



Michelle Lujan Grisham
Governor

Howie C. Morales
Lt. Governor

**NEW MEXICO
ENVIRONMENT DEPARTMENT**

Harold Runnels Building
1190 Saint Francis Drive, PO Box 5469
Santa Fe, NM 87502-5469
Telephone (505) 827-2855
www.env.nm.gov



James C. Kenney
Cabinet Secretary

Jennifer J. Pruett
Deputy Secretary

Original via FedEx-Copy via Electronic Mail

November 30, 2020

Mr. Charles Maguire, Director
Water Quality Protection Division (6WD)
U. S. Environmental Protection Agency
1201 Elm Street, Suite 500
Dallas, Texas 75202

Re: State Certification Los Alamos National Laboratory Individual Stormwater Permit, NM0030759


Dear Mr. Maguire:

Enclosed, please find the state certification for the following proposed National Pollutant Discharge Elimination System (NPDES) permit NM0030759, Los Alamos National Laboratory Individual Stormwater Permit. If any, comments and conditions are enclosed on separate sheets.

U.S. Environmental Protection Agency (USEPA) proposes to regulate discharges under the above-referenced NPDES Individual Permit. A state Water Quality Certification is required by the federal Clean Water Act (CWA) Section 401 to ensure that the action is consistent with state law (New Mexico Water Quality Act, New Mexico Statutes Annotated (NMSA) 1978, Sections 74-6-1 to -17,) and complies with State of New Mexico Water Quality Standards, Water Quality Management Plan and Continuing Planning Process, including Total Maximum Daily Loads (TMDLs), and Antidegradation Policy.

Pursuant to State regulations for permit certification at 20.6.2.2001 New Mexico Administrative Code (NMAC), USEPA jointly with NMED issued a public notice of the draft permit and announced a public comment period posted on the NMED web site at <https://www.env.nm.gov/surface-water-quality/public-notices/> on November 30, 2019. The NMED public comment period ended on November 2, 2020. NMED received comments from Amigos Bravos, the Buckman Direct Diversion Board and from a private citizen, which were considered in this certification.

Sincerely,

Sarah
Holcomb  Digitally signed by
Sarah Holcomb for
Date: 2020.11.30
11:32:34 -07'00'

Shelly Lemon, Bureau Chief
Surface Water Quality Bureau

cc: (w/ enclosures)

Ms. Evelyn Rosborough, USEPA (6WDPN) via e-mail

Mr. Brent Larsen, USEPA (6WDPE) via e-mail

Mr. Isaac Chen, USEPA (6WDPE) via e-mail

Mr. Glenn Morgan, Newport News Nuclear BWXT Los Alamos, LLC via email

Mr. Joseph Murdock, Newport News Nuclear BWXT Los Alamos, LLC via email

Mr. Steven Veenis, Newport News Nuclear BWXT Los Alamos, LLC via email

Mr. M Lee Bishop, USDOE Environmental Management, Los Alamos Field Office via email

Buckman Direct Diversion Board (via email)

Amigos Bravos (via email)

Paul Devine (via email)

Mr. Ken McQueen, Regional Administrator
Environmental Protection Agency
1201 Elm Street, Suite 500
Dallas, TX 75202

November 30, 2020

STATE CERTIFICATION

RE: **Los Alamos National Laboratory Individual Stormwater Permit, NM0030759**

Dear Regional Administrator McQueen:

The Cabinet Secretary of the New Mexico Environment Department (NMED) has delegated signatory authority for state certifications of federal Clean Water Act permits to the Surface Water Quality Bureau Chief. NMED examined the proposed NPDES permit referenced above. The following conditions are necessary to assure compliance with the applicable provisions of the Clean Water Act Sections 208(e), 301, 302, 303, 306, and 307 and with appropriate requirements of State law. Compliance with the terms and conditions of the permit and this certification will provide reasonable assurance that the permitted activities will be conducted in a manner which will not violate applicable water quality standards and the water quality management plan and will be in compliance with the antidegradation policy.

The State of New Mexico:

- certifies that the discharge will comply with the applicable provisions of Sections 208(e), 301, 302, 303, 306 and 307 of the Clean Water Act and with appropriate requirements of State law
- certifies that the discharge will comply with the applicable provisions of Sections 208(e), 301, 302, 303, 306 and 307 of the Clean Water Act and with appropriate requirements of State law upon inclusion of the following conditions in the permit (see attachments)
- denies certification for the reasons stated in the attachment
- waives its right to certify

In order to meet the requirements of State law, including water quality standards and appropriate basin plan as may be amended by the water quality management plan, each of the conditions cited in the draft permit and the State certification shall not be made less stringent, unless changes are in response to formal comments received by USEPA and discussed with NMED prior to the finalization of the draft permit.

The Department reserves the right to amend or revoke this certification if such action is necessary to ensure compliance with the State's water quality standards and water quality management plan.

Please contact Sarah Holcomb at (505) 827-2798, if you have any questions concerning this certification. Comments and conditions pertaining to this draft permit are attached.

Sincerely,

Shelly Lemon, Bureau Chief
Surface Water Quality Bureau

**Los Alamos National Laboratory Individual Stormwater Permit
State Comments on the Proposed NPDES Permit
NM0030759
November 30, 2020**

The following revisions are necessary to ensure that discharges allowed under the National Pollutant Discharge Elimination System (NPDES) permit protect State of New Mexico water quality standards (WQS) adopted in accordance with Section 303 of the Clean Water Act (CWA) and the New Mexico Water Quality Act [NMSA 1978, §§ 74-6-1 to -17]. State of New Mexico (State) WQS are codified in Title 20, Chapter 6, Part 4 of the New Mexico Administrative Code (20.6.4 NMAC), *Standards for Interstate and Intrastate Surface Waters*, as amended by the New Mexico Water Quality Control Commission (WQCC) on May 22, 2020 and approved by the U.S. Environmental Protection Agency (EPA or USEPA) as of July 24, 2020. Additional state WQS are published in Title 20, Chapter 6, Part 2 of the New Mexico Administrative Code (20.6.2 NMAC), *Ground and Surface Water Protection*, as amended by the WQCC on December 21, 2018.

The New Mexico WQS apply at all times. Applicable standards include, but are not limited to:

“General criteria are established to sustain and protect existing or attainable uses of surface waters of the state. These general criteria apply to all surface waters of the state at all times...Surface waters of the state shall be free of any water contaminant in such quantity and of such duration as may with reasonable probability injure human health, animal or plant life or property, or unreasonably interfere with the public welfare or the use of property.” (20.6.4.13 NMAC, General Criteria).

“... surface waters of the state shall be free of toxic pollutants from other than natural causes in amounts, concentrations or combinations that affect the propagation of fish or that are toxic to humans, livestock or other animals, fish or other aquatic organisms, wildlife using aquatic environments for habitation or aquatic organisms for food, or that will or can reasonably be expected to bioaccumulate in tissues of fish, shellfish and other aquatic organisms to levels that will impair the health of aquatic organisms or wildlife or result in unacceptable tastes, odors or health risks to human consumers of aquatic organisms.” (20.6.4.13(F) NMAC, Toxic Pollutants).

“The radioactivity of surface waters of the state shall be maintained at the lowest practical level and shall in no case exceed the criteria set forth in the New Mexico Radiation Protection Regulations, 20.3.1 NMAC and 20.3.4 NMAC.” (20.6.4.13(G) NMAC, Radioactivity).

This permit authorizes discharges to multiple locations in segments 20.6.4.98, 20.6.4.126 and 20.6.4.128 NMAC, as follows:

20.6.4.98 NMAC. INTERMITTENT WATERS - All non-perennial unclassified waters of the state, except those ephemeral waters included under 20.6.4.97 NMAC.

A. Designated Uses: livestock watering, wildlife habitat, marginal warmwater aquatic life and primary contact.

B. Criteria: the use-specific criteria in 20.6.4.900 NMAC are applicable to the designated uses, except that the following site-specific criteria apply: the monthly geometric mean of *E. coli* bacteria 206 cfu/100 mL or less, single sample 940 cfu/100 mL or less.

20.6.4.126 NMAC. RIO GRANDE BASIN - Perennial portions of Cañon de Valle from Los Alamos national laboratory (LANL) stream gage E256 upstream to Burning Ground spring, Sandia canyon from Sigma canyon upstream to LANL NPDES outfall 001, Pajarito canyon from Arroyo de La Delfe

upstream into Starmers gulch and Starmers spring and Water canyon from Area-A canyon upstream to State Route 501.

A. Designated Uses: coldwater aquatic life, livestock watering, wildlife habitat and secondary contact.
B. Criteria: the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses.

20.6.4.128 NMAC. RIO GRANDE BASIN - Ephemeral and intermittent portions of watercourses within lands managed by U.S. department of energy (DOE) within LANL, including but not limited to: Mortandad canyon, Cañada del Buey, Ancho canyon, Chaquehui canyon, Indio canyon, Fence canyon, Potrillo canyon and portions of Cañon de Valle, Los Alamos canyon, Sandia canyon, Pajarito canyon and Water canyon not specifically identified in 20.6.4.126 NMAC. (Surface waters within lands scheduled for transfer from DOE to tribal, state or local authorities are specifically excluded.)

A. Designated Uses: livestock watering, wildlife habitat, limited aquatic life and secondary contact.
B. Criteria: the use-specific criteria in 20.6.4.900 NMAC are applicable to the designated uses, except that the following segment-specific criteria apply: the acute total ammonia criteria set forth in Subsection K of 20.6.4.900 NMAC (salmonids absent).

NPDES regulations at 40 CFR 122.44(d)(1)(i) require that permit "...limitations must control all pollutants or pollutant parameters... which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard..."

NPDES regulations at 40 CFR 124.53(e)(2) require:

When the State certifies a draft permit instead of a permit application, any conditions more stringent than those in the draft permit which the State finds necessary to meet the requirement listed in paragraph (e)(1) of this section. For each more stringent condition, the certifying State agency shall cite the CWA or State law references upon which that condition is based.

The following conditional certification includes references to USEPA's "Procedures for Implementing NPDES Permits in New Mexico – NMIP." The NMIP establishes procedures to effectively incorporate state WQS and total maximum daily loads (TMDLs) into NPDES permits. The State of New Mexico Statewide Water Quality Management Plan and Continuing Planning Process (WQMP/CPP), approved by the WQCC on September 21, 2020 and USEPA on October 23, 2020 states, among other things, "as the current NPDES permitting authority for NM, EPA Region 6 develops effluent limitations and schedules of compliance in accordance with the NMIP, which is based on applicable federal regulations and guidance." The current version of the NMIP prepared by USEPA Region 6 Permits Branch in consultation with the NMED Surface Water Quality Bureau (SWQB) is dated March 15, 2012.

This certification includes a number of appendices to assist in organizing information related to the conditions included below. These appendices include the following information:

- Appendix 1: Documentation of sampler moves during the Sampling Implementation Plan investigation in 2016-2018.
- Appendix 2: Proposed SSD guidance flow chart
- Appendix 3: Sites proposed for deletion that NMED must conditionally include
- Appendix 4: Sites conditioned for addition to the draft permit
- Appendix 5: TALs conditioned for addition to the draft permit
- Appendix 6: Sediment Decision Tree

Conditions of Certification:

Background for Condition #1:

A comment received from Amigos Bravos indicated that the Permittees must perform a Tier 2 review to meet state antidegradation requirements.

NMED's antidegradation reviews are required in the regulations at 20.6.4.8 NMAC. The implementing policy is contained in the NM Water Quality Control Commission's *Water Quality Management Plan/Continuing Planning Process* at Appendix A. The revised WQMP/PPP was approved by the Water Quality Control Commission in September 2020 and USEPA Region 6 in October 2020 and is now effective for implementation. It states in Part 3.4:

Antidegradation reviews for individual NPDES stormwater permits will be based on an adaptive management approach. This approach may include routine monitoring of stormwater quality at representative outfalls to adequately characterize stormwater discharges. The permittee will then evaluate, through effectiveness monitoring, whether storm water quality is being maintained, improving, or degrading and whether Best Management Practices (BMPs) identified in the permittee's stormwater pollution prevention plan are effective at controlling the discharge of pollutants. Future antidegradation review of individual NPDES stormwater permits will consist of an analysis of the effectiveness of the BMPs and compliance with the requirements of the stormwater permit.

NMED anticipates that the permittees already have access to data that they can evaluate for this requirement, such as available water quality data showing improvements from baseline BMP installation to enhanced or other improved controls, BMP maintenance and/or replacement records, and inspections that are either routine or conducted after qualifying storm events and can document this in the Site Discharge Pollution Prevention Plan (SDPPP).

This evaluation must include a description of the BMPs present at the site, any new BMPs added or improved upon, water quality data as it has been collected over time and evaluations of whether the stormwater discharge quality has improved or declined.

There is no trigger in the state's Antidegradation Implementation Policy for an individual stormwater permit to enter a Tier 2 antidegradation review process.

Condition #1:

The SDPPP must include a demonstration of BMP effectiveness using available data (water quality data, BMP maintenance records, visual inspections and other observations), tie that evaluation to BMP performance, and make a conclusion each year as to whether the BMPs' effectiveness is working to protect receiving waters.

Background for Condition #2

Section 401(a) of the CWA generally provides that any applicant for a federal permit or license must obtain from any state where the activity or discharge is to be located a certification that the activity will not cause or contribute to degradation of state water quality. 33 U.S.C. §1431(a). Additionally, Section 401(d) of the CWA provides that:

“[a]ny certification provided under this section ***shall set forth any effluent limitations and other limitations, and monitoring requirements necessary to assure*** that any applicant for a Federal license or permit ***will comply with any applicable effluent limitations and other limitations***, under section 301 or 302 of this title, standard of performance under section 306 of this title, or prohibition, effluent standard, or pretreatment standard under section 307 of this title, ***and with any other appropriate***

requirement of State law set forth in such certification, and shall become a condition on any Federal license or permit subject to the provisions of this section.” 33 U.S.C. §1341(d) (emphasis added).

State certification regulations, which implement NMSA 1978, § 74-6-5(B), state that, “[t]he purpose of such certification is to reasonably ensure that the permitted activities will be conducted in a manner that will comply with applicable water quality standards, including the antidegradation policy, and the statewide water quality management plan.” 20.6.2.2001(A) NMAC. In addition to these, other federal code provisions apply to how, when and to what extent the state can issue its certification. NPDES regulations found at 40 CFR 122.44 require that permit, “[l]imitations must control all pollutants or pollutant parameters...which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard.” 40 CFR 122.44(d)(1)(i). NPDES regulations at 40 CF. 122.44 generally provide that the State requesting a condition in an NPDES permit should first consider existing controls on point and non-point sources, variability of the pollutant, sensitivity of species to the toxin(s), and the potential dilution of the receiving waters. 40 CFR 122.44(d)(1)(ii). Next, the USEPA must then include the effluent limit for the specific pollutant. 40 CFR 122.44(d)(1)(iii)-(iv). Additionally, where the state proposes a term or condition that is more stringent than included in the draft permit, the state must cite the specific CWA or state law reference on which it is based. 40 CFR 124.53(e)(2).

Among the information presented in USEPA’s Fact Sheet, language in the Draft Permit, and Public and Permittee comments, were issues concerning PCB monitoring, effluent limitations, reporting and required methods in the permit action. Below, NMED provides an explanation for why specific PCB monitoring conditions are necessary for State certification. The following table summarizes the applicable PCB numeric criteria from 20.6.4.900.J(2) NMAC for the receiving waters of this permit action:

Pollutant	Wildlife Habitat	Aquatic Life			Type of Pollutant
		Acute	Chronic*	Human Health-Organism Only	
PCBs	0.014 µg/L	2 µg/L	0.014 µg/L	0.00064 µg/L	Chronic, Persistent

*Note: * Chronic Aquatic Life Criterion does not apply to Segment 20.6.4.128 with a designated use of Limited Aquatic Life*

Although the Aroclor Method is the only EPA approved method for PCBs in 40 CFR 136.3, this method is not sufficiently sensitive to assure that the Permittees will comply with the applicable effluent limit for PCBs contained within the permit and thus cannot be used for monitoring or compliance purposes under state law. The following demonstrates the method detection limit (MDL) and method quantitation limit (MQL) limits of several PCB testing methods:

<u>Method</u>	<u>MDL</u>	<u>MQL</u>
EPA Method 608 (Aroclor)	0.065 µg/L	0.02145 µg/L
EPA Method 625	30 µg/L	99 µg/L
SM 6410 B	30 µg/L	99 µg/L
EPA Method 1668C	7-30 pg/L	23-99 pg/L (0.000023-0.000099 µg/L)

Notes: EPA Method 1668 Revision A became Revision C in the May 18, 2012 Federal Register notice of 40 CFR Part 136.

The Aroclor method’s MQL is an order of magnitude above the effluent limitation provided in this draft permit as necessary to comply the State WQS. As documented above, the congener method, EPA Method

1668C, is the only method with a sufficiently sensitive detection limit below State WQS for Total PCBs and therefore must be used when it has been determined that PCBs *“are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State WQS.”* Again, this condition constitutes *“monitoring requirements necessary to assure that any applicant for a Federal license or permit will comply with any applicable effluent limitations”* consistent with the provisions of the CWA Section 401(d). 33 U.S.C. §1341(d).

Condition # 2:

Pursuant to 20.6.4.14(A)(3) NMAC, Method 1668C or later revisions¹ is a State approved method for testing surface wastewater discharges. Additionally, Method 1668C has a Minimum Quantification Level (MQL) set at or below the applicable and limiting State WQS found in 20.6.4.900(J)(2) NMAC. Method 1668C is the only known and least restrictive and readily available laboratory wastewater sampling method that can reasonably assure that the proposed discharges do not exceed the WQS limits of 20.6.4.900(J)(2) NMAC.

EPA must revise the draft permit to include a monitoring and compliance maximum discharge limit for Polychlorinated biphenyls (PCBs) of 0.00064 micrograms per liter (µg/L). The EPA published Method 1668 (Latest Revision) and detection limits shall be used for reporting purposes. The permittee is allowed to develop an effluent specific MDL in accordance with Appendix B of 40 CFR Part 136 (instructions in Part II.A of the permit).

Background for Condition #3:

Section 401(d) of the CWA provides that (emphasis added):

*[a]ny certification provided under this section shall set forth any effluent limitations and other limitations, **and monitoring requirements necessary to assure that any applicant for a Federal license or permit will comply with any applicable effluent limitations and other limitations**, under section 301 or 302 of this title, standard of performance under section 306 of this title, or prohibition, effluent standard, or pretreatment standard under section 307 of this title, **and with any other appropriate requirement of State law set forth in such certification**, and shall become a condition on any Federal license or permit subject to the provisions of this section.*

Respectively, 20.6.2.2001 NMAC, adopted under the authority of NMSA 1978, Section 74-6-5(B), provides that, “[t]he purpose of such certification is to reasonably ensure that the permitted activities will be conducted in a manner that will comply with applicable water quality standards, including the antidegradation policy, and the statewide water quality management plan.” In addition to these, other provisions of federal code apply to how, when and to what extent the state can issue its certification. NPDES regulations found at 40 CFR 122.44(d)(1)(i) require that permit “[l]imitations must control all pollutants or pollutant parameters...which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard.”

The State of New Mexico Water Quality Management Plan states:

NMED will assure through appropriate review and communication with the permitting authority that permit requirements and effluent limitations are compatible with appropriate state law, protect water quality standards, and implement the water quality management plan.

¹ Method 1668C Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by HRGC/HRMS, U.S. EPA, Office of Water, 2010, EPA Document No. EPA-820-R-10-005. Available online from U.S. EPA at http://water.epa.gov/scitech/methods/cwa/upload/M1668C_11June10-PCB_Congeners.pdf.

NMED has specific concerns that a static list of monitoring locations and parameters as proposed in this permit is not appropriately protective of state Water Quality Standards. Under the requirements of both the administratively continued Individual Permit and the 2005 and 2016 Compliance Orders on Consent executed by NMED and the U.S. Department of Energy (2005 and 2016 Consent Order), the Permittees in collaboration with NMED conducted investigations concerning the history of sites covered under this permit. As a result, there is more available information about constituents present at these sites, as well as information about how these sites were used. It is not clear that all of this new information was used to inform the monitoring requirements in the draft permit. Furthermore, additional information will be acquired during the upcoming five-year permit term. Due to the scope and complexity of sites and site information related to this permit, a static list of monitoring locations and parameters should not be used.

In the 401 Certification on the publicly noticed draft permit in 2015, NMED required the development of a Sampling Implementation Plan (SIP) for the permittees to investigate each SWMU under this permit concurrent with available and newly collected soil data under the 2016 Consent Order in order to better inform Clean Water Act permitting requirements that will protect water quality in the receiving waters of the Plateau. NMED and LANL have worked together to complete this task for most of the sites under the administratively continued permit, which resulted in approximately 37% (147 out of 405 SWMUs) requiring the addition of various constituents to the monitoring suite based on historic industrial activities at the site. Additionally, there were 55 out of 250 (22%) sampler moves required during the SIP in order to appropriately monitor certain sites and obtain representative samples, and there were 27 out of 250 (11%) investigational samplers required in order to capture runoff from sites where one sampler was not adequate, or the sampling mechanism shifted to looking at run-on versus runoff characteristics at the site. However, many sites did not have comprehensive soil sampling information available because investigations under RCRA had not been completed yet. Appendix 1 shows the sites where samplers were moved/adjusted, and the sites where investigational samplers were added, or the sampling mechanism was changed to a run-on/runoff setup. The SIP must reflect a dynamic, adaptive process to update sampling suites based on new information with the **approval** of EPA and/or NMED. The Permittees have also requested a mechanism for feedback on determinations where Pollutants of Concern are no longer an issue at a site.

The current draft permit seems to allow for the Permittees to modify Target Action Levels (TALs) and Background Threshold Values (BTVs) values during the term of the permit (through the SIP process) without any prior approval or involvement from EPA or NMED. This is not appropriate. TALs should be and are based (as a conservative measure) on water quality standards, and BTVs should be set to a static number and updated with each permit term as appropriate. The only number that could potentially change is the composite BTV that is derived for each site during the annual SIP process. That is based on the ratio of pervious to impervious area.

Condition #3 (SIP Changes and Approval):

The Permittees must consult with NMED prior to sending SIP updates to EPA for approval. The SIP must also be publicly noticed for 30 days. EPA must add an approval process for proposed SIP changes to monitoring locations (beyond small location changes needed to address erosion) or constituent suite additions.

EPA must also specify that site deletions and monitoring deletions are not allowed without modifying the permit as required by 40 CFR 122.62(a)(2) unless it is considered a minor modification under 122.

Background for Condition #4 (Monitoring Requirements):

In the permitting regulations at 40 CFR 122.41(h) it states:

Duty to provide information. The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Director upon request, copies of records required to be kept by this permit.

This permit uniquely covers stormwater discharges from industrial activities that occurred many years ago. Documentation of those activities is not consistent across all of the sites covered under this permit and that makes associated water quality protection decisions difficult. The permittees have dueling obligations under their 2016 Consent Order which requires cleanup under discretely defined “campaigns” and the obligation to comply with this permit and the associated protection of water quality standards and designated uses. Campaigns for characterization of these sites and associated cleanup are being actively conducted and are scheduled into the future but can change based on available cleanup funding from the U.S. Department of Energy (DOE). Soil characterization information from completed or in-progress RCRA campaigns was used (when available) during the Sampling Implementation Plan (SIP) process to help identify appropriate requirements for modifying the sampler locations and monitoring requirements under this permit. Other sources of information are sometimes available but are not always comprehensive (e.g., site histories). As campaigns continue to progress and more characterization soil data is available, this information must be used to update sampling requirements and locational information for stormwater samplers using an adaptive management approach rather than waiting another five years or more for the permit to be renewed.

The draft permit does indicate that sampler locations should be updated based on the annual SIP process but is silent on adding TALs where appropriate based on that same soil information. This is an observation also noted by the Buckman Direct Diversion in their comments to NMED.

The permittees commented that the draft permit should include a process for utilization of soil data, which is included in Appendix 2 to this certification.

In the water quality standards regulations at 40 CFR 131.12 it states:

The State shall develop and adopt a statewide antidegradation policy.

An objective of New Mexico’s water quality standards:

...is to establish water quality standards that consist of the designated use or uses of surface waters of the state, the water quality criteria necessary to protect the use or uses and an antidegradation policy. 20.6.4.6(A) NMAC.

In addition, New Mexico’s *Antidegradation Policy and Implementation Procedure for Regulated Activities* is Appendix A of the Statewide Water Quality Management Plan and Continuing Planning Process (WQMP/CPP), which was approved most recently by EPA on 10-23-2020. The Antidegradation Policy applies Tier 1 protections to all waters. Tier 1 defines the minimum level of protection for all waters and prohibits further degradation of existing water quality where a pollutant of concern does not meet or meets but water quality is not better than applicable water quality criteria.

20.6.4.900(I) NMAC states:

...Hardness-dependent acute and chronic aquatic life criteria for metals... are expressed as a function of dissolved hardness (as mg CaCO₃/L).

20.6.4.900(J) NMAC states:

For aluminum, the criteria are based on analysis of total recoverable aluminum in a sample that is filtered to minimize mineral phases as specified by the department.

Condition #4 (Monitoring requirements):

TALs must be added to sites based on additional information. For example, if the receiving waterbody is impaired for a specific constituent, and that constituent was a material historically managed at the site, the constituent should be monitored in stormwater runoff. Specific information on various TAL updates is required below.

1. The draft permit indicates that sampler locations should be updated based on the annual SIP process. The draft permit must also indicate that TALs should be added or updated where appropriate based on additional information (e.g., soil data, impairment determinations).
2. Based on review of site histories and available soil screening data collected under the 2016 Consent Order, NMED requires that the TALs noted in Appendix 5 of this Certification are added to appropriate sites covered by this permit, as outlined in Appendix 1 to this certification. These TALs are reflective of current water quality standards that are applicable to the current water quality designated uses in segments 20.6.4.126 and 20.6.4.128 NMAC.
3. Consistent with the updated hardness data submitted with the Permittees' comments, the TAL table in Appendix C of the draft permit must be adjusted slightly to the following:

Major Canyon	Dissolved Hardness (mg/L)	Total Recoverable Aluminum (ug/L)	Dissolved Cadmium (ug/L)	Dissolved Chromium III (ug/L)	Dissolved Copper (ug/L)	Dissolved Lead (ug/L)	Dissolved Nickel (ug/L)	Dissolved Silver (ug/L)	Dissolved Zinc (ug/L)
Ancho	37.2	883	0.71	253	5.0	22	203	0.6	65
Chaquehui	26.9	566	0.54	194	4.0	15	154	0.3	48
Los Alamos/ Pueblo	33.5	765	0.65	233	5.0	19	186	0.5	59
Mortandad	29.5	643	0.58	210	4.0	17	167	0.4	53
Pajarito	30.2	664	0.59	214	4.0	17	170	0.4	54
Sandia	43.0	1077	0.8	285	6.0	25	229	0.8	74
Water/ Cañon de Valle	47.7	1241	0.88	311	7.0	29	250	0.90	82

4. In the proposed permit, in Part I.B (Applicable Target Action Levels), the following footnote should be added to the TAL table for monitoring requirements to specify sample collection procedures for total recoverable aluminum:

The acute and chronic aquatic life criteria for aluminum are based on analysis of total recoverable aluminum in a sample that is filtered to minimize mineral phases as specified by the department. If stream turbidity is greater than 30 NTUs, the sample must be filtered using a 10-µm filter prior to acidification. If there are equipment problems prohibiting the measurement of turbidity in the field and the water has any cloudiness as determined by visual inspection, then the total recoverable aluminum sample should be filtered using a 10-µm filter.

Background for Condition #5:

In the proposed permit in Part I.B.1.c (Collection of Partial Samples), it states that the “priority list for each Site is documented in Appendix B.” Appendix B does not contain any notes as to prioritization of constituents at each site if and when a partial stormwater sample is collected. Condition #5 documents where applicable water quality impairments drive sampling priority.

According to Appendix C of the NMIP (2012), when the receiving water has been determined by the State to be impaired, a permit should be issued with an individual water quality screening per the water quality standards implementation plan if the discharge is to an impaired water. Generally these procedures pertain to individual wastewater permits, but as indicated in the NMED Water Quality Management Plan/Continuing Planning Process (WQMP/CPP) at V. Effluent Limitations, Water Quality Based Effluent Limitations (WQBELs) may be developed on a case by case basis to protect water quality and may be expressed as chemical specific, narrative or whole effluent toxicity requirements. In this case, monitoring the receiving waterbody for a constituent used in historic operations that may contribute to an existing impairment leads to better stormwater management and cleanup decisions and will protect water quality.

Condition #5:

NMED requires that Part I.B.1.c (Collection of Partial Samples) prioritize constituents where there is a TMDL in place or a §303(d) listing for a pollutant in the receiving waterbody (see below). Additionally, if there are constituents added during the SIP process that were not collected during the previous permit term, those constituents shall also be prioritized in the event a partial sample is collected.

From the NMED SWQB §303(d)/§305(b) Integrated List and Report and NMED SWQB’s TMDL List, the following have been listed on New Mexico’s §303(d) impaired waters list or have a TMDL. Sites discharging to these waters are required to monitor for the impaired pollutants and shall prioritize these pollutants in the event a partial sample is collected.

<u>Canyon Name</u>	<u>Waterbody Segment</u>	<u>2018-2020 Impairments (§303d)</u>	<u>Upcoming 2020-2022 Impairments (§303d)</u>
Acid	20.6.4.98	Pueblo to headwaters: adjusted gross alpha, PCBs, dissolved copper, total recoverable aluminum	No changes
Ancho	20.6.4.128	<ul style="list-style-type: none"> • North Fork to headwaters: PCBs • Rio Grande to North Fork Ancho: PCBs, total mercury 	No changes
Arroyo de la Delfe	20.6.4.128	Pajarito to headwaters: dissolved copper, PCBs, total recoverable aluminum, adjusted gross alpha	No changes
Bayo	20.6.4.98	San Ildefonso bnd to headwaters: Not assessed.	No changes
Canada del Buey	20.6.4.128	within LANL: PCBs, adjusted gross alpha	No changes
Canon de Valle	20.6.4.126 (perennial), 20.6.4.128	<ul style="list-style-type: none"> • LANL gage E256 to Burning Ground Spring: PCBs • below LANL gage E256: adjusted gross alpha • upper LANL boundary to headwaters: PCBs, adjusted gross alpha 	No changes
Chaquehui	20.6.4.128	Within LANL: PCBs	No changes

DP	20.6.4.128	<ul style="list-style-type: none"> Los Alamos Canyon to grade control: PCBs, total recoverable aluminum, adjusted gross alpha Grade control to upper LANL bnd: dissolved copper, PCBs, total recoverable aluminum, adjusted gross alpha 	No changes
Fence	20.6.4.128	Not assessed.	No changes
Graduation	20.6.4.98	Pueblo Canyon to headwaters: PCBs, dissolved copper	No changes
Los Alamos	20.6.4.128	<ul style="list-style-type: none"> DP to Upper LANL boundary: PCBs, total recoverable cyanide, total recoverable selenium, adjusted gross alpha, total mercury NM-4 to DP Canyon: adjusted gross alpha, PCBs, total recoverable aluminum, total recoverable cyanide, radium 226+228, total mercury 	No changes
Mortandad	20.6.4.128	within LANL: adjusted gross alpha, PCBs, dissolved copper, total mercury	No changes
North Fork Ancho	20.6.4.128	Ancho Canyon to headwaters: adjusted gross alpha, PCBs	No changes
Pajarito	20.6.4.126 (Arroyo de la Delfe to Starmers), 20.6.4.128	<ul style="list-style-type: none"> Arroyo de la Delfe to Starmers Spring: fully supporting Within LANL above Starmers Gulch: total recoverable aluminum, adjusted gross alpha Lower LANL boundary to Two Mile: PCBs, total recoverable aluminum, adjusted gross alpha, total recoverable cyanide, dissolved copper Two Mile to Arroyo de la Delfe: PCBs, dissolved silver, dissolved copper, adjusted gross alpha 	No changes
Potrillo	20.6.4.128	above Water Canyon: adjusted gross alpha	No changes
Pratt	20.6.4.128	Not assessed.	No changes
Pueblo	20.6.4.98	<ul style="list-style-type: none"> Acid Canyon to headwaters: PCBs, total recoverable aluminum, adjusted gross alpha, dissolved copper Los Alamos Canyon to Los Alamos WWTP: adjusted gross alpha, PCBs, total recoverable aluminum, total recoverable selenium Los Alamos WWTP to Acid Canyon: PCBs, adjusted gross alpha 	No changes
Rendija	20.6.4.98	Guaje Canyon to headwaters: Not assessed	No changes
Sandia	20.6.4.126 (Sigma to Outfall 001), 20.6.4.128	<ul style="list-style-type: none"> Sigma Canyon to NPDES Outfall 001: total recoverable aluminum, PCBs, dissolved copper, temperature within LANL below Sigma: PCBs, total recoverable aluminum, adjusted gross alpha, total mercury, dissolved copper 	No changes

South Fork Acid	20.6.4.98	Acid Canyon to headwaters: adjusted gross alpha, PCBs, dissolved copper	No changes
Ten-Site	20.6.4.128	Mortandad to headwaters: adjusted gross alpha, PCBs.	No changes
Three Mile	20.6.4.128	Pajarito to headwaters: adjusted gross alpha	No changes
Two Mile	20.6.4.128	Pajarito to headwaters: adjusted gross alpha, PCBs, total recoverable aluminum, dissolved copper	No changes
Walnut	20.6.4.98	Pueblo Canyon to headwaters: PCBs, dissolved copper	No changes
Water	20.6.4.126 (Area-A Canyon to SR 501), 20.6.4.128	<ul style="list-style-type: none"> • Area-A Canyon to NM 501: fully supporting • Within LANL below Area-A Canyon: total recoverable aluminum, PCBs, adjusted gross alpha, total mercury • Within LANL above NM 501: not assessed 	No changes

Background for Condition #6:

40 CFR 122.44(d)(1)(vi) states:

Where a State has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable State water quality standard, the permitting authority must establish effluent limits using one or more of the following options:

(A) Establish effluent limits using a calculated numeric water quality criterion for the pollutant which the permitting authority demonstrates will attain and maintain applicable narrative water quality criteria and will fully protect the designated use. Such a criterion may be derived using a proposed State criterion, or an explicit State policy or regulation interpreting its narrative water quality criterion, supplemented with other relevant information which may include: EPA's Water Quality Standards Handbook, October 1983, risk assessment data, exposure data, information about the pollutant from the Food and Drug Administration, and current EPA criteria documents; or

(B) Establish effluent limits on a case-by-case basis, using EPA's water quality criteria, published under section 304(a) of the CWA, supplemented where necessary by other relevant information; or

(C) Establish effluent limitations on an indicator parameter for the pollutant of concern, provided:

(1) The permit identifies which pollutants are intended to be controlled by the use of the effluent limitation;

(2) The fact sheet required by §124.56 sets forth the basis for the limit, including a finding that compliance with the effluent limit on the indicator parameter will result in controls on the pollutant of concern which are sufficient to attain and maintain applicable water quality standards;

(3) The permit requires all effluent and ambient monitoring necessary to show that during the term of the permit the limit on the indicator parameter continues to attain and maintain applicable water quality standards; and

(4) The permit contains a reopener clause allowing the permitting authority to modify or revoke and reissue the permit if the limits on the indicator parameter no longer attain and maintain applicable water quality standards.

40 CFR 122.44(d)(1)(vii) states:

When developing water quality-based effluent limits under this paragraph the permitting authority shall ensure that:

(A) The level of water quality to be achieved by limits on point sources established under this paragraph is derived from, and complies with all applicable water quality standards; and

(B) Effluent limits developed to protect a narrative water quality criterion, a numeric water quality criterion, or both, are consistent with the assumptions and requirements of any available wasteload allocation for the discharge prepared by the State and approved by EPA pursuant to 40 CFR 130.7.

(2) Attain or maintain a specified water quality through water quality related effluent limits established under section 302 of CWA;

(3) Conform to the conditions to a State certification under section 401 of the CWA that meets the requirements of §124.53 when EPA is the permitting authority. If a State certification is stayed by a court of competent jurisdiction or an appropriate State board or agency, EPA shall notify the State that the Agency will deem certification waived unless a finally effective State certification is received within sixty days from the date of the notice. If the State does not forward a finally effective certification within the sixty day period, EPA shall include conditions in the permit that may be necessary to meet EPA's obligation under section 301(b)(1)(C) of the CWA;

(4) Conform to applicable water quality requirements under section 401(a)(2) of CWA when the discharge affects a State other than the certifying State;

(5) Incorporate any more stringent limitations, treatment standards, or schedule of compliance requirements established under Federal or State law or regulations in accordance with section 301(b)(1)(C) of CWA;

(6) Ensure consistency with the requirements of a Water Quality Management plan approved by EPA under section 208(b) of CWA;

(7) Incorporate section 403(c) criteria under part 125, subpart M, for ocean discharges;

(8) Incorporate alternative effluent limitations or standards where warranted by "fundamentally different factors," under 40 CFR part 125, subpart D;

(9) Incorporate any other appropriate requirements, conditions, or limitations (other than effluent limitations) into a new source permit to the extent allowed by the National Environmental Policy Act, 42 U.S.C. 4321 et seq. and section 511 of the CWA, when EPA is the permit issuing authority. (See §122.29(c)).

Additional site-related constituents for evaluation in stormwater

According to 40 CFR 122.44(d)(1)(vi), if there are known constituents being discharged from a facility that have the reasonable potential to cause or contribute to a narrative water quality standard violation where a State has not developed accompanying numeric water quality criteria, **EPA must develop effluent limits for those pollutants.** Through data review of stormwater data publicly available through IntellusNM, NMED SWQB has observed that the following pollutants are being discharged in amounts that may contribute to exceedances of the narrative criteria at 20.6.4.13(F) and (G) NMAC, Toxic Pollutants and Radioactivity, respectively. The dataset obtained from IntellusNM was targeted to stormwater samples and organized by canyon, where a geometric mean of the available data was calculated. Some datasets did not have much information, such as lithium (data for only one canyon was available).

Specific to perfluorinated compounds

New Mexico regulations (Standards for Interstate and Intrastate Surface Waters) under 20.6.4.13(F) NMAC state: Except as provided in 20.6.4.16 NMAC, surface waters of the state shall be free of toxic pollutants from other than natural causes in amounts, concentrations or combinations that affect the propagation of fish or that are toxic to humans, livestock or other animals, fish or other aquatic organisms, wildlife using aquatic environments for habitations or aquatic organisms for food, or that will or can reasonably be expected to bioaccumulate in tissues of fish, shellfish and other aquatic organisms to levels that will impair the health of aquatic organisms or wildlife or result in unacceptable tastes, odors or health risks to human consumers of aquatic organisms.

New Mexico regulations (Ground and Surface Water Protection) under 20.6.2.7(T)(2)(s) NMAC lists the following perfluorinated chemicals (PFCs) as toxic chemicals: perfluorohexane sulfonic acid (PHHxS), perfluorooctane sulfonate (PFOS), and perfluorooctanoic acid (PFOA).

EPA revised the Emergency Planning and Community Right-to-Know Act (EPCRA) Section 313 list of reportable chemicals covered by the Toxics Release Inventory (TRI) to include the 172 per- and polyfluoroalkyl substances (PFAS) added by the National Defense Authorization Act.¹

The following is a list of North American Industrial Classification System (NAICS) codes from EPA's Final Rule (June 22, 2020) that may be potentially affected by TRI reporting requirements:²

- *Facilities included in the following NAICS manufacturing codes (corresponding to Standard Industrial Classification (SIC) codes 20 through 39): 311*, 312*, 313*, 314*, 315*, 316, 321, 322, 323*, 324, 325*, 326*, 327, 331, 332, 333, 334*, 335*, 336, 337*, 339*, 111998*, 211130*, 212324*, 212325*, 212393*, 212399*, 488390*, 511110, 511120, 511130, 511140*, 511191, 511199, 512230*, 512250*, 519130*, 541713*, 541715* or 811490*. *Exceptions and/or limitations exist for these NAICS codes.*
- *Facilities included in the following NAICS codes (corresponding to SIC codes other than SIC codes 20 through 39): 212111, 212112, 212113 (corresponds to SIC code 12, Coal Mining (except 1241)); or 212221, 212222, 212230, 212299 (corresponds to SIC code 10, Metal Mining (except 1011, 1081, and 1094)); or 221111, 221112, 221113, 221118, 221121, 221122, 221330 (limited to facilities that combust coal and/or oil for the purpose of generating power for distribution in commerce) (corresponds to SIC codes 4911, 4931, and 4939, Electric Utilities); or 424690, 425110, 425120 (limited to facilities previously classified in SIC code 5169, Chemicals and Allied Products, Not Elsewhere Classified); or 424710 (corresponds to SIC code 5171, Petroleum Bulk Terminals and Plants); or 562112 (limited to facilities primarily engaged in solvent recovery services on a contract or fee basis (previously classified under SIC code 7389, Business Services, NEC)); or 562211, 562212, 562213, 562219, 562920 (limited to facilities regulated under the Resource Conservation and Recovery Act, subtitle C, 42 U.S.C. 6921 et seq.) (corresponds to SIC code 4953, Refuse Systems).*
- *Federal facilities.*

Information prepared by the EPA and the Agency for Toxic Substances and Disease Registry (ATSDR) demonstrates that PFAS are toxic and can pose hazards to human health and the environment.^{3,4} In EPA's PFAS Action Plan⁵ program update dated February 2020, the Agency recommends using a screening level of 40 parts per trillion (0.040 ug/L) to determine if PFOA and/or PFOS is present at a site and may warrant further attention.

PFAS has been detected in nearly all environmental media. However, there is very limited data on industrial wastewater discharges of PFAS into the environment, in part due to the fact that relatively few facilities have NPDES permit limits or monitoring requirements for PFAS. The EPA identified only 13 industrial facilities that reported PFAS discharges on discharge monitoring reports (DMRs) in 2016 even though the EPA has identified several categories of industry that are likely to discharge PFAS, such as airports, military bases, fire-fighting equipment manufacturers, organic chemical manufacturers, paper and paperboard manufacturers, tanneries and leather treaters, textiles and carpet manufacturers, semiconductor manufacturers, household cleaning product manufacturers, petroleum refining, and landfills.⁶

Other states' PFAS guidance for various surface and groundwater screening levels are indicated in the tables below.^{7,8}

Surface Water PFAS Guidelines in Other States				
	Oregon (ug/L)*	Michigan (ug/L)** DWS/not DWS	Minnesota (ug/L) Rivers	Alaska, Montana (ug/L)***
PFHpA	300	-	-	-
PFOA	24	0.420/12	2.7	0.070
PFOS	300	0.011/0.012	0.007	0.070
PFOSA	0.2	-	-	-
PFNA	1	-	-	-

* The Oregon DEQ wastewater initiation levels were adopted into rule (OAR 340-045-0100, Table A) in 2011. The PFAS are 5 chemicals on a list of 118 persistent priority pollutants for water that Oregon DEQ developed in response to state legislation. *Municipal wastewater treatment plants with effluent exceeding initiation levels are required to develop a pollution prevention plan that becomes a part of their NPDES permit.*

** Michigan's advisory levels are designed to protect human health (non-cancer values) and are based on whether the surface water is a drinking water source (DWS) or not.

*** For these states, concentrations of PFOA and PFOS are summed before being compared to the screening level.

Groundwater PFAS Guidelines in Other States						
	Maine (ug/L)*	New Jersey (ug/L)	New Hampshire (ug/L)**	Colorado, Rhode Island, Delaware (ug/L)*	Illinois (ug/L)***	Minnesota (ug/L)****
PFHpA	-	-	-	-	-	-
PFOA	0.400	0.010	0.012	0.070	0.021	0.035
PFOS	0.400	0.010	0.015	0.070	0.014	0.027
PFOSA	-	-	-	-	-	-
PFNA	-	-	0.011	-	0.021	-

* For these states, concentrations of PFOA and PFOS are summed before being compared to the screening level.

** Proposed rulemaking in New Hampshire covers 4 PFAS, and includes PFHxS = 0.018 ug/L.

*** Proposed rulemaking in Illinois covers 5 PFAS, and includes PFHxS = 0.140 ug/L and PFBS = 140 ug/L.

**** Health-based values (not maximum contaminant levels, or MCLs).

States use a variety of methods to test PFAS analytes in different media. The most widely used are EPA Method 537 (2008, applies to 14 PFAS) and EPA Method 537.1 (2018, applies to 18 PFAS). Some labs perform modifications, like using isotope dilution, to these methods for use in other matrices besides drinking water to account for lower reporting limits or greater accuracy. For example, modifications to Method 537.1 can be applied for non-drinking water media.⁷

Monitoring these toxic contaminants helps provide information about whether they are present in stormwater discharges to better control and mitigate PFAS in the environment. As stated on EPA's PFAS website,⁹ "PFAS can be found in living organisms, including fish, animals, and humans, where PFAS have the ability to build up and persist over time." Due to the characteristics of these contaminants (i.e., persistence in the environment and the human body, and evidence that exposure to PFAS can lead to adverse human health effects), NMED advocates for taking a proactive approach and establish PFAS sampling and reporting requirements to assure protection of New Mexico's surface waters, public health and the environment.

1 <https://www.epa.gov/toxics-release-inventory-tri-program/list-pfas-added-tri-ndaa>
 2 <https://www.govinfo.gov/content/pkg/FR-2020-06-22/html/2020-10990.htm>, or

- <https://www.govinfo.gov/content/pkg/FR-2020-06-22/pdf/2020-10990.pdf>
 3 <https://www.epa.gov/ground-water-and-drinking-water/drinking-water-health-advisories-pfoa-and-pfos>
 4 https://www.atsdr.cdc.gov/pfas/pfas_fact_sheet.html
 5 https://www.epa.gov/sites/production/files/2020-01/documents/pfas_action_plan_feb2020.pdf
 6 EPA Office of Water, Preliminary Effluent Guidelines Program Plan 14, October 2019, EPA-821-R-19-005
 7 <https://www.ecos.org/documents/ecos-white-paper-processes-and-considerations-for-setting-state-pfas-standards/>
 8 <http://pfas-1.itrcweb.org>
 9 <https://www.epa.gov/pfas/basic-information-pfas#health>

Perfluorinated compounds have been used in industrial activities such as metal plating and firefighting activities, among others, and are a common ingredient in many applications. They have been in use since the 1930s.

Condition #6 (Additional TALs based on site information):

Due to observations of these constituents in soil data during the 2016-2018 SIP review and their potential use during historical industrial activities and associated exposure to precipitation, NMED requires EPA to evaluate additional monitoring requirements in the final permit if they are noted as being site-related pollutants of concern according to the SIP documentation, and as noted in Appendix 3 to this certification.

Additional site-related constituents that must be added as TALs in the permit are noted in NMED’s data review below:

Constituents	CAS Number	Other Evaluated Criteria	National Recommended Water Quality Criteria (µg/L) ²		NMED WQS ug/L	Highest Canyon Concentration (geomean) observed in stormwater (µg/L, unless otherwise noted)
			HH-water + organism	HH-OO		
Barium ³	7440-39-3	2,000 ug/L	1,000	None		1721.4 (Guaje)
Beryllium ⁴	7440-41-7	4 ug/L	4	None		14.3 (Guaje)
Strontium-90 ⁵	7440-24-6	8 pCi/L; 0.35 pCi/L	None	None		9.7 pCi/L (Canon de Valle)
Gross beta ⁶	12587-47-2	4 mrem/year	None	None		374 pCi/L (Pueblo)
PFOA + PFAS		70 ng/L	None	None		95.2 ng/L ⁷
Antimony ⁸	7440-36-0			146		2.07 (LA Canyon)

² <https://www.epa.gov/wqc/national-recommended-water-quality-criteria-human-health-criteria-table>; NMED has water quality criteria for drinking water sources.

³ Water Quality Association, 2014 (Drinking water MCL); NMED has water quality criteria for drinking water sources.

⁴ EPA’s Drinking Water MCL <https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations>; NMED has water quality criteria for drinking water sources.

⁵ EPA Method 905 (8 pCi/L); 0.35 pCi/L California Office of Environmental Health Hazard Assessment.

⁶ <https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations>

⁷ Observed in surface water in Sandia Canyon.

⁸ <https://www.epa.gov/wqc/ambient-water-quality-criteria-antimony>

Constituents	CAS Number	Other Evaluated Criteria	National Recommended Water Quality Criteria ($\mu\text{g/L}$) ²		NMED WQS $\mu\text{g/L}$	Highest Canyon Concentration (geomean) observed in stormwater ($\mu\text{g/L}$, unless otherwise noted)
			HH-water + organism	HH-OO		
Thorium ⁹	7440-29-1					No stormwater data
Tungsten	7440-33-7					No stormwater data
Anthracene	120-12-7				40,000	0.064849
Benzo(a)anthracene	56-55-3				0.18	0.06 (across plateau but data shows individual exceedances of the standard)
Benzo(b)fluoranthene	205-99-2				0.18	0.06 (across plateau but data shows individual exceedances of the standard)
Benzo(k)fluoranthene	207-08-9				0.18	0.03 (across plateau but data shows individual exceedances of the standard)
Bis (2-ethylhexyl) phthalate	117-81-7				22	1.03 (but individual exceedances of the standard)
Chrysene	218-01-9				0.18	0.08 (across plateau but individual exceedances of the standard)
Dibenzo(a,h)anthracene	53-70-3				0.18	0.07 (across plateau but individual exceedances of the standard)
Ethylbenzene	100-41-4				2,100	No data
Tetrachloroethylene	127-18-4				33	No data

Constituents	CAS Number	Other Evaluated Criteria	National Recommended Water Quality Criteria (µg/L) ²		NMED WQS ug/L	Highest Canyon Concentration (geomean) observed in stormwater (µg/L, unless otherwise noted)
			HH-water + organism	HH-OO		
Toluene	108-88-3				15,000	No data
Hexavalent chromium	18540-29-9		11 (ATAL)	16 (MTAL)		
Total Petroleum Hydrocarbons						Not normally monitored except when there is a spill

Specific to perfluorinated compounds (PFCs):

Sites that discharge to canyons where PFCs have been detected in stormwater, or observed in soil data or groundwater, shall monitor and report PFAS in effluent once during the term of the permit. Samples shall be analyzed by an accredited lab for all 18 PFAS analytes using EPA Method 537.1 (EPA 2018), and the DoD Quality Systems Manual Method 5.3 (2019) as guidance. Method and analysis shall be sufficiently sensitive to evaluate the New Mexico screening level for PFOA and PFOS.

The PFAS screening level in New Mexico is indicated below. The screening level is not a standard of quality and purity for the surface waters of New Mexico but allows detection and further evaluation of the existence of PFAS in stormwater discharges to determine if more attention is warranted.

PFAS Screening Level for New Mexico*	
PFOA + PFOS	0.070 ug/L

* Concentrations of PFOA and PFOS are summed before being compared to the screening level.

If PFOA and/or PFOS are detected above the New Mexico screening level, additional monitoring and reporting shall occur annually and in accordance with the same parameters and methods as required for the first sampling event. In addition, the permittee should take corrective action and identify ways to minimize, reduce, and eliminate PFAS from the discharge. Results of past monitoring and any corrective actions taken should be included in the Site Discharge Pollution Prevention Plan (SDPPP).

The permittee shall submit monitoring results for all 18 PFAS analytes under EPA Method 537.1, as required, to NMED at the following address:

Point Source Program Manager
 Surface Water Quality Bureau
 New Mexico Environment Department
 P.O. Box 5469
 Santa Fe, NM 87502-5469

NMED may suspend the requirement to monitor and report PFAS under the following circumstances:

(A) If additional sampling determines that it is unlikely that PFAS exist in a permittee's stormwater discharge, if the permittee provides facility data that demonstrate PFAS are unlikely to be present in the stormwater discharge, or there are no available, accredited laboratories capable of performing the required PFAS analysis; or

(B) If additional sampling demonstrates that the pollutant concentration is lower than the screening level or the permittee is subject to duplicative or more stringent PFAS requirements.

However, to be exempted for these reasons, the permittee must submit documentation to NMED for approval.

NMED requires EPA to consider if these observed pollutants may contribute to exceedances of the Toxic Pollutants and Radioactivity narrative criteria cited above. Through this evaluation, EPA may set additional TALs, or add these constituents for evaluation through the SIP process described in Condition #1.

Background for Condition #7:

EPA administered National Pollutant Discharge Elimination System (NPDES) permit programs under 40 CFR 122.26(a)(ii), 122.26(b)(12) and (14), and 122.26(g) require the following:

§122.26 Storm water discharges

122.26(a) Permit requirement. (1) Prior to October 1, 1994, discharges composed entirely of storm water shall not be required to obtain a NPDES permit except:

(ii) A discharge associated with industrial activity (see §122.26(a)(4));

122.26(b)(12) Significant materials includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical the facility is required to report pursuant to section 313 of title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with storm water discharges.

122.26(b)(14) Storm water discharge associated with industrial activity means the discharge from any conveyance that is used for collecting and conveying storm water and that is directly related to manufacturing, processing or raw materials storage areas at an industrial plant. The term does not include discharges from facilities or activities excluded from the NPDES program under this part 122. For the categories of industries identified in this section, the term includes, but is not limited to, storm water discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process waste waters (as defined at part 401 of this chapter); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and final products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water. For the purposes of this paragraph, material handling activities include storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product, by-product or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with storm water drained from the above described areas. Industrial facilities (including industrial facilities that are federally, State, or municipally owned or operated that

meet the description of the facilities listed in paragraphs (b)(14)(i) through (xi) of this section include those facilities designated under the provisions of paragraph (a)(1)(v) of this section.

122.26(g) Conditional exclusion for “no exposure” of industrial activities and materials to storm water. Discharges composed entirely of storm water are not storm water discharges associated with industrial activity if there is “no exposure” of industrial materials and activities to rain, snow, snowmelt and/or runoff, and the discharger satisfies the conditions in paragraphs (g)(1) through (g)(4) of this section. “No exposure” means that all industrial materials and activities are protected by a storm resistant shelter to prevent exposure to rain, snow, snowmelt, and/or runoff. Industrial materials or activities include, but are not limited to, material handling equipment or activities, industrial machinery, raw materials, intermediate products, by-products, final products, or waste products. Material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product or waste product.

(1) Qualification. To qualify for this exclusion, the operator of the discharge must:

(i) Provide a storm resistant shelter to protect industrial materials and activities from exposure to rain, snow, snow melt, and runoff;

(ii) Complete and sign (according to §122.22) a certification that there are no discharges of storm water contaminated by exposure to industrial materials and activities from the entire facility, except as provided in paragraph (g)(2) of this section;

(iii) Submit the signed certification to the NPDES permitting authority once every five years. As of December 21, 2020 all certifications submitted in compliance with this section must be submitted electronically by the owner or operator to the Director or initial recipient, as defined in 40 CFR 127.2(b), in compliance with this section and 40 CFR part 3 (including, in all cases, subpart D to part 3), §122.22, and 40 CFR part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of part 127, owners or operators may be required to report electronically if specified by a particular permit or if required to do so by state law.

...

(3) Limitations....

(iii) If circumstances change and industrial materials or activities become exposed to rain, snow, snow melt, and/or runoff, the conditions for this exclusion no longer apply. In such cases, the discharge becomes subject to enforcement for un-permitted discharge. Any conditionally exempt discharger who anticipates changes in circumstances should apply for and obtain permit authorization prior to the change of circumstances.

(iv) Notwithstanding the provisions of this paragraph, the NPDES permitting authority retains the authority to require permit authorization (and deny this exclusion) upon making a determination that the discharge causes, has a reasonable potential to cause, or contributes to an instream excursion above an applicable water quality standard, including designated uses.

The permittees requested in their application to delete three categories of sites from the permit. These categories are based on:

- 1) Sites that are no longer on USDOE property;
- 2) Sites that are “deferred” under RCRA authority; and
- 3) Sites that are currently active and/or covered under another NPDES permit.

In the draft permit, EPA deleted 29 Site Monitoring Areas (SMAs) (associated with 49 separate Solid Waste Management Units (SWMUs) or Areas of Concern (AOCs)). These site deletions are noted in Appendix 3 to this certification and do not necessarily match with the Permittees’ requests. NMED believes the deleted sites that were outside of the Permittees’ request in their reapplication materials

are linked to Certificates of Completion received from the NMED Hazardous Waste Bureau under the Consent Order.

While NMED concurs with the deletion of some of these SMAs (as noted in the appendices), the rest of the sites must be kept on the permit until they can be evaluated using the method in the Sampling Implementation Plan (SIP) and the proposed method to utilize soil screening data to characterize a site. During the SIP review that occurred in 2016-2018, NMED reviewed site history and soil sampling information (if available) to determine the appropriateness and thoroughness of the original monitoring requirements in the 2009 permit as referenced in Condition #1. At many of these SMA/SWMU/AOC combinations, there were additional constituents of concern identified through history review and soil sampling information that indicated that additional stormwater monitoring would be useful to characterize the site more appropriately.

The Permittees submitted comments with subsets of other requests to delete sites from the permit. The Permittees' Attachment 6 to their comments details a request to delete sites based on the receipt of Certification of Completion (CoCs) from the NMED Hazardous Waste Bureau, which NMED Surface Water Quality Bureau has stated many times in the past is not acceptable because the RCRA process does not evaluate impacts on surface water quality requirements.

The Permittees also submitted Attachment 7 to their comments with a proposal to move sites that are deferred for cleanup under the 2016 Consent Order to Long Term Stewardship until internal discussions can be arranged to identify how to handle these sites between DOE NNSA as the landlord of active operations, and DOE EM as the responsible party for legacy contamination cleanup. If EPA cannot move these sites to Sector AD of the MSGP for permit coverage, then moving these sites to Long Term Stewardship under the final permit would be acceptable as long as the Permittees are still required to maintain BMPs that mitigate stormwater impacts from legacy activities and contamination.

The Permittees also submitted Attachment 8 to their comments with another proposal for sites to be deleted that met the administratively continued permit's requirement for deletion of sites when they had collected two stormwater samples and saw results that were below TALs. Because of the evaluations during the SIP process and the ability to evaluate soil data to provide a more comprehensive understanding of the presence of pollution at these sites, EPA must rely on the results of the SIP process as presented in this certification with respect to keeping sites on the permit.

NMED notes the following four categories of deleted sites:

- **Requests to delete sites because the property has been transferred and is no longer owned by DOE:** the Permittees have deeded land over to Los Alamos County, private citizens, or the Forest Service when they have received a certificate of completion without controls from NMED HWB. The Permittees request indicated that they no longer have access to these locations to be able to perform maintenance and/or collect samples. However, NMED asked the Permittees to investigate the lease agreements or other transfer of ownership paperwork in order to confirm that this is the case. Until NMED SWQB knows the details of these land transfers, no sites in this category should be deleted from the permit because the agreements may still assign liability for legacy contaminant cleanup to the Permittees.
- **Active sites:** There are a number of "active" sites for which the Permittees have requested deletion from the permit. To define "active", these are sites that are still used for day to day operations at the laboratory, including a number of firing sites. Active sites in this category should be transferred to require coverage under the MSGP. Prior to the existence of this individual stormwater permit, these firing sites were covered under Sector K (Hazardous Waste) of the MSGP; however, Sector K monitoring requirements do not adequately characterize the

discharge from these sites. The Permittees may also want to delete other “active” sites that are deferred for cleanup under the Consent Order, and NMED does not believe that these sites should be deleted at this point in time. As long as these sites are deferred, there is no cleanup activity occurring and if there are pollutants exposed to stormwater, there should be BMPs in place to prevent the discharge of contamination downstream.

- **Sites that qualify for no discharge:** Table 15 of the reapplication materials indicate 22 sites/13 SMAs where a sample has not been collected in the last 8 years, therefore the Permittees state they should qualify as no discharge sites. A few of the sites on this list need further investigation to determine whether they have been monitored adequately (SMAs: DP-SMA-4, S-SMA-4.5). In addition, during the SIP process, constituent additions were noted by NMED at LA-SMA-6.7, LA-SMA-6.36, LA-SMA-10.11, S-SMA-4.5, CDB-SMA-1.35, CDB-SMA-1.55, CDB-SMA-1.65 and PJ-SMA-14. The sampler was determined to need a move at PJ-SMA-14 and it is unknown at this time whether that move will result in a better ability to collect a stormwater sample in the future.
- **Sites that have obtained a Certificate of Completion (CoC) from NMED HWB:** EPA wrote the current draft permit to exclude sites that have obtained a CoC from NMED HWB – this is not appropriate for the reasons listed above, namely that a CoC doesn’t guarantee that the runoff from a site meeting residential SSLs will meet water quality criteria because RCRA evaluations do not take water quality requirements into account.

Condition #7 (Site Deletions):

NMED requires that the four site categories identified for deletion (see below) be retained in the permit. Specific sites are noted in Appendix 3 to this Certification. Sites need to be kept on the permit unless the Permittees demonstrate that they can be deleted in accordance with the permit requirements, such as no industrial activities took place at the site, site related pollutants of concern have never been or will not be exposed to stormwater, installation of permanent control measures results in no exposure, Permittees certify corrective action complete (not a Consent Order linked CoC) by removing soil containing site-related pollutants of concern, stormwater data evaluated through the site specific demonstration process shows that water and soil do not exceed levels of concern, and where the site meets the no discharge requirements specified in the permit.

Four categories of sites that Permittees have requested deletion from the permit:

- Sites that are no longer on DOE property. Either the new owner must obtain permit coverage, or access agreements must be developed that allow the Permittees to complete cleanup or continue monitoring and BMP maintenance.
- Sites that are RCRA deferred, are “active” or may be covered under another NPDES permit. Must be kept on the permit under BMP maintenance requirements, or required to obtain coverage under Sector AD of the MSGP with tailored monitoring requirements for each site. Deferred Sites may be moved to long term stewardship with required BMP maintenance.
- Sites that qualify for no discharge. Permittees need to comply with the certification requirement in 40 CFR 122.26(g) as noted in the background for Condition #7.
- Sites with a Certificate of Completion (CoC) under the Consent Order and do not otherwise fall into the above categories. These sites shall not be deleted from the permit until they have gone through the SIP and SSD process and associated soil data screening. The CoCs under the 2016 Consent Order do not evaluate compliance with surface water quality standards and shall **not** be used as a reason for deletion of sites under this permit.

Please refer to Appendix 3 of this Certification for comprehensive summary of Sites as compared to deletion requests by both EPA and the Permittees, and the findings of the SIP process that occurred from 2016-2018, and associated water quality impairment information.

Background for Condition #8:

EPA administered National Pollutant Discharge Elimination System (NPDES) permit programs under 40 CFR 122.26(a)(ii), 122.26(b)(12) and (14) require the following:

§122.26 Storm water discharges

122.26(a) Permit requirement. (1) Prior to October 1, 1994, discharges composed entirely of storm water shall not be required to obtain a NPDES permit except:

(ii) A discharge associated with industrial activity (see §122.26(a)(4));

122.26(b)(12) Significant materials includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical the facility is required to report pursuant to section 313 of title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with storm water discharges.

122.26(b)(14) Storm water discharge associated with industrial activity means the discharge from any conveyance that is used for collecting and conveying storm water and that is directly related to manufacturing, processing or raw materials storage areas at an industrial plant. The term does not include discharges from facilities or activities excluded from the NPDES program under this part 122. For the categories of industries identified in this section, the term includes, but is not limited to, storm water discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process waste waters (as defined at part 401 of this chapter); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and final products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water. For the purposes of this paragraph, material handling activities include storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product, by-product or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with storm water drained from the above described areas. Industrial facilities (including industrial facilities that are federally, State, or municipally owned or operated that meet the description of the facilities listed in paragraphs (b)(14)(i) through (xi) of this section) include those facilities designated under the provisions of paragraph (a)(1)(v) of this section.

When the 2016 Consent Order was initially developed, there was a list of 2093 total Solid Waste Management Units (SWMUs) that were added to the Consent Order. The number of SWMUs that were subsequently included on this permit (405 SWMUs) were a subset of that initial list chosen based on the Permittees' assessment of whether or not the site would actually discharge stormwater. During the SIP process, NMED reviewed stormwater monitoring data and site histories, and observed that the predictions used to first select sites for inclusion on the permit was not accurate in predicting which sites would actually produce runoff. NMED noted additional SWMUs or AOCs that may need to be added to the IP in order to adequately protect surface waters from legacy activities that have yet to be mitigated/reclaimed/remediated. These sites are noted in Appendix 4, along with a description of the legacy activity and the constituents that would be of concern in stormwater runoff from the site.

Condition #8 (Additions of Sites to the Permit):

Sites noted in Appendix 4 to this certification must be added to the permit based on NMED observations of industrial materials exposed to stormwater through the Sampling Implementation Plan (SIP) investigations in 2016-2018.

Background for Condition #9:

EPA administered National Pollutant Discharge Elimination System (NPDES) permit programs under 40 CFR 122.26(a)(ii), 122.26(b)(12) and (14) require the following:

§122.26 Storm water discharges

40 CFR 122.26(g) Conditional exclusion for “no exposure” of industrial activities and materials to storm water. Discharges composed entirely of storm water are not storm water discharges associated with industrial activity if there is “no exposure” of industrial materials and activities to rain, snow, snowmelt and/or runoff, and the discharger satisfies the conditions in paragraphs (g)(1) through (g)(4) of this section. “No exposure” means that all industrial materials and activities are protected by a storm resistant shelter to prevent exposure to rain, snow, snowmelt, and/or runoff. Industrial materials or activities include, but are not limited to, material handling equipment or activities, industrial machinery, raw materials, intermediate products, by-products, final products, or waste products. Material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product or waste product.

(1) Qualification. To qualify for this exclusion, the operator of the discharge must:

(i) Provide a storm resistant shelter to protect industrial materials and activities from exposure to rain, snow, snow melt, and runoff;

(ii) Complete and sign (according to §122.22) a certification that there are no discharges of storm water contaminated by exposure to industrial materials and activities from the entire facility, except as provided in paragraph (g)(2) of this section;

(iii) Submit the signed certification to the NPDES permitting authority once every five years. As of December 21, 2020 all certifications submitted in compliance with this section must be submitted electronically by the owner or operator to the Director or initial recipient, as defined in 40 CFR 127.2(b), in compliance with this section and 40 CFR part 3 (including, in all cases, subpart D to part 3), §122.22, and 40 CFR part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of part 127, owners or operators may be required to report electronically if specified by a particular permit or if required to do so by state law.

(iv) Allow the Director to inspect the facility to determine compliance with the “no exposure” conditions;

(v) Allow the Director to make any “no exposure” inspection reports available to the public upon request; and

(vi) For facilities that discharge through an MS4, upon request, submit a copy of the certification of “no exposure” to the MS4 operator, as well as allow inspection and public reporting by the MS4 operator.

(3) Limitations....

(iv) Notwithstanding the provisions of this paragraph, the NPDES permitting authority retains the authority to require permit authorization (and deny this exclusion) upon making a determination that the discharge causes, has a reasonable potential to cause, or contributes to an instream excursion above an applicable water quality standard, including designated uses.

(4) Certification. The no exposure certification must require the submission of the following information, at a minimum, to aid the NPDES permitting authority in determining if the facility qualifies for the no exposure exclusion:

(i) The legal name, address and phone number of the discharger (see §122.21(b));

(ii) The facility name and address, the county name and the latitude and longitude where the facility is located;

(iii) The certification must indicate that none of the following materials or activities are, or will be in the foreseeable future, exposed to precipitation:

(A) Using, storing or cleaning industrial machinery or equipment, and areas where residuals from using, storing or cleaning industrial machinery or equipment remain and are exposed to storm water;

(B) Materials or residuals on the ground or in storm water inlets from spills/leaks;

(C) Materials or products from past industrial activity;

(D) Material handling equipment (except adequately maintained vehicles);

(E) Materials or products during loading/unloading or transporting activities;

(F) Materials or products stored outdoors (except final products intended for outside use, e.g., new cars, where exposure to storm water does not result in the discharge of pollutants);

(G) Materials contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers;

(H) Materials or products handled/stored on roads or railways owned or maintained by the discharger;

(I) Waste material (except waste in covered, non-leaking containers, e.g., dumpsters);

(J) Application or disposal of process wastewater (unless otherwise permitted); and

(K) Particulate matter or visible deposits of residuals from roof stacks/vents not otherwise regulated, i.e., under an air quality control permit, and evident in the storm water outflow;

(iv) All “no exposure” certifications must include the following certification statement, and be signed in accordance with the signatory requirements of §122.22: “I certify under penalty of law that I have read and understand the eligibility requirements for claiming a condition of “no exposure” and obtaining an exclusion from NPDES storm water permitting; and that there are no discharges of storm water contaminated by exposure to industrial activities or materials from the industrial facility identified in this document (except as allowed under paragraph (g)(2)) of this section. I understand that I am obligated to submit a no exposure certification form once every five years to the NPDES permitting authority and, if requested, to the operator of the local MS4 into which this facility discharges (where applicable). I understand that I must allow the NPDES permitting authority, or MS4 operator where the discharge is into the local MS4, to perform inspections to confirm the condition of no exposure and to make such inspection reports publicly available upon request. I understand that I must obtain coverage under an NPDES permit prior to any point source discharge of storm water from the facility. 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 upon my inquiry of the person or persons who manage the system, or those persons directly involved in gathering the information, the information submitted is to the best of my knowledge and belief true, accurate and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

Condition #9 (No exposure qualifications):

40 CFR 122.26 (g) requires that Permittees claiming “no exposure” of industrial materials to stormwater must complete and sign a certification that there are no discharges of contaminated stormwater. The

signed certification must be re-submitted to the NPDES permitting authority every five years. The regulation also requires notification to any subsequent MS4 operator, so there must be a requirement in this permit to submit the same certification to the MS4 partners in the upcoming MS4 permit.

Background for Condition #10:

20.6.4.126(A) NMAC: RIO GRANDE BASIN: Perennial portions of Cañon de Valle from Los Alamos national laboratory (LANL) stream gage E256 upstream to Burning Ground spring, Sandia canyon from Sigma canyon upstream to LANL NPDES outfall 001, Pajarito canyon from Arroyo de La Delfe upstream into Starmers gulch and Starmers spring and Water canyon from Area-A canyon upstream to State Route 501.

A. Designated uses: coldwater aquatic life, livestock watering, wildlife habitat and secondary contact.

B. Criteria: the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses.

20.6.4.128(A) NMAC: RIO GRANDE BASIN: Ephemeral and intermittent portions of watercourses within lands managed by U.S. department of energy (DOE) within LANL, including but not limited to: Mortandad canyon, Cañada del Buey, Ancho canyon, Chaquehui canyon, Indio canyon, Fence canyon, Potrillo canyon and portions of Cañon de Valle, Los Alamos canyon, Sandia canyon, Pajarito canyon and Water canyon not specifically identified in 20.6.4.126 NMAC. (Surface waters within lands scheduled for transfer from DOE to tribal, state or local authorities are specifically excluded.)

A. Designated uses: livestock watering, wildlife habitat, limited aquatic life and secondary contact.

B. Criteria: the use-specific criteria in 20.6.4.900 NMAC are applicable to the designated uses, except that the following segment-specific criteria apply: the acute total ammonia criteria set forth in Subsection K of 20.6.4.900 NMAC (salmonids absent).

20.6.4.900 NMAC: CRITERIA APPLICABLE TO EXISTING, DESIGNATED OR ATTAINABLE USES UNLESS OTHERWISE SPECIFIED IN 20.6.4.97 THROUGH 20.6.4.899 NMAC.

Pollutant	CAS Number	Domestic Water Supply	Irrigation-Irrigation Storage	Livestock Watering	Wildlife Habitat	Acute Aquatic Life	Chronic Aquatic Life	Human Health-Organism Only
Adjusted gross alpha		15 pCi/L		15 pCi/L				

NMED SWQB notes in LANS/DOE’s comments dated June 22, 2015 on the prior proposed permit that they believe it is not appropriate to use adjusted gross alpha (AGA) as a TAL that triggers corrective action and compliance deadlines under this permit. Their comment specifically states:

The Permittees request that EPA delete “adjusted gross alpha” as a POC under Appendix B of the draft IP, including the AGA TAL value of 15 ug/L [sic] under Part I.B. Although the Permittees will continue to monitor for AGA, as discussed below, they do not believe that the CWA or the New Mexico WQA/WQS authorizes EPA to require corrective action and impose associated compliance deadlines for completing corrective action for an exceedance of AGA.

NMED finds N3B’s/DOE’s comments on AGA unpersuasive. In their comments they argue that elevated levels of adjusted gross alpha are due to natural background levels, while at the same time arguing that all of the constituents of adjusted gross alpha are Atomic Energy Act (AEA) materials and are exempted under the CWA.

First, New Mexico's water quality standard for adjusted gross alpha specifically takes the exemption under the AEA into account, hence the "adjustment" to gross alpha. NMED SWQB notes that the Permittees were monitoring total gross alpha under the administratively continued permit and never provided an adjusted measurement to demonstrate that values above the TAL were caused by materials exempt under the AEA. NMED recognizes that the Permittees have documented the presence of a significant number of AEA-exempted nuclides in soil data from sites covered in this permit, however they have not demonstrated that removing these constituents would result in gross alpha levels compliant with the State Water Quality Standard.

Secondly, while NMED recognizes that there may be naturally elevated levels of gross alpha within the permit area it is not appropriate to simply remove this TAL. Additionally, as the Permittees currently refer to background, they refer to the background calculated as an Upper Tolerance Limit (UTL). Rather, the proposed permit provides a mechanism through the site contributing test to address background levels of pollutants, and the Permittees can conduct run-on/runoff monitoring at Sites where natural sources of gross alpha are an issue.

NMED asserts that it is appropriate to utilize adjusted gross alpha as a TAL under this permit to ensure that this permit is protective of State Water Quality Standards. If EPA decides to remove the TAL for adjusted gross alpha from the final permit, NMED SWQB reserves the right to revoke and amend this certification as necessary.

Condition #10 (TAL for adjusted gross alpha):

EPA must retain the TAL for adjusted gross alpha in the final permit. Permittees are encouraged to investigate run-on/run-off evaluations as allowed in the SIP for SMAs where they believe naturally occurring conditions may be contributing to TAL exceedances. Additionally, if the measurement of total gross alpha shows exceedances of the adjusted gross alpha standard after investigation of run-on sources, permittees may need to collect data to evaluate adjusted gross alpha data instead of relying on total gross alpha data.

Comments that are not Conditions of Certification:

- Footnote *7 of the TAL table in Appendix C of the draft permit indicates that for PCBs, the wildlife habitat value for PCBs will apply to ephemeral waterbodies as defined in the 303(d)/305(b) Integrated Report, and the human health-organism only aquatic life criterion will apply to intermittent and perennial waters. **All inquiries as to whether a waterbody is perennial, intermittent or ephemeral should be answered by the State standards, not the 303(d)/305(b) list.** NMED, DOE and their contractor Triad National Security, LLC, and Amigos Bravos have been working to properly identify waterbodies by hydrological type on the Pajarito Plateau, and this information is being incorporated into New Mexico’s 2020 Triennial Review of water quality standards. Once approved by New Mexico’s Water Quality Control Commission and EPA Region 6, these changes will be effective and memorialized in the *Standards for Interstate and Intrastate Waters, 20.6.4 NMAC*. Additionally, once the amended standards are approved by EPA, the SIP should incorporate the changes and update TALs and monitoring requirements as appropriate. The table below is included to illustrate that considerable differences in hydrology have been observed as a result of the Hydrology Protocol surveys conducted over the past couple of years.

Waterbody	# of Surveys	Perennial (0.00064 ug/L)	Intermittent (0.00064 ug/L)	Ephemeral (0.014 ug/L)
Ancho Canyon	3	X		X
Ancho Canyon Above N. Fork Ancho Canyon	3			X
Arroyo de la Delfe	2	X		X
Canon de Valle	2		X	X
DP Canyon	3	X	X	
Effluent Canyon	1		X	
Fence Canyon	3		X	X
Fish Ladder Canyon	1		X	
Los Alamos Canyon	6	X	X	X
Martin Spring	2		X	X
Mortandad Canyon	3			X
Pajarito Canyon	5	X	X	X
Portrillo Canyon	4			X
Ten Site Canyon	2			X
Two Mile Canyon	4	X	X	
Unnamed Tributary to Water Canyon	1		X	
Water Canyon	6	X	X	X

2. NMED believes that with the flexibility afforded to the Permittee in the proposed Site-Specific Demonstration (SSD) that there is no need for the alternative compliance request provision in the proposed permit. NMED suggests that it be removed to provide clarity on the Permittees' path to compliance, especially considering EPA's resources and ability to respond to alternative compliance requests (EPA did not approve a single alternative compliance request during the previous permit term). The language included in the draft permit providing automatic approval of alternative compliance requests is not appropriate and should be removed.
3. The Permittees submitted Alternative Compliance Requests for 81 sites to EPA under the administratively continued permit that were not approved or dealt with otherwise. These sites should all be addressed via the SSD process before any determinations are made to delete the sites from the permit.
4. NMED Surface Water Quality Bureau and NMED Hazardous Waste Bureau worked with the Permittees to develop a sediment removal decision tree that accounted for both hazardous waste and surface water regulatory requirements for removal of sediments accumulated in stormwater retention facilities. NMED includes this decision tree as supplemental information to this certification to assist in decision making regarding maintenance of BMPs required under this permit. The decision tree is attached as Appendix 6.
5. New Mexico Water Law codified at 19.16.2.15(B) NMAC requires that for water retained for longer than 96 hours, there must be a water right associated with that water. If the water infiltrates or is otherwise discharged, no water right is required. NMED is unclear that the permit requirements as written adequately convey that additional requirement with respect to BMPs such as retention berms and sediment ponds.
6. NMED received comments indicating that a mass balance approach should be taken regarding calculation of pollutant contributions from a site by requiring that flow measurements are taken in addition to water quality data. This would require the Permittees to install additional water quality equipment at every single SMA and would be burdensome. Additionally, no other stormwater permit issued in New Mexico requires mass loading calculations. The approach laid out by EPA to calculate the pollutant contribution by calculating the pollutant concentration upstream and subtracting it from the pollutant concentration downstream, and setting that value less than the TAL is appropriate, considering that the TALs are already conservatively set at the water quality standard.

$$(2) \frac{[V(\text{runoff}) * \text{total catchment area}] - [V(\text{run-on \& precipitation}) * \text{Non-site area}]}{(\text{site area})} \leq \text{TAL}$$

7. Permittees requested in their comments to amend the above formula for the SSD process to the following:

"Composite BTV = [(% impervious SMA area * 90th percentile developed landscape BTV) + (% pervious SMA area * 95-95 UTL 90th percentile undeveloped landscape BTV)]/ 100%"

And they provide the following rationale:

"The Permittees have worked diligently with EPA, NMED, and CCW regarding the development of storm water BTVs, particularly with respect to investigating data stability, data quality, and selecting sampling locations for background that are upwind of the Laboratory yet have similar elevation gradients, soil types, geologic formations, and vegetative cover (Windward, SEP DQO/DQA Document, 2017). During a series of webinars and meetings between September 2018 and January 2019, the Permittees and stakeholders discussed various statistical approaches to use for BTVs, with the Permittees proposing the 95-95 upper tolerance limit (UTL) as the most appropriate statistic for the intended use and population parameters of the background dataset.

Indeed, soil/sediment and groundwater BTVs for environmental cleanup and risk assessments are commonly computed based on the 95-95 UTL which "is designed to contain, but not exceed, a large fraction (95%) of the possible background concentrations within a sampled population, thus providing a reasonable upper limit on what is likely to be observed in background with a 95% degree of confidence" (page 14 of 2019 draft IP). The 95% degree of confidence is considered a good compromise between false positives and false negatives and the UTL provides a predictive setup for future sampling results, unlike upper percentiles which "potentially may lead to a higher number of false positives resulting in unnecessary cleanup (i.e., determining a clean on-site location comparable to background as dirty)" (U.S. EPA Region 9, 2011). CCW is a proponent of a more conservative upper percentile that would lead to approximately 25% false positives (i.e., unnecessary cleanup at 25% of Sites); however, there is no statistical, environmental, or budgetary foundation for this statistic. The Permittees suggest a compromise: the 95-95 UTL BTV for undeveloped landscapes which tend to be associated with naturally occurring constituents, and the 90th percentile BTV for developed landscapes which tend to be associated with anthropogenic-related constituents. U.S. EPA Region 9 (2011), "Statistical Methods used to Establish Background Datasets using Sampled Data Collected from DTLs, and Surface and Subsurface Soils of Three RBRAs of the Two Formations and Compute Estimates of Background Threshold Values Based Upon Established Background Datasets (with and Without Observations) For the Santa Susana Field Laboratory Investigation."

As part of the above-mentioned webinars, NMED was very clear that the state's preference is to use the 90th percentile BTVs. Using the 95-95 UTL is akin to using RCRA soil screening levels, which are not adequately protective of surface water quality standards. NMED urges EPA Region 6 to use the 90th percentile BTVs across the board, and advocates that those BTVs are updated in Appendix C to the permit. NMED has not seen Woodward Environmental's (DOE/N3B's contractor) final BTV report in 2020 and is unable to comment on how much those BTVs may have changed since the information included in the 2019 reapplication materials. All references to 95-95 UTL should **not** be continued forward into the final permit.

8. NMED strongly recommends that additional water quality information for Dissolved Organic Carbon (DOC) and Suspended Sediment Concentration (SSC) are added to the monitoring suite.
9. Appendix C of the permit is incorrectly titled as "Background Threshold Values". NMED believes this should be titled Target Action Levels or TALs.
10. NMED supports changes for inspection triggers from a 0.25-inch storm event to a 0.5-inch storm event. This allows the Permittees to shift resources to actively remediate and focus on sites that are issues instead of spending time and effort to inspect sites that do not experience major runoff damage as a result of a smaller storm.
11. In Part 1.C.1, EPA should delete the following language: Corrective actions will occur if any validated analytical result for a particular POC from a confirmation sample at an individual SMA is greater than the Maximum Target Action Level (MTAL) or if the geomean of all applicable sampling results is greater than the Average Target Action Level (ATAL) or Background Threshold Value (BTV). Target Action Levels and Background Threshold Values are listed in Appendix C and Appendix B to this permit, respectively."

This is an incorrect description of the process proposed to be utilized. The Permittees proposed language that NMED also agrees with: "Target Action Levels (TALs) are based on and equivalent to New Mexico State water quality criteria for the subject pollutants. The applicable TALs are not themselves effluent limitations but are benchmarks to determine the effectiveness of control measures implemented to meet the non-numeric technology-based effluent limitations. **TALs**

and Background Threshold Values are listed in Appendix B and Appendix C to this permit, respectively."

12. Part 1.C.3(c) of the permit states that a site may be requested to be placed in the long term stewardship category if "storm water sample results are greater than HH-OO based TALs, but below Wildlife Habitat TALs for discharges to non-perennial streams." The Permittees have requested the ability to delete sites that fall into this category. NMED believes these sites should be kept on the permit in the long term stewardship category because we are concerned that the discharge of stormwater containing pollutants that may meet criteria for Wildlife Habitat immediately at the location of the site, may accumulate in sediments and be carried further downstream in subsequent storm events and deposited into the Rio Grande (especially in the case of Los Alamos Canyon) where there is a drinking water use and the aquatic life uses that trigger the lower HH-OO criteria.
13. The Permittees request in Part 1.C.3 to add language allowing them to place RCRA deferred sites into long term stewardship. Generally, their suggestion is acceptable to NMED, but should be clarified that BMPs should still be installed and maintained at these sites to prevent any pollutants of concern from migrating from the site. Some RCRA deferred sites are still active (i.e. firing sites that may have residual contamination from historic activities) and could alternatively be covered under Sector AD of the MSGP, so NMED asks EPA Region 6 to consider that approach for these sites as well.
14. The Permittees request that EPA delete the first sentence of the last paragraph of Part 1.C.4 because they state that there will no longer be stormwater discharges associated with industrial activity. NMED respectfully disagrees and asserts that if the installed permanent control measures are the reason that site-associated pollutants are no longer being discharged in stormwater, then maintenance requirements should exist. EPA should not delete this requirement for certification of maintenance of those permanent control measures from this permit.
15. In Part 1.C.6(a), the draft permit states that if soil disturbance occurs within the Site-affected media, storm water samples collected following these activities shall be monitored for the entire suite of pollutants listed in Appendix B for that site. However, soil disturbance is not defined in this permit. NMED offers the following for clarification. Referencing other CWA stormwater permits, the Construction General Permit defines earth moving as clearing, grading and excavating activities. If any of these activities occur but are not part of BMP installation or are outside of the catchment area of a BMP within site-related media, the Permittees shall reinitiate sampling using the entire suite of pollutants listed in Appendix B for that site.
16. The permit currently states in Part 1.D.1(a) that the Permittees may collect run-on and run-off data for comparison at a site to determine what the site's contribution is to pollutant loading in runoff. However, the permit does not specifically require the Permittees to do so in a paired sampling setup. Due to the major variabilities between storm events and the differing abilities for a storm to transport sediment and associated pollutants, NMED strongly recommends that EPA modify the language to require that run-on/run-off monitoring is matched from the same storm event. It would not be appropriate to compare monitoring data from a 3-year event to a 100-year event.
17. Part 1.D.1(b)(ii) has a note, which states that if surface runoff from a site will penetrate deeper than three feet, the Permittees may not use this approach; this section talks about removal and replacement of three feet of surface soil with clean fill. The Permittees have requested to delete this note from the permit, but in light of the Permittees' request to use green infrastructure methods to mitigate runoff, there could be situations where green infrastructure allows the

penetration of stormwater to deeper than a depth of three feet. NMED urges caution to EPA in the evaluation of Permittees' request in this instance.

18. Part I.E.2.b contains a statement about how the Permittees are to evaluate pollutants of concern that do not have a numeric TAL associated with it, and the Permittees have requested to remove this sentence from the permit. NMED, in Condition #6 above, has done some research to assist EPA with matching up numeric values to new proposed TALs required to be added to the final permit to protect narrative water quality standards related to toxic pollutants. There should not be a TAL added to the permit without a numeric value associated with it to avoid any confusion about compliance. A TAL can be derived based on Best Professional Judgment or other research, and does not have to be associated with a water quality standard, and cannot be if there is no existing numeric criterion in the *Standards for Interstate and Intrastate Waters* at 20.6.4 NMAC.
19. On page 20 of the draft permit, Part I.H.3: EPA discussed the voluntary watershed protection approach and encourages the Permittees to install watershed controls where appropriate. EPA also solicited comment on whether sediment removal in the watershed-based approach should be considered.

If pollutants have migrated offsite and have deposited in a waterbody that is still subject to state water quality standards, the Permittees should be responsible for removal of those pollutants, but in a manner in which the ecology of the waterbody is protected.

NMED generally supports a watershed-based approach, but the Permit language should include specific criteria for acceptability to demonstrate that a significant reduction in pollutants will occur. Additionally, NMED would like to ensure that appropriate site-specific BMPs are not overlooked in the attempt to comply on a watershed scale.

There are several aspects of this approach that require consideration if this idea is to be included as a compliance path in the reissuance of this Permit. While retention and immobilization of existing pollutants in drainages is desirable and would have positive impacts on downstream water quality, it should not be used as a means to circumvent addressing sites under the Permit in an individual fashion. For example, installation of large capacity detention or retention structures in the lower reaches of the canyons may help to attenuate storm flows and reduce sediment transport, but does not prevent pollutants at individual sites in the upstream watershed to continue to be mobilized off of those sites. Applicable New Mexico water quality standards still apply in these upstream drainages, and discharges that contribute to exceedances of those standards must be mitigated. An example is the recently enlarged and enhanced sediment traps in Mortandad Canyon. These sediment traps will no doubt retain sediment and reduce downstream transport but addressing potential pollutant contributions from individual, upstream Sites should not be overlooked.

In addition to this, consideration of the control and disposition of potentially contaminated sediments which could accumulate in structures designed for watershed-based controls would need to be addressed and a process for characterizing and handling such sediments defined. A current example of this situation is the weir structure and detention ponds located in Los Alamos Canyon immediately upstream of NM State Route 4. This structure has been dredged and accumulated sediments have been removed several times, with the contaminant load and final disposition of this sediment remaining uncertain and in contention.

The proposed permit allows the option of submitting an alternative compliance request for sites where corrective action cannot be completed. NMED cautions EPA about the use of the watershed-based approach in such requests because the proposed permit also states that a

watershed-based measure could be considered for compliance under the permit. This approach is not appropriate in all situations. There are some canyons upstream on the Plateau that are perennial and have more stringent water quality standards allocated to them. If a watershed approach were to be used and did not account for those higher quality waters upstream, then those waterbodies could potentially be degraded. NMED SWQB is concerned about the potential use of this approach without more clarification and guidance. NMED suggests the following language:

“While a watershed approach may be appropriate, Permittees must institute control measures with the understanding that upstream waters, higher in the canyons, may have more stringent water quality standards which must still be protected.”

20. NMED agrees with deletion of the following sites:

- a. 00-011(c) [R-SMA-2.05]: This was an alleged former mortar impact site, but evidence of the use of the site for its alleged purpose was never found (evidence of UXO, ordnance, MD, MEC or impact scars).
- b. C-00-020 [R-SMA-0.5]: This was an alleged former mortar impact site, but evidence of the use of the site for its alleged purpose was never found (evidence of UXO, ordnance, MD, MEC or impact scars).
- c. 16-030(c) [CDV-SMA-1.4]: This site was former roof drains from a rest house building at TA-16 that has now been removed. It was never used for the management of hazardous constituents and was never comingled with another process. One stormwater sample has been collected at this SMA and showed a TAL exceedance for silver. This TAL exceedance is clearly associated with another SWMU in this SMA.
- d. 35-016(m) [PRATT-SMA-1.05]: This was a formerly NPDES permitted outfall that never discharged. It was meant to discharge noncontact cooling water from a sodium reactor in support of a cooling system. The sodium reactors were never installed and the cooling tower never operated and there was no discharge.
- e. C-46-001 [CDB-SMA-1]: This was a one-time mercury spill outside of building 46-75. According to the Permittees, the spill was cleaned up immediately and soil samples taken at the site do not show elevated levels of mercury (above background levels). A stormwater sample taken at the SMA sampler did not show TAL exceedances for mercury.
- f. 35-004(h) [PRATT-SMA-1.05]: This was a former hazardous waste satellite accumulation area. Soil was removed in this area to 15 feet and backfilled with clean soil.