RCRA Permit. All materials loaded and unloaded are containerized as required under RCRA and the Department of Transportation.

The activity area exposed to stormwater at the MSBs consists of the concrete pad at the uncovered entrance to each bunker, where loading and unloading takes place. Each bunker has only one entrance. Design and construction of the MSBs include erosion-control features and

drainage barriers that prevent stormwater from entering or leaving the bunker. The slope of the earthen materials that cover the concrete bunkers prevent run-on of stormwater. Any water that may perchlorate through the earthen cover is directed away from the bunker. The concrete pad entryway slopes gently away from the entrance. The MSBs are located in an elevated area that lies outside the 100-year, 24-hour floodplain.

3.2.4 Radioactive and Mixed Waste Management Unit

The RMWMU covers 3.11 acres in TA-III (Appendix C-6). Four permanent buildings, two modular buildings, and an outdoor waste storage area are within this activity area. The RMWMU is used for storing, treating, and packaging hazardous and mixed wastes generated as a result of SNL/NM facility operations and corrective action activities. The outdoor storage area is a curbed, paved, 1-acre lot. Waste materials that are temporarily stored at this lot are enclosed in steel transportainers or other permitted containers. All hazardous and mixed wastes from the RMWMU are transported to off-site permitted facilities for treatment, storage and disposal.

Loading and unloading at the RMWMU takes place on paved areas and typically at loading docks immediately outside buildings. The loading dock at one of the most active storage buildings is covered to provide protection from the weather.

The RMWMU is designed and constructed to prevent run-on from all directions. The site area slopes gently to the west. An 8-inch curb along the east extent of the pavement, a lined drainage swale along the inside perimeter, and an elevated road outside the east perimeter fence line divert water away from this upstream side of the unit, preventing run-on. The unit is higher than the surrounding land on the north, south, and west sides. Runoff is prevented by an 8-inch curb around the paved interior area. The sloped surfaces direct water to a retention basin (240,000-gallon capacity) at the west end of the site. The unit is constructed to prevent hazardous waste from entering the retention basin. Stormwater collected in the basin is screened for hazardous constituents prior to being discharged to the ground surface. If hazardous constituents are detected, the collected stormwater is pumped into drums, characterized and managed appropriately as waste.

3.2.5 TA-V Sandlot

The TA-V Sandlot is no longer in use as a HWMU and is intended to undergo closure under RCRA. The site covers 7,500 sq ft (0.172 acre) in TA-V (Appendix C-8). The lot is unpaved and fenced, and includes a storage shed. Stormwater is directed toward the drop-inlet at the northwest corner of the lot.

The Sandlot has been used to store large experimental equipment, storage containers, and smaller experimental items. Hazardous waste is no longer stored on this site. With proper controls, radioactive material may be stored in the storage boxes and in the shed located on the lot. Other nonradioactive and nonhazardous materials may be stored on the lot.

3.2.6 Thermal Treatment Unit

The Thermal Treatment Unit (TTU) is a 196 sq ft (0.005 acre) site outside the south end of Building 6715 in TA-III (Appendix C-7). The unit consists of a steel-lined burn pan enclosed in a steel cage, centered on a curbed concrete pad. The curb surrounding the pad serves to control stormwater run-on. An 8-ft-high earthen berm surrounds the unit on the east, south, and west sides of the site. The building encloses the north side. Additional stormwater controls were installed in 2015 to manage stormwater drainage from the outside bank of the berm that was causing erosion under the fence line. The design of the new controls includes substantial rip-rap material placed around the outside of the boundary fence, eliminating the potential for rilling around the perimeter of the site.

Liquids loaded into the burn pan are transported through enclosed tubing. Solids are placed into the pan manually. The RCRA-regulated treatment residues are placed into appropriate containers and loaded onto suitable vehicles. Any accumulated liquids drain off the pad, through a filter, and into a catch tank. Water from the catch tank is pumped into 55-gallon drums or other suitable containers, characterized and managed according to the RCRA Permit. The RCRA Permit also specifies that the catch tank is required to be managed in a way that ensures sufficient capacity to contain precipitation and prevent overflow.

3.2.7 Thunder Range/Range 6 Emergency Detonation Site

The Thunder Range/Range 6 Emergency Detonation Site (Range 6 EDS) is a 10-acre site located at the northern extent of Thunder Range, southeast of the TA-III boundary. The site occasionally operates under a temporary Emergency Permit issued by the NMED Hazardous Waste Bureau in accordance with RCRA. Emergency permits are issued on an extremely infrequent basis. When an Emergency Permit is issued, the site is used as an emergency treatment area for the destruction of unstable hazardous waste that poses an imminent and substantial health and safety risk.

The Range 6 EDS is defined by a cleared area (no vegetation or gravel for safety controls) around a target blast area. Concrete blocks (fragmentation mitigation blocks) are installed around the target blast area in a configuration specific to a planned detonation (Appendix C-23). The target blast area is generally limited to within a 30 ft × 15ft area (450 sq ft). Detonations at this location are limited in size, with little or no secondary fragmentation or dispersed debris. Detonation is designed with the intent to destroy all of the hazardous waste. Detonation is the only treatment that occurs at the Range 6 EDS.

In addition to the administrative controls in place to limit discharge of contaminants, which are monitored under this MSGP SWPPP, there are stormwater controls at Range 6 EDS installed under the Construction General Permit (CGP) SWPPP (DOE/NTESS 2017). The CGP coverage is ongoing at Thunder Range to enable construction that is necessary to support diverse testing and training activities. Stormwater controls monitored under the CGP are installed to stabilize the area cleared for testing at Range 6 EDS and consist of an earthen berm along the eastern, upstream boundary of the cleared area and fiber rolls along the western, downstream boundary of the area.

3.2.8 Solid Waste Management Units

All SWMUs at SNL/NM that are not approved for CAC are evaluated to determine whether the site has potential for exposure to stormwater. SWMUs that were previously covered under the 2008 or 2015 MSGP, but no longer require coverage under the MSGP, are documented in Appendix E.

3.2.8.1 SWMU 8/58 (Coyote Canyon Blast Area)

SWMU 8 is a 32-acre site situated within the much larger 256-acre SWMU 58. (Appendix C-9). RCRA Constituents of Concern are identical for both SWMUs, and both share the same outfalls. Based on these similarities, the SWMUs are monitored as a single site designated as the Coyote Canyon Blast Area. The surface of the SWMUs is covered by unconsolidated alluvium soils and vegetation typical of arid landscapes. The ground surface is stabilized with no recent disturbance. This SWMU has been submitted to NMED for final determination of CAC.

3.2.8.2 SWMU 68 (Old Burn Site)

SWMU 68, Old Burn Site, is a 6.5-acre site located at the far south end of KAFB, on KAFB land (Appendix C-10). The site was used from 1965 to 1978 to test weapons components. Testing was conducted in burn pans or areas enclosed in earthen berms. The site perimeter is defined by the extent of debris scattered during test operations. The remote site location is characterized by level, vegetated landscape below the foothills of the Manzano Mountains. This SWMU has been submitted to NMED for final determination of CAC.

3.2.8.3 SWMU 83 (Long Sled Track)

SWMU 83, the Long Sled Track, is a 369-acre area defined by the dispersion field of materials from tests at the Long Sled Track (Appendix C-11). The 5000-ft-long track has been used since 1966 to test rocket motor performance and the high-velocity impact of mock nuclear ordnance and ordnance containers. Radiological surveys, depleted uranium removal, and soil sampling has been conducted on this site, which is still an active testing area. The site surface is characterized by stable vegetation and flat terrain with no concentrated flow. A site investigation and RCRA corrective action will occur when the site is decommissioned.

3.2.8.4 SWMU 84 (Gun Facilities Building 6750)

SWMU 84, Gun Facilities, is an 11-acre area located in TA-III (Appendix C-12). Testing activities associated with impact phenomena of large guns began in 1965. The Comprehensive Environmental Assessment and Response Program Assessment conducted in 1987 indicated that there were no hazardous wastes present that were regulated under RCRA. A radiological survey and removal of anomalies was completed in 1996. Active testing still occurs on this site. The site surface is characterized by stable vegetation and flat terrain with no concentrated flow. A site investigation and RCRA corrective action will occur when the site is decommissioned.

3.2.8.5 SWMU 240 (Short Sled Track)

SWMU 240, Short Sled Track, is a 169-acre site defined by the dispersion field of materials from tests at the Short Sled Track (Appendix C-13). The 2000-ft track has been used since 1995 to

perform rocket tests, accelerating articles of greater mass and lower velocity than at the Long Sled Track. Radiological surveys, depleted uranium removal, and soil sampling have been conducted on this site, which is still an active testing area. The site surface is characterized by stable vegetation and flat terrain with no concentrated flow. A site investigation and RCRA corrective action will occur when the site is decommissioned.

3.2.8.6 SWMU 502 (Surface Discharge Site)

SWMU 502, Surface Discharge Site, is a 250-sq ft (0.006 acre) site defined by an unauthorized release at Building 9938 identified in 2013 (Appendix C-14). The SWMU is situated in a small, cleared, 3.5-acre industrial area that surrounds Building 9938. The small release site is located in a remote area of KAFB and surrounded by undisturbed, vegetated land. Wastewater generated from activities associated with synthesis of explosives was discharged to the ground surface in the area south of Building 9938 in December 2012. The unauthorized release was reported in the 2013 and 2014 MSGP Annual Reports. This SWMU has been submitted to NMED for final determination of CAC.

3.2.9 Sector-Specific Requirements for Sector K

State and federal sector-specific benchmarks that apply to sites under Sector K are presented in Section 5 of this SWPPP. No specific technology-based effluent limits, specific control measures, or specific inspection requirements apply to the Sector K sites at SNL/NM.

3.3 Sector L—Landfills, Land Application Sites, and Open Dumps

3.3.1 Classified Waste Landfill

The Classified Waste Landfill (ClWL) is a five-acre nonhazardous solid waste landfill located in the northeastern part of TA-III (Appendix C-15). Disposal took place between 1989 and 1993. There are no structures, paved areas, exposed wastes, or exposed materials at the landfill. The disposal area (one trench at the western edge of the landfill) is covered with a mounded soil cover. The landfill is covered with soil and stable vegetation.

The land around the landfill drains across a gentle slope to the west. Stormwater drains into the roadside drainage along the south perimeter of the site, which eventually drains overland to the closed playa lakes to the west of the KAFB boundary. No erosion or drainage features have been identified with the landfill.

3.3.2 Sector-Specific Requirements for Sector L

3.3.2.1 Technology-Based Effluent Limits

The ClWL is an inactive landfill protected from exposure to stormwater by soil and established vegetation. There are no prohibited non-stormwater discharges from this landfill. Because stormwater does not come into direct contact with wastes, it meets the definition of non-contaminated stormwater in Appendix A of the 2015 MSGP, and as discussed in Section 5.3.2 of this SWPPP.

3.3.2.2 Sector-Specific Benchmarks

This SWPPP applies both L1 and L2 benchmarks requirements to the ClWL based on the definitions of those subsectors in Part 8.L.9 of the 2015 MSGP. The ClWL is not a municipal solid waste landfill closed in accordance with 40 CFR 258.60. Benchmark parameters consist of total suspended solids (TSS) and iron. Benchmark monitoring for the ClWL is presented in Section 5.3.1 of this SWPPP.

3.3.2.3 Effluent Limitations Guidelines

The numerical effluent requirements for non-hazardous waste landfills (MSGP Part 8.L.10, Table 8.L-2) specifically indicate that monitoring is required for "contaminated stormwater discharges" (see footnote 1 in MSGP Table 8.L.2). Discharges from the ClWL are determined to be non-contaminated as defined in Appendix A of the 2015 MSGP, and as discussed in Section 5.3.2 of this SWPPP.

3.3.2.4 Additional Inspection Requirements

Inactive sites under Sector L are required to be inspected at least quarterly for evidence of settlement, sinking and erosion.

3.4 Sector N—Scrap Recycling and Waste Recycling Facilities Sector

Source separate recycle materials (Subsector N2) are managed at two sites at SNL/NM; the Reapplication Yard and the SWCRC. Non-source separate recycle materials (Subsector N1) are managed at the TA-III Borrow Site, where the primary activities are regulated under Sector J-1. A portion of this borrow site stages recycled road materials; concrete and asphalt are crushed and combined to be used in appropriate applications at SNL/NM. This is the only site that generates recycled materials for reuse at SNL/NM. There is no wholesale distribution of recycled materials at SNL/NM.

3.4.1 Reapplication Yard

The Reapplication Yard is a 9-acre site located west of TA-II (Appendix C-16) permitted under Subsector N2. The site is used to collect and store items at SNL/NM that are no longer needed, are to be retired, are to be auctioned off, or are to be sent off-site to be recycled. Surface area is dominated by unpaved, compacted base material and gravel. Drainage consists of overland flow toward the south. Stormwater infiltrates the semipermeable ground within the site area, but, during more intense storms, it drains through outlets set into the perimeter wall. Runoff collects in storm drain ditches that run parallel to the road adjacent to the yard and ultimately discharges into Tijeras Arroyo. Several covered buildings are used to store materials sensitive to the outdoor elements.

The types of materials that are stored outdoors consist of scrap electrical equipment and/or non-weather-sensitive items. All equipment that contains oil and/or fuel is drained prior to storage at the yard. Batteries are not accepted. All items are screened for hazardous and radioactive

constituents. Any items that are determined to be hazardous, contain any liquid, or contain any radioactive materials are rejected and sent back to the originator.

The Stormwater Program inspects mechanical equipment that is staged outdoors to ensure that any items that have residual oil or grease are protected from contact with precipitation and stormwater (i.e., covered and/or on secondary containment).

3.4.2 Solid Waste Collection and Recycling Center

The SWCRC covers 3 acres at the northern end of TA-II (Appendix C-17) and is permitted under Subsector N2. The site includes one 7,500-sq ft building (Building 967) and a mobile office. The SWCRC is designed for Members of the Workforce to sort and package solid waste and recyclable materials generated by SNL/NM. Typical solid wastes include dumpster trash—including paper, cardboard, plastic, and other office waste—and roll-off waste such as weed removal and light construction debris.

Materials managed at the SWCRC are inspected for hazardous constituents and other prohibited waste components. Any materials that do not meet the site waste acceptance criteria are segregated and managed appropriately. After waste inspection is complete, the waste is baled or managed in roll-off containers and then shipped for disposal to an approved solid waste landfill.

Two shallow retention basins were constructed on-site to catch stormwater runoff from activity areas. The larger of the basins at the southwest quadrant of the SWCRC receives runoff from the most active sorting area, and the other basin is situated downstream from the loading dock at Building 967. The SWCRC lies within an industrial, graded area. The slope within the site area is nearly flat (0.02 percent slope) and drains to the south–southwest. The site's outfall is located at the southeast portion of the site, within the boundary of the SNL MS4.

3.4.3 TA-III Borrow Site, Recycling Activity Area

The primary activity at the TA-III Borrow Site (Appendix C-3) is borrowing that occurs across the northern half of the site. A full description of the Borrow Site is presented under Sector J in Section 3.1 of this SWPPP.

Concrete and asphalt are recycled in the southern third of the TA-III Borrow Site, across approximately 4.5 acres of the 20-acre site. Sand and gravel, as well as recyclable concrete and asphalt, are staged at the southern end of the site. Concrete and asphalt are crushed and combined to be used in appropriate applications at SNL/NM. This is the only site that generates recycled materials for use at SNL/NM.

Due to the implemented control measures listed in Section 3.1.2.1 of this SWPPP, there is no outfall at the site.

3.4.4 Sector-Specific Requirements for Sector N

3.4.4.1 Additional Technology-Based Effluent Limits

At SNL/NM, for Sector N-1 and N-2 activities, all inbound materials are screened for hazardous constituents and other prohibited waste components. The most effective control measure at the Sector N sites, and at most of SNL/NM sites, is that the majority of activities are performed indoors or undercover. Good housekeeping practices are also enforced as effective controls to minimize exposure of materials to stormwater. Additional control measures implemented at the Sector N sites include retention basins, sediment traps, diversion features, perimeter berms, secondary containment, and site-specific spill plans.

3.4.4.2 Sector-Specific Benchmarks

Sector-specific benchmarks vary based on subsector. The SWCRC and Reapplication Yard are permitted under Subsector N2, which does not have a benchmark monitoring requirement; however, visual assessments are still performed at the outfalls of these sites. The TA-III Borrow Site is permitted under Subsector N1, which does have benchmark monitoring requirements; however, because there is no outfall at the site (described previously), neither benchmark sampling nor visual assessments are performed at this site.

3.4.4.3 Additional Inspection Requirements

Inspections are required to include all areas where waste is generated, received, stored, treated, or disposed of and that are exposed to precipitation or stormwater runoff.

3.5 Sector P—Land Transportation and Warehousing

An evaluation of industrial activities at SNL/NM conducted by the Stormwater Program at SNL in 2015 identified Fleet Services as eligible for coverage under the 2015 MSGP. Fleet Services is regulated under Sector P and best fits the definition for SIC code 4173, Terminal Service Facilities for Motor Vehicle Passenger Transportation.

3.5.1 Fleet Services

Fleet Services activities occur in Building 875, Building 876, and several smaller structures within a 6-acre, fenced lot in TA-I (Appendix C-18). Other operations include a car wash, fueling station, and wash-down area. The site manages acquisition, maintenance, and disposition of motorized equipment and government vehicles that are used in support of operations at SNL/NM. Most pollutant-generating activities occur indoors or under cover, minimizing exposure to stormwater. An oil water separator, steam pit, and grating enclosure are pumped out quarterly, and pumping records are managed as required under SNL/NM's industrial wastewater permit with the Albuquerque Bernalillo County Water Utility Authority (ABCWUA). An on-site spill response plan, spill kits, and spill response training are in place to minimize potential discharge of pollutants. Stormwater from this site is discharged within the boundary of the SNL MS4.

3.5.2 Sector-Specific Requirements for Sector P

At Fleet Services, activity areas that are covered under the MSGP consist of vehicle and equipment maintenance and cleaning areas, fueling areas, and material storage areas. This section addresses specific control measures in those areas that meet the requirements of MSGP Part 8.P.3.1.

3.5.2.1 Additional Technology-Based Effluent Limits

3.5.2.1.1 Vehicle and Equipment Maintenance Areas

Equipment maintenance is performed on-site and indoors. Drip pans are used, fluids drained from equipment are containerized prior to disposal, dry cleanup methods including absorbents are used, and designated areas are utilized for parking. Curbs and/or berms surround the entire site except at the entrance driveway, preventing run-on to the site.

3.5.2.1.2 Material Storage Areas

Storage of potential pollutant sources indoors and in secondary containment structures is the primary preventive measure for minimizing pollutant discharges at Fleet Services. The corporate Chemical Information System (CIS) tracking program provides an organized inventory of all hazardous materials across the facility.

3.5.2.1.3 Fueling Areas

Fueling areas include automatic shut-off features on refueling nozzles, and spill and overfill prevention equipment for tanks. Fuel storage tanks are double-walled steel. Topping-off of fuel tanks is discouraged at SNL/NM.

3.5.2.1.4 Vehicle and Equipment Cleaning Areas

Car Wash: Water used in the car wash is retained on-site, recycled, and reused within the car wash, using a sump to retain solids, oil, and grease. The sump is cleaned out quarterly. All waste solids and wastewater are properly disposed of at an off-site facility.

Wash Down Area: The wash down area (i.e., steam pit) is an outdoor site consisting of a grate with an underlying sump. Wash water is captured in the sump and then discharged to the sanitary sewer system after passing through an oil and grease separator. The sump is set in a raised surface. The surrounding paved area is sloped to a gutter that directs stormwater away from the sump. Emergency storm drain grate covers are staged at areas where potential spills or leaks could occur.

Wastewater discharges are managed and monitored, including pumping records, as required under a wastewater permit with the ABCWUA. Internal audits are conducted on the systems described previously, including the oil and grease separator, to ensure that equipment is in good mechanical condition and operating effectively.

Additional controls for vehicle and equipment cleaning at SNL/NM include the use of phosphate-free and biodegradable detergents.

3.5.2.2 Sector-Specific Training

At a minimum, members of the workforce at Sector P sites are required to take annual training that addresses the following specific activities:

- Used oil and spent solvent management
- Fueling procedures
- General good housekeeping practices
- Used battery management

In addition to the MSGP sector-specific training listed here, employees are trained in the specific activity areas at Fleet Services. For example, personnel working in the cleaning areas are trained on proper waste control and disposal measures associated with the management of wastewater under the ABCWUA wastewater permit.

3.5.2.3 Drainage Area Site Map

A map of Fleet Services can be found in Appendix C-18. The map includes the following details as required in the MSGP for this sector and that specifically apply to Fleet Services:

- Fueling station
- Vehicle/equipment maintenance and cleaning areas
- Storage areas for vehicles/equipment with actual or potential fluid leaks
- Areas where storage or disposal of wastes occur
- Liquid storage tanks

3.5.2.4 Specific Potential Pollutant Concerns

In compliance with MSGP Part 8.P.4.2, which addresses "illicit plumbing connections," a "Non-Stormwater Discharge Assessment and Certification" letter is presented in Appendix F. This document describes SNL/NM's compliance with the Clean Water Act, 40 CFR 122, ensuring that any illicit connections to the storm sewer system across SNL/NM have been corrected.

3.5.2.5 Additional Inspection Requirements

All areas discussed in this section for Sector P will be inspected as part of the routine quarterly inspections. Specific activity areas on the inspection form will include:

- Storage areas for vehicles/equipment awaiting maintenance
- Fueling areas
- Indoor and outdoor vehicle/equipment maintenance areas
- Material storage areas
- Vehicle/equipment cleaning areas
- Loading/unloading areas

3.6 Sector AC—Electronic and Electrical Equipment and Components, Photographic and Optical Goods Manufacturing Sector

Four sites at SNL/NM are covered under Sector AC of the MSGP. Activities at these sites involve manufacture of electronic equipment and components, and are described in this section.

3.6.1 Neutron Generator Facility

Located in TA-I, the NGF fabricates neutron generators and related components inside Building 870 (Appendix C-19). Low-hazard, nonnuclear materials and equipment are assembled and tested inside the building. Outside activities are limited to loading and unloading at the loading dock in an uncovered, alcove-type portion at the east side of the building. This paved site covers approximately 5,000 sq ft. Nonhazardous materials may be staged for disposal or recycle in this loading area. Occasional staging of materials along the smaller, covered loading area along the western side of the building may also occur. Storm drains are located around the boundaries of the building site, and green infrastructure (GI) / low impact development (LID) and stormwater management features are installed along the southern end of the building. Stormwater from this site is discharged within the boundary of the SNL MS4.

3.6.2 Advanced Manufacturing Processes Laboratory

The AMPL is located in TA-I in Building 878 (Appendix C-20). Laboratory activities involve manufacturing a wide range of specialized components, typically small-scale manufacturing operations involving materials and process research. Permitted activities take place inside the building. Outdoor activities include loading and unloading at covered loading docks along the south side of the building. Nonhazardous materials and equipment are staged under a portion of the loading areas at this south perimeter of the building. A paved area covering approximately two-thirds of an acre extends out from the south side of the building and is designed for maneuvering large trucks. Stormwater from this site is discharged within the boundary of the SNL MS4.

3.6.3 Building 858 Complex

The Building 858 Complex is a contiguous set of buildings housed across 14 acres in TA-I (Appendix C-21). The complex consists of four main buildings (Buildings 858N, 858S, 858EF, and 858E) along with other smaller structures on the site. Operations across this complex provide computationally intensive environments for the design, integration, prototype fabrication, and qualification of integrated microsystems used in a variety of applications focused on weapons components. All permitted activities are conducted inside, and spill kits are stationed in multiple locations throughout the complex. The area of concern for exposure to stormwater and potential for discharge of pollutants associated with permitted activities is limited to the covered receiving dock situated at the west end of Building 858N. The storm drain in this area is covered each time there is a loading or unloading activity to prevent an illicit discharge. The complex maintains a site-specific spill response plan and on-site personnel with site-specific response training. Stormwater from this site is discharged within the boundary of the SNL MS4.

3.6.4 Center for Integrated Nanotechnology

The CINT Core Facility is located in Building 518, outside the KAFB boundaries, in the Research Park to the north of the eastern access gate to the base (Appendix C-22). Building 518 sits on a 21-acre site and is a DOE/Office of Science Nanoscale Science Research Center (NSRC). It is one of five NSRCs in the U.S. Operations focus on innovative research in the design, performance, and integration of nanoscale materials with applications to national defense, energy, and the environment. All activities are conducted inside Building 518. Spill kits are located throughout the building.

A single area of concern for exposure to stormwater and potential for discharge of pollutants for this site is the covered loading area on the west side of the building. Waste neutralizers (acids and bases) are transported to and from this loading area. The lot is fenced and covers just under an acre. With the exception of marginal areas, the lot is paved.

Large retention basins along the east half of the property collect stormwater from the paved roadway and parking lots to the east. With the exception of the large basin in the southeast quadrant of the lot, which has no outfall, basins drain to the west from raised outfalls. Stormwater drains to the northwest boundary of the site, where it is directed into an outfall lined with large cobble aggregate.

3.6.5 Sector-Specific Requirements for Sector AC

There are no sector-specific analytical requirements for Sector AC in the 2015 MSGP. While analytical stormwater sampling is not required, visual assessments are performed at sampling points downgradient of these sites.

4. Facility-Wide Stormwater Control Measures [MSGP Part 2]

A graded, multilayered approach to addressing facility stormwater controls is used at SNL/NM, starting with administrative controls described in the Corporate Policy System; including ESH100.2.ENV.10, *Manage Surface and Stormwater Discharges,* and ESH 100.2.IS.11, *Implement Housekeeping Safety.* Corporate Procedure ESH100.1.EP.1, *Implement the Environmental Management System* (EMS), ensures that SNL/NM, as a federal facility, complies with DOE Order 436.1, *Departmental Sustainability.* In addition, DOE and NTESS hold coverage under the Middle Rio Grande (MRG) Watershed Based MS4 Permit (tracking nos. NMR04A011 and NMR04A012, respectively) that requires stormwater management by maintaining predevelopment hydrology on-site and implementation of GI, LID, and sustainable practices; as does the Energy Independence Security Act, Section 438. Other facility -wide controls and preventative measures include the Materials Sustainability and Pollution Prevention (MSP2) Program, the CIS, and the Spill Prevention Control and Countermeasures (SPCC) Plan, all of which are described in more detail in this section. Sector-specific requirements for industrial activities at SNL/NM are described in Section 3.

4.1 Nonnumeric Technology-Based Effluent Limits [MSGP Part 2.1.2]

4.1.1 Minimize Exposure [MSGP Part 2.1.2.1]

To the extent practicable, industrial materials and activities are protected from exposure to rain, snow, snowmelt, and runoff. Materials are stored inside buildings or under a shelter, and industrial activities are performed inside buildings where feasible. Dumpsters and roll-offs should be covered, at a minimum, outside of normal business hours.

Examples of management practices at SNL/NM that effectively reduce exposure to stormwater of hazardous materials include: substituting less toxic or nontoxic materials for toxic materials when possible; using filling procedures for tanks and other equipment that minimize spills; performing preventive maintenance on storage tanks, valves, and pumps; using leak detection devices and overflow controls; and designing and installing diversion berms and drainage controls.

Individual chemical storage cabinets, and in some areas dedicated storage rooms, are used at SNL/NM to store flammables, acids, caustics or alkalis, and oxidizers. Spill kits are available at all storage areas for containing and cleaning up spilled material. Each kit is suitable for the material stored. Environmental compliance coordinators and Environment, Safety and Health (ES&H) coordinators monitor storage of materials, ensuring that containers are stored and labeled properly and that incompatible chemicals are stored separately.

4.1.2 Minimize Waste

The MSP2 Program at SNL/NM works in conjunction with other support programs and with R&D organizations to reduce the quantity and toxicity of waste and pollutants. The MSP2 "Zero Waste" initiative promotes "waste minimization" including development of more efficient processes that in turn use less materials. The program promotes the use of sustainable materials and buying only what you need, resulting in reduced stock and storage. All of these practices result in less waste entering the waste stream, and decreased potential of waste entering the stormwater drainage system.

The MSP2 Program conducts assessments and proposes alternatives that reduce or eliminate hazardous chemicals. In some cases, the use of all chemicals is eliminated; in other cases, a nonhazardous substitute may be suggested.

The CIS Program limits, tracks, and controls all chemicals used at SNL/NM. ES&H coordinators for each line organization at NTESS maintain current chemical inventory listings for their area.

Personnel trained in the programs and procedures described previously in this section work together to ensure:

- A safe and controlled approach to the purchase, use, store, and dispose of chemicals, including the purchase and issuance of chemicals to the smallest quantities practical
- Restrictions are in place on the purchase, use, and storage of highly toxic, reactive, or flammable chemicals
- A safety data sheet is on file and available at the site of chemical usage
- Line organizations inspect stored chemicals and reconcile any discrepancies
- Solid waste, including office and construction waste and scrap metal, is collected for recycling

4.1.3 Good Housekeeping [MSGP Part 2.1.2.2]

Good housekeeping practices implemented across SNL/NM activity areas are identified in Corporate Policy ESH100.2.IS.11, *Implement Housekeeping Safety*, as follows:

- Work areas are required to be kept clean and orderly
- Wastes are required to be removed daily
- Chemicals, flammables, and combustibles are required to be controlled
- Assigned areas are required to be inspected

Measures are taken to prevent contamination of stormwater runoff from areas used for hazardous material storage. The majority of hazardous materials at SNL/NM are stored indoors. Hazardous materials stored outdoors are protected by weather shelters and/or secondary containment structures. Examples of management controls that reduce potential comingling of industrial materials with stormwater include:

- Source reduction filling procedures for tanks and other equipment
- Preventive maintenance on storage tanks, valves, and pumps
- Leak detection devices

- Overflow controls
- Diversion berms and drainage controls

4.1.4 Maintenance [MSGP Part 2.1.2.3]

Routine inspections and the results of visual assessments and benchmark monitoring may prompt corrective maintenance of control measures on permitted sites. If repair or replacement of any control is needed, work is completed in the time frame established in MSGP Part 4.

Nonstructural control measures such as spill response supplies and employee training will also be maintained and verified through scheduled inspections, assessments, replacement of supplies, and revisions of administrative controls as needed.

4.1.5 Spill Prevention and Response Procedures [MSGP Part 2.1.2.4]

4.1.5.1 Prevention

Members of the Workforce are trained to prevent and required to report activities or events with the potential to cause environmental harm. Spill prevention is stressed in corporate trainings: ESH100, *ES&H Awareness*; SW100, *Stormwater Pollution Prevention Training*; SW200, *Stormwater Discharges from Industrial Sites*; and in corporate procedures: ISS100.6.1, *Prepare for and Manage Emergencies*; ESH100.4.RPT.4, *Report Environmental Releases*; ESH100.2.ENV.4, *Manage Oil and Fuel Storage*; and ESH100.2.ENV.10, *Manage Surface and Stormwater Discharges*.

Spill kits are maintained on all NPDES-permitted construction and industrial sites, and are equipped to address the types and quantities of chemicals stored on-site. Personnel are required to be familiar with the types of chemicals stored on-site and their locations; the locations of on-site or nearby drains, inlets, and/or water bodies; and the location of the on-site spill kit(s).

Industrial activity areas have site-specific spill response plans. Some sites, such as the Building 858 Complex, also maintain a response team on-site that is trained in the specific potential hazards at that work site including spills and releases.

There is a facility-wide SPCC Plan that provides detailed guidance to owners and operators of oil-containing equipment and describes mitigation controls and procedures used at SNL/NM to reduce the potential for any inadvertent discharge of oil from reaching WOTUS. The Plan includes measures to prevent oil discharges and to mitigate the impacts of a discharge in a safe, effective, and timely manner. In the event of a release, a sophisticated system of containment facilities, trained response staff, and emergency equipment is in place to prevent pollutants from entering the stormwater drainage system and/or discharging off-site.

4.1.5.2 Response and Reporting

Spills (regardless of size) are required to be reported by Members of the Workforce in accordance with the corporate procedures listed previously. Using any landline at SNL/NM, emergencies can be reported by dialing 911, and nonemergencies can be reported by dialing 311.

Using any phone, emergencies can be reported by dialing (505) 844-0911 and nonemergencies by dialing (505) 844-0311. The Emergency Operations Center (EOC) at SNL/NM is available at 844-6515 for spill response and coordination of cleanup.

When a spill is identified, it is reported to the EOC. EOC incident commanders are on-site 24 hours per day, every day. They respond to all emergencies, assess the situation, and contact the appropriate response personnel. The Hazardous Material Team responds specifically to releases of hazardous materials. A variety of equipment and materials are maintained at SNL/NM to respond to spills and releases.

The EOC immediately contacts the Environmental Release Response and Reporting Team to assess the potential environmental impact of the incident. Information such as the location, date, time, duration, source, cause, quality and volume, description, and corrective action is recorded. Samples may be taken to better characterize the chemical composition and characteristics of the release. Immediate verbal notifications to DOE and federal, state, and local regulatory entities are initiated, as applicable. Coordination with various applicable subject matter experts (e.g., stormwater, wastewater, or groundwater) occurs to ensure compliance with all laws and regulations. Typically, DOE (as owner of SNL) transmits verbal and written notifications and reports to regulatory agencies. Detailed information on reporting releases pursuant to MSGP Part 7.6 is included in Section 9.5 of this SWPPP.

In the event that it is necessary to modify operations or controls to prevent future releases, the corrective action process required by MSGP Part 4 will be implemented, as discussed in Section 7 of this SWPPP.

The Stormwater Program documents all unauthorized releases that occur at SNL in the Environmental Release Log maintained in program files. Spills and leaks for the last three years are recorded on the Routine Site Inspection Reports for sites where those releases occurred, in the Pre-Inspection Section of the report. All environmental releases are also reported in the MSGP Annual Report that is certified and submitted to EPA.

4.1.6 Erosion and Sediment Controls and Runoff Management [MSGP Parts 2.1.2.5 and 2.1.2.6]

The approach to managing erosion, sediment, and stormwater runoff at permitted sites varies and is dependent on a number of factors inherent in the diverse types of sites and landscapes. Controls on sites located in the developed industrial technical areas are generally tied into the stormwater drainage system infrastructure and to the administrative controls and MS4 Permit requirements governing those systems. Controls on sites situated in the remote areas of KAFB are characterized by stabilization of soils and vegetation. HWMUs have another layer of prescribed controls preventing run-on and runoff as set forth in the SNL/NM RCRA Permit. The site-specific control measures are described in detail in Section 3 of this SWPPP.

Facilities Management and Operations Center (FMOC) and Stormwater Program personnel have worked together to identify site areas that have high potential for significant soil erosion due to operational activity, topography, ground cover, etc. Large, engineered rock check dams and a 1.3-acre retention basin installed at the toe of the TA-IV Escarpment are examples of erosion and sediment controls that address the steep slope erosion and soil loss from the site. These controls are the initial phase of a multiphase installation of control measures planned to stabilize the Escarpment.

Other control measures implemented by FMOC include engineered sediment traps, berms, rip-rap at drainage areas, and gravel mulch. In compliance with the MS4 Permit, Stormwater Program personnel monitor for water flows in the stormwater conveyance channels from the technical areas and assess any discharges that are not associated with precipitation. Requirements set forth in City of Albuquerque Fugitive Dust Control Permits (FDCPs); the Energy Independence and Security Act; Construction General Permit SWPPPs; and the MS4 Stormwater Management Program Plan will ensure ongoing assessment of erosion and sediment control across SNL/NM.

4.1.7 Salt Storage [MSGP Part 2.1.2.7]

De-icing agents and/or salt are stored under cover to minimize exposure to stormwater. Additional controls include practicing good housekeeping and following application rates consistent with manufacturer recommendations. For the purpose of reducing potential impacts to stormwater quality, the *Snow Removal Procedure*, PCD-106, has been revised to include de-icing agent best management practices with emphasis on:

- Application (even, targeted, and in quantities consistent with manufacturer specifications);
- Personnel training;
- Mechanical spreader equipment operations (proper maintenance and calibration to ensure even distribution);
- Storage conditions (indoors or under a waterproof structure, and elevated above the ground surface) and proper labeling; and
- Periodic removal and proper disposal of residual from roads using street sweeping equipment.

4.1.8 Employee Training [MSGP Part 2.1.2.8]

4.1.8.1 Stormwater Pollution Prevention Training

Members of the Workforce with job duties that have the potential to impact stormwater quality are required to complete Corporate Training SW100, *Stormwater Pollution Prevention Training*. While SW100 is most commonly administered to individuals with construction-related jobs, the curriculum is comprehensive, and addresses stormwater protection, allowable non-stormwater discharges, prohibited discharges, training requirements, spill prevention and response, good housekeeping, and pollution prevention measures, as well as provides a summary of the requirements of the CGP and MS4 Permit.

MSGP requirements are summarized in SW200, *Stormwater Discharges from Industrial Sites*. SW200 is required for individuals who work in permitted areas where industrial materials or activities may be exposed to stormwater, and/or those who are responsible for installing and/or repairing stormwater controls, conducting stormwater inspections, and implementing corrective actions. As applicable, additional sector-specific training is provided as described in Section 3 of this SWPPP. Documentation is maintained to monitor compliance with training and education initiatives.

4.1.8.2 Corporate Training

ES&H training is a corporate requirement for all employees to ensure work is conducted in a manner that is safe for the employee, their coworkers, and the environment. Job-specific training is required for all employees who handle and manage hazardous materials. Training includes hazard communication; spill prevention, control, response, and reporting; good housekeeping practices; and management of hazardous materials and hazardous waste. Scheduled trainings are communicated to personnel to ensure completion and records are maintained to demonstrate compliance with regulatory requirements and corporate policies.

4.1.9 Non-stormwater Discharges [MSGP Parts 2.1.2.9]

SNL/NM was evaluated for the presence of non-stormwater discharges in compliance with the 2008 MSGP. To maintain compliance with this requirement, each site will continue to be evaluated for non-stormwater discharges as part of the routine site inspections.

Documentation can be found in Appendix F of this SWPPP, "Non-Stormwater Discharge Assessment and Certification." This documentation describes compliance with the Clean Water Act, 40 CFR 122, ensuring that any illicit connections to the storm sewer system across SNL/NM have been corrected.

4.1.10 Dust Generation and Vehicle Tracking of Industrial Materials [MSGP Part 2.1.2.10]

A City of Albuquerque FDCP is required for surface disturbance activities greater than three-quarters of an acre or greater than 75,000 cubic feet demolition. The TA-III Borrow Site, presented in Section 3 of this SWPPP, operates under an FDCP and includes dust mitigation requirements such as wet suppression, decreased traffic speed limits, vehicle access restrictions, use of gravel or paved entry or exit aprons, and use of secured tarps to cover the surface of cargo loads.

5. Stormwater Monitoring Program [MSGP Parts 6 and 5.2.5.3]

This section describes the stormwater monitoring program implemented at SNL/NM to meet the requirements of the MSGP. Corporate documents required to be used and/or referenced in conjunction with this SWPPP include Field Operating Procedure (FOP) 95-16, *Stormwater Monitoring*, and Plan (PLA) 91-16, *Stormwater Sampling and Analysis Plan for SNL/NM*.

As defined in the EPA's *Industrial Stormwater Monitoring and Sampling Guide*, EPA 832-B-09-003 (U.S. EPA 2009), the term "sampling" in this SWPPP refers specifically to the physical retrieval of stormwater collected in the samplers, and laboratory analysis of those samples. "Monitoring" is a broader term, which includes visual assessments, sample collection, retrieval and analysis, and any preparation and documentation involved in these activities. Monitored outfalls are called stormwater sampling points (SWSPs).

5.1 Monitored Outfalls [MSGP Part 6.1.1, 3.2.3, 4.6, 6.2.2.2]

A Stormwater Outfall Assessment was conducted at each permitted site at SNL/NM and was the primary tool used for determining the location of sample collection devices where monitoring was applicable. Data was collected and documented on an MSGP Stormwater Outfall Assessment form for each site (Appendix G). Outfall locations and substantially identical outfalls were determined using data from field assessments; aerial, topographic contour and drainage area maps; and weighted runoff coefficient calculations. Potential pollutant sources from permitted sites were also factored into the determination.

The following factors were considered when evaluating each site for substantially identical outfalls: the acreage of drainage area, the potential contaminants in the stormwater runoff, and the runoff coefficient of the site. Where more than one outfall was identified on a single site, substantially identical outfalls were claimed only if the outfalls were similar with respect to: the permitted activities, the potential contaminant parameters in the runoff, and the runoff coefficient of the drainage areas.

On all but one of the permitted sites covered in this SWPPP, a single outfall was determined per site. As an exception, multiple but substantially identical outfalls were identified on SWMUs 8/58. SWMUs 8/58 can be defined as a single activity area, located in the steeper terrain of the Manzano foothills. Although two distinct drainage areas were initially identified on the site(s), the consistency of permitted activities and pollutant sources at the outfalls led to a determination of substantially identical outfalls. Sample collection points will occur at both drainages, but stormwater samples will be composited as one analytical sample (SWSP-43).

Although a single representative outfall was identified for each site, there are outfalls where stormwater flow is very minimal. These outfalls have been equipped with multiple passive sampling devices to collect an adequate volume of stormwater for laboratory analysis of all required parameters.

SNL/NM has 22 separate permitted sites, which are covered under six different sectors: J, K, L, N, P, and AC. Water quality laboratory analysis is not required at all of the sites due to sector-specific requirements or lack of outfalls (see Section 5.1.1). Stormwater is monitored at the designated outfalls identified in Table 5-1.

A single sample location was established for the TA-V Sandlot and the AHCU in TA-V. SWSP-52 is located at the northwest corner of the TA-V Sandlot, outside the fence line of the site. SWSP-52 is approximately 25 ft above the drop inlet that discharges stormwater from the TA-V Sandlot and TA-V into TA-III. SWSP-52 also monitors the AHCU that is located 500 ft east of the TA-V Sandlot. Installation of a dedicated sampler at the AHCU to monitor potential runoff from the loading and unloading area is not practicable for the following reasons. First, there is minimal potential for stormwater to come into contact with pollutants at the AHCU because all pollutant-generating activities occur inside the AHCU, and the majority of loading and unloading occurs inside the high bay of the building. Second, the area around the AHCU is paved, preventing the installation of an in-ground passive sampling device. Third, office equipment and traffic associated with facility operations (i.e., activities not subject to MSGP coverage) have the potential to interfere with sampler equipment and collection of samples. Based on the close proximity of the two sites and the direction of stormwater flow from the AHCU to the TA-V Sandlot (refer to Appendix C-8), SWSP-52 is located to monitor the outfalls of both sites.

There are a total of 16 MSGP SWSPs used for stormwater monitoring, which are listed in Table 5-1 and shown on a map provided in Appendix C-1.

Table 5-1. Permitted Sites/ Activity Areas and Associated Outfalls, Stormwater Monitoring Locations, and First Receiving Waters

Site / Activity Area	Building Reference	Monitoring ID (SWSP)	Sampler Type	Latitude	Longitude	First Receiving Water	Type of Waterbody
Advanced Manufacturing Processes Laboratory (AMPL)	878	No analytical sampling requirements; visuals observed at SWSP-05	Automatic	35.032329	-106.546756	Tijeras Arroyo via SNL MS4	ephemeral[6] arroyo
Auxiliary Hot Cell Unit (AHCU)	6597	SWSP-52	Passive	34.998173	-106.535993	None; 12-Digit USGS Closed Basin HUC 130202030403	ephemeral[6] arroyo
Building 858 Complex	858	No analytical sampling requirements; visuals observed at SWSP-05	Automatic	35.032329	-106.546756	Tijeras Arroyo via SNL MS4	ephemeral[6] arroyo
Center for Integrated Nanotechnology (CINT)	518	No analytical sampling requirements; visuals observed at SWSP-50	Passive	35.060899	-106.535656	Unknown	unknown
Classified Waste Landfill (ClWL)	N/A	SWSP-08	Passive	34.985262[7]	-106.536193[7]	Unnamed playa lake	closed playa lake

[6] According to Appendix A of the 2016-2018 State of New Mexico Clean Water Act §303(d)/§305(b) Integrated List, application of the NMED Surface Water Quality Bureau's Hydrology Protocol (survey date 6/24/09) indicates Tijeras Arroyo Assessment Unit NM-9000.A_070 as ephemeral; however, until such time that the process detailed in 20.6.4.15 NMAC Subsection C is completed to regulate the waterbody under 20.6.4.97 NMAC, it will remain under 20.6.4.98 NMAC.

[7] In May 2017 the location of the ClWL SWSP was moved 75 ft. to the east, to a location that better represented discharge from permitted activities at this site. Updated coordinates in SWPPP will vary slightly from the NOI.

Site / Activity Area	Building Reference	Monitoring ID (SWSP)	Sampler Type	Latitude	Longitude	First Receiving Water	Type of Waterbody
Coyote Canyon Blast Area (SWMUs 8/58)	N/A	SWSP-43 (outfall A)	Passive	35.002045	-106.468369	Tijeras Arroyo via Arroyo del Coyote	ephemeral[6] arroyos
		SWSP-43 (outfall B; substantially identical to SWSP-43; became A3)	None; substantially identical to SWSP-43	35.003472	-106.465321		
Fleet Services	875	No analytical sampling requirements; visuals observed at SWSP-05	Automatic	35.032329	-106.546756	Tijeras Arroyo via SNL MS4	ephemeral[6] arroyo
Gun Facilities (SWMU 84)	N/A	SWSP-46	Passive	34.987029	-106.552739	Unnamed playa lake	closed playa lake
Hazardous Waste Handling Unit (HWHU)	958	SWSP-40	Retention basin	35.043632	-106.543717	Tijeras Arroyo via SNL MS4	ephemeral[6] arroyo
Long Sled Track (SWMU 83)	N/A	SWSP-17	Passive	34.984846	-106.559084	None; 12-Digit USGS Closed Basin HUC 130202030403	closed playa lake
Manzano Storage Bunkers (MSBs)	N/A	SWSP-51	Passive	34.999480	-106.486405	Tijeras Arroyo via Arroyo del Coyote	ephemeral[6] arroyos
Neutron Generator Facility (NGF)	870	No analytical sampling requirements; visuals observed at SWSP-05	Automatic	35.032329	-106.546756	Tijeras Arroyo via SNL MS4	ephemeral[6] arroyo
Old Burn Site (SWMU 68)	N/A	SWSP-22	Passive	34.959080	-106.474324	Unnamed playa lake; WONM	closed playa lake

Site / Activity Area	Building Reference	Monitoring ID (SWSP)	Sampler Type	Latitude	Longitude	First Receiving Water	Type of Waterbody
TA-V Sandlot	6590A	SWSP-52	Passive	34.998173	-106.535993	None; 12-Digit USGS Closed Basin HUC 130202030403	ephemeral[6] arroyo
Radioactive and Mixed Waste Management Unit (RMWMU)	6920	SWSP-49	Retention basin	34.971333	-106.539327	Unnamed playa lake; WONM	closed playa lake
Reapplication Yard	996	No analytical monitoring requirements; visuals observed at SWSP-41	Passive	35.040773	-106.550031	Tijeras Arroyo	ephemeral[6] arroyo
Short Sled Track (SWMU 240)	N/A	SWSP-47	Passive	34.991814	-106.544197	None; 12-Digit USGS Closed Basin HUC 130202030403	closed playa lake
Solid Waste Collection and Recycling Center (SWCRC)	967	No analytical monitoring requirements; visuals observed at SWSP-42	Passive	35.041399	-106.543725	Tijeras Arroyo via SNL MS4	ephemeral[6] arroyo
Surface Discharge Site (SWMU 502)	9938	SWSP-32	Passive	34.976156	-106.507393	None; 12-Digit USGS Closed Basin HUC 130202030403	closed playa lake
TA-III Borrow Site	N/A	No outfall	N/A	N/A	N/A	None; 12-Digit USGS Closed Basin HUC 130202030403	closed playa lake

Site / Activity Area	Building Reference	Monitoring ID (SWSP)	Sampler Type	Latitude	Longitude	First Receiving Water	Type of Waterbody
Thermal Treatment Unit (TTU)	6715	SWSP-48	Passive	34.998319	-106.543602	None; 12-Digit USGS Closed Basin HUC 130202030403	ephemeral[6] arroyo
Thunder Range/Range 6 Emergency Detonation Site (Range 6 EDS)	N/A	None; extremely infrequent activity, emergency use only	N/A	N/A	N/A	Unnamed playa lake	closed playa lake

*Use of the site is limited to emergency destruction (treatment) of hazardous waste under a case-by-case Emergency Permit authorization. These activities occur on an extremely infrequent basis, are of limited scope, and involve no significant materials exposed to stormwater.

5.1.1 Activity Areas without Benchmark Monitoring

There are several sites where laboratory analysis of stormwater samples is not required by the MSGP: Sector AC sites (AMPL, Building 858 Complex, NGF, and CINT); Subsector N2 sites (Reapplication Yard and Solid Waste Collection and Recycling Center); and Fleet Services, a Sector P site. Stormwater samples are collected downgradient of these sites only for the purpose of performing visual assessments as discussed in Section 5.5 of this SWPPP. Additionally, the TA-III Borrow Site has no outfall; all stormwater is contained on-site, and therefore no monitoring is required.

Activities that would be covered under the MSGP at the Range 6 EDS are limited to extremely infrequent detonations that are restricted in size, with no significant materials exposed to stormwater. For these reasons sample collection for laboratory analyses and visual assessment is not conducted at this site during the monitoring periods. In the event a routine site inspection identifies a potential for the discharge of pollutants as a result of permitted activities, the sampling plan for Range 6 EDS will be reevaluated.

5.2 Monitoring Periods [MSGP Parts 6.1.7 and 6.1.6]

Part 6.1.7 of the MSGP requires quarterly monitoring in three-month intervals: January 1–March 31, April 1–June 30, July 1–September 30, and October 1– December 31. For facilities in arid or semiarid climates, Part 6.1.6 allows the monitoring quarters to be distributed during seasons when precipitation occurs, provided the required number of samples is collected. As described in Section 2.5 of this SWPPP, SNL/NM is in an arid climate, receiving less than 10 inches of rain annually, with approximately 60 percent of the annual rainfall occurring in four months of the year July, August, September, and October. As a result, the modified stormwater monitoring quarters (herein referred to as monitoring “periods”) at SNL/NM are as follows:

- Period 1: July 1–July 31
- Period 2: August 1–August 31
- Period 3: September 1–September 30
- Period 4: October 1–October 31

Stormwater samples are not collected between November 1 and June 30 for compliance with the MSGP.

5.3 Monitoring Types [MSGP Part 6.2]

There are five types of stormwater monitoring required by the MSGP:

- Benchmark monitoring (MSGP Part 6.2.1)
- Annual effluent limitations guidelines monitoring (MSGP Part 6.2.2)
- State or tribal-specific monitoring (MSGP Part 6.2.3)
- Impaired waters monitoring (MSGP Part 6.2.4)
- Other monitoring as required by the EPA (MSGP Part 6.2.5)

Benchmark monitoring is the only type that is required (as applicable) for permitted sites at SNL/NM. The rationale for compliance with each monitoring type is provided in the following sections.

5.3.1 Benchmark Monitoring [MSGP Part 6.2.1 and 6.2.3]

The MSGP specifies pollutant benchmark monitoring concentrations that are applicable to certain sectors and subsectors. Benchmark concentrations, unlike effluent limitations, are guidelines to be used to assess the overall quality of the stormwater discharge. Benchmark concentrations, listed in Table 5-2, apply to the following SNL/NM-applicable sectors (subsectors): J (Subsector J1), K (Subsector K1), L (subsectors L1 and L2), and Sector N (Subsector N1). Benchmark concentrations are not published in the MSGP for Sectors P and AC or Subsector N2.

In addition to the general EPA benchmark monitoring requirements, there are provisions and modified benchmark concentrations specific to the State of New Mexico in MSGP Part 9.6.2.1. Table 5-2 lists the applicable New Mexico benchmark concentrations. Where both EPA and New Mexico benchmark concentrations exist, the New Mexico benchmarks derived from the water quality standards of Section 20.6.4.900 NMAC replace those established by the EPA, in accordance with the requirements of MSGP Part 9.6.2.1.

Additionally, New Mexico provides benchmark concentrations for both acute and chronic toxicity exposure. The New Mexico benchmark concentrations included in Table 5-2 only reflect the acute values that are applicable to SNL/NM. According to 20.6.4. 900.H(7) NMAC, chronic toxicity standards only apply if "adopted on a segment specific basis". There is no application of chronic aquatic life criteria for the Tijeras Arroyo segment at SNL (Rio Grande to Four Hills Bridge; NM-9000.A_070) included in 20.6.4 NMAC nor the *§303(d)/§305(b) Integrated Report*. As discussed in Section 2.6.1 of this SWPPP, the Arroyo del Coyote and the Tijeras Arroyo are ephemeral[6] WOTUS that receive stormwater discharged from some MSGP-permitted sites at SNL/NM.

New Mexico hardness-dependent benchmark concentrations apply to dissolved metals. This differs from the EPA hardness-dependent benchmark concentrations that apply to total metals. For the constituents in Table 5-2 that have New Mexico hardness-dependent benchmarks, dissolved species will be analyzed to enable proper comparison to New Mexico benchmarks. Samples for dissolved metals are processed by filtering with a 0.45 µm filter prior to preserving the sample.

Hardness-dependent benchmark concentrations were determined using a hardness value of 125 mg/L. This value was obtained from USGS data for the Rio Grande in Albuquerque, New Mexico (see Appendix H of this SWPPP). In accordance with MSGP Appendix J, hardness was "determined for the closest intermittent or perennial stream downstream of the point of discharge.". Although the Arroyo del Coyote and the Tijeras Arroyo are the first receiving waters for stormwater discharged from MSGP sites at SNL/NM, they are ephemeral[6] streams and dry except during periods of storm event runoff. Therefore, the hardness of the perennial Rio Grande was used to determine the relative benchmark values.

An exception applies to permitted facilities in New Mexico regarding the analysis of aluminum as a hardness-dependent metal. The modified benchmark concentration value for aluminum specified in the New Mexico water quality hardness-based values table in MSGP Part 9.6.2.1 is 8.838 mg/L (as total recoverable). The criteria for this exception can be found in Paragraph (1) of Section 20.6.4.900 I NMAC, where specific equation parameters are defined for hardness-dependent metals that meet acute aquatic life criteria. According to NMED's 2012 *Aluminum Filtration Study*, when sample turbidity is 30 nephelometric turbidity units (NTUs) or greater, total recoverable aluminum is filtered a with a 10-micron filter capsule. Where sample turbidity is less than 30 NTUs, no filtration is needed.

Analysis of total recoverable aluminum is applicable to the TA-III Borrow Site covered under Sector N1. However, as described in Section 3.4.3 of this SWPPP, due to multiple control measures that prevent discharge of stormwater, the TA-III Borrow Site does not have an outfall where samples could be collected for laboratory analysis.

Table 5-2. Benchmark Concentrations for SNL/NM-Applicable Sectors

Site Name	Visual Monitoring Outfall	Analytical Monitoring Outfall	MSGP Subsector	EPA Benchmark (total; mg/L)	New Mexico Benchmark (total; mg/L)	New Mexico Benchmark (dissolved; mg/L)
Classified Waste Landfill (ClWL)	008	008	L1	TSS – 100	N/A	N/A
			L2	Iron – 1.0	N/A	N/A
Long Sled Track (SWMU 83)	017	017	K1	Magnesium – 0.064 Ammonia – 2.14 COD – 120 Selenium-0.005	Arsenic – 0.01 Cyanide – 0.0052 Mercury – 0.00077	Cadmium* – 0.00298 Lead* – 0.14 Silver* – 0.011
Old Burn Site (SWMU 68)	022	022				
Surface Discharge Site (SWMU 502)	032	032				
Hazardous Waste Handling Unit (HWHU)	040	040				
Coyote Canyon Blast Area (SWMUs 8/58)	043	043				
Gun Facilities (SWMU 84)	046	046				
Short Sled Track (SWMU 240)	047	047				
Thermal Treatment Unit (TTU)	048	048				
Radioactive and Mixed Waste Management Unit (RMWMU)	049	049				
Manzano Storage Bunkers (MSBs)	051	051				
Auxiliary Hot Cell Unit (AHCU)	052	052				
TA-V Sandlot						

Site Name	Visual Monitoring Outfall	Analytical Monitoring Outfall	MSGP Subsector	EPA Benchmark (total; mg/L)	New Mexico Benchmark (total; mg/L)	New Mexico Benchmark (dissolved; mg/L)
TA-III Borrow Site	No outfall		J1	TSS – 100	NPN – 132	N/A
			N1	COD – 120 TSS – 100 Iron – 1.0	Aluminum*†– 8.838	Copper* – 0.026 Lead* – 0.14 Zinc* – 0.301
Reapplication Yard	041	N/A	N2	N/A	N/A	N/A
Solid Waste Collection and Recycling Center (SWCRC)	042					
Fleet Services	005	N/A	P1	N/A	N/A	N/A
Neutron Generator Facility (NGF)	005	N/A	AC1	N/A	N/A	N/A
Advanced Manufacturing Processes Laboratory (AMPL)						
Building 858 Complex						
Center for Integrated Nanotechnology (CINT)	050					

TSS = total suspended solids
COD = chemical oxygen demand
NPN = nitrate plus nitrite
† Refer to New Mexico exception for analysis of aluminum described in Section 5.3.1 of this SWPPP.
*Hardness-dependent benchmark values apply to dissolved metals and Total Aluminum. Parameter-specific value is based on hardness value of 125 mg/L, determined for the MRG from USGS sampling data (see Appendix H of this SWPPP).

5.3.1.1 Reporting Benchmark Data

MSGP Part 7.4 requires submission of sampling results in Discharge Monitoring Reports (DMRs) to the EPA no later than 30 days after receiving the complete laboratory results for all monitored outfalls for each monitoring period during which benchmark samples are required to be collected. Data will be submitted to the EPA using the NetDMR system. For monitored outfalls that did not have a discharge within the monitoring period, NetDMR will be used to report a "No Data Indicator" or "NODI" code for that outfall no later than 30 days after the end of the monitoring period.

Due to the short duration of each of SNL/NM's monitoring periods (one month instead of three months), all sample results will be reported to the EPA within 30 days after receiving the complete laboratory results for all monitored outfalls for the period (month) during which benchmark samples are required to be collected.

Additional reporting requirements are discussed in Section 9 of this SWPPP.

5.3.1.2 Data Not Exceeding Benchmarks

When the average of sample values from four consecutive sample collections is below the applicable SNL/NM benchmark value for a parameter, then the sampling requirements for that parameter have been fulfilled for the permit term. Parameters meeting this criterion will be documented in Appendix E of this SWPPP. For each parameter that meets this condition, analytical results are no longer required to be reported. A "no data indicator" (NODI) code would be used to indicate that no data is required for that parameter and a note on status of that parameter would be entered into the comment box for that DMR.

Once monitoring requirements have been completely fulfilled for an outfall (i.e., where the average of four consecutive analytical results for all parameter fall below the applicable benchmark), monitoring results will no longer be entered on a DMR for that outfall.

Visual assessments will continue to be performed at all monitoring locations for each monitoring period.

5.3.1.3 Data Exceeding Benchmarks

Benchmark exceedances are not permit violations. If the average of four analytical values exceeds the applicable benchmark value (or is mathematically certain to exceed the benchmark before collecting four periods of data), then a review of the selection, design, installation, and implementation of the site control measures will be conducted to determine whether modifications are necessary.

If the average concentration that exceeds benchmark value(s) can be attributed solely to the presence of that pollutant in the natural background, then corrective action or additional monitoring is not required, provided that all of the following are true:

- The average concentration of the benchmark monitoring results is less than or equal to the concentration of the pollutant in the natural background.
- The supporting rational, supporting data, and literature studies that describe the levels of natural background pollutants in the stormwater discharge are documented and maintained with the SWPPP.
- The EPA is notified on the final DMR that the benchmark exceedances are attributable solely to natural background pollutant levels.

The majority of permitted sites at SNL/NM are located in largely undeveloped areas where stormwater comes into direct contact with natural sediments. Sediments at SNL/NM are naturally high in a variety of metals, which are suspected to be the source of elevated concentrations of aluminum, copper, iron, magnesium, and zinc—all typically found in stormwater. Background concentrations are discussed in Appendix I of this SWPPP.

5.3.2 Effluent Limitations Monitoring [MSGP Parts 6.2.2 and 2.1.3]

The MSGP specifies numerical effluent limitations for some activities. Unlike the benchmark concentrations, an exceedance of the effluent limitation is a permit violation. Tables 2-1 and 6-1 of the MSGP include nine regulated activities that are subject to effluent limitations, one of which occurs at SNL/NM: runoff from a nonhazardous waste landfill at the ClWL. It has been determined that effluent limitations monitoring is not required at the ClWL because stormwater does not come into contact with potential pollution sources.

The numerical effluent requirements for nonhazardous waste landfills (MSGP Part 8.L.10, Table 8.L-2, Footnote 1) specifically indicate that monitoring is required for "contaminated stormwater discharges." The MSGP defines "contaminated stormwater" (Part 8.L.4.1) and "non-contaminated stormwater" (Part 8.L.4.5) in relation to landfills as follows:

> *Contaminated stormwater*—stormwater that comes into direct contact with landfill wastes, the waste handling and treatment areas, or landfill wastewater. Some areas of a landfill that may produce contaminated stormwater include (but are not limited to) the open face of an active landfill with exposed waste (no cover added); the areas around wastewater treatment operations; trucks, equipment, or machinery that has been in direct contact with the waste; and waste dumping areas.
>
> *Non-contaminated stormwater*—stormwater that does not come into direct contact with landfill wastes, the waste handling and treatment areas, or landfill wastewater. Non-contaminated stormwater includes stormwater that flows off the cap, cover, intermediate cover, daily cover, and/or final cover of the landfill.

The ClWL no longer receives waste and is covered by an intermediate soil cover with established vegetation. Precipitation and stormwater are directed away from the landfill, and

stormwater does not come into contact with landfill wastes, waste handling areas, or landfill wastewater. Therefore, for the purposes of MSGP monitoring, stormwater discharges from the ClWL are "non-contaminated," and numerical effluent limitation monitoring is not required.

5.3.3 State and Tribal Monitoring Provisions [MSGP Part 6.2.3]

Permittees are required to comply with the state and tribal monitoring provisions provided in Part 9 of the Permit. Tribal provisions do not apply to SNL/NM. State of New Mexico provisions applicable to SNL/NM (MSGP Part 9.6.2.1) are discussed in Section 5.3.1 of this SWPPP.

5.3.4 Discharges to Impaired Waters Monitoring [MSGP Part 6.2.4]

Permittees discharging to an impaired water without a TMDL must monitor for all constituents for which the water body is listed as impaired.

MSGP sites at SNL/NM discharge to the Arroyo del Coyote, the Tijeras Arroyo, a USGS 12-digit closed basin, and unnamed playa lakes. The Arroyo del Coyote and the Tijeras Arroyo are ephemeral[6] water bodies that are not listed as impaired in *Appendix A of the 2014-2016 State of New Mexico Clean Water Act §303(d)/§305(b) Integrated Report*, approved by the EPA on November 18, 2014 (U.S. EPA, 2014). As a result, neither arroyo has an associated TMDL; therefore, MSGP impaired waters monitoring requirements do not apply to discharges from the permitted sites at SNL/NM.

5.3.5 Other Monitoring as Required by EPA [MSGP Part 6.2.5]

The Permit allows for the EPA to specifically require additional monitoring at its discretion. To date, the EPA has not required additional monitoring at SNL/NM beyond what is specified in the Permit.

5.4 Summary of Stormwater Monitoring Methods [MSGP Part 5.2.5.3]

Stormwater quality samples are collected for compliance with the MSGP using one of two methods: passive in-ground samplers and retention basin compositing.

Passive in-ground samplers are used at the majority of the monitoring locations. Passive samplers are comprised of one-gallon plastic Nalgene containers equipped with a one-way inlet. The sampler is placed in a preinstalled casing that allows the inlet to set flush with ground surface. The passive samplers collect the first flush of water flowing over them and then seal shut. As soon as practicable following a storm event, field personnel retrieve the one-gallon sample containers from the field and process the samples for submittal to an analytical laboratory. The use of passive samplers enables the collection of multiple first-flush samples in an efficient cost-effective manner.

Two of the monitoring locations are retention basins that collect stormwater runoff from impervious surfaces at hazardous waste facilities and are actively pumped to discharge stormwater. These basins are pumped as a preventative maintenance to maintain capacity for the

next storm event, thereby preventing overflow. Monitoring for MSGP compliance is conducted from the retention basins immediately prior to discharge. Composite samples consisting of nine subsamples are retrieved from the basin in order to accurately characterize the average composition of the stormwater discharged.

Detailed sampling and compositing methods are maintained as corporate controlled documents: FOP 95-16, *Stormwater Monitoring*, and PLA 91-16, *Stormwater Sampling and Analysis Plan for SNL/NM*.

5.5 Visual Assessments [MSGP Parts 3.2 and 5.2.5.2]

5.5.1 Visual Assessment Procedures [MSGP Part 3.2.1]

Visual monitoring is performed for each monitoring period (as defined in Section 5.2 of this SWPPP) on discharges from all outfalls. Stormwater samples are collected in passive collection devices at the time of the discharge. Once retrieved, stormwater is transferred to a clean, clear glass or plastic container to perform the visual assessment (or observation).

Some of the SNL/NM-applicable MSGP sectors and subsectors do not require analytical stormwater sampling (i.e., Sectors P and AC, and Subsector N2). Visual samples will be collected at the outfall of these permitted sites for each monitoring period as a BMP. Refer to Table **5-1** for the SWSP where the visual assessments will be performed.

Visual assessments will also continue to be performed for each monitoring season at outfall locations where all parameters have met permit requirements and analytical sampling is no longer required at that outfall (i.e. where the average of four sample values for all parameters at that site fall below the applicable benchmark value as per MSGP Part 6.2.1.2).

In the event of no discharge or insufficient volume, the absence of or insufficient volume of stormwater will be documented on the visual assessment form for that outfall.

If evidence of stormwater pollution is observed during the visual assessment, corrective action will be initiated as required in MSGP Part 4 (see Section 7 of this SWPPP).

5.5.2 Visual Assessment Documentation [MSGP Part 3.2.2]

The completed visual assessment forms will document the following information as required in MSGP Part 3:

- Monitoring location
- Sample retrieval date and time, and visual assessment date and time
- Personnel retrieving the sample and performing the visual assessment, and their signatures
- Nature of the discharge (i.e., runoff or snowmelt)
- Results of observations of the stormwater discharge, including the following water quality characteristics:
    - Color

  - Odor
  - Clarity
  - Floating solids
  - Settled solids
  - Suspended solids
  - Foam
  - Oil sheen
  - Other obvious indicators of stormwater pollution
- Probable sources of any observed stormwater contamination
- If applicable, why it was not possible to take samples within the first 30 minutes
- A certification statement that is signed and certified in accordance with MSGP Appendix B.11

The results of each visual assessment will maintained with the SWPPP. A summary of any findings for the calendar year will be reported in the MSGP Annual Report.

5.6 Monitoring Limitations [MSGP Parts 6.1.3 through 6.1.6 and 3.2.3]

The limitations included in this section apply to the collection and retrieval of stormwater samples and performance of visual assessments.

5.6.1 Adverse Conditions and Safety Considerations

Adverse conditions (i.e., those that are dangerous or create inaccessibility for personnel) may include local flooding, high winds, electrical storms, unsafe site-testing activities, or situations that otherwise make stormwater monitoring impracticable such as drought or extended frozen conditions.

Personnel at SNL are required to adhere to strict safety procedures when performing work. Wet season storm events in Albuquerque are typically accompanied by lightning and flash flooding of stormwater drainage areas (including but not limited to conveyance channels and arroyos). Safety procedures prohibit worker exposure to such situations. Stormwater samplers will be accessed as soon as practicable to retrieve the collected samples.

5.6.2 Failure to Collect Adequate Sample Volumes

Process knowledge has demonstrated that the volume of stormwater collected at some permitted sites is insufficient to achieve the minimum volume for laboratory analysis of all required parameters. Where necessary, multiple sample containers have been installed at the same outfall to collect enough stormwater to achieve the minimum volume for laboratory analysis of all required parameters. In these cases, stormwater from subsample containers will be composited in equal volumes prior to submitting to the laboratory for analysis.

In the event that the volume of stormwater collected is insufficient to achieve the minimum volume for laboratory analysis, laboratory analysis will be prioritized with consideration given to

the volume of stormwater collected, the volume of stormwater necessary to analyze for a particular parameter, and the potential impact that a discharged pollutant has on human health and the environment. Table 5-3 lists required parameters by sector in order of priority for laboratory analysis. Any remaining parameters will be analyzed when stormwater is collected from the next storm event within the same monitoring period.

Table 5-3. Parameters by Sector in Order of Priority for Sample Processing

Priority Order of Sample Processing	Sector AC	Sector J1	Sector K1	[1]Sectors L1 and L2	Sector N1	Sector N2	Sector P1
1	Visual	Visual	Visual	Visual	Visual	Visual	Visual
2	N/A	NPN	[2]Metals, dissolved	Iron (L2)	[3]Metals, dissolved	N/A	N/A
3	N/A	TSS	[2]Metals, total	TSS (L1)	[3]Metals, total	N/A	N/A
4	N/A	N/A	Cyanide	N/A	TSS	N/A	N/A
5	N/A	N/A	Ammonia	N/A	COD	N/A	N/A
6	N/A	N/A	COD	N/A	N/A	N/A	N/A

[1]Two subsector analytical requirements apply to one site.
[2]Sector K1required metals
[3]Sector N1 required metals
Visual = visual assessment

5.6.3 Business Hours and Stormwater Sample Retrieval

Samples will be retrieved from the samplers during normal business hours: Monday through Friday, 7:30 am to 5:00 pm (for field staff, as early as 6:00 am). Members of the Workforce that conduct stormwater monitoring are not required to work on the following observed holidays: Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day through New Year's Day (i.e., winter shutdown).

The field team is staffed with multiple technicians; however, the inability to retrieve samples during normal business hours due to safety concerns, testing activities that prevent access to the site, or unexpected circumstances (e.g., sick/personal leave, inclement weather, facility shutdown, or KAFB gate closure) are possible. Should any of these circumstances occur, collected samples will be retrieved as soon as practicable or, if excessive time lapses, samples will be discarded and samplers staged for retrieval during the next measureable storm event.

Part 6.1.4 of the MSGP requires samples to be collected and visual assessments performed within the first 30 minutes of a discharge associated with a measurable storm event. A "measurable storm event" is defined in Appendix A of the MSGP as "a precipitation event that results in a measurable amount of precipitation (i.e., a storm event that results in an actual discharge) and that follows the preceding storm event by at least 72 hours (3 days)." Stormwater samples are collected in passive collective devices, likely within 30 minutes of an actual discharge from a storm event. Stormwater samples are retrieved from the passive collective devices as soon as practicable, but not within 30 minutes of an actual discharge from a storm event. Retrieval of stormwater samples within 30 minutes of collection is not possible due to the following factors:

- SNL/NM resides in an arid climate with patchy and high-intensity rain events of short duration. Access to some sampling points during and shortly after intense rain events can be hazardous.
- The majority of wet season storm events large enough to produce a discharge occur in the afternoon. In this situation, staff may be unable to retrieve samples in a safe manner (i.e., cannot retrieve during thunderstorm), and process the samples for submission to the laboratory within normal business hours. Samples that are collected by the passive samplers are retrieved and processed the morning of the next business day.
- A large number of stormwater sampling points are located miles apart and in remote locations.

Table II of 40 CFR Part 136 states, "For dissolved metals, filter grab samples within 15 minutes of collection and before adding preservatives." Stormwater samples are collected in passive collective devices, likely within 15 minutes of an actual discharge from a storm event. Stormwater samples are retrieved from the passive collective devices as soon as practicable, but not within 15 minutes of an actual discharge from a storm event. Retrieval of stormwater samples within 15 minutes of collection is not possible due to the same three factors that apply to retrieval of samples for visual assessments that are discussed in the preceding paragraph.

5.6.4 Three-Day Antecedent Dry Period

Part 6.1.3 of the MSGP requires stormwater samples to be collected from a storm event that results in an actual discharge from the site that follows the preceding measurable storm event by at least 72 hours (3 days). For areas where less than a 3-day interval is representative for local storm events during the monitoring period, Part 6.1.3 provides an exception to the 3-day requirement. As discussed in Appendix D, precipitation at SNL/NM is seasonal and results in moisture surges during the summer months. Daily afternoon thunderstorms are not uncommon and can be intense and patchy. Additionally, the data presented in Appendix D-2 indicate that for each monitoring period (July, August, September, and October), it is representative for local storm events to occur greater than 50 percent of the time in less than a 3-day interval. For the reasons here and because of the complexity of tracking 3-day antecedent dry periods for the large number of stormwater sampling points that are located miles apart and in remote locations, the exception in MSGP Part 6.1.3 will be applied to SNL/NM's entire MSGP monitoring season.

5.6.5 Sampling Discharges from Stormwater Retention Basins

Stormwater collected in retention basins is not retrieved (sampled) during a storm event. Stormwater that enters the basins is retained until stormwater can be safely pumped out of the basin. Generally, this occurs the morning following a storm event; however, operational constraints may cause the basin to be pumped at a later time. Because the water is retained on-site until it is pumped, the stormwater discharge event is more closely tied to the pumping than the storm itself. Therefore, the monitoring methods described in Section 5.4 of this SWPPP were developed to characterize the quality of the stormwater discharged from the site rather than a specific storm event.

5.6.6 Documentation

In the event any of the limitations in Section 5.6 of this SWPPP prevent adequate retrieval, visual assessment, and/or laboratory analysis of stormwater samples, DOE and NTESS will document such occurrences on a DMR or visual assessment form, as applicable and appropriate.

5.7 Sample Analysis and Electronic Data Reporting

After a sample is retrieved, it is transported to the Sample Management Office (SMO) at SNL for tracking and shipment to an accredited analytical laboratory.

Table 5-4 shows the parameters analyzed for each SNL/NM-applicable industry sector except Subsector N2 and Sectors P and AC, which do not have analytical sampling requirements. Analysis of all samples is performed in accordance with the methods specified in 40 CFR Part 136.

Data is required to be submitted to the EPA in an electronic reporting system called NetDMR. When reporting data in the NetDMR system, the following guidance is applied:

- If the result is Non Detect ("ND"), the value for the laboratory detection level ("DL") is entered into the DMR and the qualifier ("Quantity Qualifier") "<" is selected.

- If the result falls below the reporting limit ("RL") but above the DL, and a value with a J qualifier is reported by the laboratory, that value is entered into the DMR and the qualifier "E" for "Estimate" is selected. Because there is no qualifier code in the NetDMR for a J qualifier, the J qualifier will be noted in the comments box of the DMR when applicable. The laboratory RL is included in Table 5-4 of this section for each constituent. All laboratory RLs are lower than MSGP benchmark values for all analytes.

Table 5-4. Stormwater Quality Analytical Methods

Constituent	Analytical Method	Laboratory Minimum Required Volume (mL)	Additional Volume for QC (mL)	Additional Volume Required to Rerun Samples (mL)	Stormwater Program Proposed Sample Volume*	Laboratory Reporting Limit (mg/L)	Preservative	Hold Time
TSS	SM 2540D	1,000	1,000	1,000	2,000	5	None	7 days
COD	EPA 410.4	2	4	2	125	20	H_2SO_4	28 days
Ammonia	EPA 350.1	100	200	100	500	0.1	H_2SO_4	28 days
Cyanide	EPA 335.4	50	100	50	250	0.005	NaOH	14 days
Silver*	EPA 200.8	50	100	50	250	0.001	HNO_3	180 days
Aluminum*†	EPA 200.8	50	100	50	250	0.05	HNO_3	180 days
Arsenic	EPA 200.8	50	100	50	250	0.005	HNO_3	180 days
Cadmium*	EPA 200.8	50	100	50	250	0.0001	HNO_3	180 days
Copper*	EPA 200.8	50	100	50	250	0.001	HNO_3	180 days
Iron	EPA 200.8	50	100	50	250	0.1	HNO_3	180 days
Mercury	EPA 245.2	50	100	50	250	0.0002	HNO_3	180 days
Magnesium	EPA 200.7/200.8	50	100	50	250	0.03	HNO_3	180 days
Lead*	EPA 200.8	50	100	50	250	0.002	HNO_3	180 days
Selenium	EPA 200.8	50	100	50	250	0.005	HNO_3	180 days
Zinc*	EPA 200.8	50	100	50	250	0.01	HNO_3	180 days
NPN	EPA 353.2	4	8	4	125	0.02	H_2SO_4	28 days

*Hardness-dependent benchmark. Parameter-specific value is based on USGS data from the MRG with a hardness of 125 mg/L (Appendix H).
† Refer to New Mexico exception for analysis of aluminum described in Section 5.3.1 of this SWPPP.
QC = quality control

5.8 Summary of Analytical Data from the Previous Permit Term [MSGP Part 5.2.3.6]

The Stormwater Program conducted a comprehensive assessment from December 2014 through June 2015 of the MSGP stormwater monitoring protocol. The assessment determined that monitoring locations associated with multiple permitted sites should be relocated to more directly monitor the outfall of each site. The revised monitoring protocol was implemented July 1, 2015, and will continue such that compliance with the 2015 MSGP is achieved.

A summary of the analytical data from the previous permit term (2008 MSGP) is provided in Appendix N of this SWPPP. Four of the previous sampling points have been retained because they were determined to effectively monitor the site outfall(s). The retained sample points are: SWSP-8, Classified Waste Landfill; SWSP-17, Long Sled Track (SWMU 83); SWSP-22, Old Burn Site (SWMU 68); and SWSP-32, Surface Discharge Site (SWMU 502). Due to the changes in monitoring requirements and resulting changes in applicable benchmark values under the new permit, most of the data results from the past permit term (2008 MSGP) cannot be compared analytically to the data from the current 2015 MSGP permit term. Historical data (past through September 2015) from SWSPs 8, 17, 22, and 32 can be compared on a SWSP-specific basis; however, this historical data should not be compared to data collected for these SWMPs from October 1, 2015 to current.

6. Routine Facility Inspections [MSGP Parts 3 and 5.2.5.2]

Routine facility inspections will be conducted at all areas where industrial materials or activities with potential pollution sources are exposed to stormwater. Inspections include discharge points (outfalls), stormwater controls, and areas of stormwater flow across the site. Inspections are required to be conducted in accordance with FOP 13-01, *Stormwater Inspections*.

Routine facility inspections are performed at each site once every quarter (at a minimum) during the following quarters of the calendar year:

- January 1–March 31
- April 1–June 30
- July 1–September 30
- October 1–December 31

At least one of the routine inspections per calendar year will be conducted during a time when a stormwater discharge is occurring or has the potential to occur. In the case of a site without an outfall, the inspection will occur during or directly after a precipitation event. Inspections are conducted more frequently than quarterly if significant findings are identified during routine inspections and where sector-specific requirements require more frequent inspections.

As required by the 2015 MSGP, for each routine inspection, the results of visual and analytical monitoring from the past year (i.e., most recent sample collections within the last four monitoring periods), and any spills from the last three years, will be summarized on the inspection form. The routine inspection form template can be found in Appendix J.

6.1 Documentation

Completed inspection forms will include the following documentation as required in MSGP Part 3:

- Inspection date and time
- Name(s) and signature(s) of the inspector(s)
- Pre-inspection review section summarizing previous data for the site, including the following information:
    - Areas where spills or leaks have occurred in the last three years
    - Benchmark exceedances in the last four samples collected from outfalls associated with the site
    - Any corrective actions in the reporting year
    - Visual assessment results for the reporting year
- Weather information (including a check box indicating whether or not this is a wet weather inspection)
- Industrial materials or activities exposed to stormwater
- Description of any discharges occurring at the time of the inspection
- Evidence of, or the potential for, pollutants entering a drainage system

- Off-site tracking of industrial materials or waste, or sediment where vehicles enter or exit the site
- Control measures needing maintenance, repairs, or replacement
- Any additional control measures needed to comply with the permit requirements
- Any incidents of noncompliance observed
- Any required revisions of the SWPPP resulting from the inspection
- A statement, signed and certified in accordance with MSGP Appendix B.11

The results of the routine inspections will be maintained in the SWPPP, and a summary of the findings and any corrective actions will be reported in the MSGP Annual Report.

6.2 Personnel Responsible for Inspections

Personnel conducting inspections will be "qualified personnel"—those who are knowledgeable in the principles and practices of industrial stormwater controls and pollution prevention, who possess the education and ability to assess conditions at the industrial site that could impact stormwater quality, and who possess the education and ability to assess the effectiveness of stormwater controls selected and installed to meet the Permit requirements. Training and certifications that document the credentials of members the Stormwater Team considered to be "qualified personnel" are included in Appendix K.

6.3 Normal Facility Operating Hours

Normal facility operating hours are Monday through Friday, 7:30 am to 5:00 pm. Inspectors do not work on the following observed holidays: Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day through New Year's Day (i.e., winter shutdown). If there is an inability to inspect during normal facility operating hours due to safety concerns, testing activities that prevent access to the site, or unexpected circumstances (e.g., sick/personal leave, inclement weather, facility shutdown, or KAFB gate closure), the inspection will be completed as soon as possible on the next available normal business day. The reason for the delay will be stated on the inspection reporting form.

7. Corrective Actions [MSGP Part 4]

7.1 Conditions Requiring SWPPP Review and Revision to Ensure that Effluent Limits Are Met [MSGP Part 4.1]

If any of the following conditions are discovered during a facility inspection, monitoring event, or other occurrence, this SWPPP will be reviewed and revised or amended (if necessary) to address the condition such that the Permit effluent limits are met and pollutant discharges are minimized. The review will focus on source of pollutant(s); any potential non-stormwater discharges; and design, installation, and implementation of control measures:

- An unauthorized release or discharge (spill, leak, or other unauthorized non-stormwater discharge)
- A discharge that violates a sector-specific numeric effluent limitation (numerical effluent limitations of MSGP Table 2-1 do not apply to SNL/NM; see Section 5.3 of this SWPPP)
- Control measures are inadequate to prevent an exceedance of water quality standards or nonnumeric effluent limits in MSGP Part 2.1.2
- Required control measures were not installed, installed incorrectly, and/or not installed as required in Part 2 or 8 of the MSGP
- A visual assessment shows evidence of stormwater pollution

7.2 Conditions Requiring SWPPP Review to Determine Whether Modifications Are Necessary [MSGP Part 4.2]

If any of the following conditions occur, this SWPPP will be reviewed to determine whether modifications are necessary to meet the effluent limits in the Permit. The review will focus on the source of pollutant(s); any potential non-stormwater discharges; and design, installation and implementation of control measures:

- Construction or a change in design, operation, or maintenance at the site that significantly changes the nature of the pollutants discharged in stormwater or significantly increases the quantity of pollutants discharged
- The average of four quarterly analytical results exceeds an applicable benchmark (see Section 5.3.1 of this SWPPP for benchmark values applicable to SNL/NM); if less than four benchmark samples have been taken, but the results are such that an exceedance of the four quarter average is mathematically certain, this is considered a benchmark exceedance

A benchmark exceedance does not trigger a corrective action under the following conditions:

- The exceedance is attributable solely to natural background sources identified in Appendix I.
- It is determined that no further pollutant reductions are technologically available, economically practicable, and achievable in light of best industry practice.
- Should either of the first two conditions apply, documentation will be provided in this SWPPP.

7.3 Corrective Action Deadlines [MSGP Part 4.3]

7.3.1 Immediate Actions [MSGP Part 4.3.1]

When a corrective condition is identified, all reasonable steps necessary to minimize or prevent the discharge of pollutants will be initiated immediately. Immediately means on the same day the condition is found. If the corrective condition is identified at the end of a business day, cleanup and initiation of control measures must begin no later than the following work day. Immediate steps may include cleanup of contaminated surfaces to avoid further discharge of pollutants in a subsequent storm event, as applicable. The immediate corrective actions taken will be maintained until a permanent solution is installed and made operational.

7.3.2 Subsequent Actions [MSGP Part 4.3.2]

Corrective actions will be completed before the next storm event (if possible) and within 14 calendar days from the time of discovery of the corrective condition. If it is infeasible to complete the corrective action within 14 calendar days, the reasons for not completing the action and a schedule for completion of work will be documented. The completion date will be as soon as possible after the 14 calendars days, but no longer than 45 days after discovery of the condition. The EPA is required to be notified if there is an intention to exceed the 45-day deadline and provided with a rationale for extension along with the scheduled completion date. Should this occur, a copy of the notification and rationale will be maintained in the SWPPP. This SWPPP will be modified within 14 days of the completion of a corrective action.

7.4 Corrective Action Documentation [MSGP Part 4.4]

Within 24 hours of discovery of any condition listed in SWPPP Section 7.1 and Section 7.2, the following information will be documented on a corrective action form (see the template in Appendix J-3):

- Description of the condition triggering the need for corrective action review
- Date the condition was identified
- Description of immediate steps taken (see SWPPP Section 4)
- A signed and certified statement in accordance with Appendix B.11 of the MSGP
- For spills or leaks, include the following additional documentation:
    - Description of the incident, including material
    - Date and time that the spill or leak occurred, if known
    - Amount, quantity, or volume of the spill
    - Location of the incident
    - Cause of spill or leak
    - If pollutants were (or have the potential to be) discharged to WOTUS
    - Response actions
    - Date and time that clean-up was completed
    - Date and time that notification was made to regulators
    - Names and positions of personnel involved with the response, notification, and/or cleanup, as applicable
    - Description of measures taken to prevent any reoccurrence of the spill or leak

Within 14 days of discovery of any condition listed in SWPPP Section 7.1 and Section 7.2, the following will be documented:

- Summary of corrective action taken or to be taken
    - Initiation and completion dates, or scheduled completion dates, for each corrective action
    - Documentation of why any required dates are not met
    - Scheduled dates for installation and implementation of controls
    - Basis for determination if corrective action is deemed not necessary

Corrective action findings will be summarized in the Annual Report required to be submitted to the EPA. Corrective action documentation is not required to be submitted to the EPA, unless specifically requested to do so.

7.5 Corrective Actions at Sites with Substantially Identical Outfalls [MSGP Part 4.6]

Should a corrective action condition occur at a site with substantially identical outfalls, a corrective action review will be performed to assess the need for corrective actions at all related substantially identical outfalls at the site. Any corrective actions applied at the site that would affect the related outfalls will be conducted before the next storm event (if possible) and within the same time frame as the corrective action identified for the representative outfall, as set forth in MSGP Part 4.3.

8. Documentation to Support Eligibility and Compliance with Other Regulatory Requirements [MSGP Parts 2.3 and 5.2.6]

8.1 Allowable Non-Stormwater Discharges [MSGP Part 1.1.3]

Table 8-1 lists authorized non-stormwater discharges that are applicable to sites eligible for coverage under the MSGP and the reason they are not expected to be significant contributors of pollutants to stormwater.

Table 8-1. Allowable Non-Stormwater Discharges

Allowable Non-Stormwater Discharges	Reason Discharge Is Not Expected to Be a Significant Contributor of Pollutants
Discharges or flows from firefighting activities (does not include discharges from training exercises associated with emergency response and firefighting)	This would occur in an emergency situation only.
Potable water sources, including uncontaminated water line flushing and fire hydrant flushing	Discharges from line flushings are dechlorinated to less than 1 ppm chlorine prior to discharge to the stormwater drainage system (per corporate procedure). Diffusers are used on the end of the line to prevent erosion from the high-pressure discharge. Where possible, discharges occur directly to storm drains to prevent contact with sediment and road contaminants (such as oil).
Uncontaminated condensate from air conditioners, coolers, and other compressors and from the outside storage of refrigerated gases or liquids	Equipment is inspected and maintained in good repair. Condensate is released in low volumes.
Lawn, landscape, and other irrigation waters	All pesticides, herbicides, and fertilizers are applied in accordance with approved manufacturing labeling and any applicable permits for discharges associated with pesticide, herbicide, and fertilizer application.
Sidewalk or pavement wash waters that do not contain detergents and where no unremediated spills or leaks of toxic or hazardous materials have occurred	Streets and roads are maintained and cleaned using a mechanical street sweeper. “Washing” is not applicable to SNL/NM.
Routine external building wash down	Detergents would not be used for this activity.
Uncontaminated groundwater (or spring water) infiltration and pumped groundwater	Not applicable to SNL/NM.

Allowable Non-Stormwater Discharges	Reason Discharge Is Not Expected to Be a Significant Contributor of Pollutants
Foundation and footing drains, or water from crawl space pumps	Not generally applicable to SNL/NM. Sources not contaminated with process materials are required to be discharged to the wastewater sewage system. Discharges to the ground surface require approval from the Environmental Compliance and Monitoring Department per Corporate Procedure ESH100.2.ENV.10, *Manage Surface and Stormwater Discharges*.
Other similar occasional incidental non-stormwater discharges	Incidental windblown mist from cooling towers may occur, but it is not likely to collect or pool on the ground due to the very low humidity of the site area.

8.2 Endangered Species Act [MSGP Part 1.1.4.6]

SNL/NM meets Endangered Species Act Eligibility Criterion C, which means federally listed threatened or endangered species or their designated critical habitat(s) are likely to occur in or near SNL/NM's "action area[8]," and the industrial activity/site discharges and discharge-related activities are not likely to adversely affect listed threatened or endangered species or critical habitat.

Each permittee certified eligibility for SNL/NM under this criterion by using the Criterion Selection Worksheet in MSGP Appendix E.4, completing the Criterion C Eligibility Form, and submitting the form to the EPA at least 30 days prior to filing an NOI for permit coverage. Copies of the completed Criterion C Eligibility Forms and supporting documentation are included in Appendix L of this SWPPP.

8.3 Historic Preservation and National Environmental Policy Act [MSGP Part 1.1.4.6]

Stormwater discharges, allowable non-stormwater discharges, and discharge-related activities are not anticipated to affect a property that is listed or is eligible for listing on the National Register of Historic Places as maintained by the Secretary of the Interior. DOE and NTESS comply with the National Historical Preservation Act as follows:

1. There are no DOE-owned SNL/NM properties listed on the National Register of Historic Places. Specifically, there are no historic properties identified in the path of SNL/NM's stormwater and allowable non-stormwater discharges or where construction activities are planned to install BMPs to control such discharges.

[8] 50 CFR 402 defines "action area" as all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action.

2. Many DOE-owned SNL/NM properties are eligible for listing on the National Register of Historic Places; however, DOE is not required to list these properties. Construction and stormwater management activities are not anticipated to impact any known archaeological or cultural resources. NTESS complies with the National Environmental Policy Act (NEPA) by adhering to Corporate Procedure ESH100.1.EP.2, *Implement NEPA, Cultural Resources, and Historic Properties Requirements,* which requires a NEPA review be approved prior to any earth-disturbing activity at SNL/NM. A NEPA review is conducted for every proposed disturbance to evaluate all necessary permitting actions, including those related to preservation of archaeological or cultural resources.

8.4 Discharges to Federal Comprehensive Environmental Response, Compensation, and Liability Act Sites [MSGP Part 1.1.4.10]

SNL/NM does not discharge to a Federal Comprehensive Environmental Response, Compensation, and Liability Act site listed in MSGP Appendix P.

8.5 Middle Rio Grande Watershed-Based Municipal Separate Storm Sewer System Permit

The EPA issued an NPDES MS4 Permit to operators within the MRG Watershed on December 22, 2014. The stormwater drainage system at SNL/NM (i.e., the SNL MS4) was (in part) identified in the 2010 Decennial Census to be within the Albuquerque Urbanized Area and was identified as a "potentially eligible MS4" in the MS4 Permit. DOE and NTESS hold Permit coverage under NOI tracking numbers NMR04A011 and NMR04A012, respectively, and are required to comply with the MS4 Permit requirements to ensure that stormwater discharges from the SNL MS4 do not contribute pollutants to WOTUS; namely the Tijeras Arroyo and the Rio Grande.

A map showing SNL/NM sites permitted under the MSGP that discharge to the SNL MS4 is provided as Appendix C-2. Electronic documents associated with the MS4 Permit are available through the University of New Mexico (UNM) Digital Repository online database at http://digitalrepository.unm.edu/snl_ms4/.

8.6 Corporate Requirements

Corporate Procedure ESH100.2.ENV.10, *Manage Surface and Stormwater Discharges,* describes requirements applicable to Members of the Workforce for stormwater discharges and other discharges to the ground surface. Specifically, it addresses planned discharges to the ground surface, NPDES permits, training, and records retention. Violation of a policy, process, or procedure may be cause for disciplinary action up to and including termination of employment.

9. Reporting and Recordkeeping [MSGP Part 7]

9.1 Electronic Reporting [MSGP Parts 7.1 and 7.2]

All NOIs, NOTs, Annual Reports, DMRs, and other reporting information will be submitted electronically to the EPA as appropriate through the EPA's Central Data Exchange system (CDX), available at https://cdx.epa.gov/. Within CDX, the EPA's electronic NPDES eReporting tool (NeT) will be used to prepare and submit NOIs, NOTs, and Annual Reports; and all monitoring data and DMRs will be submitted using the EPA's NetDMR reporting system.

9.2 SWPPP Availability [MSGP Part 5.4]

A complete copy of the current SWPPP required by the MSGP is maintained on-site at SNL/NM in the Environmental Compliance and Monitoring Department. The SWPPP will be made available to facility employees, the EPA, a state or tribe, the operator(s) of an MS4 into which SNL/NM discharges, and representatives of the U.S. Fish and Wildlife Service, at the time of an on-site inspection or upon request.

The SWPPP is available to the public and any interested party through the UNM Digital Repository online database (http://digitalrepository.unm.edu/snl_msgp/), which complies with the public availability requirements of the 2015 MSGP. To remain current, MSGP regulatory deliverables (i.e., DMRs and Annual Reports) and annual SWPPP updates will be posted to and maintained on the UNM Digital Repository online database throughout the Permit term. The annual SWPPP update will be submitted no later than 45 days after conducting the final routine facility inspection for the calendar year (i.e., reporting period).

9.3 Reporting Monitoring Data [MSGP Parts 7.4]

All monitoring data collected pursuant to MSGP Part 6.2 will be submitted to the EPA using the NetDMR system no later than 30 days after the complete laboratory results for all monitored outfalls for the monitoring period have been received. For monitored outfalls that did not have a discharge within the reporting period, NetDMR will be used to report a "no data" or "NODI" code for that outfall no later than 30 days after the end of the monitoring period.

SNL/NM-specific parameters required to be monitored and the sample frequency are prepopulated on the electronic DMR form based on the information reported on the NOI. As applicable, if either of the following conditions exist, DOE and NTESS will submit a "Change NOI" form in NeT to the EPA , which will trigger changes to the monitoring requirements in NetDMR:

- All benchmark monitoring requirements have been fulfilled for the permit term.
- Benchmark requirements no longer apply because the site is inactive and unstaffed, or they now apply because the site has changed from inactive and unstaffed to active and staffed.

If monitoring requirements have been fulfilled for a single parameter (where the average of four consecutive analytical results for that parameter falls below the applicable benchmark), analytical results for that parameter are no longer required to be reported. A "no data indicator" (NODI) code would be used to indicate that no data is required for that parameter, and a note on status of that parameter would be entered into the comment box for that DMR.

Once monitoring requirements have been completely fulfilled for an outfall (i.e., where the average of four consecutive analytical results for all parameter fall below the applicable benchmark) the permittee is no longer required to report monitoring results for that outfall using NetDMR.

9.4 Annual Report [MSGP Part 7.5]

The Annual Report is required to be submitted to EPA using the CDX system by January 30 of each year and to include information generated from the past calendar year (January 1 through December 31). The following information will be included:

- A summary of the past year's routine facility inspection documentation required by MSGP Part 3.1.2.
- A summary of the past year's quarterly visual assessment documentation required by MSGP Part 3.2.2.
- A summary of the past year's corrective action documentation required by MSGP Part 4.4). If corrective action is not yet completed at the time of submission of the Annual Report, then a description of the status of any outstanding corrective actions will be provided.
- A description of any incidents of noncompliance in the past year or currently ongoing, or, if none, a statement that compliance with the Permit is being achieved.
- The rationale to support why no further pollutant reductions are technologically available and economically practicable and achievable in light of best industry practice (see MSGP Part 6.2.1.2) should the following circumstance occur:
    - For any four-sample (minimum) average benchmark monitoring exceedance: if after reviewing the selection, design, installation, and implementation of the control measures and considering whether any modifications are necessary to meet the effluent limits in the Permit, it is determined that no further pollutant reductions are technologically available and economically practicable and achievable in light of best industry practice.
- A statement, signed and certified in accordance with MSGP Appendix B.11.

9.5 Additional Reporting [MSGP Part 7.7]

Permittees are required to comply with the standard reporting provisions of MSGP Appendix B.12. Furthermore, the following reports are required to be submitted to the EPA Region 6 Office (U.S. EPA Region 6, NPDES Stormwater Program (WQ-PP), 1445 Ross Avenue, Suite 1200 Dallas, TX 75202-2733). Typically, DOE (as owner of SNL) transmits verbal and written notifications and reports to regulatory agencies.

- Twenty-four-hour reporting (MSGP Appendix B.12.F)—Any noncompliance that may endanger health or the environment. Any information is required to be provided orally within 24 hours from the time of awareness of the circumstances.
    - Oral correspondence will be provided to U.S. EPA Region 6, Helen Nguyen, (214) 665-6458. A confirmation email should be sent to nguyen.helen@epa.gov for documentation.
    - Reporting to the NMED will also occur in compliance with Section 1203 of 20.6.2 NMAC.
- Five-day follow-up reporting to the 24-hour reporting (MSGP Appendix B.12.F)—A written submission is required to be provided within five days of the time of awareness of the circumstances.
    - Written correspondence will be provided to U.S. EPA Region 6, NPDES Stormwater Program (WQ-PP), 1445 Ross Avenue, Suite 1200 Dallas, TX 75202-2733. Reporting to the NMED will also occur in compliance with Section 1203 of 20.6.2 NMAC.
- Reportable quantity spills (MSGP Part 2.1.2.4)—Notification is required to be provided as soon as there is knowledge of a leak, spill, or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity.
- Planned changes (MSGP Appendix B.12.A)—Notice is required to be given to the EPA no fewer than 30 days prior to making any planned physical alterations or additions to the permitted site that qualify the site as a new source or that could significantly change the nature or significantly increase the quantity of pollutants discharged.
- Anticipated noncompliance (MSGP Appendix B.12.B)—Advance notice to the EPA is required for any planned changes in the permitted site/activity that is anticipated to result in noncompliance with Permit requirements.
- Compliance schedules (MSGP Appendix B.12.E)—Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of the Permit are required to be submitted no later than 14 days following each schedule date.
- Other noncompliance (MSGP Appendix B.12.G)—Report of all instances of noncompliance not reported in the Annual Report, compliance schedule report, or 24-hour report at the time monitoring reports are submitted.
- Other information (MSGP Appendix B.12.H)—Relevant facts not included in the submitted NOI or incorrect information submitted in the NOI or in any report, are submitted promptly.

There are no specific reporting requirements provided in MSGP Part 9 for permittees in New Mexico.

9.6 Deliverables

Table 9-1. Schedule of Deliverables

Deliverable to U.S. EPA	Deadline for Submission / Completion	Status /Anticipated Completion Date
SWPPP development / revision	Certify and post online before submission of NOI	Certified August 25, 2015
NOI submission	Submit on or before September 2, 2015	Submitted August 31, 2015
First Annual Report for 2015 MSGP	Submit January 30, 2017; will include summary of data collected after NOI approval (October 2015–December 2015) and one full reporting period under 2015 MSGP (January 2016–December 2016)	Certified and submitted January 27, 2017 (NMR053114), January 30, 2017 (NMR053122)
Annual Report	annually by January 30th	Ongoing, annually
Annual SWPPP revision	Certify and post online no later than 45 days after conducting the final routine facility inspection for the year	Ongoing, annually
DMR, 2015	• Analytical data collected in October 2015 will be reported no later than 30 days after the complete laboratory results for all monitored outfalls for the monitoring period have been received. • For monitored outfalls that did not have a discharge within the monitoring period, “no data” will be reported no later than 30 days after the end of the monitoring period (on or before November 30, 2015).	Submitted for monitoring periods in 2015

Deliverable to U.S. EPA	Deadline for Submission / Completion	Status /Anticipated Completion Date
DMRs, 2016 through the end of the permit term	• Analytical data will be reported no later than 30 days after the complete laboratory results for all monitored outfalls for the monitoring period have been received. • For monitored outfalls that did not have a discharge within the monitoring period, "no data" will be reported no later than 30 days after the end of the monitoring period.	Ongoing completion by monitoring period

9.7 Recordkeeping [MSGP Part 7.8]

The following records will be maintained at SNL/NM in the Environmental Compliance and Monitoring Department for a period of at least three years from the date that permit coverage expires or is terminated:

- Official SWPPP records (including any modifications made during the permit term)
- Additional documentation required by MSGP Part 5.5, including documentation related to corrective actions implemented pursuant to MSGP Part 4
- All reports and certifications required by the MSGP
- Monitoring data
- Records of all data used to complete the NOI to obtain permit coverage

The official SWPPP, appendices, and modifications will be maintained in a binder. Completed DMRs, Annual Reports, and inspection reports will be maintained in separate binders (or volumes) and stored with the SWPPP. Electronic copies of records are maintained in accordance with Corporate Procedure IM100.2.2, *Control Records*.

10. References

New Mexico Environmental Department Hazardous Waste Bureau. January 2015. Resource Conservation and Recovery Act Facility Operating Permit, EPA ID No. NM5890110518 issued to the Department of Energy for Sandia National Laboratories. https://www.env.nm.gov/hazardous-waste/sandia-national-laboratories/#SNLPermit

New Mexico Environmental Department Surface Water Quality Bureau. August 2012. *Aluminum Filtration Study*. https://www.env.nm.gov/swqb/documents/swqbdocs/Standards/AluminumFiltration/AluminumFiltrationStudy08-24-2012.pdf.

U.S. Department of Energy/NTESS. April 2017. *Stormwater Pollution Prevention Plan, Dynamic Explosive Test Site Thunder Range–9965*, Department of Energy (NMR1000F1), NTESS (NMR1000FD). Sandia National Laboratories, Albuquerque, NM.

U.S. EPA. September 23, 2016. *2016-2018 State of New Mexico Clean Water Act §303(d)/§305(b) Integrated Report*, Appendix A. https://www.env.nm.gov/swqb/303d-305b/2016-2018/index.html

U.S. EPA. March 2009. *Industrial Stormwater Monitoring and Sampling Guide*. http:// http://www.epa.gov/npdes/pubs/msgp_monitoring_guide.pdf.

11. SWPPP Preparation [MSGP Part 5.1]

This SWPPP was developed by a "qualified person"—a person who is knowledgeable in the principles and practices of industrial stormwater controls and pollution prevention, who possesses the education and ability to assess conditions at the industrial facility that could impact stormwater quality, and who possesses the education and ability to assess the effectiveness of stormwater controls selected and installed to meet the requirements of the MSGP.

Documentation of preparer qualifications is contained in Appendix K of this SWPPP.

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

Name: Kathie J. Deal **Title**: Stormwater Program Lead, National Technology & Engineering Solutions of Sandia, LLC

Certifications: Certified Professional in Erosion and Sediment Control (CPESC) #8036
Certified Inspector of Sediment and Erosion Control (CISEC) #1477

Signature: _____ **Date**: 8/20/2017

12. Certifications [MSGP Appendix B.11 and Part 5.2.7]

NOIs, NOTs, SWPPPs, DMRs, Annual Reports, and all other compliance documentation requiring certification will be signed in accordance with the provisions of Appendix B.11 of the MSGP.

12.1 Delegation of Authority and/or Duly Authorized Representatives

As individuals or positions are authorized as signatory designees for DOE and NTESS, their names or positions will be identified in a letter(s) of authorization. A copy of the letter(s) will be maintained in Appendix M of the SWPPP, as they become available and are updated.

12.2 NTESS Certifying Signature for the SWPPP Dated August, 2017

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

Name: Terry W. Cooper **Title**: Senior Manager, Environmental Stewardship

Signature: _____ **Date**: 8/30/17

12.3 Department of Energy Certifying Signature for the SWPPP Dated August, 2017

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

Name: James W. Todd **Title**: Assistant Manager for Engineering, Sandia Field Office

Signature: _____ **Date**: 12 OCT 2017