Los Alamos National Laboratory (LANL) Individual Storm Water Permit (IP)

LANL IP Coverage

- IP regulates discharges of storm water associated with industrial activity from ~400 Sites: Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs). AOC is any area that may have had a release of a hazardous waste or hazardous constituent and which is not a SWMU.

- IP does not cover currently active operations; it covers sites where industrial activities in the past have significant materials remaining that are exposed to storm water. Note that most activities at LANL do not fall withing the scope of “storm water discharge associated with industrial activity” at 40 CFR 122.26(b)(14).

- Sites are located within seven (7) major canyon watershed drainage areas.

- Sites spread over 36 square miles.

LANL IP Background

- Required by Federal Facility Compliance Agreement (FFCA), dated February 3, 2005, between LANL, DOE, EPA Region 6, and New Mexico Environment Department (NMED) under RCRA programs.
- The first permit was issued on February 13, 2009, and modified on September 30, 2010. Permit expired on March 31, 2014, and has been administratively continued.
- EPA proposed permit renewal in 2015, but did not issue a final permit decision, but rather withdrew the 2015 proposal and proposed a new permit on November 28, 2019, based on a revised permit application.
- Basic concept of permit: 1) clean up site to point it no longer needs permit or 2) put in controls to keep pollutants from moving offsite at levels threatening WQS then maintain the controls

LANL IP Best Management Practices (BMPs)

- Non-numeric technology-based BMPs coupled with confirmation monitoring and corrective actions if required.
- Effluent Limitations are Baseline Control Measures
  - Erosion and sediment control
  - Management of run-on and runoff
  - Prohibition of unauthorized non-storm water discharge
  - Other controls to minimize introduction of wastes, floatable debris, raw materials, and etc.,
  - Employee training program.

General Monitoring Requirements

- Designates about 250 Site Monitoring Area (SMA) sampling locations for monitoring purposes. Each SMA may contain one or more Sites
- Pollutants to be monitored are based on industrial activity history of each Site
- Establishes Target Action Level (TAL, equivalent to WQS) or Background Threshold Value (BTV) for each pollutant
- Requires confirmation samples or certification after BMPs in place
- Further corrective action required if monitoring results greater than TALs or BTVs for certain pollutants of concern (POCs)

Challenges Learned from Past

- None or not enough confirmation samples could be collected either due to lack of storm event or function of BMPs (e.g., BMP prevented discharge)
- Pollutants in background or run-on already exceeding TALs:
  - may be naturally occurring
  - may come from precipitation, non-point sources or urban runoff
- Representative sampling location or additional monitoring requirements
- Achievable PCB TAL
- Adjusted Gross Alpha (AGA)

New Approaches Addressing Confirmation Monitoring Issues

- SMA drainage size ≈ Site drainage size
- Add additional sampling location vs. change original sampling location through annual Sampling Implementation Plan (SIP) process
- Immediately restart sampler vs. 15-day waiting period between storms
- Allow partial sampling results vs. enough sample volume for all analyses
- Require sufficiently sensitive EPA-approved analytical methods

Sampling Implementation Plan Monitoring Requirements

- Sampling Implementation Plan (SIP)
  - May adjust sampling location if necessary, to collect more representative samples
  - May add or delete monitoring requirements for specific pollutants of concern (POCs)
  - May add additional sampling points
  - LANL consults with EPA and NMED and updates it annually

Proposed Requirements for Inspection

- Significant Event Inspection after event, such as a fire or flood, which could significantly impact the control measures and environmental conditions in the affected area.
- Post-Storm Inspection after a 0.50 inches or more intensive rain event within 30 –minutes.
- Long-Term Stewardship Inspection for LTS Site and its associated controls annually (a) for a 5-year period (a Permit cycle) and (b) after a 3-year, 24-hour return period storm.

Site Evaluations

- Retain Target Action Levels (TALs)
- Consider Site-Specific Demonstration (Background Issues)
- Create Long-Term Stewardship Category (LTS)
- Revise requirements for Deletion of Site

Background Issue One: Run-on and Precipitation

- V(run-off) – V(run-on) ≤ 0; or
-
- $$\frac{[V(\text{runoff}) * \text{total catchment area}] - [V(\text{run-on}) * \text{Non-site area}]}{(\text{site area})} \leq \text{TAL}$$
-
- Where, V = Geomean of sampling results

  Run-on means run-on and precipitation

Background Issue Two: Background Threshold Values (BTVs)

- 90th percentile composite BTV = (% impervious SMA area) * 90th percentile developed landscape BTV) + (% pervious SMA area * 90th percentile undeveloped landscape BTV)
  - CCW suggested using 75% instead of 90%

- SW POC Result < TAL Cease Monitoring
- SW POC Result > TAL, but < 90% BTV LTS Inspection
- SW POC Result > 90% BTV Corrective Action

Background Issue Three: Soil Data and Soil Screening Levels (SSLs)

- Soil data can be used to determine whether POCs are Site-related
- Not Site-related, if Soil Data
  - < Upper 5% Soil BTV for Inorganic POCs, [95%-95% Upper Tolerance Limit (UTL) is about Upper 5% data range] OR
  - < 2019 NMED 10% of SSLs for Organic POCs or Inorganic POC with no BTV
- Site-related POC
  - > Upper 5% BTV, OR
  - > 10% of SSL

  Option to put POCs in LTS based on soil data may be removed from the final permit

Long-Term Stewardship Sites

- 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
  - SW sample results > TALs because of background Contribution
  - SW sample results > HH-OO criteria, but < Wildlife Habitat criteria
  - SW sample results only > Adjusted Gross Alpha TAL
  - Site has no discharge for 5 years
  - [Soil data may not be used for LTS option as proposed in the draft permit]

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) as follows:
  - No industrial activities had ever taken place
  - POCs have never been or will not be exposed to environment
  - Sites have no significant industrial materials remaining that are exposed to storm water after installation of permanent control measures
  - Permittees demonstrate that no significant materials from previous industrial activity remain in the Site after soil removal control measure
  - SW data < TALs or soil data < 10% of SSLs (Soil data option may be removed in final permit)
  - No sample could be collected after a 25-year, 24-hour return period storm

New Approaches Addressing Corrective Action Issues

- Allow consideration of run-on data or 3-ft soil removal in demonstrating completion of corrective actions
- Use 3-yr, 24-hr storm for retention capacity
- Alternative Compliance: EPA may deny or approve LANL proposed work plan; [NEW] EPA may conditionally approve the work plan by setting additional requirements (i.e., control measure, monitoring, inspection, maintenance)
- 24-month compliance schedule for each corrective action vs. single final compliance deadline

Control Measures May Eliminate POCs Exposure to Storm Water

- Construction of a cap or other engineered cover
- Removal of 3 feet or more depth of soils and replaced with clean soils
- Installation of control measures that retain a volume of storm water runoff from a Site or SMA that is equivalent to a 3-year, 24-hour storm event

Completion of Corrective Action

- If confirmation sampling results less than TALs, or
- If no exposure of pollutants to storm water, or
- If retention technology/capacity greater than 3-year, 24-hour storm event

- After completion of corrective action
  - Sites may be eligible to be removed from IP coverage
  - BMPs under maintenance and inspection

Schedules for Corrective Actions

- Corrective Actions Initiated After the Effective Date of the Final Permit
  - Within 24 Months
- Corrective Actions Started Before the Effective Date of the Final Permit
  - Within 12 Months from the Effective Date of the permit
- No fixed schedule for certifying completion of all Sites

Plans and Reports

- Site Discharge Pollution Prevention Plan (SDPPP)
  - Update annually and due May 1
  - Existing requirement
- Sampling Implementation Plan (SIP)
  - Update annually and due May 1
  - New requirement and as part of SDPPP
- Compliance Status Report (CSR)
  - Update annually and due May 1
  - Incorporated into SDPPP
- ONE Consolidated Report- SDPPP

Public Comment Period
Note: Written comments have same weight as Public Hearing comments

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- By November 2, 2020
- Draft permits and fact sheets can be found at EPA's web site at https://www.epa.gov/publicnotices.