

# NPDES PERMIT NO. NM0030759

## FACT SHEET

FOR THE DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
(NPDES) PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES

**APPLICANT:** Los Alamos National Laboratory (LANL), managed and owned by Permittees

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**PERMIT ACTION:** Proposed reissuance of LANL's NPDES storm water permit to replace the current permit which was modified in September 2010, with an effective date of November 1, 2010, and an expiration date of March 31, 2014. The modified permit, which has been administratively continued, authorizes discharges of storm water runoff from solid waste management units (SWMUs) and areas of concern (AOCs) on LANL property. This action also suspended the draft permit public noticed on March 28, 2015.

**DATE PREPARED:** November 19, 2019

**40CFR CITATIONS:** Unless otherwise stated, citations to 40 CFR refer to promulgated regulations listed at Title 40, Code of Federal Regulations, revised as of July 1, 2019.

**STATE CERTIFICATION:** The permit is in the process of certification by the State agency following regulations promulgated at 40 CFR 124.53. A draft permit and draft public notice will be sent to the District Engineer, Corps of Engineers; to the Regional Director of the U.S. Fish and Wildlife Service; and to the National Marine Fisheries Service.

Several Pueblos are located in the vicinity of Los Alamos National Laboratory. They include the following: San Ildefonso, Santa Clara, and Cochiti. The Santa Clara Pueblo has approved water quality standards (WQS); however, it is not adjacent to any stream where discharges are proposed to be authorized. Santa Clara is therefore not believed to be affected by the discharges proposed to be authorized by this permit. Neither San Ildefonso nor Cochiti Pueblo has submitted WQS for approval at this time; therefore, the only 401 Certification required under CWA §401 is from the State of New Mexico. However, pursuant to EPA's Tribal Consultation Policy, EPA offered San Ildefonso, Cochiti Pueblos, Pueblo of Santa Clara, and Pueblo of Jemez the opportunity to engage in government-to-government consultation because they all are part of Los Alamos Pueblos Project.

FINAL DETERMINATION: The public notice describes the procedures for the formulation of final determinations.

#### I. APPLICANT ACTIVITY

Under the Standard Industrial Classification (SIC) Codes 9922, 9711, 9661, and 9611, the applicant currently operates a large multi-disciplinary facility which conducts national defense research and development, scientific research, space research and technology development, and energy development.

#### II. DISCHARGE LOCATION

The 36-square mile LANL facility is located in Los Alamos County, approximately 25 miles northwest of Santa Fe, NM. The facility is situated on the Pajarito Plateau, which consists of a series of finger-like mesas separated by deep west-to-east oriented canyons. The facility has 37 active technical areas spread over 36 square miles. The administratively continued permit (AC Permit) categorized the Sites into Site Monitoring Areas (SMAs), sub-watersheds, and watersheds for monitoring purposes. An SMA is an area related to one or more Sites or industrial activities based on a common drainage area within a sub-watershed. A sub-watershed is a sub-area of the watersheds with its own defined drainage area. There are seven (7) major watersheds within the LANL facility boundary: Los Alamos/Pueblo, Sandia, Mortandad, Pajarito, Water/Canon de Valle, Ancho, and Chaquehui.

#### III. RECEIVING WATER USES

The receiving waters are designated under the NM WQS for the following uses: Rio Grande Basin Segment No. 20.6.4.98, designated for livestock watering, wildlife habitat, marginal warmwater aquatic life and primary contact; Rio Grande Basin Segment No. 20.6.4.126, designated for livestock watering, wildlife habitat, coldwater aquatic life and secondary contact; Rio Grande Segment No. 20.6.4.128, designated for livestock watering, wildlife habitat, limited aquatic life and secondary contact pursuant to the approved NMWQS.

#### VI. STATE STREAM STANDARDS

The general and specific stream standards are provided in "State of New Mexico Standards for Interstate and Intrastate Surface Waters," (20.6.4 NMAC) New Mexico Water Quality Control Commission (WQCC). EPA approved the New Mexico Water Quality Standards (NMWQS) which were amended as of August 11, 2017.

#### V. BACKGROUND AND COVERAGE

The LANL facility is located in Los Alamos County, New Mexico. The Department of Energy (DOE) and Newport News Nuclear BWXT-Los Alamos, LLC (N3B) are co-permittees (“Permittees,” or jointly referred to as LANL) for the purposes of this permit. On February 3, 2005, LANL, EPA Region 6, and the New Mexico Environment Department (NMED) entered into a Federal Facility Compliance Agreement (FFCA), which established an interim compliance program to regulate storm water discharges from Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) (collectively, as Sites) on LANL’s property prior to issuance of an individual storm water permit. An AOC is any area that may have had a release of a hazardous waste or hazardous constituent and which is not a SWMU, as defined by the NMED Consent Order.

EPA issued the first individual NPDES storm water permit (IP) covering these SWMUs and AOCs on February 13, 2009. The 2009 IP covered a total 405 Sites and designated 250 Site Monitoring Areas (SMAs) as sampling locations for monitoring purposes. On March 13, 2009, the Western Environmental Law Center on behalf of Amigos Bravos, Concerned Citizens for Nuclear Safety, Embudo Valley Environmental Monitoring Group, Honor Our Pueblo Existence, New Mexico Acequia Association, Partnership for Earth Spirituality, J. Gilbert Sanchez, Kathy Sanchez, and Tewa Women United (“Petitioners”) filed a Petition for Review of the 2009 permit with the EPA Environmental Appeals Board (EAB) under 40 CFR 124.19(a). On April 13, 2009, LANL filed a Motion to Intervene and Request for Leave to Respond to the Petition for Review. On April 21, 2009, the EAB granted LANL’s request to intervene.

Following extensive settlement discussions, EPA, the Petitioners and LANL agreed to the terms and conditions of a permit modification addressing the concerns raised in the Petition for Review. The final modified IP was issued September 30, 2010 and expired on March 31, 2014. Because the Permittees submitted a timely application for permit renewal prior to expiration of the 2010 permit, the 2010 permit was administratively continued in accordance with 40 C.F.R. §122.6. The administratively continued permit (“AC Permit”) does not cover storm water discharges associated with current conventional industrial activities or discharges from Sites co-located with the current conventional industrial activities. Discharges associated with conventional industrial activities will continue to be covered by the Multi-sector General Permit (MSGP).

EPA first proposed renewal of the 2010 AC Permit on March 28, 2015, and EPA received comment from the following entities:

Communities for Clean Water (CCW) via email dated June 25, 2015;  
Los Alamos National Laboratory (LANL) via email dated June 25, 2015; and  
New Mexico Environment Department (NMED) letter dated July 21, 2015.

Pursuant to the New Mexico Water Quality Act, the NMED is the agency tasked with providing State certifications of federal permits. NMED provided EPA Region 6 with its CWA Section 401 certification of the draft permit by a letter from James Hogan (NMED) to William K. Honker (EPA), dated July 21, 2015. Section 401(a) of the Clean Water Act (CWA or “the Act”) provides that applicants for a Federal license or permit to conduct any activity that may result in a discharge to navigable waters must obtain a certification from the State in which the discharge originates that the discharge complies with the applicable provisions of the Act. Pursuant to Section 401(a)(1) of the Act and 40 CFR §124.53(a), EPA may not issue a permit unless such a certification has been granted or waived by the State. Section 401(d) further provides that any State certification provided under Section 401 of the Act “shall become a condition on any Federal license or permit subject to the provision of this section,” and 40 CFR §124.55(a)(2) mandates that “no final permit shall be issued” unless it incorporates the State certification requirements.

Following EPA’s proposal of the 2015 draft permit, but prior to permit reissuance, LANL notified EPA that it intended to significantly update its permit application based on new information, including additional

monitoring data and study results. Following discussions with the permittees regarding the nature of the new information, EPA decided that it made sense, both in terms of the efficient use of agency resources and in the interest of providing all interested parties with a clear record of the information underlying the permit, to withdraw the 2015 draft permit and propose a new draft permit.

Therefore, through today's action EPA is withdrawing the draft individual storm water permit No. NM0030759 proposed on March 28, 2015 ("2015 draft IP") and is proposing a new draft individual storm water permit No. NM0030759.

## VI. TENTATIVE DETERMINATION

Based on preliminary staff review, consultation with NMED, and considerations of comments provided by the Communities for Clean Water (CCW), EPA has made a tentative determination to issue a renewal permit for the discharges described in LANL's revised application and supplemental information received on July 15, 2019. The proposed renewal permit retains the requirement that applicable Best Management Practices (BMPs) be installed and maintained at every Site.

## VII. NEW AND SUBSTANTIAL INFORMATION PROVIDED BY LANL

In its revised application and supplemental information of July 15, 2019, LANL provided new information to support their requests for changes of certain conditions in the existing permit or in the March 28, 2015 proposed permit. Information provided in the 2019 Application is summarized below. A more detailed discussion of these issues can be found in LANL's application, which is posted on the Permittees' Individual Permit public website.

## ACRONYMS AND ABBREVIATIONS

AGA	adjusted gross alpha
AOC	area of concern
ATAL	average target action level
AWQC	ambient water quality criteria
BLM	biotic ligand model
BMP	best management practice
BTV	background threshold value
BV	background value
COC	certificate of completion
Consent Order	Compliance Order on Consent (NMED)
IP	Individual Permit (NM0030759)
LANL	Los Alamos National Laboratory
MSGP	Multi-Sector General Permit NMR053195
MTAL	maximum target action level
NFA	no further action
NM	New Mexico
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department

NMWQS	New Mexico Water Quality Standard
POC	pollutants of concern
RCRA	Resource Conservation and Recovery Act
SAP	sampling and analysis plan
SDPPP	Site Discharge Pollution Prevention Plan
SEP	supplemental environmental project
SIP	sampling implementation plan
SMA	site monitoring area
SSC	suspended sediment concentration
SSD	Site-Specific Demonstration
SSL	soil screening level
SSWQC	site-specific water quality criteria
SVOC	semivolatile organic compound
SWMU	solid waste management unit
SWPPP	Storm Water Pollution Prevention Plan
TAL	target action level
UTL	upper tolerance limit
WAD	weak acid dissociable
WET	whole effluent toxicity
WQC	water-quality criteria
WQS	water quality standard(s)

LANL provided a number of comments on the 2015 draft IP. Because the 2015 draft IP has been withdrawn and not finalized, EPA is not required to respond to these comments under 40 C.F.R. §124.17. However, EPA has attempted to correct any errors or inconsistencies noted by LANL in the new draft permit and provides the following responses in an effort to further explain the Agency's rationale with regard to the new draft permit.

#### A. Correcting Errors and Inconsistencies

LANL: LANL noted several errors and inconsistencies regarding proposed permit conditions of gross alpha, manganese, mercury, cyanide and chromium between the 2010 IP and 2015 draft IP.

1. Gross Alpha: As noted in LANL's comments on the 2015 draft IP and 2015 NMED §401 Certification, differences exist regarding the basis of gross alpha measurement (i.e., adjusted gross alpha (AGA)<sup>1</sup> versus non-AGA).

EPA Response: EPA noted the difference.

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<sup>1</sup> New Mexico AWQC for the livestock watering designated use is 15 pCi/L based on AGA, a calculation that removes certain radionuclides in the sum; the excluded radionuclides are those regulated by the Atomic Energy Act (AEA) (see LANS comments on the 2015 draft IP, page 14-17 [LA-UR-15-24555]).

2. Manganese: Under Condition No. 2 in the 2015 NMED §401 Certification, NMED stipulated that manganese monitoring should be included in the IP. In LANL's comments on the 2015 NMED §401 Certification, LANL argued that no need for such monitoring had been demonstrated. Although a manganese TAL was not included in the 2010 IP, LANL proactively collected dissolved manganese data at 23 SMAs in 2017 and 2018 (Table 11 of Application). Among the SMA data, no maximum measured concentrations exceeded the New Mexico AWQC, and the highest observed value among the SMA data was less than one-half the AWQC value calculated at the canyon-specific hardness corresponding with the proposed revised Appendix F to the 2015 draft IP. At present, there are no sites where manganese has been identified as a potential pollutant of concern (POC) based on historical knowledge. Because of a lack of historical evidence suggesting a significant source of manganese, as well as a lack of exceedance of the New Mexico AWQC for manganese, LANL requested that manganese not be added as a TAL to the IP as a requirement for monitoring. Rather, LANL requested that the corrective action screening process be used to further evaluate manganese (i.e., by characterizing soil data), and that the annual monitoring plan be updated as appropriate based on the outcome of the corrective action screening process.

EPA Response: NMED required new TALs for total recoverable aluminum, dissolved chromium, dissolved chromium-III and dissolved manganese as conditions of State CWA §401 certification to the 2015 draft IP. Because EPA did not finalize the 2015 proposed permit, NMED's certification for the 2015 draft IP is no longer current and does not apply to the new draft permit. EPA has included a sampling implementation plan (SIP) or corrective action screening process in this proposed renewal IP, NMED has the opportunity to evaluate the new manganese information and determine whether it still believes monitoring of manganese is necessary. EPA is not proposing to add new monitoring requirements for manganese. EPA clarifies that listing pollutants in the Target Action Levels Table by itself does not trigger sampling/monitoring requirements.

3. Mercury: The 2015 draft IP listed both total and dissolved mercury, while the 2010 IP specified only total mercury. No rationale has been provided to justify the addition of dissolved mercury and so it should be deleted. The total mercury WQC for the wildlife habitat use, 0.77 µg/L, alone, is more stringent than any dissolved mercury criteria in 20.6.4.900 NMAC.

EPA Response: Dissolved mercury has acute aquatic life criteria to be used for MTAL. Because the total mercury ATAL, 0.77 µg/L, is much more stringent than the dissolved mercury MTAL, 1.4 µg/L, it will be unnecessary to monitor dissolved mercury. (Note: Site-specific monitoring requirements will be determined by site-specific information through annual SIP process. Pollutants or constituents listed in the Target Action Levels Table do not reflect sampling/monitoring requirements; rather, TALs are listed for compliance or corrective action purposes.)

4. Cyanide: Because the weak acid dissociable (WAD) method provides a better estimate of free cyanide, a change to the total recoverable basis specified in the 2015 draft IP should not be made in the renewed IP. Additionally, EPA updated the human health-organism only (HH-OO) criteria (EPA 2015, 700248) for cyanide to 400 µg/L, more than double the current New Mexico HH-OO criteria of 140 µg/L. New Mexico has not updated its standards to reflect these changes.

EPA Response: The most recent NMWQS, effective as August 11, 2017, has wildlife habitat and aquatic life standards for total recoverable cyanide. Therefore, total recoverable cyanide is used for TAL monitoring purposes. EPA solicits comments whether TALs could be revised or updated through the annual SIP process to reflect NMWQS update.

5. **Chromium:** As noted in LANL's comments on the 2015 NMED §401 Certification, the Permittees have requested that chromium III in the Appendix F Table in EPA's draft permit be replaced with chromium VI to be consistent with the TAL Table in EPA's 2015 draft permit. The Permittees disagree with NMED's request that "Cr-III should be added back to the TAL list in Part I.B, with a reference to Appendix F for the hardness based values.".... New Mexico's aquatic life criterion for chromium applies to chromium III specifically, as opposed to chromium VI or a combination of the two. Because of the difficulty and cost associated with measuring individual chromium species in surface water samples, the Permittees typically measure total dissolved chromium (i.e., the sum of dissolved chromium III and dissolved chromium VI). The comparison of total dissolved chromium to the hardness-dependent chromium MTAL, which is based on New Mexico's chromium III AWQC, is thus conservative.

**EPA Response:** To challenge State 401 condition of certification, appeal of such conditions must be made through applicable procedures of the State. The NMWQS indicates that at the lowest stream hardness of 25 mg/L, the dissolved Cr-III acute and chronic aquatic life standards are 180 µg/l and 24 µg/l, respectively. The dissolved Cr-VI acute and chronic aquatic life standards are 16 µg/l and 11 µg/l, respectively. The MTAL for total dissolved chromium is 210 µg/l. EPA will accept total dissolved chromium results against the Cr-III TAL to determine whether further corrective action is required. If there are sites for which Cr-VI shows up in the soil monitoring conducted under RCRA, then the monitoring could be tailored to that site. Monitoring requirement could be updated via annual SIP process.

#### B. Hardness-dependent TALs

**LANL:** The 2010 IP provided single-value TALs based on 30 mg/L hardness for each metal. Recognizing hardness differences among receiving waters, the 2015 draft IP proposed 25 watershed-specific TALs for the same metals that, like the TALs in the 2010 IP, are based on New Mexico acute AWQC. Additional hardness data have been collected at the relevant receiving water gaging stations since then and should be considered. Consequently, as part of the revised application, hardness-dependent MTALs have been updated based on updated geometric mean hardness values. The Permittees required that the number of watersheds be reduced from 25 to 7 because the hardness does not vary significantly within those 7 major watersheds and in order to simplify the implementation of the SIP data screening process.

**EPA Response:** EPA proposes using geo-mean of hardness from each major canyon to calculate major watershed-based hardness-dependent TALs.

#### C. Aluminum Measurement and Compliance Issues

**LANL:** LANL raised relevant issues pertaining to sample preparation methods for aluminum in natural surface waters and use of aluminum NM AWQC for derivation of MTALs. LANL stated that new data and recent evaluations demonstrate the uncertainties, flaws, and shortcomings associated with how potential water quality issues related to aluminum are assessed. These issues are particularly relevant on the Pajarito Plateau, where storm water samples typically contain elevated concentrations of aluminum-bearing suspended solids (receiving waters and SMAs). With recent and ongoing updates to aluminum EPA AWQC (described in the Application package), bioavailability considerations (based on results from laboratory toxicity tests) are being incorporated into AWQC. Despite updates and improvements to NM AWQC or EPA AWQC, quantification of toxicologically relevant forms of aluminum in surface waters remains a concern. LANL provided a summary of this issue and examples using data from surface waters in the LANL vicinity.

In evaluations completed since the 2014 IP application was submitted, LANL has shown that concentrations of aluminum measured at natural background locations and locations upstream and off-site and downstream from

LANL are similar to those in unfiltered samples, as well as in 10- and 0.45- $\mu\text{m}$  sample filtrates. The current New Mexico AWQC were adopted in 2010 and are hardness based (i.e., AWQC change as a function of water hardness), but they are also based on “analysis of total recoverable aluminum in a sample that is filtered to minimize mineral phases as specified by the department.” The current (2012) NMED guidance for filtration is to use a 10- $\mu\text{m}$  filter if sample turbidity is greater than 30 nephelometric turbidity units (NMED 2012, 700224). Consequently, the 2015 draft IP shifted from a dissolved to a total recoverable basis for aluminum compliance monitoring. However, EPA did not reflect the NMED 2012 guidance insofar as the 10- $\mu\text{m}$  pre-filtration method. Thus, at a minimum, LANL requests that EPA include the pre-filtration step, contingent on the outcomes of the LANL filtration and toxicity study currently underway.

EPA Response: Because the aluminum MTAL was based on the NM AWQC, the sample preparation method defined in the current NMED Guidance shall apply until NMED adopts or accepts a new procedure.

LANL: A recent LANL study (LANL 2018) suggests that nontoxic aluminosilicates are important contributors to total recoverable aluminum in samples that have been pre-filtered, and that potentially toxic, freshly precipitated amorphous aluminum hydroxide is not present in storm water samples. Additionally, recent work conducted by Rodriguez et al. (2019) provides further evidence that total recoverable aluminum concentrations are not toxicologically relevant in waters containing elevated suspended sediment concentration (SSC). Because it is widely understood that the total recoverable basis for quantifying aluminum concentrations in surface waters is inadequate, LANL has been collaborating with NMED to generate new data intended to evaluate the potential for toxicity because of aluminum in Pajarito Plateau waters (Windward 2019, 700289). Additionally, these data may demonstrate a more appropriate sampling methodology for aluminum in surface waters with naturally high SSC (i.e., consistent with Rodriguez et al. The plan for generating these data is described in the 2018 proposed toxicity testing plan (Windward 2019, 700289). The study will be completed in the 2019 monitoring season and results will be reported to EPA and NMED with recommendations. Because this important work will not be completed in time for EPA to consider it in the renewed IP, and because the work is critical to help guide the selection of more appropriate sample preparation methods, LANL requests that EPA include a compliance schedule item related to aluminum in the renewed IP.

EPA Response: The process to develop a new sample preparation method may take more time and encounter more opposition than expected. EPA does not believe a compliance schedule related to aluminum should be included in the permit at this time. Prior to a different sample preparation method being adopted or accepted by NMED, LANL must use the required method defined in the NMED Guidance. Whenever a new method becomes available, that new method may be incorporated into the annual SIP for implementation. Also, because TALs established in the permit are not effluent limitations, but benchmarks used to determine whether additional corrective actions are needed, EPA is open to considering other options, like using BTVs or alternative control measures to determine compliance status.

#### D. Biotic Ligand Model (BLM)-based Metals MTALs

LANL: Exposure conditions and water chemistry in ambient waters, especially ephemeral and intermittent waters, are also expected to differ significantly from the conditions used in laboratory-based toxicity tests to derive AWQC. As a result, the exposures and bioavailability of potential toxicants in surface waters may not be accurately reflected by the AWQC. Employing the water effect ratio is a well-known means of adjusting AWQC based on metals bioavailability, as acknowledged in EPA guidance (EPA 1994, 700274) and New Mexico WQS (Paragraph 4 of Subsection D of 20.6.4.10 NMAC). EPA’s nationally recommended AWQC for copper (EPA 2007, 700258) are based on the biotic ligand model (BLM) and more accurately account for copper bioavailability than do the longstanding hardness-based AWQC. LANL argued that because the BLM is the basis of EPA’s nationally recommended AWQC for copper, these AWQC are considered more accurate than

hardness-based AWQC. Also, because the BLM is accepted as a scientific tool for more accurately evaluating metal bioavailability in general, BLM-based AWQC should be considered as replacements for the hardness-based AWQC used for MTALs in the LANL IP. The Permittees plan to propose BLM-based, site-specific water quality criteria for the protection of aquatic life through the New Mexico rulemaking process.”

EPA Response: If NMED and LANL reach agreeable BLM values through the annual Sampling Implementation Plan process, EPA may consider using BLM-based values for requirement of further corrective action instead of a basis to remove a site from the permit until the State adopts the BLM-based AWQC into the NMWQS.

#### E. 2018 Background Threshold Value (BTV) Report

LANL: Concentrations of constituents in certain storm water discharges, as well as receiving waters downstream of LANL, are influenced by upstream sources associated with background conditions related to both undeveloped and developed land on the Pajarito Plateau. Constituent concentrations are also influenced by anthropogenic baseline inputs (e.g., atmospheric deposition). The 2019 background threshold values (BTVs) report (Windward 2019, 700289) (presented in Attachment 2 to the Application and hereafter referred to as the 2019 BTV report) quantifies these varying sources in a statistically rigorous and defensible manner, thereby yielding a set of BTVs that can be compared to POC concentrations in storm water per the corrective action screening process. A 90% draft of the 2019 BTV report was provided by the Permittees to the NMED, EPA, and Communities for Clean Water stakeholder group in October 2018 for review and comment. The 2019 BTV report was finalized based on consideration of comments received through October 2018.

BTVs are proposed for use in the Site-Specific Demonstration (SSD) as described in the draft application. Certain BTVs calculated/quantified by the 2019 BTV report exceed IP MTALs for dissolved aluminum, copper, zinc, and total PCBs. Additionally, although normalization to SSC makes a direct comparison difficult, certain BTVs are likely to exceed IP MTALs for dissolved aluminum, total gross alpha, and radium-226 and -228, each of which is strongly related to SSC in the background datasets through 2017. Thus, SSC would be measured concurrently for POCs with SSC-normalized BTVs.

EPA Response: While air deposition and/or run-on are not industrial associated activities, it is reasonable to minimize those factors when dealing with the contamination caused by previous industrial activities. Because background contribution may be a cause of TAL exceedance at certain Sites, EPA is proposing different approaches in the permit to minimize the background contribution in determining compliance status. NMED questioned whether the use of BTVs instead of TALs for determining the need for corrective action triggers anti-backsliding in cases where BTVs are higher than the 2010 TALs. To use BTVs instead of TALs in certain circumstances does not conflict with the anti-backsliding regulations because TALs are not effluent limitations. The 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. EPA is not proposing any change to the non-numeric technology based effluent limitation. Further, this permit is designed to regulate pollutants contributed by previous industrial associated activities, not to address naturally occurring or non-industrial pollutants. Tier approach is proposed to determine further actions based on composite BTVs.

#### F. Biological Data

LANL: LANL provided some biological information and data to provide further address context for AWQC issue applicable to the receiving waters of the Pajarito Plateau. A summary is provided below.

A majority of receiving waters on the Pajarito Plateau are ephemeral streams, thus they are highly unlikely to contain the types or diversity of aquatic species (e.g., fish) that are included in the species sensitivity

distributions used to derive AWQC. Because the 2010 IP TALs are generally based on EPA AWQC and New Mexico AWQC for aquatic life, it may be reasonable to recalculate those AWQC based on a site-specific approach (according to EPA's species deletion approach.) Recent and historic survey data for aquatic life and other relevant biological and/or toxicology information have been collected by LANL, and those data could inform a species deletion approach to recalculating AWQC (and thus TALs) for Pajarito Plateau streams.

In 2017 and 2018, aquatic life surveys of surface waters within the Pajarito Plateau were performed as part of the sampling and monitoring Supplemental Environmental Projects (SEP). One goal of the aquatic life surveys was to determine which aquatic life species are present in ephemeral, intermittent, and perennial waters within and outside of LANL watersheds. The objectives of this study were to generate the data needed to evaluate whether existing AWQC are sufficient to provide the intended level of protection for the aquatic life communities found in the site and in reference waters on the Pajarito Plateau. The data that were collected for the 2017 and 2018 aquatic life surveys is provided in NPDES Form 2F, Section VIII of this IP renewal application. Data collection included sampling efforts for benthic macroinvertebrates, aquatic meiofauna, and aquatic vertebrates. Because of the intermittent and ephemeral nature of many watercourses on the plateau, sampling locations included ponded water and even dry bed sediments. Sampling results found in the benthos and meiofauna Metric Reports (NPDES Form 2F, Section VIII, Tables VIII-3 and VIII-5) are indicated as wet or dry, respectively.

Numerous historical biological studies have been conducted in LANL area waters. Appendix E-2 of the sampling and monitoring SEP (LANL 2017) provides a summary of studies from 1990 to 2008. A use attainability analysis (NMED 2007, 700287) included data from electrofishing surveys in the Sandia Canyon, Pajarito Canyon, and Cañon de Valle stream reaches. Fish were not located in those surveys. The 2007 use attainability analysis also relied on data from the U.S. Fish & Wildlife Service water quality assessment (Lusk et al. 2002, 700267) that evaluated biological, chemical, and physical characteristics of four intermittent streams within Los Alamos, Sandia, and Pajarito Canyons and in Cañon de Valle. The Lusk et al. (2002) report indicated that there was no source of fish in upstream perennial waters in the canyons surveyed. Thus, fish absence should be taken into account when considering the species sensitivity distributions behind the existing TALs and related AWQC.

Ecological risk assessments have been conducted for multiple canyon investigations conducted as part of the RCRA Consent Order. These assessments are also cited in NPDES Form 2F, Section VIII, Table VIII-6. The findings are presented in each investigation report. These assessments include toxicity testing on *Chironomus dilutus* (formerly *C. tentans*) per EPA test methods. Such testing provides a measure of potential effect on abundance and diversity of the aquatic community in the stream segments of the particular watershed. The reports indicated POC concentrations in sediment, surface water, and alluvial groundwater were either relatively stable or decreasing over time for POCs derived from Laboratory SWMUs or AOCs. Subsequent studies and data have confirmed that these temporal trends persist, indicating similar or decreased concentrations in canyon sediments compared with when the chironomid toxicity tests were first conducted. Several canyon reaches have been recently identified as impaired for aluminum (NMED 2018, 700253); however, preliminary toxicological testing similar to whole effluent toxicity testing suggests that mineral forms of aluminum arising from the local geology are nontoxic to an aluminum-sensitive test organism (Dail et al. 2018, 700238).

Several years of data for whole effluent toxicity testing have been generated for LANL's Outfall 001 using the sensitive test organism *C. dubia* following methods in EPA (2002, 700278). Of the 28 acceptable *C. dubia* 7-day survival and reproduction tests conducted since March 2015, none showed any effect on survival in full strength effluent. Of the 28 acceptable tests, reproduction was unaffected in 20 tests (71%). Of the 8 tests with an effect on reproduction, 3 test results were unreliable because of their either flat or unusual concentration response, and the other 5 test results had a very minor decrease in reproduction relative to the control organisms.

These results are pertinent for the IP because Sites 03-045(b) and 03-045(c) in S-SMA-2 are also regulated as active wastewater outfalls included in LANL's NPDES Permit No. NM0028355 for industrial and sanitary outfalls. Site 03-0345(b) is NPDES-permitted Outfall 001. Site 03-0345(c) is the former Outfall 03A027 that currently flows into Outfall 001. The NPDES-permitted Outfall 001 creates the baseflow included in storm water samples at S-SMA-2. The test data suggest no aquatic toxicity concerns for upper Sandia Canyon receiving waters and the respective co-located NPDES outfalls.

EPA Response: If a proper WET test protocol for stormwater runoffs could be developed, EPA may consider using 24-hour 100% acute toxicity test to determine whether runoffs from a specific Site with specific metals of concern in dispute have reasonable potential to cause toxicity to aquatic life if ATAL is in question.

#### G. Adjusted Gross-Alpha (AGA)

LANL: Alpha-emitting radiogenic minerals are present in natural rock throughout Laboratory property and are responsible for the high total gross-alpha activity in storm water. Gross-alpha measurements are performed on nonfiltered water samples that often contain high concentrations of suspended sediments, typical of storm water runoff in an arid environment. Gross-alpha exceedances of the New Mexico livestock WQC (the basis for the 2010 IP ATAL) are routinely observed in turbid stormflow upstream of Otowi Bridge in the Rio Grande as well. In addition, natural sediments entrained in turbid storm water runoff from SWMUs distant from developed landscapes are the leading factor for routine exceedances of the 2010 IP ATAL gross alpha within the Laboratory boundary.

Alpha-emitting radionuclides associated with source, special nuclear, or byproduct material as defined in the Atomic Energy Act (AEA) or the radioactive portion of mixed waste are exempt from regulation under the Clean Water Act (CWA). Although these radionuclides may be associated with the total gross-alpha radioactivity detected in the IP samples, they are excluded from the definition of AGA radioactivity. AGA radioactivity is the sum of alpha-emitting radionuclides (measured in units of pCi/L) in a sample minus the activity of AEA-exempt alpha-emitting radionuclides in the same sample.

EPA Response: NMAC 20.6.4.7A(5) defines "Adjusted gross alpha" to mean the total radioactivity due to alpha particle emission as inferred from measurements on a dry sample, including radium-226 (Ra-226), but excluding radon-222 and uranium. Also excluded are source, special nuclear and by-product material as defined by the Atomic Energy Act of 1954." Based on information found at Nuclear Regulatory Commission's (NRC) website, [https://scp.nrc.gov/narmtoolbox/radium\\_faq102008.pdf](https://scp.nrc.gov/narmtoolbox/radium_faq102008.pdf), Ra-226 is regulated by NRC through the authority of AEA. If Ra-226 is included in AEA scope and exempted from the CWA, EPA does not have authority to regulate AGA which also includes Ra-226 through the NPDES permit. EPA is not including AGA monitoring requirements in the proposed permit. NMED may work with LANL through SIP process to monitor AGA, but EPA is not proposing requirements for corrective actions to address AGA issues.

#### H. Polychlorinated Biphenyls (PCBs)

LANL: In 2010–2012, DOE, the NMED DOE Oversight Bureau, and LANS conducted a cooperative study to characterize PCBs in certain surface waters located in the upper Rio Grande watershed and in areas in and around the Laboratory. The 2010-2012 Study found the baseline total PCB concentrations around the LANL range from below the New Mexico human health-organism only (HH-OO) criteria of 0.64 ng/L to 200 times of the HH-OO criteria. Data collected from 2012 through 2014 have indicated that the upper ranges of PCB concentrations in baseline and Rio Grande stormflows continue to be approximately an order of magnitude larger than those for precipitation (less than 1 ng/L in precipitation and 10 ng/L to 50 ng/L in stormflows). This difference was primarily from the presence of PCBs associated with suspended sediment in runoff. Dry

deposition of PCBs to forests and soil, as well as wet deposition that does not cause significant flow in the period antecedent to larger stormflows, can lead to mobilization of PCBs in excess of what can be measured in precipitation. Similarly, the upper range of PCBs in runoff from developed, urban areas (>100 ng/L) were an order or magnitude greater than PCBs in baseline and Rio Grande stormflows. LANL also pointed out that while PCB concentrations are elevated during storm water runoff events in perennial or intermittent waters, they may drop quickly to lower levels during the intervening periods of baseflow (unless baseflows are impacted by a significant pollution source). In other words, exposures to elevated levels during stormflows would be relatively short (on the order of a few hours). In some cases, exceedances of the HH-OO criterion in perennial waters could be attributable only to stormflow periods if the assessment data set includes samples collected when runoff was occurring. For perennial or intermittent surface waters, baseflow predominates perhaps 90% or more of the time. In contrast, surface waters during storm water runoff generally contained PCB concentrations above 5 ng/L and substantially above the HH-OO criterion. Such concentrations were measured even in the most remote parts of the watershed and can be attributed to PCBs associated with the increased concentrations of suspended soils and sediments carried by surface waters during storm water runoff.

In 2018, background storm water PCB concentration data were again evaluated for the purpose of developing BTVs (Windward 2019). The dataset evaluated at that time included all available and applicable monitoring data collected between 2011 and 2017. Based on that evaluation, it was again found that the baseline and urban background conditions for PCBs in Pajarito Plateau waters exceed the IP ATAL of 0.64 ng/L by up to a factor of 100 (for the 95<sup>th</sup> UTL of the 95<sup>th</sup> percentile [95–95 UTL]). In general, PCB concentrations were fairly similar between undeveloped and urbanized sampling locations (with UTLs of 58 and 64 ng/L, respectively). Contrary to the 2012 study findings, the 2018 BTV report found that PCBs in storm water were not statistically significantly related to suspended sediment. These results provide further support for regional aerial deposition processes as a key driver of baseline PCBs in Pajarito Plateau storm water. Slightly higher urban background PCBs (relative to undeveloped baseline PCBs) may be attributable to diffuse PCB sources (e.g., in building materials) or increased runoff of rainwater from impervious surfaces relative to undeveloped landscapes.

Given the rare occurrences of stormflows from the Pajarito Plateau to the Rio Grande, lack of fish in canyon waters, and the ephemeral nature of most canyon's hydrology, the New Mexico wildlife habitat criterion for PCBs is more appropriate for Pajarito Plateau waters. Thus, the Permittees request that the wildlife habitat criterion for PCBs (0.014 µg/L) be used as the ATAL.

EPA Response: In addition to new information provided by LANL, EPA has become aware of a report entitled "USE ATTAINABILITY ANALYSIS for Waters Located on Los Alamos National Laboratory as described in Sections 20.6.4.126 and 128 NMAC New Mexico Water Quality Standards, July 17, 2005" dated August 2007, since issuance the 2010 permit modification. The Use Attainability Analysis (UAA) concluded that a limited aquatic life use was attainable in Segment 128. The report stated that "Natural conditions of low flow and water level, the factor identified in 40 CFR 131.10(g)(2), prevent the attainment of primary contact uses in both segments as well as the attainment of a Section 101(a)(2) aquatic life use in Segment 128." It also stated that "In conclusion, a limited aquatic life use is attainable on stream reaches in Segment 128. Because fish species in Ecoregion 21 cannot survive in ephemeral and intermittent streams, Segment 128 streams cannot attain the Section 101(a)(2) aquatic life use due to the factor identified in 40 CFR 131.10(g)(2)." It is reasonable to believe that the HH-OO standards are unnecessary because of lack of fish and no possibility for fish-consumption in the permitting area. Also, the NMAC 20.6.4.11 G states that "Human health-organism only criteria in Subsection J of 20.6.4.900 NMAC apply to those waters with a designated, existing or attainable aquatic life use. When limited aquatic life is a designated use, the human health-organism only criteria apply only if adopted on a segment-specific basis. The human health-organism only criteria for persistent toxic pollutants, as identified in Subsection J of 20.6.4.900 NMAC, also apply to all tributaries of waters with a designated, existing or attainable aquatic life use." Both ephemeral and intermittent streams within LANL

(NMAC 20.6.4.128) have been designated for limited aquatic life use. If contaminated sediments reaching downstream Rio Grande are a concern, a regional watershed sediment control plan may be considered to address the persistent HH-OO pollutants. Based on new information provided in the Application, EPA is considering factors like PCBs contributed by precipitation, upstream runoff PCB concentrations, suspended sediments carried by runoff, and lack of fish in canyon waters in addressing PCBs in this permit renewal process. NMED also has numerous ongoing UAA to evaluate whether aquatic life or HH-OO criteria are applicable to certain waters or not.

EPA solicits comments whether or not EPA shall use 95-95 UTL BTV tier approach and/or wildlife habitat, instead of HH-OO, TALs to move Sites to the LTS category for further observations.

**I. Active Sites or Sites Located Outside on Non-DOE Owned Property**

It was brought to EPA’s attention that certain Sites are not inactive and have ongoing activities and some Sites are located on non-DOE owned property and the Permittees have no access to those Sites for sampling or taking correction actions. The permit states “This Permit authorizes only those storm water discharges associated with solid waste management units (SWMUs) and area of concerns (AOCs) listed in Appendix A of the Permit. The SWMUs and AOCs identified in Appendix A are collectively referred to throughout this Permit as “Sites.” This Permit does not authorize storm water discharges associated with current conventional industrial activities at the Permittees’ LANL facility. Storm water discharges associated with current conventional industrial activities shall be covered under EPA’s NPDES general permit for storm water discharges from industrial activity, also known as the Multi-sector General Permit (MSGP).” Although LANL included Sites 03-045(b) and 03-045(c) in the Appendix A of the Permit, it was not EPA’s intent to regulate any active Sites (including some active firing ranges) through this permit action. LANL shall reconsider whether to remove any active Sites from the Application so that active Sites may be covered either by MSGP or by an individual permit like NM0028355. LANL shall provide EPA with a list of active Sites during the public comment period if such a list has not been provided yet. EPA may exclude such active Sites from the final permit.

EPA was also informed that LANL has no access to or control over certain Sites because those properties had been transferred to County authority or private owners. If LANL could not access those Sites for sampling or taking corrective actions, EPA may exclude those Sites from coverage of this proposed permit. If POCs are present in discharges from those properties and NPDES permit coverages may be required, EPA may consider issuing separate NPDES permits to address those Sites. LANL shall provide EPA with transaction agreements which identify responsible parties for clean-up of those Sites during the public comment period.

**J. List of Sites Not to Be Included In The Permit Renewal**

The Permittees provided a list of Sites to be deleted from the permit as below. Sites under administrative changes were reassigned to different numbers for monitoring purposes, and therefore EPA intends to delete the original Site numbers through this permit renewal process. Sites not on DOE property will be reviewed during this permit renewal process to determine responsible operators. Sites which are claimed to have no significant industrial materials remaining will be evaluated and EPA will make the final decision during the permit final decision process. Hazardous waste sites which are regulated by RCRA program will be deleted from this permit. EPA will evaluate Sites which have no discharge during a 25-year, 24-hour storm event and make the decision based on the final permit conditions of the permit.

Site Monitoring Area	Site ID	Administrative changes discussed in the IP Annual	Not on DOE Property	Significant industrial materials were not	No longer RCRA Corrective Action Units,	SMA samplers were operational
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		report since 2010		used or significant industrial materials were remediated such that storm water is not impacted	but are Hazardous Waste Management Units, and cannot be regulated under the Permit.	during a 25- year, 24- hour stormevent but did not collect a sample
R-SMA-0.5	C-00-020		X	X		
R-SMA-1	C-00-041		X			
R-SMA-2.05	00-011(c)			X		X
R-SMA-2.3	00-011(e)		X			
B-SMA-0.5	10-001(a)		X			
B-SMA-0.5	10-001(b)		X			
B-SMA-0.5	10-001(c)		X			
B-SMA-0.5	10-001(d)		X			
B-SMA-0.5	10-004(a)		X			
B-SMA-0.5	10-004(b)		X			
B-SMA-0.5	10-008		X			
B-SMA-0.5	10-009		X			
B-SMA-1	00-011(d)		X			
ACID-SMA-1.05	00-030(g)		X			
ACID-SMA-2/ ACID- SMA-2.1	01-002(b)-00		X			
ACID-SMA-2	45-001		X			
ACID-SMA-2	45-002		X			
ACID-SMA-2	45-004		X			
ACID-SMA-2.01	00-030(f)		X			
P-SMA-0.3	00-018(b)		X			
P-SMA-1	73-001(a)		X			
P-SMA-1	73-004(d)		X			
P-SMA-2	73-002		X			

P-SMA-2	73-006		X			
P-SMA-2.2	00-019		X			
P-SMA-3.05	00-018(a)		X			
LA-SMA-3.1	01-001(e)		X			
LA-SMA-3.9	01-006(a)		X			
LA-SMA-4.1	01-003(b)		X			
LA-SMA-4.1	01-003(b1)		X			
LA-SMA-4.1	01-006(b)	X	X			
LA-SMA-4.2	01-006(c)		X			
LA-SMA-4.2	01-006(d)		X			
LA-SMA-5.01	01-001(d)	X				
LA-SMA-5.01	01-001(d1)		X			
LA-SMA-5.01	01-001(d2)		X			
LA-SMA-5.01	01-006(h)	X				
LA-SMA-5.01	01-006(h1)		X			
LA-SMA-5.01	01-006(h2)		X			
LA-SMA-5.01	01-006(h3)		X			
LA-SMA-5.361	32-002	X				
LA-SMA-5.91	21-009		X			
LA-SMA-5.91	21-023(c)		X			
LA-SMA-5.91	21-027(d)		X			
LA-SMA-5.92	21-013(b)		X			
LA-SMA-5.92	21-013(g)					
LA-SMA-5.92	21-018(a)					
LA-SMA-6.27/ LA- SMA-6.36/ DP-SMA- 4	21-021					X
LA-SMA-6.27	21-027(c)					X
LA-SMA-6.36	21-024(a)					X
LA-SMA-10.11	53-002(a)					X
S-SMA-4.5	20-002(d)					X
CDB-SMA-0.55	46-004(e2)	X				
CDB-SMA-1	C-46-001					

CDB-SMA-1.35	46-004(a2)					X
CDB-SMA-1.35	46-004(u)					X
CDB-SMA-1.35	46-004(v)					X
CDB-SMA-1.35	46-004(x)					X
CDB-SMA-1.35/ CDB-SMA-1.54	46-006(d)					X
CDB-SMA-1.35	46-008(f)					X
CDB-SMA-1.54	46-004(h)					X
CDB-SMA-1.54	46-004(q)					X
CDB-SMA-1.55	46-003(e)					X
CDB-SMA-1.65	46-003(b)					X
M-SMA-9.1	35-016(f)					X
Pratt-SMA-1.05	35-004(h)					
Pratt-SMA-1.05	35-016(m)					
PJ-SMA-4.05	09-004(g)	x				
PJ-SMA-5.1	22-016	x				
PJ-SMA-13	18-002(a)					X
PJ-SMA-14	54-004					X
CDV-SMA-1.4	16-030(c)					
CDV-SMA-2.41	16-018				X	
CDV-SMA-2.42	16-010(b)				X	
CDV-SMA-2.5	16-010(c)				X	
CDV-SMA-2.5	16-010(d)					
CDV-SMA-6.03	14-002(d)	x				
CDV-SMA-6.03	14-002(e)	x				
PT-SMA-1.7	15-006(a)	x				
W-SMA-7	16-026(h2)	x				

**K. Communities For Clean Water (CCW) Comments on the 2015 Draft IP and on LANL's current Permit Application**

CCW in a letter dated October 3, 2019, provided many comments on LANL's Application package. CCW also attached a copy of its comments on EPA proposed 2015 draft permit. EPA addresses some CCW comments on the 2015 Draft IP in Section VIII-Draft Permit Rationale below when those comments are relevant to the 2019 proposed permit conditions. CCW provided 70 comments, in an Appendix to the letter, on LANL's Application package which may affect EPA's decisions on the proposed permit conditions. Because CCW will have opportunity to make their comments on the EPA proposed permit during the public comment period, EPA is only discussing CCW main comments listed in the letter so that EPA may propose the permit for the public review without further delay.

CCW Comment on Cultural Importance of Tewa Lands and Waters: Caring for clean water on the Pajarito Plateau is a moral and ethical responsibility. We hold that all people have a right to clean water for drinking, sacred ceremony, reproduction, growing food, raising animals, recreation, and overall well-being now and into

the future. All Pueblos downstream, or those with cultural lands that might be affected by the discharge off the Site Monitoring Areas (SMAs), must be consulted on the renewal of this permit and its impacts.

EPA Response: Pursuant to EPA's Tribal Consultation Policy, EPA is offering San Ildefonso, Cochiti Pueblos, Pueblo of Santa Clara, and Pueblo of Jemez the opportunity to engage in government-to-government consultation because they are part of Los Alamos Pueblos Project.

CCW Comment on 2010 Permit v. Unfinalized draft 2015 Permit: CCW has a general concern that the draft 2015 permit, which has yet to be approved, is being used as a baseline during this 2019 permit renewal process. CCW has numerous concerns with the 2015 draft permit which we outlined in our June 25, 2015 comments to EPA, which are attached and incorporated by reference to these comments.

EPA Response: EPA has considered CCW comments on the 2015 draft permit when those comments are relevant to this proposed permit conditions. Discussions of those comments could be found in Section VIII-Draft Permit Rationale below.

CCW Comment on Background Threshold Values (BTVs): CCW raised several concerns regarding use of BTVs in place of TALs.

(a) TALs are based on State water quality standards, but BTVs are not and BTVs are not subject to public oversight or regulatory agency approval. If BTVs are used, they should be used to not just to eliminate requirements for monitoring and corrective action, but also to identify sites that are contributing Pollutants of Concern (POCs). If a SMA were to exceed a BTV for a POC, this would demonstrate that the site is contributing pollutants to stormwater runoff, even if the results were less than the TAL. These sites should be entered into corrective action to address the contribution of pollutants.

(b) Stormwater permits are not just for addressing contamination from POCs that have been added to a site from Permittee activities. Stormwater regulation and permits also address contamination through disturbance and the resulting mobilization of pollutants. Additionally, we are concerned that the BTV report and the Permittees' approach to the permit does not take this into account. The Permittees have not provided the necessary information for the public to understand the extent that disturbed areas have influenced the "undeveloped" reference sites. Drainage areas and detailed description of the drainage areas to these sites are not provided in the permit or the BTV development document (Windward 2018). Disturbances, such as roads, could inaccurately elevate the concentrations of POCs in "undeveloped" stormwater runoff and as currently written, inappropriately result in the establishment of high BTVs and therefore, in the elimination of SMAs or POCs from permit requirements. Undeveloped reference sites, with disturbance, should be removed from the BTV data set.

(c) Using the 90% BTV to screen out sites is not protective and will inappropriately eliminate sites of concern. Due to uncertainty and variability of stormwater data, a 90th percentile is likely to result in the elimination of sites that are still contributing pollutants of concern to receiving waters (false positives). The 75th percentile UTL is a more appropriate parameter that better reflects the uncertainty associated with stormwater data while ensuring that sites with significant background contributions are identified.

EPA Response: (a) Although EPA has TALs which values are equivalent to the State WQS in this permit, there is no regulatory requirements to use State WQS equivalent values to monitor stormwater. For instance, the national MSGP which provides rules and guidances to regulate stormwater associated with industrial activities has used "benchmark values" which are not based on any state WQS to monitor stormwater discharges associated with varied industrial activities.

(b) If POCs were mobilized and detected above associated TALs at downstream of the Site, a new Site ID could be added for monitoring purposes even after the source Site was closed.

(c) EPA will consider either 75<sup>th</sup> percentile or different number before issuing the final permit decision.

CCW Comment on Site Deletion: These subsections relate back to CCW's ongoing concern that "permanent control measures" even a cap or engineered cover requires inspection and maintenance performed on a regular schedule. In addition, control measures may be the reason that the SMA results are less than the TAL and/or BTV. Alternatively, control measures may be the reason that samples are not being collected. Large berms or other forms of installed corrective action controls may be controlling runoff and if those controls are damaged or removed by future activities at the site, the POCs could be mobilized and discharges could occur. Regular inspection and maintenance of controls is necessary, and as such, sites with controls, that may have POCs less than the TAL and/or BTV or no collected sample, should be entered into long-term stewardship, not deleted from the permit. The referenced three subsections must be deleted.

EPA Response: 40 CFR 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 [Emphasis added].

SWMUs or AOCs regulated by this permit are not currently active. The reason for those Sites to be regulated by this NPDES permit program was because those SWMUs or AOCs may still have significant materials remain and exposed to storm water. It is reasonable to release any Site which has been demonstrated "no significant materials remain or exposed to storm water" from this permit so that the Permittees may spend their resources on those Site at which significant materials remain and are exposed to storm water. If significant materials become re-exposed to storm water at any of these Sites in the future, it will be the Permittees' responsibility to file permit coverage for authorization of such discharges. To remove a Site from this permit coverage does not shield the Permittees from complying with other regulatory requirements or obligation.

CCW Comment on Run-on/Runoff: CCW has concern about the equation below and a concern that runoff concentration may be diluted by run-on.

$$\text{Geomean (run-off)} - \text{Geomean (run-on)} \leq \text{TAL.}''$$

EPA Response: EPA has proposed two equations recommended by the NMED in their 2015 State 401 Certification letter. State WQS apply to receiving streams and dilution within the receiving waterbody is permitted.

CCW Comment on Tiered Approach: CCW recommended revised tiered approach as below:

Tier 1: Cease monitoring for the POC where the SMA result is less than the TAL and 90% composite BTV, or for POCs without a BTV, less than the TAL. If all POCs are less than the TAL and the 90% composite BTV, or for POCs without a BTV, less than the TAL, the Permittees may request the Site be entered into longterm stewardship.

Tier 2: Enter the SMA into corrective action within 18 - 60 months if one or more POCs exceed the TAL but are less than the 90% composite BTV, or for POCs without a BTV, exceed the TAL.

Tier 3: Enter the SMA into corrective action within 6 months if one or more POCs exceed the 90% composite BTV.

EPA Response: To set State WQS equivalent TALs is a very conservative approach because it is equivalent to establishing WQS at the end-of-the-pipe without a dilution for a WQ-based effluent limitation. The reason to consider background contribution is because such background contributions have made TALs unachievable by implementing reasonable BMPs. If a discharge contains higher concentration of a POC than the background but still less than the TAL, the discharge is considered to have no reasonable potential to cause exceedance or violation of WQS. Also, the intent of the permit is to regulate pollutants remaining from previous activities, not to address pollutants from natural background, non-point sources, or even other on-going activities. If other non-natural sources are identified to contribute POCs to specific Sites, it may need a different permit coverage to authorize those discharges.

CCW Comment on Alternative Compliance: CCW believed that given all the flexibility and options included in this proposed permit (SIP, SSD, BTVs) an alternative compliance section is no longer necessary. CCW suggests removing the alternative compliance section in its entirety. In addition, if the alternative compliance section is to remain in the permit CCW disagrees with the proposed language that would allow alternative compliance requests to be approved without EPA input.

EPA Response: EPA likes to keep this Alternative Compliance option available for EPA to require the Permittees to take a final corrective actions if necessary. The Alternative Compliance request will need EPA's approval to be effective.

CCW Other Comments: CCW provided 70 comments in the Attachment to the letter.

EPA Response: EPA Response: Because the 2015 draft IP has been withdrawn and not finalized, EPA is not required to respond to CCW's comments under 40 CFR §124.17. However, EPA has attempted to respond to major comments that are relevant to provisions in the new proposed draft IP in an effort to further explain the Agency's rationale with regard to the new draft permit. Because CCW will have opportunity to provide comments on the new draft permit during the public comment period, EPA is not discussing all CCW comments listed in the attachment so that EPA may propose the permit for the public review without further delay.

## VIII. DRAFT PERMIT RATIONALE

This section sets forth the principal factual, legal, methodological, and policy questions considered in preparing the draft renewal permit. Also set forth are any calculations or other necessary explanations of the derivation of specific effluent limitations and conditions, including a citation to the applicable effluent limitation guideline or performance standard provisions as required under 40 CFR 122.44, reasons why they are applicable, or an explanation of how alternate effluent limitations were developed. Following modification of the AC Permit in 2010, LANL, representatives of interested citizens groups (i.e., Communities for Clean Water – CCW, Amigos Bravos, etc.) and NMED held several meetings to discuss implementation issues related to the AC Permit. As a result of those meetings, LANL, NMED and CCW provided significant input to EPA for consideration in preparing the 2015 draft IP. In late 2018 and early 2019, LANL held several webinars to discuss new information and new approaches with NMED, CCW and EPA to smooth the permit renewal process. After reviewing information provided in LANL's 2019 permit renewal application, as well as NMED's and CCW's comments to LANL's proposed changes, EPA is proposing this draft permit. CCW comments on the EPA

proposed 2015 draft permit are also discussed below if those comments are relevant to this proposed permit conditions.

Part I of the Permit: In addition to proposed changes described in Section VII above, other changes from the AC permit are discussed below, section by section in the sequence of the proposed permit.

#### Part I. Requirements for NPDES Permits

The AC Permit contains non-numeric technology-based effluent limitations, coupled with a comprehensive, coordinated monitoring program, to minimize pollutants in LANL's storm water discharges. LANL is required to implement site-specific control measures (including best management practices) to address the non-numeric technology-based effluent limits as necessary to minimize pollutants in their storm water discharges. As used in the AC permit, "minimize" means to reduce and/or eliminate discharges of pollutants in storm water to the extent achievable using site-specific control measures (including best management practices) that reflect best industry practice considering their technological availability, economic achievability and practicability. This permit renewal retains the "non-numeric site-specific control measures" approach.

This Permit authorizes only those storm water discharges associated with inactive solid waste management units (SWMUs) and areas of concern (AOCs) listed in the Hazardous Waste Permit (Permit No. NM0890010515) for Los Alamos National Laboratory (LANL). This Permit does not authorize storm water discharges associated with current conventional industrial activities at LANL. Storm water discharges associated with current conventional industrial activities shall be covered under U.S. Environmental Protection Agency's (EPA's) National Pollutant Discharge Elimination System (NPDES) general permit for storm water discharges from industrial activity, also known as the Multi-Sector General Permit (MSGP). Some of the discharges from Sites covered in the AC permit were related to "active or deferred" Sites that should not have been regulated under the AC permit but that should instead be regulated under the MSGP or another mechanism. These active Sites identified by the Permittees will be removed from the final permit.

Any noncompliance with any of the requirements of this Permit, except as otherwise provided in the permit, constitutes a violation of the CWA. Failure to take any required corrective actions constitutes an independent violation of this permit and the CWA. This permit has established non-numeric technology-based effluent limitations. If the permittees have installed baseline structural control measure(s) on a Site and maintain such control measures properly; and perform nonstructural control measures as required in Part I.A of the permit, EPA will consider the Site in compliance with the non-numeric effluent limitations unless discharge data show such control measures are insufficient.

#### Part I.A. Non-Numeric Technology-Based Effluent Limitations

The AC Permit required LANL to install and certify baseline control measures for each Site within six months of the effective date of the AC (November 1, 2010) and to maintain those control measures. The Permittees completed installation of baseline controls at all Sites by May 16, 2011. Maintenance of baseline controls has been performed and has been described in the Permittee's Annual Reports, various submittals and in the 2019 revised permit renewal application package. There are no significant changes to this part of the permit, although there has been some restructuring of the content. The list of Baseline Control Measures and the requirements for maintenance of control measures from the AC Permit remain but restructured to two subparts: structural control measures and nonstructural control measures. Because BMPs had been installed at all Sites, this proposed permit focus on maintenance, instead of installation, of BMPs. This section also covers requirements addressing soil disturbance caused by installation of control measures.

CCW Comment: Communities For Clean Water (CCW) in its letter of June 25, 2019, which provided comments on LANL's Application and proposed draft permit language, raised concerns regarding Sites which are removed from the permit. CCW suggested that the permit include language that indicates that controls at sites that have been removed from the permit (and that may be contributing to water quality performance) still require ongoing maintenance.

EPA Response: Once a Site, like an outfall, is removed from the permit, the Site is no longer legally bound by the permit and is also not authorized to discharge pollutants to the Waters of the United States. If in any case, the Site releases pollutants to the environment due to failure of BMPs or due to any cause, such discharges are not authorized unless the Permittees requests the coverage for the Site.

#### Part I.B. Monitoring Requirements

This section includes two subsections: Confirmation Sampling and Inspections. Under Confirmation Sampling, specific requirements for sampling location, sampling procedures, collection of partial samples, additional sampling requirements, sufficiently sensitive method, and data average are established. Inspection section includes significant event inspection, post-storm inspection, long-term stewardship inspection, and inspection reports.

1. Confirmation Sampling: Confirmation sampling is used to determine the effectiveness of baseline and enhanced control measures, and to inform the permittees if additional corrective actions are necessary. Confirmation monitoring is also a method of sharing the available results with regulators and the public.

a. Sampling Location: EPA proposes to allow sampling locations to be adjusted to ensure the sampling location is representative of storm water discharges from the Site-affected media as delineated by soil sampling data. Such changes may include minor updates in Site boundaries, changes in storm water drainage patterns, logistical, or security adjustment, through the annual SIP process.

b. Sampling Procedures: Grab or composite samples shall be taken during a storm which results in an actual discharge from the Site or Sites and that produces sufficient volume of discharge to perform the required analyses. The term "composite sample" means samples collected either by an automatic sampler or by manual, during the whole or part of a rainfall period, are composited prior to an analysis. The Permittees may use either grab samples or composite samples for monitoring purpose if it keeps practice consistency.

c. Collection of Partial Samples: The proposed permit allows collection and analysis of partial samples in the event the collected volume is insufficient to perform all required analyses. EPA is not proposing to set priority for POCs for partial sample test because we cannot predict volume of sample could be collected during a storm event. However, NMED and the Permittees may propose such propriety during SIP process, if appropriate.

d. Additional Sampling Requirements: If the installation of control measures at a Site involves soil disturbance of Site-affected soils, the proposed permit requires the Permittees to take all necessary steps to minimize migration of sediments and runoff from disturbed sites. If soil disturbance within the Site-affected media occurs, storm water samples collected by the Permittees following these activities shall be analyzed for all pollutants listed in the SIP for that SMA. (Installation of controls which cause limited soil disturbance and routine maintenance of monitoring devices are not considered soil disturbance.) Also, if a Site for which monitoring has ceased later exhibits evidence of a discharge of contaminated runoff or conditions that could lead to a discharge of contaminated runoff, such as control measure failure, erosion problems, re-exposure of "no exposure" Sites, or if monitoring data (from the facility, state or local agency) show an exceedance of

applicable TALs, the Permittees shall initiate appropriate actions to correct the problems within thirty (30) days of being made aware of such information.

e. Sufficiently Sensitive Method (SSM): In comments on the 2015 proposed draft renewal permit, the NMED raised a concern about situations where the Minimum Quantification Level (MQL) specified for a constituent is higher than the MDL for a method available in the 40 CFR 136 method and higher than NMWQC. NMED commented that due to the sufficiently sensitive rule (FR Vol. 79, No. 160, 2014), if there is a 136 approved method that will yield results below the MTAL or ATAL value, it must be used. EPA agrees and proposes to include the requirement to use the 40 CFR 136 approved sufficiently sensitive method for a constituent if its MQL is higher than its MTAL or ATAL in the Confirmation Sampling subsection.

f. Data Average: The data average refers to the geometric mean of applicable monitoring results at the SMA. If all analytical results are below analytical method detect level, a value of “zero” may be reported. If one or more data are above the detect level, a value of ½ detect level shall be assigned to those below detect level data for calculation purpose. If the average value of a specific pollutant is below its MQL, a value of “zero” may be reported for the average.

2. Inspections: The Permittees must conduct the following types of regular inspections.

a. Significant Event Inspections: The Permittees must inspect and re-evaluate all Sites after notice of a significant event, such as a fire or flood, which could significantly impact the control measures and environmental conditions in the affected area.

b. Post-Storm Inspection: The Permittees must inspect control measures and storm water management devices at any Site affected by a “storm rain event” within fifteen (15) days after such storm rain event. A “storm rain event” means a 0.50 inches or more intensive rain event within 30 -minutes.

c. Long-Term Stewardship (LTS) Inspection: This new type of inspection is to be conducted when a Site is assigned to a Long-Term Stewardship (LTS) location. The Permittees shall inspect and evaluate each Site and its associated controls annually (a) for a 5-year period (Permit cycle) and (b) after a 3-year, 24-hour return period storm. The results of the inspections are to be reported to EPA annually. An assessment will be conducted at the end of each Permit cycle to determine if adjustments should be made to the control measure inspection and included with the subsequent re-application submittal. Sites would be put in the LTS if confirmation sample results show that the Site is likely influenced by the background contributions. Permit Part I.C.3 sets conditions for Sites to be put into the LTS. The LTS is a new provision.

d. Inspection Reports: These inspection Reports will be retained in accordance with requirements established for Recordkeeping.

#### Part I.C. Site Evaluations

Results of site confirmation sampling are evaluated against the Target Action Levels (TALs).

1. Target Action Levels: 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. In a letter dated May 8, 2008, based on site-specific data, NMED required as a condition of certification of the AC Permit that EPA incorporate the maximum target action levels (MTALs) for hardness-dependent metals based on a hardness value of 30 mg/l as CaCO<sub>3</sub>. And a concentration

of 100 mg/l TSS, based on the benchmark value in the MSGP, was used to calculate total-dissolved conversion factors in the AC permit, if necessary. During the time when EPA proposed the 2015 permit renewal, the NMED, LANL and CCW agreed to recommend use of receiving stream hardness to develop canyon-based TALs for hardness-dependent metals. The proposed permit adopts this suggestion. Hardness values provided in the Application are used to calculate the hardness-dependent MTALs. Hardness-dependent MTAL values for each canyon are attached as Appendix C-1 to the proposed permit. Target Action Levels are listed in Appendix C to the proposed permit.

2. **Site-Specific Demonstration:** Pollutants of concern contributed by background or natural sources was not considered when EPA issued the first permit. EPA became aware of the background issue and had addressed the issue in 2015 proposed permit. LANL proposed to consider Background Threshold Values (BTV) and soil data in determinations of effectiveness of BMPs through the annual SIP process. As more data become available, EPA is considering both background and soil data in the Site Evaluation processes to determine the compliance status of Sites. Sources that are outside the Permittees' control may include natural background and aerial deposition of contaminants not associated with the historic activities conducted by the Permittees. The demonstration must include data previously collected by the Permittees or others (including literature studies) that describe the levels of natural background and baseline concentrations of pollutants in storm water in the local area. This section provides more specific steps and means to address certain alternatives allowed by the Alternative Compliance in the AC Permit.

3. **Long-Term Stewardship Category:** The Long-Term Stewardship (LTS) Category includes Sites that do not meet the requirements for Site deletion and also do not currently require additional corrective action. Documentation of LTS Site categorization will be incorporated in the SDPPP. LTS sites are retained in the permit for continued observation and evaluation until further actions can be determined.

4. **Deletion of Sites:** The Permittees may submit a written request to remove a Site from coverage under the Permit if the Permittees can demonstrate that the Site no longer has "storm water discharges associated with industrial activity" under 40 CFR 122.26(b)(14).

EPA proposes to change some provisions of Deletions of Site from the AC Permit. Once a Site is terminated from coverage under the renewal permit, it will be the Permittees' responsibility to ensure that the Site complies with all other applicable regulatory requirements. Major changes are discussed below:

(a) No industrial activities as specified under 40 CRF 122.26(b)(14) ever took place at the Site. This provision excludes Sites which did not meet the definitions of industrial activities.

(b) Site-related pollutants have never been exposed, or will no longer be exposed, to storm water. The permittees may submit documentation that demonstrates historic activities that led the Site to be a SWMU or AOC did not result in significant materials exposed to storm water (e.g. Site-related pollutants are a minimum of 3-ft below the ground surface, below existing building), or that any later installed control measures will prevent pollutants of concern from being exposed to storm water. If the soil data demonstrate no significant amount of pollutants remains in the soil within 3-feet below the ground surface, it should be reasonable to assume that no pollutants of concern would be exposed to storm water.

(c) Sites have no significant materials remaining that are exposed to storm water after installation of permanent control measures. The permittees collect two confirmation storm water samples and monitoring results show no pollutants exceeded the applicable TALs,

(d) The Permittees certified corrective action complete by removing soil that contained a release of Site-related pollutants that were exposed to storm water and demonstrating that no significant materials from previous industrial activity remain in the Site.

(e) The Permittees may submit a request to EPA that the Site be removed from the Permit if the SSD demonstrates that no applicable TAL or BTV exceedances are reasonably expected to be Site-related, for all SMAs identified to contain the Site.

(f) The Permittees may request removal of a Site or Sites if no confirmation sample has been collected at the associated SMA during the previous permit cycle if the following criteria are met: (1) Samplers are in representative locations, (2) No confirmation sample has been collected after a 25-year, 24-hour return period storm, and (3) Inspection records validate full operability of sampler. When EPA considers a 3-year retention technology in the area could be an acceptable and complying with the corrective action requirements, if no samples could be collected during a 25-year, 24-hour return period storm event, it has reasonably demonstrated that no pollutant of concern from the Site may be discharged or reach the Water of the United States.

CCW Comment: It is not clear what types of sites are covered under this section. CCW asks EPA to answer the following questions: Does this Part apply to all sites where 2 confirmation samples were collected and no TALs were exceeded? How is the public to know if the control measures that were installed are the reason that no TAL standards are exceeded? At the very least, permit coverage should be continued so inspection and maintenance of these sites will continue. Even “permanent control measures” such as capping would require continued monitoring, inspection and maintenance. Parts (b) and (d) of this same section should also include provisions for maintaining control structures that may be contributing to water quality improvements.

EPA Response: For all SMAs, if a minimum of two confirmation storm water samples were collected and no POCs exceeded the applicable TALs, EPA considers that the Permittees have demonstrated that the Site has no significant industrial materials remain and therefore is no longer considered an industrial activity for areas where industrial activity had taken place in the past pursuant to 40 CFR 122.26(b)(14). This condition applies to all Sites covered by the permit. Once a Site is not an industrial activity, the NPDES Permit may not have proper authority to regulate it under the CWA. To address CCW concern regarding proper maintenance of BMPs, EPA proposes to add a condition which requires the Permittees to certify that they will properly maintain BMPs in place, if applicable, and notify EPA for permit coverage if POCs re-exposed to stormwater and trigger stormwater discharge associated with industrial activity under 40 CFR 122.26(b)(14).

CCW Comment: CCW has reviewed the proposed deletions submitted with Permit Renewal Application by the Permittees and provided a series of comments on the following 14 Sites: R-SMA-2.05, 00-011 (c); R-SMA-2.3, 00-011 (e); ACID-SMA-2, 45-001; ACID-SMA-2, 45-002; LA-SMA-4.2, 01-001 (c); LA-SMA-4.2, 01-006 (d); CDB-SMA-1, C-46-001; CDB-SMA-4, 54-017; CDB-SMA-4, 54-018; M-SMA-4, 48-007 (a); M-SMA-4, 48-007 (d); M-SMA-12.5, 05-005 (b); PRATT-SMA-1.05, 35-016 (m); and T-SMA-5, 35-016 (a). CCW recommended that EPA to maintain all 14 sites on the permit, with the only acceptable exceptions being R-SMA-2.05, 00-011 and PRATT-SMA-1.05, 35-016(m) which post the least risk.

EPA Response: EPA will evaluate LANL’s request and balance their justifications with CCW and NMED inputs prior to make the final decisions for those Sites.

#### Part I.D. Corrective Action

EPA proposes to rewrite this section based on new information which was not available when EPA issued the permit in 2009. The new structure contains following subsections as briefly described below.

1. Determination of Corrective Action Measures: Once a TAL or BTV has been exceeded for a Site related constituent, the Permittees shall perform a corrective action evaluation to determine the appropriate method for completion of corrective action. Corrective actions may include enhanced (i.e., additional, expanded or better-tailored) control measures to complete corrective action. Where feasible, these enhanced controls shall incorporate low-impact design and green infrastructure design features. The Permittees may decide to achieve corrective action through the elimination of exposure of Site-related pollutants to storm water. EPA proposes to include caps or other engineered covers and/or soil removal as options for the elimination of exposure to storm water. The Permittees may also achieve the corrective action through installation of control measures that retain a volume of storm water runoff from a Site or SMA that is equivalent to a 3-yr, 24-hr storm event based on the most representative rain gage historic records as described below.

LANL commented that “The current IP (the AC Permit) does not define design criteria for total retention. Without a design basis the co-Permittees have not been able to use total retention as a tool for the completion of corrective action. The proposed 3-year 24-hour (1.19 to 1.79 in. of precipitation; dependent upon location of the Site) design storm was chosen to be both conservative and technically achievable. A retention of the 3-year, 24-hour storm event represents a storm water capture volume that exceeds guidance provided by the Energy Independence Security Act and regulations implemented by leading Region 6 municipalities in the field of storm water quality. Despite the statistical annual risk of exceedance of the 3-year, 24-hour storm, only 13 storms in the 62-year period of record (1952 to 2013) have exceeded the 3-year, 24-hour storm. Research has demonstrated that increasing the capture volume (beyond basic water quality goals) is not correlated to an increase in removal efficiencies of targeted constituents.” But, capture of storm runoffs will reduce volume of runoff reaches the water of the US. EPA proposes to replace “total retention” with “retention at a 3-year, 24-hour storm” because the frequency of 3-year, 24-hour storm, in average, is about once every 5 years, one permit term. In order to keep this option simple, achievable and enforceable, EPA may consider using the 5-year, 24-hour storm event to statistically limit one or less discharge within every permit term.

Under the proposed renewal permit, a Site will not be considered non-compliance if confirmation samples could not be collected and therefore no additional corrective action is required prior to analytical results of confirmation sampling becoming available. However, the Permittees is required to conduct inspections and maintenance of installed control measures.

CCW Comment: The Draft IP outlines a process by which Permittees can choose to cap or use an engineered cover to eliminate exposure of site-related pollutants to storm water. Requirement to mimic pre-development hydrology should be incorporated into the elimination of exposure corrective action option.

EPA Response: The permit has required that the Permittees must, to the extent practicable, divert, infiltrate, reuse, contain, detain, or otherwise reduce storm water run-on/runoff to minimize Site-related POCs from discharging to receiving waters. While run-on/runoff and/or other control measures still fail to bring discharges to meet TALs or BTVs, or run-of control is not feasible for certain Sites, cap or retention may become last few economically achievable technologies to bring Sites to the compliance with the permit. Also, cap or engineered cover is unlikely applicable to a huge area. EPA has no plan, prior to have sufficient information available, to set more restriction to this control option.

CCW Comment: CCW suggested the following requirements to address “total retention” option:

- a. Ensure Total Retention is not used interchangeably with “3-year, 24-hr retention”.
- b. Strengthen requirement to maintain operational retention volume within Part I.A.b Maintenance of Control Measures to account for sediment accumulation within control structures.

- c. Include provision requiring sampling and proper disposal for sediments removed from control structures. This should include public notice and an opportunity for public comment.
- d. Require annual reporting of maintenance activities, sediment removal/depth measurements, monitoring data, detection of flow, and photographs be reported annually.
- e. Include definition of the “3-year, 24-hr retention” storm event depths based upon location on the site to increase ease of review of proposed design approaches.
- f. Include caveat that for certain high-risk sites EPA may request a higher retention volume.
- g. Include flow monitoring for detection of flow (visual reporting or installed samplers); since water quality sampling is not required, this allows verification that controls are or are not retaining water based upon the recorded storm event classification. Encourage development of design standards.
- h. Include a third-party review of retention designs.

EPA Response: (a) the term “total retention” is not used in the permit; (b) the permit requires information (e.g., sediment removal, sediment depth, water level, estimated capacity remaining, evidence of discharges, or others) to demonstrate the retention facility maintains capacity to store a 3-year, 24-hour storm; (c) sampling and/or monitoring of disposal requirements may be beyond the scope of NPDES authority unless the disposal site has potential to release pollutants to the Waters of the United States. In that case, authorization under a different permit may be more appropriate; (d) maintenance of retention technology is part of BMP maintenance requirements and no need additional requirement; (e) the depth criteria will be review on a case-by-case basis when a plan is submitted; (f) will be a case-by-case basis and to define high-risk during the permit renewal process could be time consuming and arguable; (g) inspection requirements set in Part I.B.2 also apply to this control technology; and (h) a thirty-party review will have potential to delay the schedule. Practically speaking, it will be everyone’s (particularly for the Permittees to avoid potential problem in the future) interest that retention ponds are designed, built and maintained at a capacity to meet or even exceed a 3-year, 24-hour or equivalent storm event.

CCW Comment: The soil removal approach does not address pollutants that may still appear in stormwater runoff samples from contaminants that have migrated to the edges or outside of or beyond the solid waste management unit (SWMU) boundary. CCW would be more supportive of this option if confirmation stormwater sampling (2 samples) still occurred.

EPA Response: To define a scope of soil removal beyond the SWMU boundary is difficult and shall be evaluated on a case-by-case basis. It will be almost impossible to do it through the permitting process. If evidences show that contaminants have been migrated downstream or treated area is less than actual contaminated area, then a new designated Site number may need to address the issue through the annual SIP process. EPA believes that soil data will effectively demonstrate that POCs left from previous industrial activities are not exposed to the environment. While the proposed permit requires “Following certification of completion of soil removal, the Permittees shall perform storm water confirmation sampling.” EPA cautions that such stormwater confirmation samples may also reveal contributions from natural or non-industrial activity sources.

2. Alternative Compliance: Where the Permittees believe based upon a technical evaluation of existing control measures that they will be unable to certify Completion of Corrective Action (individually or collectively) due, for instance, to site conditions that make it impracticable to install further control measures, or pollutants of concern exceed approved background or baseline values and are contributed by sources beyond the Permittees control, the Permittees may seek to place a site into Alternative Compliance, whereby Completion of Corrective Action will be accomplished on a case-by-case basis, and as necessary, pursuant to a individually tailored control measure by EPA. The public will have opportunity to review and comment on such requests.

EPA proposes to revise the section on Alternative Compliance in the AC Permit because of the following facts and/or concerns: (a) most of the issues (i.e., run-on, natural background, precipitation, and etc.) raised by LANL during the past years to justify its requests for alternative compliance could be resolved through proposed the new permit conditions; (b) the deadline set forth in the AC Permit for requesting Alternative Compliance already passed and factors like natural background or lack of storm events and run-on contribution were not considered when EPA proposed and established those dates; and (c) EPA believes it makes more sense to determine the status of compliance based on installed site-specific control measures (i.e., site clean-up, sediment control, combination of control measures, other approaches beyond the baseline control measures, and etc.) on a case-by-case basis under the authority of the CWA.

EPA proposes to revise the “Alternative Compliance” section to include that the Permittees provide a list of additional on-the-ground actions or a watershed protection approach which have resulted in a significant reduction of discharges of Site-related pollutants. EPA also proposes to require that the Permittees provide a list of BMPs which may further mitigate exposure of POCs to the environment through those additional BMPs, if applicable. EPA, after considering all the information submitted by the Permittees, including all comments received on the request and the Permittees response to those comments, may approve or deny the request. EPA may also require the Permittees to install Site-specific control measures to complete the corrective action as part of conditions of Alternative Compliance. EPA believes that it is necessary to keep the Alternative Compliance option in order to address some special cases.

CCW Comment: To adequately protect water quality, the alternative compliance section of the permit must clearly include requirements that the Permittees take further action to reduce discharges of pollutants. One mechanism to ensure that further action is taken would be to require that the Permittees submit an individual site-tailored workplan and schedule for completing further actions to reduce discharges as part of the alternative compliance request.

EPA Response: EPA adds site-tailored workplan and schedule to the Alternative Compliance requirements.

CCW Comment: CCW raised concerns about deadlines for the Permittees to submit the Alternative Compliance request and schedule for EPA to approve/deny the request.

EPA Response: Alternative Compliance should be the last approach after consideration/implementation of all feasible and economically achievable BMPs to meet the goal for completion of the corrective action. Therefore, EPA decides not to set a deadline for submittal of Alternative Compliance request. Also, since EPA is the regulatory agency, not the regulated entity, of this permit, EPA will not set deadlines/timelines for EPA’s action.

CCW Comment: Include requirements that all individually tailored work plans outline monitoring plans, with a description of what is required, to determine the effectiveness of on-the-ground actions.

EPA Response: Alternative Compliance should be the last corrective action option to contain POCs from releasing to the environment. EPA may set site-specific requirements for inspection, maintenance, and/or monitoring. Alternative Compliance option could be used to move the related Site to the LTS category. Monitoring/inspection requirements are established for the LTS Sites.

CCW Comment: What is the fate of these alternative compliance requests under the new permit submitted by the Permittees in May 2015?

EPA Response: EPA is addressing certain factors, (i.e., natural background, run-on contribution, retention technology, measurable storm events for sampling and etc.) in this permit renewal process, and hopefully the

new permit will resolve most cases raised by the Permittees in 2015. If appropriate, the Permittees may resubmit those requests with information required by the new permit (without reopen public notice) to EPA for EPA review.

3. Schedules for Corrective Actions: If additional corrective actions are required, the Permittees shall make reasonable efforts, in a good faith, to achieve for completion of corrective actions within the 24 months. Since EPA issued the AC permit in 2009, EPA has learned that many Sites have not had “measurable storm” and therefore, LANL could not collect confirmation samples after installations of control measures. EPA’s decision to propose and establish those fixed compliance schedules for High and Moderate Priority Sites in the AC permit was based on assumptions that the permittees could collect most of confirmation samples within a year or two. Such an assumption has been proved false. Because we won’t know whether confirmation samples could be collected or not, EPA decides not to include hard deadlines for final actions requirements. If one or more POCs exceeding the applicable TALs or BTVs cannot be excluded as the source of the exceedance pursuant to Part I.C.1, the Permittees shall take proper corrective actions and complete installation of additional control measures no later than 24 months from the date when the Permittees have knowledge of TAL or BTV exceedance.

Because confirmation samples may only become available after a significant storm event, LANL may need to take several corrective actions if effluent data show exceedances of TALs or BTVs, during the same time frame. Also, more advanced or tailed BMPs are required, it is difficult to predict or to judge whether a 24-month schedule is adequate or manageable while so many Sites are covered by this permit. EPA will not consider any fixed “compliance schedules” for LANL to certify completion of corrective actions. To delete those fixed compliance schedules does not violate anti-backsliding regulation because those fix-deadlines conditions were based on insufficient information which caused ill judgment and resulted in technical error.

In the AC permit, Sites associated with previous PCBs operations were designated as High Priority, and the rest of Sites were designated as Moderate Priority Sites. Because the potential background contribution issues and all Sites already had BMPs installed, EPA will treat all Sites equally ranked in this permit renewal. The proposed permit no longer distinguishes PCB and non-PCB Sites. Also, because TAL for PCBs is based on the State HH-OO standards and fish is not found in the permitting area, it is no need to set a higher priority for PCB-contaminated Sites.

CCW Comment: CCW requests that EPA maintain the compliance deadline of 12 months from the collection of the first sample that is above TALs. This is the required compliance schedule in the 2010 IP for moderate priority sites. CCW believes that this is an CCW Comments to EPA appropriate amount of time to allow compliance and it gives an additional 6 months from what is currently allowed for high priority sites in the 2010 IP.

EPA Response: EPA has explained why a 24-month, not a shorter schedule, was proposed. EPA also believes that it is everyone’s (particularly for the Permittees) interest to complete the corrective action sooner than later in considerations of man-power and time consuming on dealing with contract, paper work, inspection and also unpredictable fiscal budget. Although, the permit has a clause of Force Majeure to address unpredictable causes of corrective action delay, EPA does not want the Force Majeure procedure to be used too frequently because the permit set a tight action schedule.

CCW Comment: The final permit should clarify that sites in corrective action at the time the new permit is issued are operating under the 6-12-month compliance deadlines that were triggered under the 2010 Permit when the TAL exceedances were detected. Regardless of what the schedule is, clarity on compliance deadlines should be stated for these sites.

EPA Response: Prior to the effective date of the new permit, the Permittees must comply with conditions set in the existing AC permit. Once the new permit is in effect, in order to reduce burden to track those Sites that initiate corrective actions not long before the effect of the new permit, EPA proposes that “For Sites which require corrective actions prior to the effective date of the final permit, corrective actions shall be completed no later than 12 months from the effective date of the final permit.”

4. Force Majeure: The Permittees may seek EPA approval for an extension if the Permittees can demonstrate that “force majeure” has resulted, or will result, in a delay in meeting the obligation to confirm completion of corrective action by the specified deadline.

5. Completion of Corrective Action: The Permittees must certify to EPA completion of corrective action wherever applicable for Sites eligible either for removal from the permit coverage or to be placed in the long-term stewardship inspection category. Many factors (i.e., background contribution, lack of measurable storm events, inaction of RCRA program, etc.) might have delayed the permittees to certify Completion of Corrective Action, so it would be appropriate to place some Sites in a stewardship inspection category.

EPA is not proposing to include the RCRA “corrective action complete without controls/corrective action complete with controls” status to determine Completion of Corrective Action as permitted in the AC Permit. But, if the permittees could demonstrate or already demonstrated that the permit provision of Part I.I.2(b) of the AC Permit “[T]he Site has met RCRA’s “corrective action complete without controls/corrective action complete with controls” status or the Site has received a Certificate of Completion under NMED’s Consent Order and confirmation samples of runoff have demonstrated concentrations no greater than applicable target action levels.”, or other Deletion of Sites criteria listed in the AC Permit, prior to the effective date of this proposed permit, EPA will not include those Sites in the new permit.

5. Monitoring at Sites in Corrective Action: Confirmation samplings are required for Sites after corrective actions. If the Permittees have submitted request for either Alternative Compliance or Force Majeure to EPA that are pending, the Permittees may complete a Site-Specific Demonstration pursuant to the permit.

#### Part I.E. Plans and Reports

1. Site Discharge Pollution Prevention Plan (SDPPP): EPA proposes to retain the requirements of SDPPP from the AC permit with a few changes. The facility’s SDPPP must describe all control measures installed to meet the requirements of this Permit. The Permittees shall update the facility’s SDPPP and Sampling Implementation Plan (SIP) annually, submit it to EPA and copy NMED by May 1 of each calendar year of the Permit and post the SDPPP and SIP on the Permittees’ Individual Permit public website. The annual update shall fully incorporate all changes made during the previous year and reflect any changes projected for the following year. The facility’s SDPPP must remain compliant with relevant State, Tribal, and local regulations, if applicable.

CCW Comment: A requirement that all SSD submittals and correspondence associated with the SSD submittals should be posted at the Permittees website.

EPA Response: The following permit language “The Permittees shall update the facility’s SDPPP annually, submit it to EPA and copy NMED by May 1 of each calendar year of the Permit and post the SDPPP on the Permittees’ Individual Permit public website within 30-days after the submittal.” is proposed.

CCW Comment: It is CCW’s interpretation of the Draft IP that sites for which a SSD has been submitted by the Permittees to EPA, but no action has yet been taken by EPA to approve or disapprove the SSD, are still subject to the compliance deadlines outlined in Part 1.D.3. Schedules for Corrective Actions.

EPA Response: The proposed permit requires SDPPP to include Schedules for Control Measure Installation which states that “The Permittees shall update the SDPPP as necessary to include schedules for additional control measure installation and implementation resulting from corrective action under Part I.D of this Permit.” Unless a longer schedule is proposed in the SDPPP and approved by EPA, schedules set in Part I.D.3 apply.

2. Annual Sampling Implementation Plan (SIP): When EPA proposed the 2015 permit renewal, NMED issued §401 Certification of Conditions that required the final permit to include “Sampling Implementation Plan” (SIP). NMED required an annual update to the SIP as part of the renewed permit and LANL agreed that an annual update is reasonable and achievable. EPA is including the SIP in the proposed permit.

The SIP is to be “an ongoing evaluation of Sites based on all available information to accurately determine Site-related constituents and monitoring requirements in storm water runoff. This monitoring requirement is necessary to ensure that monitoring data is representative of Site discharges so that compliance with the water quality standards can be appropriately evaluated.”

3. Annual Compliance Report: The AC permit required two separate reports: Compliance Status Report and Annual Report. The proposed permit requires the Annual Compliance Status Report be integrated into the SDPPP, to reduce unnecessary reporting burden and duplicate information.

## Part II. Other Conditions

This section consolidates certain provisions in the AC Permit which were addressed in varied sections.

1. Watershed Protection Approach: EPA encourages the Permittees to voluntarily install watershed-based control measures, such as sediment barriers, to mitigate sediment or storm water runoff reaching the main channels of the canyons and/or the Rio Grande. EPA may consider such a Watershed Protection Plan as alternative compliance for associated Sites within the scope of the Plan.

The AC Permit has a provision which encourages the Permittees to voluntarily install watershed-based control measures. However, the AC Permit does not recognize watershed-based control measures as acceptable for compliance purposes. EPA proposes to allow the Permittees to use a watershed-based control approach for compliance purposes on a case-by-case basis if the Permittees demonstrate that significant reduction of pollutants discharged into major canyons has been accomplished. The NMED questioned whether “significant reduction” means that storm water discharges at the bottom of the watershed meets WQS. EPA is not proposing to use state WQS to define “significant reduction” because the scope of a watershed will cover a wider drainage area than storm runoffs from Sites within the watershed and pollutants contributed by naturally occurring or developed landscape background and non-point sources may cause exceedance of state WQS. Also, this is not a water quality-based permit, but rather a non-numeric technology-based permit, with site-specific control measures, including BMPs, expected to be protective of water quality. The Permittees are complying with the permit if they implement appropriate basic (including structural and non-structural) control measures and take timely corrective actions in accordance with the permit conditions. A watershed protection approach could reduce the total load of pollutants from entering the waters of the downstream canyons. However, if storm water discharges at the bottom of the watershed meet WQS, it could be a sign of compliance for all Sites within the watershed or sub-watershed.

Although EPA established TALs based on state WQS in the AC permit, it was not EPA’s intent that these TALs (particularly for chronic or human health-based pollutants) be used as “standards” or “criteria.” Rather, as stated in the AC Permit, “Permittees must control discharges from all Sites as necessary to ensure that such

discharges will not cause or contribute to a violation of applicable water quality standards. EPA believes that compliance with the technology-based effluent limitations and other terms and conditions of this permit will control discharges as necessary to meet applicable water quality standards.” EPA took a BMP approach and used TALs as benchmarks to determine whether more BMPs beyond those basic BMPs were necessary. Also, EPA determined that if a discharge met TALs, that discharge would not cause or contribute to a violation of state WQS. But EPA also realized that if a discharge exceeded TALs, it might or might not (it is difficult to determine reasonable potential for storm water discharge) cause or contribute to a violation of state WQS. While the TALs apply to discharges from Sites without accounting for dilution in the receiving water, the NM WQS apply to the waters of the U.S. or to State waters, not to a discharge itself. Therefore, EPA determined that BMPs were the most reasonable approach to deal with runoff from the SWMUs and AOCs. EPA also established the alternative compliance process to deal with non-site related sources of pollutants which might cause or contribute to exceedances of TALs and could not be properly addressed by BMPs.

To control each Site separately, individually, and independently and then confirm effectiveness with runoff monitoring is not only time consuming, but also resource intensive. Because metals and persistent pollutants likely remain in the sediments and sediment movements caused by storm water discharges may eventually reach the downstream waterbodies, it may be more meaningful, in certain circumstances, to control sediment than to control runoff in terms of protection of downstream (e.g., canyons and Rio Grande) water quality. One example of technology for watershed protection approach is to build sediment control barriers in the runoff pathways. EPA also solicits for comments whether to give credit or not in some fashion for in-stream sediment removal as part of watershed protection approach.

2. Record Keeping: The Permittees shall retain records of all monitoring information and reports, Site inspections and reports, decision-making procedures and supporting documents and records, and annual SDPPP updates with supplemental information for at least three (3) years after the issuance of the next permit renewal.

3. Public Involvement: The Permittees shall maintain a public website where information on the Permit will be made available. The Permittees will provide the opportunity for members of the public to register for and receive e-mail notifications on compliance with the Permit on the public web site. LANL requests that public meetings to be held annually, instead of semi-annually.

4. State Water Quality Standards: EPA believes that compliance with the non-numeric technology-based effluent limitations and other terms and conditions of this Permit will control discharges as necessary to meet applicable water quality standards. EPA proposes to replace the subtitle Water Quality-based Effluent Limits shown in the AC permit with State Water Quality Standards to avoid confusion because this permit has established non-numeric technology effluent limitations.

5. Permit Reopener: The Permit may be reopened and modified during the life of the Permit. EPA proposes to move “Permit Reopener” clause from Part II to Part I, so Part II will only address other reporting requirements.

#### 24-Hour Oral Reporting

The AC permit had a provision that requires the permittees make an oral report within 24 hours for any exceedance of MTAL. The permittees requested to remove this oral reporting requirement. Because the exceedance of MTAL will not likely impose imminent threatens to human health in the downstream residents and the State is unlikely to make the downstream public aware of such exceedance immediately upon the receipt of the oral report so that the downstream public may take necessary precautionary actions, EPA does not deem that an oral reporting requirement is necessary. EPA is not including the oral reporting requirement in the

proposed permit. The Annual Compliance Report requires the Permittees to identify POCs that exceed the applicable TAL or BTV.

#### IX. ANTI-BACKSLIDING AND ANTI-DEGRADATION POLICY

The New Mexico 20.6.4 NMAC, Section 20.6.4.8 “Antidegradation Policy and Implementation Plan” sets forth the requirements to protect designated uses through implementation of the State water quality standards. The permit renewal does not authorize new or increased discharges into the environment; rather, it enforces BMP requirements aiming at reduction of pollutants released to the environment.

EPA proposes several changes due to new information revealed during the term of the AC permit, and all those changes are complying with EPA’s anti-backsliding policy. EPA proposes to replace the requirements for installation of baseline control measures with maintenance of those control measures because all Sites regulated by the AC Permit have had baseline control measures in place. Therefore, maintaining those baseline control measures will meet the non-numeric technology-based effluent limitations in the AC permit.

#### X. VARIANCE REQUESTS

No variance requests have been received.

#### XI. ENDANGERED SPECIES ACT

In accordance with requirements under section 7(a)(2) of the Endangered Species Act, the EPA has reviewed this permit for its effect on listed threatened and endangered species and designated critical habitat. According to the most recent county listing of species, shown on the U.S. Fish and Wildlife Service’s Information, Planning, and Conservation System, the following species with critical habitats may be present in the county where the proposed NPDES discharge occurs: Mexican spotted owl (*Strix occidentalis lucida*) and Jemez Mountains salamander (*Plethodon neomexicanus*). The following species may be present in the county where the proposed NPDES discharge occurs without critical habitats: New Mexico meadow jumping mouse (*Zapus hudsonius luteus*), southwestern willow flycatcher (*Empidonax traillii extimus*), and yellow-billed cuckoo (*Coccyzus americanus*).

Mexican spotted owl. The Mexican spotted owl prefers forested mountains and canyons with mature trees that create high, closed canopies, which are good for nesting. They also nest in stick nests built by other birds, in tree cavities and caves and on cliff ledges. The main threats to the Mexican spotted owl are starvation, fire, and loss of habitat due to logging, which also causes a greater risk of predation by great horned owls as a result of increased open space. The reissuance of this permit will not contribute any threats to the Mexican spotted owls. EPA determines that reissuance of this permit has “no effect” on the species.

Jemez Mountains Salamander. LANL developed a Habitat Management Plan (HMP) entitled “Threatened and Endangered Species Habitat Management Plan Area of Environmental Interest Site Plan for the Jemez Mountains Salamander”, dated July 2013. The HMP states that the primary threats to the JMS on Los Alamos National Laboratory (LANL) property are impacts to habitat quality or destruction of individual salamanders caused by LANL or Los Alamos County operations. Forested LANL property is also subject to impacts from severe wildland fire and wildfire suppression. During periods of the year when the salamanders are on the soil surface, when conditions are warm and wet (generally July – September), they are vulnerable to injury and mortality from soil-disturbing activities, including operation of heavy equipment in core habitat. They also are at risk to be found and collected by people.

The HMP has identified areas of environmental interest (AEIs) which consist of two areas, a core area and a buffer area. The core habitat is defined as suitable habitat where the JMS occurs or may occur at LANL. The core habitat consists of sections of north-facing slope that contain the required micro-habitat to support the salamanders. The buffer area is 328 feet (100 meters) wide extending outward from the edge of the core area. LANL has identified core habitats which contain contiguous and noncontiguous habitat areas. The largest contiguous section of habitat at LANL is in Los Alamos Canyon. There are two noncontiguous areas of habitat in Two-mile Canyon, four in Pajarito Canyon, one contiguous area in Cañon de Valle, and the entire Fenton Hill facility.

The HMP provides the guidelines for habitat alterations and allowable activities in AEI core and buffer areas for the salamanders. It describes what and where habitat alterations are allowed under the guidelines of this site plan. If an activity does not meet the restrictions given in the guidelines, the activity must be individually reviewed for ESA compliance through the section 7 consultation process. Because any activity conducted by LANL which may affect federally listed endangered species requires compliance with ESA section 7 consultation process and LANL has implemented the HMP to protect the species habitats, EPA determines that the reissuance of this permit has “no effect” upon the baseline of the HMP. If any site-specific information indicates that to comply with the permit requirements may cause adverse effect to the species during the term of the permit, then EPA may reevaluate the effect for that specific Site.

New Mexico Meadow Jumping Mouse. New Mexico Meadow Jumping Mouse has been proposed to be listed in the federal endangered species list. LANL stated in the August 2013 email that LANL does not have any New Mexico Meadow Jumping Mouse habitat at LANL. Experts from NMDGF (New Mexico Department of Game and Fish) have surveyed areas of possible habitat and they have confirmed that LANL does not have habitat for that species. Therefore, any federal action on the facility will have “no effect” on the species.

Southwestern willow flycatcher. LANL has provided a statement to EPA, via an email dated August 26, 2013, when EPA prepared the permit reissuance for LANL’s industrial wastewater discharge permit (NM0028355) that “The only area of habitat that we currently manage as Southwestern Willow Flycatcher habitat is the wetlands complex on the north side of Pajarito Road just east of TA-18. We have been surveying the area since the mid-90s and have never had any nest, but we occasionally do have migrant Willow Flycatchers come through. Since none of them have stayed and nested we cannot say that they were the endangered southwestern subspecies.” Based on the new information available, since the southwestern willow flycatcher has not been observed for staying or nesting in LANL since the mid-90s, EPA has determined that this permitting action has “no effect” on southwestern willow flycatcher.

Yellow-billed cuckoo. Yellow-billed Cuckoos use wooded habitat with dense cover and water nearby, including woodlands with low, scrubby, vegetation, overgrown orchards, abandoned farmland, and dense thickets along streams and marshes. In the Southwest, yellow-billed cuckoos breed in riparian woodlands of willows, cottonwoods and dense stands of mesquite to breed. The LANL HMP does not have any requirements for this species since it does not contain any breeding habitat on-site. Therefore, the reissuance of this permit has “no effect” on this species.

Therefore, EPA has determined that the reissuance of this permit will have no effects on any of those listed species upon either previous ESA consultation, new information available to EPA, or existing Habitat Management Plan baselines.

## XII. ADMINISTRATIVE RECORD

The following section is a list of the fact sheet citations to applicable statutory or regulatory provisions and appropriate supporting references to the administrative record required by 40 CFR\_124.9:

A. APPLICATION(S)

EPA Application Forms 1 and 2F submitted on July 16, 2019.

New electronic version of Form 1 and Form 2C via email dated October 15, 2019.

B. STATE WATER QUALITY REFERENCES

STATE ADMINSTRATIVE CODE

The general and specific stream standards are provided in "The State of New Mexico Standards for Interstate and Intrastate Surface Waters 20.6.4 NMAC" (20.6.4 NMAC, effective August 11, 2017)

WATER QUALITY STANDARDS IMPLEMENTATION

Region 6 Implementation Guidance for State of New Mexico Standards for Interstate and Intrastate Stream, May 15, 2012.

C. Communities For Clean Water letter dated October 3, 2019.