2019

DOE Annual Report 2019

Sandia National Laboratories/NM

Annual Report Format

National Pollutant Discharge Elimination System Stormwater Program

MS4 Annual Report Format

Check box if you are submitting an individual Annual Report with one or more cooperative program elements. ☐

Check box if you are submitting an individual Annual Report with individual program elements only. ☒

Check box if this is a new name, address, etc. ☐

1. MS4(s) Information

Department of Energy/Sandia National Laboratories (DOE/SNL)
Name of MS4

Victoria | Branson | Water Quality Program Manager
Name of Contact Person (First) (Last) (Title)

(505) 845-6885 | victoria.branson@nnsa.doe.gov
Telephone (including area code) E-mail

U. S. Department of Energy, National Nuclear Security Administration, Sandia Field Office, P.O. Box 5400
Mailing Address

Albuquerque | NM | 87185-5400
City State ZIP code

What size population does your MS4(s) serve? 10,938 NPDES number

What is the reporting period for this report? (mm/dd/yyyy) From Jul 1, 2018 to Jun 30, 2019

2. Water Quality Priorities

A. Does your MS4(s) discharge to waters listed as impaired on a state 303(d) list? ☒ Yes ☐ No

B. If yes, identify each impaired water, the impairment, whether a TMDL has been approved by EPA for each, and whether the TMDL assigns a wasteload allocation to your MS4(s). Use a new line for each impairment, and attach additional pages as necessary.

Impaired Water	Impairment	Approved TMDL		TMDL assigns WLA to MS4	
Rio Grande (NM-2105_50)	E. coli (see Addendum 2.B)	☒ Yes	☐ No	☒ Yes	☐ No
Rio Grande (NM-2105_50)	PCB (fish tissue)	☐ Yes	☒ No	☐ Yes	☒ No
Rio Grande (NM-2105_50)	DO	☐ Yes	☒ No	☐ Yes	☒ No
Rio Grande (NM-2105.1_00)	PCB (fish tissue)	☐ Yes	☒ No	☐ Yes	☒ No

2. B. Continued

Impaired Water	Impairment	Approved TMDL		TMDL assigns WLA to MS4	
Rio Grande (NM-2105.1_00)	PCB (water column)	☐ Yes	☒ No	☐ Yes	☒ No
Rio Grande (NM-2105.1_00)	Gross Alpha	☐ Yes	☒ No	☐ Yes	☒ No
Rio Grande (NM-2105.1_00)	E. coli (no impairment; 2016)	☒ Yes	☐ No	☒ Yes	☐ No
		☐ Yes	☐ No	☐ Yes	☐ No

C. What specific sources contributing to the impairment(s) are you targeting in your stormwater program?

Potential sources/causes of E. coli, PCB, and gross alpha are discussed in Addendum 2.C.

D. Do you discharge to any high-quality waters (e.g., Tier 2, Tier 3, outstanding natural resource waters, or other state or federal designation)? ☒ Yes ☐ No

E. Are you implementing additional specific provisions to ensure their continued integrity? ☐ Yes ☒ No

3. Public Education and Public Participation

A. Is your public education program targeting specific pollutants and sources of those pollutants? ☒ Yes ☐ No

B. If yes, what are the specific sources and/or pollutants addressed by your public education program?

Sediment, fertilizer, pesticides/herbicides, pet waste (E. coli), road salt, oil/petroleum, chemical/material storage. See SWMPP Section 11 for details.

C. Note specific successful outcome(s) (e.g., quantified reduction in fertilizer use; NOT tasks, events, publications) fully or partially attributable to your public education program during this reporting period.

See Addendum Section 3.C.

D. Do you have an advisory committee or other body comprised of the public and other stakeholders that provides regular input on your stormwater program? ☒ Yes ☐ No

4. Construction

A. Do you have an ordinance or other regulatory mechanism stipulating:

Erosion and sediment control requirements? ☒ Yes ☐ No

Other construction waste control requirements? ☒ Yes ☐ No

Requirement to submit construction plans for review? ☒ Yes ☐ No

MS4 enforcement authority? ☒ Yes ☐ No

B. Do you have written procedures for:

Reviewing construction plans? ☒ Yes ☐ No

Performing inspections? ☒ Yes ☐ No

Responding to violations? ☒ Yes ☐ No

C. Identify the number of active construction sites ≥ 1 acre in operation in your jurisdiction at any time during the reporting period. 11

D. How many of the sites identified in 4.C did you inspect during this reporting period? 11

E. Describe, on average, the frequency with which your program conducts construction site inspections.

Every construction site is inspected at least once per month; more frequent inspections (every 7 or 14 days) occur if the site is unstabilized or following a storm event of >/= 0.25 inches. See SWMPP Section 5.6 for additional details.

F. Do you prioritize certain construction sites for more frequent inspections? ☒ Yes ☐ No

If Yes, based on what criteria? construction phase, receiving water, storm events, season, compliance history

G. Identify which of the following types of enforcement actions you used during the reporting period for construction activities, indicate the number of actions, or note those for which you do not have authority:

☐ Yes	Notice of violation		No Authority	☒
☐ Yes	Administrative fines		No Authority	☒
☒ Yes	Stop Work Orders	0	No Authority	☐
☐ Yes	Civil penalties		No Authority	☒
☐ Yes	Criminal actions		No Authority	☒
☐ Yes	Administrative orders		No Authority	☒
☒ Yes	Other	see Addendum 4.G		

H. Do you use an electronic tool (e.g., GIS, data base, spreadsheet) to track the locations, inspection results, and enforcement actions of active construction sites in your jurisdiction? ☒ Yes ☐ No

I. What are the 3 most common types of violations documented during this reporting period?

Improperly installed sediment controls, insufficient concrete wash-out facilities, and insufficient signage (see addendum 4.I).

J. How often do municipal employees receive training on the construction program? Annually

5. Illicit Discharge Elimination

A. Have you completed a map of all outfalls and receiving waters of your storm sewer system? ☒ Yes ☐ No

B. Have you completed a map of all storm drain pipes and other conveyances in the storm sewer system? ☒ Yes ☐ No

C. Identify the number of outfalls in your storm sewer system. 4 (see Addendum 5.C)

D. Do you have documented procedures, including frequency, for screening outfalls? ☒ Yes ☐ No

E. Of the outfalls identified in 5.C, how many were screened for dry weather discharges during this reporting period?

4

F. Of the outfalls identified in 5.C, how many have been screened for dry weather discharges at any time since you obtained MS4 permit coverage? 4

G. What is your frequency for screening outfalls for illicit discharges? Describe any variation based on size/type.

Outfall screening is conducted at least twice per week per outfall. Auto-samplers are operational year-round to collect potential non-stormwater samples. See addendum 5.G.

H. Do you have an ordinance or other regulatory mechanism that effectively prohibits illicit discharges? ☒ Yes ☐ No

I. Do you have an ordinance or other regulatory mechanism that provides authority for you to take enforcement action and/or recover costs for addressing illicit discharges? ☒ Yes ☐ No

J. During this reporting period, how many illicit discharges/illegal connections have you discovered? 1

K. Of those illicit discharges/illegal connections that have been discovered or reported, how many have been eliminated? 1

L. How often do municipal employees receive training on the illicit discharge program? Annually

6. Stormwater Management for Municipal Operations

A. Have stormwater pollution prevention plans (or an equivalent plan) been developed for:

All public parks, ball fields, other recreational facilities and other open spaces	☒ Yes	☐ No
All municipal construction activities, including those disturbing less than 1 acre	☒ Yes	☐ No
All municipal turf grass/landscape management activities	☒ Yes	☐ No
All municipal vehicle fueling, operation and maintenance activities	☒ Yes	☐ No
All municipal maintenance yards	☒ Yes	☐ No
All municipal waste handling and disposal areas	☒ Yes	☐ No

Other: None

B. Are stormwater inspections conducted at these facilities? ☒ Yes ☐ No

C. If Yes, at what frequency are inspections conducted? see Addendum 6.C

D. List activities for which operating procedures or management practices specific to stormwater management have been developed (e.g., road repairs, catch basin cleaning).

See Annual Report Addendum 6.D and SWMPP Section 7 (available at https://digitalrepository.unm.edu/snl_ms4/)

E. Do you prioritize certain municipal activities and/or facilities for more frequent inspection? ☒ Yes ☐ No

F. If Yes, which activities and/or facilities receive most frequent inspections?

Activity areas permitted under the CGP and MSGP receive more frequent inspections than other MS4 facilities.

G. Do all municipal employees and contractors overseeing planning and implementation of stormwater-related activities receive comprehensive training on stormwater management? ☒ Yes ☐ No

H. If yes, do you also provide regular updates and refreshers? ☒ Yes ☐ No

I. If so, how frequently and/or under what circumstances?

SW100 and SW200 trainings (attendance based on job duties) are available on-line and required to be completed annually.

7. Long-term (Post-Construction) Stormwater Measures

A. Do you have an ordinance or other regulatory mechanism to require:

Site plan reviews for stormwater/water quality of all new and re-development projects?	☒ Yes	☐ No
Long-term operation and maintenance of stormwater management controls?	☒ Yes	☐ No
Retrofitting to incorporate long-term stormwater management controls?	☒ Yes	☐ No

B. If you have retrofit requirements, what are the circumstances/criteria?

Any new/redevelopment project with a footprint greater than 5,000 square feet must adhere to EISA Section 438 requirements and incorporate LEED design. See addendum 7.B.

C What are your criteria for determining which new/re-development stormwater plans you will review (e.g., all projects, projects disturbing greater than one acre, etc.)?

All plans for new/re-development projects disturbing one acre or more are reviewed as part of CGP SWPPP preparation. See SWMPP Sections 5 and 6.

D. Do you require water quality or quantity design standards or performance standards, either directly or by reference to a state or other standard, be met for new development and re-development? ☒ Yes ☐ No

E. Do these performance or design standards require that pre-development hydrology be met for:

Flow volumes	☒ Yes	☐ No
Peak discharge rates	☐ Yes	☒ No
Discharge frequency	☐ Yes	☒ No
Flow duration	☐ Yes	☒ No

F. Please provide the URL/reference where all post-construction stormwater management standards can be found.

epa.gov/polluted-runoff-nonpoint-source-pollution/stormwater-management-federal-facilities-under-section-438

G. How many development and redevelopment project plans were reviewed during the reporting period to assess impacts to water quality and receiving stream protection? 4

H. How many of the plans identified in 7.G were approved? 4

I. How many privately owned permanent stormwater management practices/facilities were inspected during the reporting period? 0

J. How many of the practices/facilities identified in I were found to have inadequate maintenance? 0

K. How long do you give operators to remedy any operation and maintenance deficiencies identified during inspections? see Addendum 7.K

L. Do you have authority to take enforcement action for failure to properly operate and maintain stormwater practices/facilities? ☒ Yes ☐ No

M. How many formal enforcement actions (i.e., more than a verbal or written warning) were taken for failure to adequately operate and/or maintain stormwater management practices? 0

N. Do you use an electronic tool (e.g., GIS, database, spreadsheet) to track post-construction BMPs, inspections and maintenance? ☒ Yes ☐ No

O. Do all municipal departments and/or staff (as relevant) have access to this tracking system? ☒ Yes ☐ No

P. How often do municipal employees receive training on the post-construction program? Annually

8. Program Resources

A. What was the annual expenditure to implement MS4 permit requirements this reporting period? see Addendum 8

B. What is next year's budget for implementing the requirements of your MS4 NPDES permit? see Addendum 8

C. This year what is/are your source(s) of funding for the stormwater program, and annual revenue (amount or percentage) derived from each?

Source:	see Addendum 8	Amount $		OR %	
Source:		Amount $		OR %	
Source:		Amount $		OR %	

D. How many FTEs does your municipality devote to the stormwater program (specifically for implementing the stormwater program; not municipal employees with other primary responsibilities)? 5.0

E. Do you share program implementation responsibilities with any other entities? ☐ Yes ☒ No

Entity	Activity/Task/Responsibility	Your Oversight/Accountability Mechanism

9. Evaluating/Measuring Progress

A. What indicators do you use to evaluate the overall effectiveness of your stormwater management program, how long have you been tracking them, and at what frequency? These are not measurable goals for individual management practices or tasks, but large-scale or long-term metrics for the overall program, such as macroinvertebrate community indices, measures of effective impervious cover in the watershed, indicators of in-stream hydrologic stability, etc.

Indicator	Began Tracking (year)	Frequency	Number of Locations
Example: E. coli	2003	Weekly April–September	20
Non-stormwater discharges	2016	=/>Twice weekly, year-round	5
E. coli concentrations	2016	8 times/permit period	5
PCB concentrations	2016	8 times/permit period	5
TSS concentrations	2016	8 times/permit period	5

B. What environmental quality trends have you documented over the duration of your stormwater program? Reports or summaries can be attached electronically, or provide the URL to where they may be found on the Web.

SWMPP control measures and water quality monitoring have not been implemented long enough to observe any meaningful trends.

10. Additional Information

Please attach any additional information on the performance of your MS4 program, including information required in Parts I.C, I.D, and III.B. If providing clarification to any of the questions above, please provide the question number (e.g., 2C) in your response.

Certification Statement and Signature

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 submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. ☒ Yes ☐ No

Federal regulations require this application to be signed as follows: **For a municipal, State, Federal, or other public facility**: by either a principal executive or ranking elected official.

Signature 

William V. Wechsler, Asst. Mgr. for Engineering

Name of Certifying Official, Title

9/30/14

Date (mm/dd/yyyy)

Addendum
2019 MS4 Annual Report

Note: This addendum has been included to provide additional information and to clarify responses to some of the questions on the Annual Report.

Section 1- MS4 Information

NPDES number: This box will not allow for alphabetic text to be entered; only numerical. DOE's NOI tracking number is NMR04A011. NTESS's tracking number is NMR04A012.

Section 2- Water Quality Priorities

2.A: The SNL MS4 does not discharge directly to an impaired water; it discharges to a tributary (Tijeras Arroyo), and to adjacent MS4s that discharge to the Rio Grande (which is impaired). Approximately 90% of the SNL MS4 discharges to the Tijeras Arroyo, which discharges into the Isleta Pueblo to Tijeras Arroyo reach of the Rio Grande (Assessment Unit NM-2105_50). The other 10% of the SNL MS4 discharges to the Kirtland Air Force Base MS4, which discharges into the Alameda Bridge to HWY 550 reach of the Rio Grande (Assessment Unit NM-2105.1_00).

2.B: Both the Isleta Pueblo to Tijeras Arroyo reach of the Rio Grande (Assessment Unit NM-2105_50) and the Alameda Bridge to HWY 550 reach of the Rio Grande (Assessment Unit NM-2105.1_00) have approved TMDLs for *E. coli*. *E. Coli* is the only approved TMDL in both reaches. *E. coli* is listed as an impairment for the Isleta Pueblo to Tijeras Arroyo reach, but was removed as an impairment from the Alameda Bridge to HWY 550 reach in 2016 (although the TMDL remains).

The TMDLs do not assign a waste load allocation (WLA) to SNL specifically, but they do assign WLAs for all the MS4s in the Albuquerque Urbanized Area. Section 2.4 of the SWMPP describes the portion of the WLA attributable to the SNL MS4 calculated according to the Percent Jurisdiction Approach, in accordance with the guidance and requirements provided in Appendix B of the MS4 Permit.

For the July 1, 2018 to June 30, 2019 reporting period, there were ten *E. coli* samples collected for stormwater discharges subject to a TMDL; three from discharges to the Isleta to Tijeras Arroyo reach, and seven from discharges to the Alameda Bridge to HWY 550 reach. Seven of these ten sample contained concentrations of *E. coli* above the water quality standard, and therefore, the waste loads determined exceeded TMDLs. There are no known or suspected anthropogenic sources of *E. coli* (i.e., uncontained septic or sewage treatment; pet waste) within the boundaries of the SNL MS4. During the 2019-2020 monitoring season (July 1, 2019-June 30, 2020) a DNA source tracking study will be conducted to determine the species of animal(s) (human, canine, avian, other) contributing E. coli to stormwater at SNL/NM. Table 2.B lists the *E. coli* waste loads calculated for the SNL MS4 since permit coverage was obtained.

2.C: As with previous stormwater samples reported on DMRs, there are two constituents that are routinely above water quality standards:

1) PCBs
2) E. coli

There are no known sources/causes of these constituents at SNL/NM. The following paragraphs describe suspected sources and what is being done to confirm and mitigate the sources, and/or to reduce their impact to stormwater.

PCBs: PCBs are ubiquitous in the environment due to historical uses within and outside of Sandia controlled premises. The presence of PCBs in stormwater does not necessarily indicate the presence of an identifiable source at SNL; the very low concentrations detected could be explained by direct atmospheric deposition and/or by diffuse contributions of sediment containing PCBs from historic uses or atmospheric deposition. The concentrations found in samples at Sandia are within the range of concentrations found at other locations throughout Albuquerque, New Mexico, and globally. Two atmospheric deposition samplers have been installed to determine rates of PCB deposition through precipitation and blowing dust. SNL/NL id also conducting focused sampling on specific internal stormdrains to better identify potential source areas. Results of these investigations will help guide further control measures.

E. Coli: E. coli concentrations are higher than expected given the nature of activities conducted at Sandia, but a feasible human source has not been identified and is very unlikely to be impacting the Sandia stormwater drainage system. Likely potential sources of E. coli include birds, rodents, and raccoons that live and travel within the storm drainage system. E. coli can grow within moist sediments and organic matter, which exist within the stormdrain system. The concentrations found in samples at Sandia are within the range of concentrations found at other locations throughout Albuquerque. During 2019 SNL/NM established a contract with a local environmental firm to conduct a Microbial Source Tracking (MST) investigation. MST uses DNA to identify the species of animal associated with E. coli found in water. The MST investigation will help determine if the E. coli is originating from human, canine, avian, or other sources. Results of these investigations will help guide further control measures.

DO: Low Do occurs sporadically in stormwater samples at SNL/NM. There are no structural features (such as sumps or stagnant detention basins) that explain the low DO values. Low DO may be caused by fertilizer or other landscaping chemicals, but this has not been confirmed as nutrient levels in stormwater are low. High sediment load can also be a cause of low DO. Healthy DO levels in stormwater are being promoted by our pollution prevention program, the Gardener's Manual, and through control structures/measures to minimize sediment in stormwater.

Several of the DO measurements on the July 1, 2018-October 31, 208 Wet Season DMRs are erroneously high. Although the DO meter passed a calibration check before use, the actual readings were skewed high by a malfunctioning sensor membrane. The membrane has been replaced and will be monitored more closely in the future.

Gross Alpha: Gross alpha occasionally exceeds water quality standards in stormwater at SNL/NM. Gross alpha is well documented to exist within rocks and sediments associated with the Sandia Mountains and local geology. SNL/NM conducts background conditions monitoring as part of our Environmental Surveillance Program. During 2019 additional focus on gross alpha was implemented, including an investigation of historic monitoring data to determine background concentrations of gross alpha in stormwater. Results of these investigations will help guide further control measures. Currently, gross alpha is being controlled through control structures/measures to minimize sediment in stormwater.

2.D: In New Mexico, all waters are evaluated on a constituent by constituent basis. Any constituents not listed in the 303d list as an impairment are considered Tier 2 constituents. A given water can have both Tier 1 and Tier 2 constituents at the same time. Both reaches of the Rio Grande that receive stormwater discharges from SNL have Tier 2 constituents.

2.E: There are no additional requirements in the MS4 Permit for discharges to a water with Tier 2 constituents (relative to Tier 1). All of the provisions implemented under the SWMPP are designed to protect receiving waters, regardless of Tier. Stormwater discharges from SNL/NM do not significantly contribute to impairment of Tier 2 constituents in receiving waters.

Section 3- Public Education and Public Participation

3.C: Requirements of the MS4 have been incorporated into corporate procedures and training materials, increasing the number of employees educated on MS4 stormwater quality issues and procedures. Key benefits include:

- increased awareness of minimizing pesticide, fertilizer, road salt among MS4 personnel and contractors responsible for their use and storage,
- increased awareness and implementation of proper stormwater controls at small construction sites < 1 acre, with emphasis on controlling the discharge of uncontaminated natural sediments,
- Increased awareness that stormwater discharges from SNL may flow to natural waterways, including the Rio Grande.

Approximately 270 Members of the Workforce and DOE/NNSA/SFO personnel completed Stormwater Pollution Prevention Training (SW100) during the reporting period.

3.D: The SNL MS4 does not have a formal advisory committee; however, the NTESS Stormwater Program is part of the larger Water Quality Group that meets periodically to discuss wastewater, drinking water, surface discharges, illicit discharges, unintentional releases to ground surface, and general pollution prevention issues at Sandia National Labs. DOE and NTESS are in regular attendance at periodic meetings of the Technical Advisory Group which includes permittees from the Albuquerque MS4 Permit. DOE and NTESS also participate in the DOE/DoD Semi-Annual Public Meetings where public stakeholders can openly provide comment, ask questions and/or express concerns.

Section 4- Construction

4.C: Eleven construction projects within the SNL MS4 had active permit coverage under the CGP during the reporting period. A SWPPP for each of these projects was developed by the Stormwater Program. Information pertinent to the MS4 Permit for these construction projects is included in Appendix G-1 of the SWMPP. These sites are:

- Building 725
- Battery Test Facility
- Building 956 Track
- Building 970 Drainage
- TA-IV Escarpment
- Building 972
- 20th Street Parking Lot
- Contractor Laydown Yard
- TA-IV Temporary Structure
- Natural Gas Pipeline Replacement
- Building 706

4.G: The following language from Section 1.6 of the SWMPP is provided for clarity as to the possible types of enforcement actions available to DOE and NTESS:

- DOE can enforce compliance with the requirements of the MS4 Permit on NTESS through contract DE-NA-0003525, by application of the following clauses: Clause I-19, DEAR 970.5204-2 Laws, Regulations, and DOE Directives (DEC 2000)(Class Deviation); Clause I-21 DEAR 970.5215-3 Conditional Payment of Fee, Profits, and Other Incentives-Facility Management Contracts (AUG 2009) Alternate II (August 2009) (NNSA Class Deviation Oct 2011) (NNSA Class Deviation May 2016); and Section I.B, incorporating by reference DEAR clause 970.5223-1, Integration of Environment, Safety, and Health Into Work Planning and Execution (DEC 2000). These clauses require NTESS to comply with all applicable Federal, State, and local laws and regulations, including DOE regulations; impose requirements on subcontractors at any tier to the extent necessary to ensure NTESS's compliance with the requirements of the MS4 Permit; and cooperate with Federal and non-Federal agencies having jurisdiction over environment, safety, and health matters under the contract.

- The Corporate Policy System affords NTESS the ability to "enforce" compliance with stormwater requirements, which may include disciplinary action up to and including termination of employment. DOE/NNSA/SFO may issue a written stop work order for an activity that is imminently dangerous to the life or health of the workforce, public, or the environment. NTESS can identify an imminent danger activity to instruct a worker stoppage and contact DOE/NNSA/SFO immediately for a written stop work order.

When corrective conditions are observed during site inspections, a corrective action request is submitted to the construction manager. After the corrective action has been implemented by

the construction subcontractor and documented by Stormwater Program personnel, the inspection and corrective action forms are certified by all permit operators (those holding CGP NOIs). To date, a Notice of Violation has not been issued from a regulatory agency for non-compliance with the CGP, MSGP, nor MS4.

4.I: To date, a Notice of Violation has not been issued from a regulatory agency for non-compliance with the CGP, MSGP, nor MS4. Several corrective conditions were identified by NTESS personnel (CGP Permit Lead) during inspections and prompt actions were taken to address the issues. The issues included insufficient signage, insufficient concrete washout facilities, and improperly installed silt fences.

4.J: Stormwater Pollution Prevention Training (SW100) reviews the concepts of stormwater pollution prevention; summarizes the CGP and MS4 regulatory requirements at SNL/NM; and provides guidance on spill prevention/response and best management practices. Members of the Workforce and DOE/NNSA/SFO personnel whose job duties include any of the following responsibilities are required to take SW100 annually:

- Design, install, maintain, or repair stormwater controls, conduct inspections, or implement corrective actions at construction sites.
- Plan, review, permit or approve construction site plans, inspections and corrective actions.
- Hold a role as a construction site operator, contractor or provide support.
- Operate or maintain SNL/NM grounds or landscaping, fleet, buildings (outside), roads, stormwater inlets or drainage system, or work on projects with any ground disturbance.
- Design projects that control the effects to water quality from stormwater runoff.
- Plan or review projects with regard to stormwater quality standards and pollution prevention controls.

Stormwater Discharges from Industrial Sites Training (SW200) exists for activities/sites related to stormwater runoff from industrial sites/activities regulated by the MSGP. SW200 is required for Members of the Workforce and DOE/NNSA/SFO personnel who work in one or more of the industrial MSGP-permitted areas, or whose job duties include the responsibility for implementing stormwater pollution prevention controls/activities in those areas.

Environmental Safety and Health (ES&H) Coordinator training (ESH350) contains a stormwater pollution prevention and regulatory compliance section. This training is required of all ES&H Coordinators, who act as direct advisors to line organizations in ES&H matters.

Section 5- Illicit Discharge Elimination

5.C: There are four outfalls from the MS4, which are coincident with the following monitoring locations:

- SWSP-05
- SWSP-24
- SWSP-35

- SWSP-36

A description of MS4 outfalls is provided in SWMPP Section 12.2. Maps of MS4 outfall locations and their drainage areas are provided in Appendix B of the SWMPP.

5.G: Outfall screening is conducted at least twice per week per outfall. Auto-samplers are operational year-round to collect potential non-stormwater samples, which would allow for water quality assessments to help identify the source. Informal scans are conducted as frequently as daily by field personnel and other environmental staff trained to monitor for leaks, spills, and other discharges. Illicit discharges that are discovered are sampled (as appropriate), tracked to a source, and corrected through administrative or engineered control measures. A spreadsheet is being maintained for the duration of the Permit term to document non-stormwater and illicit discharges.

5.J: One illicit discharge was detected during the reporting period. The source and volume of the release is listed in Table 5.J below.

Table 5.J: List of illicit discharges that occurred during the reporting period

Date of Illicit Discharge	Source and Reason of Discharge	Estimated Volume of Discharge
6/26/2019	Building 899A evaporative cooler unit overflow	50 gallons

The cause of the overflow was a drain screen that had become plugged with leaves and debris. The screen was cleaned and regular inspection/cleaning was added to the facility maintenance schedule.

5.L: See Addendum 4.J.

Section 6- Stormwater Management for Municipal Operations

6.A: Many activities listed are not applicable to SNL operations, but policies and/or procedures are maintained to prevent municipal activities from impacting stormwater quality for each of the activities listed (see table 6A).

Table 6.A: List of municipal activities and plans used to ensure prevention of stormwater pollution.

Activity Category	Policy, Procedure, or Plan
Public parks, open spaces, other outdoor recreation areas	Gardener's Maintenance Manual Integrated Pest Management Plan
Construction activities	CGP SWPPs NEPA Corporate Procedure:

	• MN471022, ES&H Manual; *Surface and Stormwater Discharges*
Turf grass/ landscape activities	Gardener's Maintenance Manual Integrated Pest Management Plan
Vehicle fueling, operation, and maintenance	MSGP SWPPP Corporate Procedures: • ES&H Manual NM471022; *Surface and Stormwater Discharges* • ES&H Manual NM471022; *Oil and Fuel Storage*
Maintenance yards	Corporate Procedures: • ES&H Manual NM471022; *Surface and Stormwater Discharges* • ES&H Manual NM471022; *Oil and Fuel Storage*
Waste handling and disposal facilities	MSGP SWPP Corporate Procedures: • FOP 12-14: Recycling Operations • ES&H Manual NM471022; *Surface and Stormwater Discharges* • ES&H Manual GN470110; *Managing Waste*

6.C: Construction stormwater inspections are performed as per the 2017 CGP. Specific details and metrics are provided in Section 5.6 of the SWMPP.

- During the wet season (July 1 through October 31):
  - Active or unstabilized construction areas at SNL/NM that eventually discharge to the Rio Grande via adjacent MS4s are inspected every 7 days and within 24 hours of a storm event of 0.25 inches or greater.
  - Active or unstabilized construction areas at SNL/NM that discharge to Tijeras Arroyo are inspected every 14 days and within 24 hours of a storm event of 0.25 inches or greater.
- During the dry season (November 1 through June 30):
  - Active or unstabilized construction areas at SNL/NM are inspected once per month and within 24 hours of a storm event of 0.25 inches or greater.
- Construction areas where stabilization has been completed (and permit termination has not yet been filed) are inspected monthly.

Industrial stormwater inspections are performed per the 2015 MSGP at each permitted site once every quarter of the calendar year. One quarterly inspection is conducted during a time when a stormwater discharge is occurring (or has the potential to occur). Inspections are conducted more frequently than quarterly if there are significant findings identified during routine inspections and where sector-specific requirements require more frequent inspections.

The inspections required by the MS4 Permit in addition to those required by the CGP and MSGP that also satisfy the requirements of the MS4 Permit, are discussed in Addendum 7.I.

6.D: The following is a list of operating procedures and management specific to stormwater that have been developed. For additional details see SWMPP Section 7.

- Sediment control plan
- Collection of used motor vehicle fluids and toxics (including paint, solvents, fertilizers, pesticides, herbicides
- Cleaning and disposal of trash and/or sediment form stormwater basins
- Street cleaning
- Fertilizer use
- Pesticide use
- Solid waste collection and management
- De-icing material storage

6.G: See Addendum 4.J.

6.H: Stormwater Pollution Prevention Training (SW100) and Stormwater Discharges from Industrial Sites Training (SW200) are reviewed annually and updated as necessary. The stormwater section of ES&H Coordinator training (ESH350) was developed during 2018, and will be updated annually as needed.

Section 7- Long Term (Post-Construction) Stormwater Measures

7.B: SNL is a Federal facility and currently complies with the Energy Independence and Security Act (EISA), Section 438 of the Clean Water Act (CWA). The purpose of Section 438 is to preserve or restore predevelopment hydrology for all development and redevelopment projects with a footprint that exceeds 5,000 gross square feet (GSF). Compliance with EISA Section 438 requires SNL to manage post-construction runoff by detaining stormwater on-site via: 1) detention of the runoff from a 95th percentile storm or 2) calculating the pre-development and post-development runoff, and detaining the volume difference.

New buildings, major renovations and alterations of buildings greater than 5,000 GSF at SNL must comply with the Guiding Principles for Federal Leadership in High Performance Sustainable Building. Where the work exceeds a footprint of 5,000 sq.-ft. and $5 million, buildings must achieve the U.S. Green Building Council's certification of Leadership in Energy and Environmental Design (LEED) Gold for New Construction. A design charrette occurs in the construction planning stages of each project and includes an evaluation of Green Infrastructure/Low Impact Development/Sustainable practices.

7.F: NTESS's Facilities and Emergency Management Center personnel developed and adhere to their *Design Standards Manual* for implementing stormwater runoff requirements of EISA Section 438 at new or redeveloped project with a footprint greater than 5,000 square feet by

following guidance provided in the EPA's "Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act", dated December 4, 2009. EISA Section 438 and associated guidance and fact sheets are publicly-accessible at: https://www.epa.gov/polluted-runoff-nonpoint-source-pollution/stormwater-management-federal-facilities-under-section-438.

7.G: There were eight development and redevelopment plans reviewed during the reporting period to assess impacts to water quality and receiving stream protection for the following sites:

- Building 956 Track
- Building 970 Drainage
- TA-IV Escarpment Building 972
- 20th Street Parking Lot
- Contractor Laydown Yard
- TA-IV Temporary Structure
- Natural Gas Pipeline Replacement
- Building 706

7.I: MS4 Part I.D.5b.(ii)(c) requires permittees to perform inspections of stormwater management structures during construction and post-construction to verify the structures are built and operating as designed. NTESS staff have developed a process for transferring oversight of control structures from the CGP permit lead to the MS4 permit lead when a CGP notice of termination (NOT) is filed. Since permit inception there have been several stormwater management structures completed. These structures are inspected annually.

7.K: In the event controls need to be replaced/repaired/maintained; and 1) the repair or replacement is not significant; and 2) it can be corrected through routine maintenance; the work is required to be initiated immediately[1] and completed by the close of the next business day. In the event controls need to be replaced/repaired/maintained; and 1) the repair or replacement is significant; or 2) it cannot be corrected through routine maintenance; actions are required to be immediately initiated to minimize or prevent the discharge of pollutants, and temporary controls maintained until a permanent solution is installed and made operational. Controls are to be installed, repaired or made operational within 7 calendar days from the date of discovery of the corrective condition. This includes cleaning up any contaminated surfaces so that the material will not discharge in subsequent storm events. In the event that a required stormwater control was never installed, was installed incorrectly, or was not installed in accordance with permit requirements, the control is required to be installed, repaired and/or made operational within 7 calendar days from the date of discovery of the corrective condition.

[1] "Immediately" means corrective actions will be initiated on the same day as discovery to minimize or prevent the discharge of pollutants until a permanent solution is installed and made operational. However, if the problem is identified at a time in the work day when it is too late to initiate corrective action, corrective action is required to begin on the following work day.

7.L: Enforcement authority is limited in scope as discussed in Addendum 4.G.

7.O: All Stormwater Program personnel have access to the electronic tool (e.g., GIS, database, spreadsheet) used to track post-construction, BMPs, inspections and maintenance.

7.P: See Addendum 4.J.

Section 8- Program Resources

8.A, B and C: Per Part III.B.4 of the MS4 Permit, this question is only applicable to Class A permittees. DOE and NTESS are Class C permittees.

8.D: The 5.0 estimated FTEs required to implement the Stormwater Program include field staff, professional staff, and management. Approximately 4.75 FTEs are provided by NTESS and 0.25 FTE are provided by DOE.

8.E: DOE and NTESS share responsibility for the SNL MS4. DOE and NTESS together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. DOE and NTESS may share monitoring data with other MS4s when the sharing of such data is useful to DOE and NTESS, or to the other entity. The sharing of data shall not be construed as evidence of the existence of a cooperative program or a shared responsibility for meeting Permit requirements.

Section 9- Evaluating/Measuring Progress

9.A: This answer is limited to non-stormwater discharges for this reporting period. Additional tracking measures are expected when stormwater data is collected in future years.

Section 10- Additional Information

Information required in Parts I.C, I.D, and III.B is provided in the Updated SWMPP submitted in conjunction with this Annual Report.

Table 2.B-1
TMDL Waste Load Calculations
Isleta Pueblo to Tijeras Arroyo Reach (Assessment Unit NM-2105_50)

Date	11/22/2016	4/25/2017	8/1/2017	5/22/2018	7/31/2018	9/20/2018	10/24/2018
Rainfall at SNL/NM Tower A21 (inches)	0.43	0.36	0.61	0.33	1.21	0.48	0.79
Flow at USGS Guage (ave. daily cfs)[1]	881	4480	750	670	300	145	376
TMDL Flow Condition (chart look-up)[2]	Mid-Range	High	Mid-Range	Mid-Range	Low	Low	Dry
Waste Load Allocation for SWSP-05[2, 5]	3.17E+08	1.88E+09	3.17E+08	3.17E+08	2.71E+07	2.71E+07	1.17E+08
In-flow at SWSP-02 (gpd)[3]	601,585	184,600	533,304	265,350	2,191,217	348,529	883,653
Discahrge at SWSP-05 (gpd)[3]	4,231,033	1,183,962	2,733,813	1,991,564	2,700,974	2,700,974	5,860,343
E. coli Concentration at SWSP-02 (cfu/100 mL)[4]	2098	NA	3076	548	1607	12033	1046.2
E. coli Concentration at SWSP-05 (cfu/100 mL)[4]	3873	2613	20	727	813	292	2419.6
E. coli Waste Load at SWSP-02 (cfu/day)[5]	4.78E+10	NA	6.21E+10	5.51E+09	1.33E+11	1.59E+11	3.50E+10
E. coli Waste Load at SWSP-05 (cfu/day)[5]	6.21E+11	1.17E+11	2.07E+09	5.48E+10	8.32E+10	2.99E+10	5.37E+11
Correction for non-SNL sources (inflow to MS4)[6]							
Waste Load at SWSP-02 from non-SNL areas (cfu/day)	2.99E+10	NA	3.88E+10	3.44E+09	8.34E+10	9.93E+10	2.19E+10
SNL E. coli Waste Load at SWSP-05 (cfu/day)[7]	**5.91E+11**	**1.17E+11**	**0.00E+00**	**5.14E+10**	**0.00E+00**	**0.00E+00**	**5.15E+11**

[1] USGS Gauge 08330000 (Rio Grande at Albuquerque)

[2] See SWMPP Section 12 for chart, explanation and detail

[3] Data from SNL flow gauges, see SWMPP Section 12 for details

[4] From SNL wet weather monitoring results

[5] Calculated according to methods in SWMPP Section 12.

[6] Assumes that 35% of the SWSP-02 drainage area lies within the SNL MS4 jurisdiction

[7] Total *E. coli* WL discharged to the Isleta Pueblo to Tijeras Arroyo reach

Table 2.B-2
TMDL Waste Load Calculations
Alameda to HWY 550 Reach (Assessment Unit NM-2105.1_00)

Date	11/22/2016	1/16/2017	4/25/2017	8/1/2017	8/30/2017	9/28/2017	2/15/2018
Rain at SNL/NM Tower A21 (inches)	0.43	0.27	0.36	0.61	0.32	0.83	0.64
Flow at USGS Guage (ave. daily cfs)[1]	881	934	4480	750	439	1190	614
TMDL Flow Condition (chart look-up)[2]	Mid-Range	Moist	High	Mid-Range	Dry	Moist	Dry
Waste Load Allocation for SWSP-24[2, 6]	4.15E+07	7.53E+07	2.60E+08	4.15E+07	2.70E+07	7.53E+07	2.70E+07
Waste Load Allocation for SWSP-35[2, 6]	1.04E+07	1.88E+07	6.50E+07	1.04E+07	6.74E+06	1.88E+07	6.74E+06
Waste Load Allocation for SWSP-36[2, 6]	5.19E+06	9.41E+06	3.25E+07	5.19E+06	3.37E+06	9.41E+06	3.37E+06
Discharge at SWSP-05 (gpd)[3]	4.23E+06	3.31E+06	1.18E+06	2.73E+06	2.64E+06	5.60E+06	3.02E+06
Discahrge at SWSP-24 (gpd)[4]	3.22E+05	2.53E+05	9.02E+04	2.08E+05	2.01E+05	4.27E+05	2.30E+05
Discharge at SWSP-35 (gpd)[4]	8.06E+04	6.31E+04	2.26E+04	5.21E+04	5.02E+04	1.07E+05	5.75E+04
Discahrge at SWSP-36 (gpd)[4]	40,296	31,567	11,276	26,036	25,111	53,365	28,757
E. coli Concentration at SWSP-24 (cfu/100 mL)[5]	--	--	--	1,274	3,654	4,611	109
E. coli Concentration at SWSP-35 (cfu/100 mL)[5]	--	--	--	--	--	--	--
E. coli Concentration at SWSP-36 (cfu/100 mL)[5]	517.2	1553.1	331	365.4	602	145	--
E. coli Waste Load at SWSP-24 (cfu/day)[6]	--	--	--	1.01E+10	2.78E+10	7.46E+10	9.50E+08
E. coli Waste Load at SWSP-35 (cfu/day)[6]	--	--	--	--	--	--	--
E. coli Waste Load at SWSP-36 (cfu/day)[6]	7.89E+08	1.86E+09	1.41E+08	3.60E+08	5.73E+08	2.93E+08	--
Total Waste Load[7]	**7.89E+08**	**1.86E+09**	**1.41E+08**	**1.04E+10**	**2.84E+10**	**7.49E+10**	**9.50E+08**

[1] USGS Gauge 08330000 (Rio Grande at Albuquerque)

[2] See SWMPP Section 12 for chart, explanation and detail

[3] Data from flow gauge at SWSP-05, see SWMPP Section 12 for details

[4] Estimated from flow data at SWSP-05 based on drainage area for each outfall

[5] From SNL wet weather monitoring results

[6] Calculated according to methods in SWMPP Section 12.

[7] Total *E. coli* WL from all outfalls that discharge to the Alameda to HWY 550 Bridge reach

Table 2.B-2
TMDL Waste Load Calculations
Alameda to HWY 550 Reach (Assessment Unit NM-2105.1_00)

Date	5/22/2018	7/31/2018	9/20/2018	10/24/2018	10/31/2018	4/18/2019	4/23/2019
Rain at SNL/NM Tower A21 (inches)	0.33	1.21	0.48	0.79	0.28	0.52	0.6
Flow at USGS Guage (ave. daily cfs)[1]	670	300	145	376	140	1380	1340
TMDL Flow Condition (chart look-up)[2]	Mid-Range	Low	Low	Dry	Low	Moist	Moist
Waste Load Allocation for SWSP-24[2, 6]	4.15E+07	1.39E+07	1.39E+07	2.70E+07	1.39E+07	7.53E+07	7.53E+07
Waste Load Allocation for SWSP-35[2, 6]	1.04E+07	3.48E+06	3.48E+06	6.74E+06	3.48E+06	1.88E+07	1.88E+07
Waste Load Allocation for SWSP-36[2, 6]	5.19E+06	1.74E+06	1.74E+06	3.37E+06	1.74E+06	9.41E+06	9.41E+06
Discharge at SWSP-05 (gpd)[3]	1.99E+06	2,700,974	2,700,974	5,860,343	949,998	2,710,246	3,446,464
Discahrge at SWSP-24 (gpd)[4]	1.52E+05	205,788	205,788	446,502	72,381	206,495	262,588
Discharge at SWSP-35 (gpd)[4]	3.79E+04	51,447	51,447	111,626	18,095	51,624	65,647
Discahrge at SWSP-36 (gpd)[4]	18,967	25,724	25,724	55,813	9,048	25,812	32,823
E. coli Concentration at SWSP-24 (cfu/100 mL)[5]	1,354	--	24,196	--	--	--	--
E. coli Concentration at SWSP-35 (cfu/100 mL)[5]	--	--	110	4	4	20	816
E. coli Concentration at SWSP-36 (cfu/100 mL)[5]	--	11	--	--	--	--	--
E. coli Waste Load at SWSP-24 (cfu/day)[6]	7.78E+09	--	1.89E+11	--	--	--	--
E. coli Waste Load at SWSP-35 (cfu/day)[6]	--	--	2.14E+08	1.73E+07	2.74E+06	3.91E+07	2.03E+09
E. coli Waste Load at SWSP-36 (cfu/day)[6]	--	1.07E+07	--	--	--	--	--
Total Waste Load[7]	**7.78E+09**	**1.07E+07**	**1.89E+11**	**1.73E+07**	**2.74E+06**	**3.91E+07**	**2.03E+09**

[1] USGS Gauge 08330000 (Rio Grande at Albuquerque)

[2] See SWMPP Section 12 for chart, explanation and detail

[3] Data from flow gauge at SWSP-05, see SWMPP Section 12 for details

[4] Estimated from flow data at SWSP-05 based on drainage area for each outfall

[5] From SNL wet weather monitoring results

[6] Calculated according to methods in SWMPP Section 12.

[7] Total *E. coli* WL from all outfalls that discharge to the Alameda to HWY 550 Bridge reach