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APR 01 2024

SURFACE WATER
 QUALITY BUREAU

Date: April 1, 2024
 Refer To: N3B-2024-0089

Shelly Lemon, Chief
 Surface Water Quality Bureau
 New Mexico Environment Department
 1190 S. St. Francis Drive
 P.O. Box 5469
 Santa Fe, NM 87502-5469

Subject: Submittal of Response to NMED Comments, 2023 Draft Sampling Implementation Plan for the LANL Stormwater Individual Permit, NPDES Permit No. NM0030759

Dear Ms. Lemon:

Enclosed is the U.S. Department of Energy Environmental Management Los Alamos Field Office and Newport News Nuclear BWXT-Los Alamos, LLC (N3B) response to comments submitted by the New Mexico Environment Department Surface Water Quality Bureau (NMED-SWQB) on February 13, 2024, in response to the draft 2023 Annual Sampling Implementation Plan (SIP), National Pollutant Discharge Elimination System Permit No. NM0030759, submitted to NMED-SWQB on January 12, 2024. Also enclosed is the revised SIP submitted to the U.S. Environmental Protection Agency on March 29, 2024.

If you have questions, please contact Michael Erickson at (505) 309-1349 (michael.erickson@em-la.doe.gov) or Brian Harcek at (240) 562-1117 (brian.harcek@em.doe.gov).

Sincerely,

Troy Thomson
 Program Manager
 Environmental Remediation
 N3B-Los Alamos

Sincerely,

Brian Harcek, Director
 Office of Quality and Regulatory Compliance
 U.S. Department of Energy
 Environmental Management
 Los Alamos Field Office

Digitally signed by Brian G.
 Harcek
 Date: 2024.03.28 14:04:14
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Enclosure(s): Two letters with electronic files –

1. Response to NMED Comments, 2022 Draft Sampling Implementation Plan for the LANL Stormwater Individual Permit NPDES Permit No. NM0030759, dated February 13, 2023 (EM2023-0159)

2. 2023 Annual Sampling Implementation Plan NPDES Permit No. NM0030759 March 2024 (EM2024-0148, EM2024-0149, EM2024-0150, EM2024-0151, EM2024-0152, and EM2024-0153)

cc (letter with enclosure[s]):

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**U.S. Department of Energy Responses to New Mexico Environment Department Comments on
“Draft 2023 Annual Sampling Implementation Plan, Los Alamos National Laboratory Stormwater
Individual Permit, NPDES Permit No. NM0030759,” Dated February 13, 2024**

INTRODUCTION

To facilitate review of this response, the New Mexico Environment Department’s (NMED’s) comments are included verbatim. The U.S. Department of Energy (DOE) Environmental Management Los Alamos Field Office responses follow each NMED comment. All information associated with analysis of radionuclides is voluntarily provided to NMED in accordance with DOE policy.

GENERAL COMMENTS

NMED Comment

1. ***Part I.A of the LANL Stormwater IP states: “For all Sites identified in Appendix A of this Permit, the Permittees shall install and/or maintain structural and nonstructural control measures as necessary to meet the non-numeric technology-based effluent limits to minimize Site-related POCs in storm water discharges. Nothing in this Permit relieves the Permittees of the obligation to implement additional control measures required by other Federal authorities or by a State or local authority.”***

Comment: Review of the SIP showed multiple site monitoring areas (SMAs) that had a site-specific demonstration (SSD) stating a pollutant would not be included in the sampling and analysis plan (SAP) but ultimately was included in the SAP. For example, S-SMA-3.61 has a description in 38.5.1 Soil Data Summary describing PCBs as not having exceeded screening levels and therefore would not be included in the SAP, but total PCBs are included in table 68.5-1 Proposed SAP, S-SMA-3.61. NMED is in support of additional monitoring but requests clarification to the SSD for SMAs in Volume 1 through 5 of the SIP.

DOE Response

1. For S-SMA-3.61 polychlorinated biphenyls (PCBs) did not exceed screening levels in the soil data; however, the associated assessment unit has an impairment for PCBs so they have been added to the sampling and analysis plan (SAP). The language in section 68.5.1 has been edited. As requested by NMED, Volumes 1 through 5 of the Sampling Implementation Plan (SIP) have been reviewed and edits have been made as necessary.

NMED Comment

2. ***Part 1.B of the IP states: “for Sites discharging to impaired and water quality-limited waters, if the pollutants for which the water body is impaired are determined to be Site-related, as demonstrated under Part I.C.2 of the permit, the Permittees shall include the Site-related***

pollutants of impairment on the priority list for each Site in the SIP and shall prioritize these pollutants for analysis in the event a partial sample is collected.”

Comment: This was previously commented in the 2022 SIP review by NMED. The comment is retained as it is still applicable.

Pollutants of concern (POCs) that are site related and causing impairments in drainages where SMAs are located should be included in the SAP. For example, 2M-SMA-1.44 lists aluminum as a POC based on site history (Volume 3, Table 122.2-1) and impairment (Volume 3, Section 122.4.2). However, aluminum is missing from the SAP, and it must be included and monitored at this Site.

Similar errors were found in 2M-SMA-2, which lists aluminum, chromium, and metal pigment as POCs based on site history (Volume 3, Table 130.2-1) and lists aluminum as an impairment (Volume 3, Section 130.4.2). However, aluminum is missing from the SAP, and it must be included and monitored at this Site.

PJ-SMA-3.05 lists aluminum as a POC based on site history (Volume 3, Table 142.2-1) and impairment (Volume 3, Section 142.4.2). However, aluminum is missing from the SAP, and it must be included and monitored at this Site. Also, previously copper exceeded the target action level (TAL) and background threshold value (BTV). The proposed SAP for PJ-SMA-3.05 following the completion of the corrective action should include and monitor for copper at this site.

PJ-SMA-5 lists arsenic, cadmium, chromium, copper, lead, nickel, silver, thallium, zinc, and cyanide as POC based on site history (Volume 3, Table 144.2-1) with impairments for copper, silver, and cyanide. However, silver and cyanide are missing from the SAP, and must be included and monitored at this Site.

PJ-SMA-20 lists PCBs as a POC based on site history (Volume 3, Table 164.2-1) and impairment (Volume 3, Section 164.4.2). However, PCBs are missing from the SAP, and they must be included and monitored at this Site.

STRM-SMA-5.05 lists PCBs as a POC based on site history (Volume 3, Table 168.2-1) and impairment (Volume 3, Section 168.4.2). However, PCBs are missing from the SAP, and they must be included and monitored at this Site.

Please include and prioritize in the SAP all site-related POCs that are also causes of impairment in the receiving water.

DOE Response

2. The Permittees have reviewed the impairments to be monitored at 2M-SMA-1.44. Aluminum is a site-related pollutant of concern (POC) and was monitored for in the previous stage at that site monitoring area (SMA). It did not exceed the target action level (TAL) or background threshold value (BTV) and does not need to be monitored further, based on Permit Part I.C.2.b.i: “SW Tier 1: When the confirmation sample result for one or more POCs does not exceed the TAL, the permittees can cease monitoring for the POC for the remainder of the Permit.”

The Permittees have reviewed the impairments to be monitored at 2M-SMA-2. Aluminum is a site related POC and was monitored for in the previous stage at that SMA. It did not exceed the TAL or BTV and does not need to be monitored further, based on Permit Part I.C.2.b.i: “SW Tier 1: When

the confirmation sample result for one or more POCs does not exceed the TAL, the permittees can cease monitoring for the POC for the remainder of the Permit.”

The Permittees have reviewed the impairments to be monitored at PJ-SMA-3.05. Aluminum is a site related POC and was monitored for in the previous stage at that SMA. It did not exceed the TAL or BTV and does not need to be monitored further, based on Permit Part I.C.2.b.i: “SW Tier 1: When the confirmation sample result for one or more POCs does not exceed the TAL, the permittees can cease monitoring for the POC for the remainder of the Permit.” PJ-SMA-3.05 is currently in corrective action for copper while also in active monitoring for other constituents; therefore the proposed SAP presented in Table 142.5-1 includes constituents required for monitoring at the beginning of the monitoring season (i.e., before the completion of corrective action for copper, scheduled for September 2024). The Permittees agree that the SAP will then need to include copper, but it is not appropriate to add it at this time. The following sentence has been added to section 142.5.4 for clarification.

The SAP will be revised to add two samples for dissolved copper after certification of completion of corrective action is submitted to EPA per Permit part I.D.4.

The Permittees have reviewed the impairments to be monitored at PJ-SMA-5. PJ-SMA-5 drains to Pajarito Canyon (Arroyo de La Delfe to Starmers Gulch) and has not been assessed for impairments. Additionally, both cyanide and silver have been previously monitored in stormwater and did not exceed TALs; further monitoring is not required. PJ-SMA-5 is currently in corrective action for a TAL exceedance for copper and this constituent is planned in the SAP for that reason, not impairment.

The Permittees have reviewed the impairments to be monitored at PJ-SMA-20. PCB concentration is Site related and was previously monitored for in stormwater data as shown in Figures 164.4-2 and 164.4-4 of the SIP. It did not exceed the TAL or BTV and does not need to be monitored further, based on Permit Part I.C.2.b.i “SW Tier 1: When the confirmation sample result for one or more POCs does not exceed the TAL, the permittees can cease monitoring for the POC for the remainder of the Permit.”

The Permittees have reviewed the impairments to be monitored at STRM-SMA-5.05. PCB concentration is Site related and was monitored for in stormwater data in the previous stage at that SMA. It exceeded the TAL but not the BTV and does not need to be monitored further.

The Permittees have reviewed all Site-related POCs, impairments, and past monitoring data to verify that a POC/impairment is included in the monitoring suite for a particular SMA if (1) the POC exceeded the TAL and BTV in a previous sample or (2) the impairment is Site related and no data have been collected at the SMA. If an impairment has been monitored previously and the POC did not exceed the TAL, then the POC can be removed from the SAP, per Permit Part I.C.2.b.i.

Impairments that were added to or removed from the SAP based on this review are shown in Table 1.

As discussed in the meeting with the NMED Surface Water Quality Bureau (SWQB) on March 12, 2024, the Permittees have revised section X.4.2, Assessment Unit and Stream Impairments, for each SMA (X indicates the section number). Text has been added to show if each impairment has been monitored for in stormwater and whether it exceeded applicable screening levels.

Table 1. SAP Changes Based on Impairments Review

SMA	SAP Change Made
LA-SMA-2.1	Added selenium
LA-SMA-3.1	Added cyanide
LA-SMA-5.361	Added mercury
LA-SMA-5.54	Removed PCBs, which are not a Site-related POC
LA-SMA-9	Added PCBs
3M-SMA-2	Removed gross alpha, which has already been monitored for in stormwater
PJ-SMA-4.05	Added copper and silver because sampler location was moved since they were last monitored

NMED Comment

3. **Part I.C.2(b)(i) of the LANL Stormwater IP states: “SW Tier 2: When the confirmation sample result for one or more POC exceeds the TAL but is less than the 90th percentile composite BTV, the SMA shall be assigned to long-term stewardship (LTS) and meet the requirements of Part I.B.8. However, if the composite BTV and the confirmation sample result do not exceed the TAL, SW Tier 1 applies.”**

Part I.C.3.a of the LANL Stormwater IP states: “Storm water sample results from the Site or Sites are greater than TALs because of background contribution as specified in Part I.C.2(b)(i) SW Tier 2;”

Comment: The criteria for a SMA to move into long-term stewardship is outlined in Part 1.C.3 of the IP. One of these criteria needs to be met for a SMA to move into long-term stewardship. An error was found for W-SMA-1, which has copper exceeding the composite BTV but not the TAL and the reference for long-term stewardship is Part I.C.3a. Since there is a POC that exceeds the BTV and not the TAL, this does not meet the requirements in Part I.C.3.a.

Additional errors were identified in 2M-SMA-1.7 for copper, in 2M-SMA-1.9 for copper and zinc, and in 3M-SMA-4 for copper.

Please review all SMAs identified to be in long-term stewardship to ensure applicability with the IP.

DOE Response

3. If the composite BTV is less than the TAL, the BTV is not used as a metric for determining an exceedance. Data are first screened to determine if there has been a TAL exceedance. When the BTV is less than the TAL, the BTV is not used in place of the TAL. However, a review of the Site history for W-SMA-1 determined that organics should be added as a POC. W-SMA-1 has been moved from Long-Term Stewardship (LTS) status to Active Monitoring status.

2M-SMA-1.7, 2M-SMA-1.9, and 3M-SMA-4 are in Active Monitoring/Corrective Action status, not in LTS status.

All SMAs in LTS status have been reviewed for applicability with the Individual Permit (IP), and edits have been made where applicable. Two SMAs were moved from long-term stewardship into active monitoring (W-SMA-1 and CDV-SMA-8).

NMED Comment

- 4. Part I.C.3 of the LANL Stormwater IP and Part 3.3 of the SIP Overview lists conditions when Sites can be placed in long-term stewardship: “results exceed the TAL but do not exceed the Composite BTV (when the Composite BTV is greater than the TAL) (Part I.C.3.a), all Sites within the SMA are deferred per the Consent Order (Part I.C.3), or gross alpha was the sole TAL exceedance for samples collected under the 2010 permit (Part I.C.3.c).”**

Comment: Please identify in the SIP Overview Table 3.3-1 SMAs eligible for long-term stewardship for Monitoring Year 2023 and in the SMA summaries in Volumes 1 through 5 which criterion listed in Part I.C.3 of the IP and Part 3.3 of the SIP Overview is being met to justify site transition to long-term stewardship.

DOE Response

4. The SIP Overview, Table 3.3-1, as well as the 2022 Permit Status for each SMA (section X.5.3), currently list which criterion for LTS is being met. The following additional text has been added to section 3.3 of the Overview to identify when each SMA became eligible for LTS: “The initial SIP (N3B 2023, 702792) identified 32 SMAs that were placed in long-term stewardship in 2023. In 2024, one new SMA was placed into long-term stewardship (2M-SMA-1), while one SMA was moved from long-term stewardship into corrective action (W-SMA-1.5), and two SMAs were moved from long-term stewardship into active monitoring (W-SMA-1 and CDV-SMA-8).” For each SMA in LTS, the date it entered LTS has also been added.

As discussed in the meeting with NMED-SWQB on March 12, 2024, the Permittees have added the following language to section 3.3 of the Overview:

The Permit reference for SMAs that are eligible for long-term stewardship because all Sites within the SMA are deferred per the Consent Order is listed directly in Part I.C.3, not in a subpart. The SMAs that are eligible via this criterion are shown in the first two columns of Table 3.3.-1.

NMED Comment

- 5. Part I.D.1 of the LANL Stormwater IP states: “Once a TAL and/ or composite BTV (per Part I.C.2) has been exceeded for a Site-related POC, the Permittees shall determine the appropriate corrective action. At a minimum, as applicable this corrective action determination shall consider one or more of the following: volume of storm water currently retained and the potential for additional retention of storm water; potential and physical limitation for installation of Site-appropriate storm water controls (with consideration of technological availability); evaluation of the efficacy, limitations, and predicted water quality improvement performance of any proposed storm water controls (may include information from published literature or manufacturers specifications); or distribution of contaminants in soil and the predicted efficacy of any proposed soil removal on removal of POCs from storm water. The options for implementation of corrective action may include installation of**

enhanced control measures, elimination of exposure of POCs to stormwater, or retention of a 3-year, 24-hour storm event as described below.”

Comment: Please identify in the SIP overview Table 3.4-1 SMAs Screened into Corrective Action and in the SMA Summaries in Volumes 1 through 5 which criterion listed in Part 1.D.1 of the IP and Part 3.4 of the SIP Overview is being met for corrective action.

DOE Response

5. When an SMA is screened into corrective action, an internal analysis of alternatives determines the most effective implementation, pursuant to Permit Part I.D.1 as cited in NMED Comment 5 above. After the internal analysis process is completed, a corrective action pathway is selected. Once corrective action is complete, documentation is submitted to the U.S. Environmental Protection Agency (EPA) and NMED with details on the implementation selected. These certificates of completion of corrective action are available on the IP public website, <https://ext.em-la.doe.gov/IPS/Home/constructioncertifications?Length=4>.

NMED Comment

6. **Part III.C.5.c of the LANL Stormwater IP states: “An adequate analytical quality control program, including the analyses of sufficient standards, spikes, and duplicate samples to insure [sic] the accuracy of all required analytical results shall be maintained by the permittee or designated commercial laboratory.”**

Comment: Review of the SIP did not indicate any duplicate sampling or reference to a quality control program. Please reference or include information on LANL’s quality control program, including planning of duplicate sampling (e.g., 10 percent of overall samples collected). This comment is repeated from NMED’s comments on the 2022 SIP review.

DOE Response

6. The following additional information was added to section 1.5 of the Overview:

N3B’s contracted, independent analytical laboratories are required to be certified by DOE’s DOECAP-AP. This certification includes annual evaluations conducted by third-party assessors, often with an N3B observer present. DOECAP-AP certification assures N3B and stakeholders that environmental sample analysis is performed using verified methods, providing reliable and defensible data. DOECAP-AP certification also requires a laboratory QA program, which includes analytical QC (i.e., spiked samples, duplicates, and blanks) as well as data security, integrated data management systems, instrumentation records, and responsible waste management.

The Permittees target the collection of field duplicates for 10% of all samples [new text follows]. In 2023, field duplicates totaled 27 out of 283 sample IDs, or 9.5%. Field duplicate collection is dependent on weather and sample volume. Using the Data Validation Procedure, field duplicate data are automatically evaluated during data validation. The field duplicate is compared to the paired regular sample and if the relative percent difference is out of bounds then data qualifiers are applied. Analytical results for field duplicates will be included in the 2023 Update to the SDPPP, scheduled to be submitted to EPA by May 1, 2024.

SPECIFIC COMMENTS

NMED Comment

1. ***In the SIP Overview, Table 1.3-1 states: “Metals - Metals were analyzed for every sample in the former Permit using the TAL metals suite, which included aluminum, antimony, arsenic, boron, cadmium, chromium, cobalt, copper, lead, mercury (total), nickel, selenium (total), silver, thallium, vanadium, and zinc. If samples have already been collected, the sampler will be reactivated only if a metal, not previously monitored for, is specifically designated in the Site history (e.g., barium, beryllium, iron, manganese, and uranium, which do not have TALs but do have WQS).***

Comment: For S-SMA-3.7, the site history identifies sodium molybdate was an additive to cooling water for corrosion inhibition and metals are identified on in table 70.2-1. Since a specific metal, molybdenum, has been identified and the group is highlighted as a possible POC, the pollutant should be included in the SAP. This is similar for other SMAs, such as CDB-SMA-0.55 regarding alkali metals. Please review the SIP Volume 1 through 5 regarding the addition of site specific POCs that are identified in the site history and have not been previously monitored.

DOE Response

1. Molybdenum has been added to Table 70.2-1 and to the proposed SAP for S-SMA-3.7, Table 70.5-1. CDB-SMA-0.55 Site history refers to “alkali metals” which include lithium, sodium, potassium, rubidium, cesium, and francium. These alkali metals do not have applicable TALs or water quality standards (WQS). All volumes have been reviewed for site-specific POCs with TALs or WQS that have not previously been monitored and edits have been made as shown in Table 2.

Table 2. SAP Changes Based on Site History Review

SMA	POC added to SAP
S-SMA-3.7	Molybdenum
CDV-SMA-7	Hexavalent chromium
CDV-SMA-8	Hexavalent chromium
CDV-SMA-9.05	High explosives
W-SMA-1	Organic chemicals
A-SMA-2.5	Radionuclides
CHQ-SMA-3.05	Tritium
CHQ-SMA-5.05	Radionuclides

NMED Comment

2. ***In the SIP Volume 1, Table 37.2-1 has “inorganic chemicals” listed as POCs known or suspected to be used historically at the site.***

Part I.B.4 of the Stormwater IP states, “For Sites discharging to impaired and water quality-limited waters, if the pollutants for which the water body is impaired are determined to be Site related, as demonstrated under Part I.C.2 of the permit (Site Specific Demonstration), the Permittees shall include the Site-related pollutants of impairment on the priority list for each Site in the SIP and shall prioritize these pollutants for analysis in the event a partial

sample is collected. If there are insufficient data to determine if a pollutant causing an impairment is Site-related, the Permittees shall prioritize analysis of the pollutants causing impairments in the event a partial sample is collected.”

Comment: Since there are no stormwater data, “inorganic chemicals” are site-related, and Los Alamos Canyon is impaired due to total recoverable cyanide and total recoverable selenium. LANL must include cyanide and selenium in the SAP for LA-SMA-5.52.

DOE Response

2. Stormwater data are available from the previous monitoring stage in 2019. Both cyanide and selenium were measured in stormwater and did not exceed their respective TALs, as is shown in Figures 37.4-1 through 37.4-4. As outlined in the SIP Overview section 2.5.2, assessment unit impairments will not be included in the SAP if the POC was monitored and did not exceed TAL and BTV.

NMED Comment

3. **SIP Volume 1, Section 43.5.2 (Stormwater Data Summary for LA-SMA-6.3) states, “Total aluminum, gross alpha, and selenium exceeded TALs but not BTVs. Iron exceeded the water quality standard; however, there is no TAL in the Permit for iron. Only POCs with TALs are used in the SSD.”**

Part I.C.1 of the LANL Stormwater IP states, “Target Action Levels (TALs) are based on and equivalent to New Mexico State water quality criteria for the subject pollutants.” A water quality criterion for iron is identified in the New Mexico State WQS (see 20.6.4.900 NMAC).

SIP Volume 1, Section 43.5.3 (2022 Permit Status for LA-SMA-6.3) states: “The SMA is eligible for long-term stewardship; all Site-related POCs were below their respective composite background threshold values (Part I.C.3.a).”

According to the data presented in Figures 43.4-3 and 43.4-4 (Tables 1 and 2):

- **aluminum and gross alpha exceeded TALs and BTVs (aluminum result = 40,900 ug/L and composite BTV = 37,300 ug/L; gross alpha result = 857 pCi/L and composite BTV = 56.9 pCi/L);**
- **uranium exceeded the BTV (uranium result = 1.17 ug/L and composite BTV = 0.310 ug/L).**

Comment: Since Los Alamos Canyon is impaired due to total recoverable selenium and adjusted gross alpha, TALs and background threshold values were exceeded for aluminum and gross alpha, and uranium results were almost 4 times the background threshold value, LANL must include and prioritize aluminum, gross alpha, iron, and uranium in the SAP for LA-SMA-6.3.

LA-SMA-6.3 is not eligible for long-term stewardship because not all Site-related POCs are below their respective composite background threshold values. The 2022 and 2023 Permit status should be identified as “active monitoring” with a proposed SAP for the SMA. There is a general comment above that identifies the criteria for moving into long-term stewardship. Please review all SMAs that

are identified as being in long-term stewardship for the correct applicability. If the SMA does not meet the criteria outlined in Part I.C.3 of the permit then the site should be in active monitoring.

DOE Response

3. The Permittees have reviewed the data for LA-SMA-6.3. The TALs for gross alpha and aluminum were exceeded but the BTVs were not exceeded. The results for total aluminum and gross alpha need to be first normalized to suspended sediment concentration (SSC) and then compared with the composite BTV; when this is done in both cases, the result is less than the BTV. Iron exceeded the WQS; uranium exceeded the BTV but not the WQS. However, iron and uranium data are used for screening purposes only and are not compliance data because there is no TAL in the Permit for iron or uranium. The three POCs that exceeded TALs did not exceed BTVs, and thus LA-SMA-6.3 is eligible for LTS based on Permit Part I.C.3.a: “. . .storm water sample results from the Site or Sites are greater than TALs because of background contribution as specified in Part I.C.2(b)(i) SW Tier 2.”

See the Permittees response to NMED general comment #3 regarding review of all SMAs in LTS.

NMED Comment

4. ***In the SIP Volume 2, DP-SMA-3, Figure 58.4-3, NMED found an error with the calculation of detected/background values (“dB”). For example, aluminum has a “2019-07-25 dB” result of 0.431, however the two detected results of 35,000 and 72600 have a geometric mean of 50408. When the geometric mean is divided by 37,400 (composite BTV) equals 1.348. Similarly, gross alpha has a “2019-08-09 dB” result of 0.637, however the detected results are 66.5 and 164 which have a geometric mean of 104.43. And when divided by 57.2 (composite BTV) is equal to 1.826. NMED found additional errors for this calculation for other POCs and other SMAs.***

Comment: This is repeated from the 2022 SIP review. The same errors were noted on the same SMAs. Please check Site tables and verify calculations to ensure they are correct.

DOE Response

4. As the Permittees responded in 2022, the Permittees have reviewed the calculations for DP-SMA-3 (N3B 2022, 702502). For aluminum and gross alpha, the result must be normalized to SSC before being divided by the composite BTV, because those BTVs have been normalized to SSC. For calculating the aluminum ratio to the composite BTV, the result of 35,000 µg/L should be divided by the SSC for that sample (1600 mg/L), then multiplied by 1000 (for unit conversion), resulting in an SSC-normalized value of 21,875 mg/kg. That result is then divided by the composite BTV for aluminum (37,400 mg/kg). The SSC-normalized result, divided by the composite BTV for aluminum, yields the 2019-07-25 detected/background (dB) value of 0.585. Similarly for gross alpha, the results from the two samples are first normalized to the SSC result from the respective samples. The final geomean of the two SSC-normalized results is less than the SSC-normalized composite BTV for gross alpha.

The Permittees have added text to Overview section 2.5.1 explaining that the results for total aluminum and gross alpha must be normalized by SSC before being compared with the composite BTV. The text reads “For total aluminum and gross alpha, the result is first normalized by the SSC and then divided by the composite BTV to determine the BTV exceedance ratio.”

As discussed in the meeting with NMED SWQB on March 12, 2024, the Permittees have added an appendix with SSC-normalized results. The following text has been added to section 2.5.1 of the Overview:

For ease of review, the SSC-normalized results for aluminum, gross alpha, and radium-226 and radium-228, where applicable, are included as Appendix C.

NMED Comment

5. In SIP Volume 3, several sections did not identify a Sample and Analysis Plan.

Part I.C.3.c of the LANL Stormwater IP states: “Sites in LTS status must be tracked by Site, not by individual controls, and the inspection dates, maintenance dates, maintenance activities, and LTS listing date for each LTS Site must be included in the SIP.”

Comment: Review of the SIP Volume 3, Sections 119.5, 125.5, 135.5, 148.5, and 151.5 did not identify a Sample and Analysis Plan. SIP Volume 3 Proposed SAPs for 119.0 2M-SMA-1, 125.0 2M-SMA-1.65, 135.0 2M-SMA-1, 148.0 PJ-SMA-8, and 151.0 PJ-SMA-10 did not indicate when the SMAs were placed into the Long-Term Stewardship Category. Please provide this date to help indicate the time frame for the 5-year period.

DOE Response

5. A SAP is not required for Sites that are in LTS as no stormwater monitoring is being conducted. The initial SIP (N3B 2023, 702792) identified 32 SMAs that were placed in LTS in 2023. In 2024, one new SMA was placed into LTS (2M-SMA-1) while one SMA was moved from LTS into corrective action (W-SMA-1.5), and two SMAs were moved from LTS into active monitoring (W-SMA-1 and CDV-SMA-8). Per Permit Part I.B.8.c., the Permittees have added the date of initiation of LTS (established as the EPA minor Permit modification dated July 5, 2023) to section X.5.3, 2022 Permit Status, as applicable. At this time, 31 SMAs were placed in LTS on July 5, 2023, and 1 SMA was placed in LTS on January 15, 2024. The 5-year periods are July 5, 2028, and January 15, 2029, respectively. Please note, these dates are both outside of the current Permit term, which ends on July 31, 2027.

NMED Comment

6. *SIP Volume 3, Section 141.0 (Stormwater Data Summary for PJ-SMA-2) states: “Aluminum exceeded the TAL but not the BTV. Iron exceeded the WQS, but there is no TAL for iron. Only POCs with TALs are used in the SSD.”*

Part I.C.1 of the IP states, “Target Action Levels (TALs) are based on and equivalent to New Mexico State water quality criteria for the subject pollutants.” A water quality criterion for iron is identified in the New Mexico State WQS (see 20.6.4.900 NMAC).

According to the data presented in Figures 141.4-3 and 141.4-4 (Tables 1 and 2):

- *Aluminum exceeded the TAL but not the BTV (aluminum result = 4580 ug/L and composite BTV = 37,400 ug/L).*
- *Copper and zinc exceeded the TAL and BTV (copper = 23.1 ug/L and composite BTV = 3.12 ug/L; zinc = 95.6 ug/L and composite BTV = 10.0 ug/L).*
- *Iron exceeded the water quality criterion (i.e., TAL), and no data are available for BTV.*

Comment: Since Pajarito Canyon is impaired due to aluminum and copper, TALs and background threshold values were exceeded for aluminum and copper, and iron results were above the applicable State water quality criterion, LANL must include and prioritize aluminum, copper, and iron SAP for PJ-SMA-2.

DOE Response

6. The results of the first confirmation monitoring sample, collected on July 31, 2022, at PJ-SMA-2 were used for the SSD. Per Permit part I.B.1.a, the Permittees have 2 years after receipt of analytical validated analytical data to attempt to collect a second confirmation sample. Validated analytical data were received for the sample on August 31, 2022, and confirmation monitoring will continue until August 31, 2024. At that time, the results of the single sample (if a second sample cannot be collected) will be used to initiate corrective action. The reach is impaired for PCBs, aluminum, and copper, and all three of those are prioritized in the SAP, as outlined in Overview section 1.3. Iron is not specifically prioritized because it is not an impairment and does not have a TAL.

NMED Comment

7. *SIP Volume 3, Section 149.0 (Stormwater Data Summary for PJ-SMA-9) states: “Aluminum and gross alpha exceeded the TAL but not the BTV. Copper exceeded the TAL and BTV. Iron exceeded the WQS; however, there is no TAL in the Permit for iron. Only POCs with TALs are*

used in the SSD. Corrective action will be initiated for copper while monitoring is ongoing for SVOCs and 2,3,7,8-tetrachlorodibenzodioxin.”

Part I.C.1 of the IP states, “Target Action Levels (TALs) are based on and equivalent to New Mexico State water quality criteria for the subject pollutants.” A water quality criterion for iron is identified in the New Mexico State WQS (see 20.6.4.900 NMAC).

According to the data presented in Figures 149.4-3 and 149.4-4 (Tables 1 and 2):

- **Aluminum and gross alpha exceeded the TAL but not the BTV (aluminum result = 18,700 ug/L and composite BTV = 36,900 ug/L; gross alpha = 47.0 ug/L and composite BTV = 56.1 ug/L).**
- **Copper exceeded the TAL and BTV (copper = 11.0 ug/L and composite BTV = 3.99 ug/L).**
- **Iron exceeded the water quality criterion (i.e., TAL), and no data are available for BTV.**

Comment: Since Pajarito Canyon is impaired due to aluminum and copper, TALs and background threshold values were exceeded for aluminum, gross alpha, copper, and iron results were above the applicable State water quality criterion, LANL must include and prioritize aluminum, gross alpha, copper, and iron SAP for PJ-SMA-9.

DOE Response

7. As outlined in the SIP Overview section 2.5.2, assessment unit impairments will not be included in the SAP if the POC was previously monitored and did not exceed TAL and BTV. Copper has been monitored in stormwater and exceeded the TAL and BTV; therefore the Permittees are in corrective action for copper as discussed in section 149.5.3. After certification of completion of corrective action for copper, the constituent will be included in the SAP, but inclusion is not required at this time. Aluminum and gross alpha did not exceed TAL and BTV, and therefore further stormwater monitoring is not required for those POCs. Iron did exceed the WQS. However, iron data are used for screening purposes only and are not compliance data because there is no TAL in the Permit for iron. Two samples were collected for iron and were compared against the WQS per Permit Part I.E.2.b.

NMED Comment

8. ***SIP Volume 3, Section 163.0 (Stormwater Data Summary for PJ-SMA-19 states: “Aluminum and gross alpha exceeded the TAL/WQS but not the BTV. Iron exceeded the WQS; however, there is no TAL in the Permit for iron. Only POCs with TALs are used in the SSD.”***

Part I.C.1 of the IP states, “Target Action Levels (TALs) are based on and equivalent to New Mexico State water quality criteria for the subject pollutants.” A water quality criterion for iron is identified in the New Mexico State WQS (see 20.6.4.900 NMAC).

According to the data presented in Figures 163.4-3 and 163.4-4 (Tables 1 and 2):

- ***Aluminum and gross alpha exceeded the TAL/WQS but not the BTV (aluminum result = 20,400 ug/L and composite BTV = 37,000 ug/L; gross alpha = 56.3 ug/L and composite BTV = 44.7 ug/L).***
- ***Iron exceeded the water quality criterion (i.e., TAL), and no data are available for BTV.***

Comment: Since Pajarito Canyon is impaired due to aluminum and copper, TALs and background threshold values were exceeded for aluminum, gross alpha, copper, and iron results were above the applicable State water quality criterion, LANL must include and prioritize aluminum, gross alpha, copper, and iron SAP for PJ-SMA-19.

DOE Response

8. As outlined in the SIP Overview section 2.5.2, assessment unit impairments will not be included in the SAP if the POC was monitored and did not exceed TAL and BTV. Copper has been monitored in stormwater and did not exceed the TAL; therefore further stormwater monitoring is not required. The gross alpha results from the two samples presented in Figure 163.4-3 (Table 1) were 44.7 µg/L and 66.2 µg/L. The geometric mean of these two results is below the composite BTV of 56.3 µg/L, and therefore further stormwater monitoring is not required for the POC. Iron did exceed the WQS. However, iron data are used for screening purposes only and are not compliance data because there is no TAL in the Permit for iron. One sample was collected for iron in 2021, and a second sample will be added to the SAP but not prioritized because it is not an impairment. The iron data will be compared against the WQS per Permit Part I.E.2.b.

NMED Comment

9. ***In the SIP Volume 4, CDV-SMA-2, Table 174.5-1 identifies the proposed SAP which does not correspond to the description in 174.5.1 Soil Data Summary. In 174.5.1 it is stated aluminum, arsenic, barium, cadmium, chromium, cobalt, copper, lead, manganese, nickel, RDX, silver, TNT, uranium, vanadium, and zinc will be included in the SAP. The SAP details Dissolved***

arsenic, barium, boron, cadmium, chromium, cobalt, copper, lead, manganese, nickel, silver, uranium, vanadium, and zinc. The inconsistencies are with aluminum and boron.

Comment: Please review all tables and descriptions regarding the SAPs in the SIP volume 1 through 5 for continuity and correct reference to POC.

DOE Response

- The proposed SAP presented in Table 174.5-1 correctly corresponds to the soil exceedances listed in section 174.5.1. Aluminum exceeded the applicable screening value in soil data and is listed in the proposed SAP as total aluminum. The 2022 IP TAL for aluminum is for total recoverable aluminum, not dissolved aluminum. Boron was not measured in soil data, and section 174.5.1 has been updated to clarify that it is included in the SAP because it is a Site-related POC that has not previously been monitored in either soil or stormwater. POCs and SAPs have been reviewed for continuity and correct references in all volumes, and edits have been made as shown in Table 3.

Table 3. SAP Changes Based on Continuity Review

SMA	Change made to SAP
T-SMA-3	Cyanide added to SAP
ACID-SMA-2.01	Lead added to SAP
P-SMA-0.3	SVOCs* added to SAP
LA-SMA-1.25	Uranium added to SAP
LA-SMA-5.01	Hexavalent chromium added to SAP
DP-SMA-1	Uranium added to SAP
M-SMA-12.9	Uranium added to SAP
M-SMA-12.92	Hexavalent chromium added to SAP

* SVOC = Semivolatile organic compound.

REFERENCES

N3B (Newport News Nuclear BWXT-Los Alamos, LLC), December 2022. “Resubmittal of the Draft 2022 Sampling Implementation Plan as Required per the U.S. Environmental Protection Agency National Pollutant Discharge Elimination System Permit No. NM0030759,” Newport News Nuclear BWXT-Los Alamos, LLC, documents EM2022-0883, EM2022-0884, EM2022-0885, EM2022-0886, EM2022-0887, EM2022-0888, and EM2022-0089.

N3B (Newport News Nuclear BWXT-Los Alamos, LLC), March 2023. “Response to the U.S. Environmental Protection Agency National Pollutant Discharge Elimination System Permit No. NM0030759 Los Alamos National Laboratory Stormwater Individual Permit Comments on 2022 Annual Sampling Implementation Plan,” Newport News Nuclear BWXT-Los Alamos, LLC, documents EM2023-0377, EM2023-0378, EM2023-0379, EM2023-0380, EM2023-0381, EM2023-0382, and EM2023-0383) (N3B 2023, 702792)