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STORMWATER POLLUTION PREVENTION PLAN

TA-03-0039 & 0102 Metal Shop Facilities

Los Alamos National Laboratory

A requirement of the
NPDES MULTI-SECTOR GENERAL PERMIT
NMR05GB21 (LANS)
for Stormwater Discharges Associated with Industrial Activities

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TA-03-0039 & 01012 Metal Shop Facilities
STORMWATER POLLUTION PREVENTION PLAN
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TA-03-0039 & 0102 METAL SHOP FACILITIES
STORMWATER POLLUTION PREVENTION PLAN

PREFACE

This Stormwater Pollution Prevention Plan (SWPPP) was developed in accordance with the provisions of the Clean Water Act (33 U.S.C. §§1251 et seq., as amended), and the Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity (U.S. EPA, June 2015) issued by the U.S. Environmental Protection Agency (EPA) for the National Pollutant Discharge Elimination System (NPDES) and using the industry specific permit requirements for Sector AA – Subsection AA1 – Fabricated Metal Product Manufacturing Facilities. The applicable stormwater discharge permit is EPA General Permit Number NMR050000 (Los Alamos National Security (LANS) (U.S. EPA, January 2009). Contents of the June 2015 Multi-Sector General Permit can be viewed at http://cfpub.epa.gov/npdes/stormwater/msgp.cfm

This SWPPP applies to discharges of stormwater from the operational areas of the TA-03-0039 & 0102 Metal Shop Facilities at Los Alamos National Laboratory (referred to as LANL or the "Laboratory"). The Laboratory is owned by the Department of Energy (DOE) and is operated by Los Alamos National Security, LLC (LANS). Throughout this document, the term "Facility" refers to the TA-03-0039 & 0102 Metal Shop.

A copy of the LANS NOI and Delegation of Authority Letter is located in Appendix A of this SWPPP.

SECTION 1: FACILITY DESCRIPTION AND CONTACT INFORMATION

1.1 Facility Contact Information/Responsible Parties

Facility Operator: Los Alamos National Security, LLC (LANS)
Environmental Protection Division
ENV-CP (Water Quality & RCRA)
Address: PO Box 1663 MS K490
Los Alamos, NM 87545
Telephone Number: (505) 667-0666

SWPPP Contact: Holly Wheeler, MSGP Compliance Project Lead
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Marc Gallegos, MSGP SWPPP Inspector
Deployed Environmental Professional
Office: 505-665-9050 Cell: 505-500-2466
marcg@lanl.gov

Facility Contact: STO-FOD Office: (505) 667-7988

STO Duty Officer #2: (505) 664-4444

Other applicable facility data and contact information is provided in the facility Notice of Intent (NOI), which is located in Appendix A of this SWPPP. A copy of this SWPPP is maintained on-site and is available on-line at http://eprr.lanl.gov.

1.2 Stormwater Pollution Prevention Team

The Facility has established a Stormwater Pollution Prevention Team (PPT). The Stormwater PPT members are responsible for assisting the facility manager in developing and revising the facility's SWPPP as well as maintaining control measures and taking corrective actions where required. All Stormwater PPT members will have access to either a hard copy or an electronic version of this SWPPP.

Designation of Pollution Prevention Team

The Stormwater PPT consists of operations and management personnel from Prototype Fabrication (PF) Division, the MSGP Project Lead, and a Deployed Environmental Professional. The MSGP Project Lead is responsible for LANL's compliance under the National Pollutant Discharge Elimination System (NPDES) permit regulations. The team members are selected on the basis of their familiarity with the activities at the facility and the potential impacts of those activities on stormwater runoff.

The specific duties of individual team members of the Stormwater PPT are listed below:

- *Pollution Prevention Team Leader*: The Pollution Prevention Team Leader is responsible for revising and updating the SWPPP or designating a representative to update it as required under Section 8 of this SWPPP. The Team Leader or designated representative will ensure that appropriate facility and other LANS personnel receive the training specified in Section 3.9 of this SWPPP.
- *Team Members:* Other members of the team are responsible for the implementation of this SWPPP and the required periodic inspections of the facility, as described in Section 5. In the event of a spill or release, a team member will ensure it is cleaned up and incorporate documentation of the spill and cleanup process into Appendix D of the SWPPP. Spills are also entered into the ENV-CP Corrective Action Reporting Database. *MSGP Project Leader:* Responsible for managing and administering the Multi-sector General Permit Stormwater Program for all facilities within Los Alamos National Laboratory.
- *STO-FOD Division Leader:* Responsible for the operations and maintenance of all aspects of the buildings and facilities listed within this Plan. Supports the facility and provides guidance associated with implementation of the compliance requirements identified in the 2015 MSGP. The ENV-CP Project Leader also acts as the institutional point of contact for all interactions with the regulatory authority (EPA) and supervises personnel implementing monitoring requirements for the facility.
- *Environmental Inspector:* Responsible for conducting the routine facility inspections and entering corrective actions into the ENV-CP MSGP Corrective Action Reporting database. The Environmental Inspector is also responsible for tracking and updating the status of corrective actions that cannot be implemented immediately.
- *ENV-CP Staff Member:* Responsible for collecting stormwater monitoring samples and conducting visual assessments at monitoring outfalls associated with industrial facilities throughout LANL. They are also responsible for operating and maintaining automated stormwater samplers at these facilities.
- *DSESH-STO-FOD Group Leader:* Responsible for the management of all environmental, safety, health, and quality programs for the buildings and facilities listed within this Plan.
- *All members:* All stormwater PPT members are responsible for being familiar with and implementing this SWPPP and for compliance with the 2015 MSGP. Stormwater PPT members are also responsible for attending meetings that will be scheduled as needed to discuss revisions of the SWPPP, inspection findings, status of corrective actions and any other topics pertinent to management of the SWPPP.

1.3 Activities at the Facility

The industrial activities at this site are classified under Sector AA – Fabricated Metal Products Manufacturing Facilities. The facility is located within LANL between Pajarito Road and the Chemical & Metallurgical Research (CMR) Building (TA-03-0029). TA-03-0102 is located directly south of Building 0039. Metal machining and fabrication activities are conducted inside both buildings. Activities conducted outdoors include; loading/unloading of materials, material storage, metal recycling storage, and waste disposal. Materials stored on site include raw materials (metals and plastics), metal storage racks, scrap metal, miscellaneous equipment designated for salvage or disposal, wood, diesel fuel, radioactive contaminated equipment, and waste disposal dumpsters.

1.3 General Location Map

The general location map for the facility can be found in Appendix C. The map provides the location of all the receiving water associated with stormwater discharge from the facility as well as the site boundary.

1.4 Site Map

As required by the MSGP-2015, the following information specific to the facility is shown either on the site map located in Appendix C or with additional information provided in this SWPPP:

- **Site acreage.** The site covers approximately 1,646 square feet
- **Significant structures and impervious surfaces.** Ninety five percent of the site consists of impervious surfaces such as structures, roofs, paved areas, and other surfaces. The major structures on the site include:
    - Building 3-0039
    - Building 3-0102
- **Directions of stormwater flow and site drainage.** The direction of flow is indicated with arrows on Figure C-2. The site drainage and stormwater flow is generally to the east. Stormwater flow across the facility is directed towards the storm drain at monitored outfall (004) .
- **Locations of structural stormwater controls; Locations of stormwater conveyances.**
    - Concrete curb along east side of the facility.
    - Overhang over oil drums
    - Secondary Containment for empty diesel tank
- **Location of receiving water.** Receiving water in the immediate vicinity of the facility is shown in Figure C-3, Appendix C. Impaired water information is provided on the map and also in the paragraph below this section in the SWPPP. Discharges from this site do not flow to Tier 2, Tier 2.5, or Tier 3 waters.
- **Location of potential pollutant sources; Locations of activities that are exposed to precipitation and potential sources of pollutants**.
    - Metal Recycling bins
    - Salvage/storage area
    - Metal storage area
    - Oil storage (not exposed to precipitation)
    - Used oil storage (not exposed to precipitation)
    - Rad waste storage area – intermittent.

- **Location of significant spills or leaks.** This is discussed in Section 2.2 of this SWPPP.
- **Location of all stormwater monitoring points.** Stormwater is monitored by a standalone automated sampler located at a storm drain at the east side of the facility (monitored outfall 004).
- **Locations of stormwater inlets and outfalls, with a unique identification code for each outfall**. There is 1 outfall associated with this facility. It is identified as (004) and is shown in Appendix C, Figure C-2.
- **Location of discharge/outfalls to municipal storm sewer systems**. The facility discharges to a storm sewer system for TA-3 at the (004) storm drain. It does not discharge to an MS-4.
- **Non-stormwater discharges.** No non-stormwater discharges have been identified for the facility. See also Non-Stormwater Discharge Certification in Appendix E.
- **Locations of the following activities where such activities are exposed to precipitation**:
    - **Fueling stations** – none at the facility.
    - **Vehicle and equipment maintenance and/or cleaning areas** – none at the facility.
    - **Loading/Unloading areas.** Loading and unloading is done at the docks on the east side of the facility.
    - **Locations used for the treatment, storage, and disposal (TSD) of wastes.** Storage of solid and radioactive waste occurs at the facility. There are no TSDs located at this facility.

- **Liquid storage tanks.** There are no liquid storage tanks at this facility.
- **Processing and storage areas.** Outdoor storage areas are shown on the site map.
- **Immediate access roads.** The exterior of the facility is accessed via Mercury Road.
- **Transfer areas for substances in bulk.** These are the covered concrete loading docks at the back of the facility.
- **Machinery.** Located within the buildings.
- **Areas of designated critical habitat for endangered or threatened species:** A T&E map for the entire laboratory is located in Appendix C and labeled Figure C-4.

- **Locations and sources of run-on to the site.** The only source of run-on to the site is from the roofs of the facility.

Impaired Receiving Water

Certain stream reaches within Two Mile Canyon have been identified as an impaired water in the 2014-2016 State of New Mexico Clean Water Act §303(d)/§305(b) Integrated Report (NMED 2012) approved by EPA. The pollutants causing the impairment were listed as Adjusted Gross Alpha, PCBs, and Aluminum; and the probably source of the impairment is listed as unknown (NMED 2012). EPA has not approved or established TMDLs.

Outfalls

Outfall (004)is representative of the facility's stormwater discharge, and discharges to the east at the facility fence line where samples are collected. Discharge from the facility is to Two Mile Canyon (impaired water), which is a tributary of Pajarito Canyon.

Substantially Identical Outfalls

There is only one outfall for this facility as listed above (Outfall 004); therefore, there are no substantially identical outfalls at this facility. Monitoring requirements are discussed in Section 4 of this SWPPP.

SECTION 2: POTENTIAL POLLUTANT SOURCES

2.1 Industrial Activity and Associated Pollutants

The following table contains a list of industrial activities that are exposed to stormwater (e.g. material storage, equipment/vehicle fueling, maintenance and cleaning, and cutting steel beams) and the pollutants or pollutant constituents (e.g. motor oil, fuel, battery acid, and cleaning solvents) associated with these activities. In addition to these items, the list includes all significant materials that have been handled, treated, stored or disposed, and have been or could be exposed to stormwater. Covered bins and goodhouse keeping are used to minimize pollutants in stormwater.

Primary Metal Facilities Operations

Industrial Activities	Associated Pollutants	Locations of Activity
Metal recycling/recovery of scrap metal from fabrication and machining operations – scrap metal contaminated with coolant (ethelyne glycol)[1]	Steel Copper	TA-03-0039 TA-03-0102

	Aluminum	
Metal recycling/ recovery of scrap metal from fabrication and machining operations – scrap metal not contaminated with coolant[1]	Steel Copper Aluminum	TA-03-0039 TA-03-0102 North side of TA-03-0039 South Bay
Fabrication and machinery operations including storage of lubricant and cooling fluids[2]	Steel Copper Aluminum Depleted Uranium	TA-03-0039 TA-03-0102
Storage of diesel fuel and lubricant oil[3,5]	Diesel Fuel Lubricant oil	TA-03-0039 South Bay
Loading and unloading of material[4,6]	Steel Copper Aluminum Depleted Uranium Diesel Fuel Oil	TA-03-0039 TA-03-0102
Painting of fabricated machinery parts[7]	Paint Solvents	TA-03-0039 Covered concrete loading dock
Waste disposal	Floatable refuse placed inside dumpsters	Secondary containment unit between Center and South Bays

Note:

1) All scrap metal is stored in covered metal recycling bins.
2) Activity takes place indoors.
3) Outdoor storage of containers is allowed only within secondary containment units located under a canopy.
4) Loading bays are covered.
5) Current fuel and oil inventories (indoor and outdoor) exceed 1,320 gallons of aggregate storage. A Spill Prevention, Control, and Countermeasure Plan has been developed and implemented in accordance with 40 CFR 112. These drains are routed to the Radioactive Liquid Waste Treatment Facility via the Radioactive Liquid Waste Line.
6) Whenever possible, environmentally friendly cleaners and solvents are used in the facility.

7) Concrete surfaces are covered with cardboard during painting operations to prevent overspray. The cover is removed after the operation is complete. Painting operations are not conducted during precipitations events.

2.2 Spills and Leaks

MSGP Part 5.2.3.3 requires that this Plan contain a description of where potential spills and leaks could occur at the Complex that could contribute pollutants to stormwater discharge and specify which outfalls are likely to be affected by such spills and leaks.

The following table lists a description of locations at the Facility where potential spills and leaks could occur. This information was developed by performing walk-down inspections of the entire Facility and evaluating storage areas and utility lines. There is a potential for spills and leaks to occur at other locations throughout the Facility; however, the following areas were evaluated as having the greatest potential for spills and leaks to occur in their vicinity.

Areas on site where potential spills/leaks could occur:

Location	Outfalls (See Site Map)
Utility lines (water, sanitary sewage, unauthorized cooling tower discharge, steam condensate) located throughout the facility.	(004) and associated storm drainage system
Coolant storage area located to the south of TA-03-0039 South Bay	(004) and associated storm drainage system

Descriptions of Past Spills/Leaks

MSGP Part 5.2.3.3 requires that this Plan list a description of significant spills and leaks in the past 3 years of oil, toxic, or hazardous pollutants that actually occurred at exposed areas, or that drained to a stormwater conveyance. There have been no outside significant spills at this facility in the past 3 years.

Significant spills or leaks occurring at the facility are documented and tracked by facility personnel and ENV-CP. For purposes of this SWPPP historical spills are identified in the spill tracking form located in Appendix D. Spills occurring after April, 2009 are identified as a corrective action and are entered into the ENV-CP MSGP Corrective Action Reporting database. The information recorded includes the type of material spilled, quantity of spilled material, corrective action taken, and the location and date of the spill event. This information is then documented in the MSGP Annual Report (see Appendix G) and is maintained for a period of three years from the date the permit expires or the date the permittee's authorization is terminated. The June 2012, ENV-DO-QP-101, *Environmental Reporting Requirements For Releases Or Events* document (see Appendix B) will be applied when reporting spills at this facility.

Solid Waste Management Unites (SWMUs)

There are three SWMUs within the boundary of the facility (as listed on the site map). 03-001(a) was a former <90 day storage area, Operable Unit 1114, which has been approved for No Further Action (NFA). 03-050(d) is an area of potential soil contamination associated with exhaust emissions from a former baghouse that was on the south side of Bldg. 0102; however, the area is now paved and poses no

pollution potential to stormwater. C-03-008 was a storage building for containerized nuclear materials, which has been decontrolled and approved for NFA.

2.3 Non-Stormwater Discharges Documentation

Appendix E presents the *Non-Stormwater Discharge Assessment and Certification Form*, applicable to the facility. The form certifies that all stormwater outfalls have been evaluated for the presence of non-stormwater discharges and that all unauthorized discharges have been eliminated. This form will be updated whenever a change in possible non-stormwater discharges is determined during a monthly inspection of the facility.

2.4 Salt Storage

No bulk salt storage or piles containing salt are present at the facility. Deicer is stored in plastic containers during the winter months for deicing paths and walkways.

2.5 Sampling Data Summary

Samples are collected at an automated stormwater sampler located at the east fence line of the facility. All MSGP sampling events at LANL are managed and tracked by ENV-CP. Sampling data for the current permit (MSGP 2015) are kept on file in Appendix F of this SWPPP.

Evaluation of analytical data from quarterly benchmark monitoring (April 16, 2010 through July 30, 2010) indicated that zinc was present at concentrations mathematically certain to exceed benchmark and exceeded background. In addition, the impaired water quality standard was exceeded for gross alpha during a storm event on 5/14/2010. However, this did not take into consideration adjusted gross alpha, which excludes source, special nuclear and by-product material as defined in the Atomic Energy Act of 1954. Per "Preliminary Comments Regarding Use of Statistical Methods to Evaluate Background Surface Water Quality and Identify Laboratory Impacts" (LANL, November 30, 2007, LA-UR-07-8120), virtually all of the background concentrations of adjusted gross alpha in surface water exceed the NMED water quality criteria for livestock watering. The referenced document also demonstrates that the variability in gross alpha in stormwater samples is due primarily to variability in suspended load. The concentration of gross alpha at the outfall did not exceed background for gross alpha in surface water. Two walk downs were conducted to identify potential sources of zinc. One potential cause of excess zinc could be a re-roofing project that occurred, and used zinc fasteners. The fasteners were cleaned up to the extent possible. Additional sampling results show that the concentration of zinc has gone down significantly although the average concentration in four samples still exceeds background (see CAR #134 in the 2011 MSGP Annual Report).

Evaluation of analytical data from quarterly monitoring (August 1, 2010 through August 31, 2011) indicated that the average concentration of zinc from 4 samples exceeded benchmark and background in stormwater. Aluminum was present at a concentration mathematically certain to exceed benchmark at the monitored outfall (004) for storm events on 8/04/2010 and 7/21/2011. Iron was also present at a concentration mathematically certain to exceed benchmark at the same outfall for storm events on 08/04/2010 and 10/01/2010. Aluminum and iron were present in concentrations solely attributable to natural background. Metal sources were assessed and were sent to salvage or were covered. Facility personnel believe the zinc exceedance was from roofing activities which have ceased. Analytical results have shown the zinc levels decreasing.

Evaluation of analytical data from quarterly monitoring (September 1, 2011 through August 31, 2012) at (004) indicated that the average concentration of zinc was mathematically certain to exceed benchmark. This was from three storm events dated 5/8/2012, 7/2/2012, and 8/2/2012. These three samples were taken after corrective action was implemented for a prior zinc exceedance (in 2011) and the exceedance was solely attributable to the presence of this pollutant in natural background for stormwater. A quarterly sample was collected on 10/4/2012 prior to completion of the corrective action and it did not exceed the zinc benchmark.

SECTION 3: STORMWATER CONTROL MEASURES

Standard operating procedures and maintenance procedures at the facility are designed to stabilize exposed areas and contain runoff using structural and/or non structural control measures to minimize onsite erosion, sedimentation, and the resulting discharge of pollutants.

3.1 Minimize Exposure

To minimize exposure of industrial activities to precipitation events, the Facility utilizes covers for scrap bins, waste containers, recyclable containers, and roll-off bins that are stored outdoors throughout the Facility. However, it is not possible to cover or enclose all stored materials that have the potential to be exposed to stormwater. The table shown below lists materials located at the Facility that have the potential to be exposed to stormwater and the method(s) used to minimize the exposure of these materials to stormwater.

Earth/soil moving activities: Construction or other activities at the site that disturb more than 1-acre of land will be separately addressed in accordance with the NPDES Construction General Permit (CGP). For any earth or soil moving activities that disturb less than an acre, refer to Section 3.5 of this SWPPP.

3.2 Good Housekeeping

Routine operations at the facility are geared toward keeping the site clean, preventing and detecting spills, and immediately attending to any spilled material according to LANL response guidelines. Housekeeping inspections will be performed as needed.

Good housekeeping practices used at the facility to prevent stormwater contamination include the following:

- A convention for regular pickup and disposal of waste materials, along with routine inspections for leaks and conditions of drums and containers.
- Operational areas are maintained in a clean and orderly state.
- Containers holding raw material, product or wastes are kept closed when not in use and hazardous material containers are not stored in areas that are exposed to precipitation or run-on.
- Containers and materials are properly labeled (e.g., “Used Oil”, “Spent Solvents”, Fertilizers and Pesticides”) that could be susceptible to spillage or leakage to encourage proper handling and facilitate rapid response if spills or leaks occur.
- Secondary containment structures are kept clean of debris and trash.
- Spills or leaks are cleaned-up as soon as possible.

- Impervious areas (e.g. paved areas, access roads) where particulate matter, dust, or debris may accumulate are kept cleaned and maintained by sweeping or vacuuming at regular intervals or as needed.
- Activities that damage or destroy existing vegetation are kept to a minimum.
- Employees are trained about these and other good housekeeping practices and their impact on stormwater discharge.
- Non-hazardous waste (e.g. trash) generated at the site is collected in a dumpster, which is picked up for disposal when it becomes full. All dumpster lids are kept closed when not in use.
- No vehicle maintenance or vehicle washing is performed on site.

3.3 Maintenance

The PF-DO Representative and or the STO Operations manager must regularly inspect, test, and repair all industrial equipment and systems to avoid situations that may result in leaks, spills, and other releases of pollutants in stormwater that is discharged to receiving waters. The facility must maintain all control measures that are used to achieve the effluent limits required by this permit in effective operating condition. Nonstructural control measures must also be diligently maintained (e.g., spill response supplies available, personnel appropriately trained). If the facility finds that their controls need to be replaced or repaired, they must make the necessary repairs or modifications as expeditiously as practicable. Documentation of Maintenance and Repairs of Control Measures (BMPs) is entered in to the ENV-CP MSGP Corrective Action Reporting (CAR) database.

The following items are checked daily and again during the monthly inspections:

- Ensure that facility grounds are in an orderly condition
- Ensure that stormwater structures are free of debris, floating material or other obstructions
- Identify maintenance needs for equipment or stormwater BMPs
- Identify signs of new erosion
- Identify signs of leaks, spills, or other releases

If a problem is found that cannot be immediately remedied, the inspection and the response are documented in the ENV-CP Corrective Action Reporting database and an expected completion date is identified.

At the Facility, preventative maintenance is performed on all vehicles on a six-month schedule outside the Facility grounds, subject to GSA Fleet requirements. Facility personnel perform weekly rounds at both buildings which would identify any facility maintenance issues associated with the structural BMPs on site. Also, the inspections performed by the Stormwater PPT identify corrective actions and measures necessary for maintaining the structural stormwater controls in proper operating condition. With respect to machining operations at the Facility, all operations are controlled through general housekeeping and routine custodial maintenance.

3.4 Spill Prevention and Response

A SPCC Plan was approved for the Facility in 2013. Best practices and procedures, with respect to spill prevention and response, are outlined in detail in that document. Operational controls are implemented to minimize the possibility of any accidents resulting in spills or releases. Regulatory environmental reporting requirements are described in LANL's Environmental Protection Division Procedure ENV-DO-QP-101.2, *Environmental Reporting Requirements for Releases or Events* (see Appendix B). Spill prevention

practices at the facility include good housekeeping, the use of secondary containment, proper labeling of containers or positioning of containers so that labeling is clearly visible, and proper handling and storage of material in drums and other containers. *A* spill kit is available on site at buildings TA-3-39 and TA-3-102. If any additional plans or requirements are developed which will affect response to spills of materials at the facility, this plan will be modified to reflect the new plans or requirements.

In general, the approach to spill clean-up is to first contain the spill by securing the spill source and deploying spill containment materials. In many cases, the secondary containment will contain the spill. The operator involved in the spill or in the vicinity responds to small spills. For incidental releases, absorbents are used to pick-up free liquids and the contaminated absorbents are properly disposed. Standard procedures for spill containment and clean up include the use of spill control kits, sorbent pillows, socks, sheets, granules and microbial products such as Micro-Blaze®. Clean-up residues are managed in accordance with the appropriate waste management regulations, as determined by the facility's waste management coordinator. Larger spills require that a spill coordinator and/or Security and Emergency Operations (SEO), Emergency Management (EM) be contacted to respond to the spill, securing the spill area and contacting ENV-CP.

Incidents are reported to the Operations Center or Facility Duty Officer in accordance with LANL Procedure No. P322-3, *Manual for Communicating, Investigating, and Reporting Abnormal Events* (see Appendix B). The Operations Center or Facility Duty Officer shall report all spills or releases. All non-incidental spills or releases must be reported to EO-EM by the Operations Center or Facility Duty Officer by calling 667-6211.. If fire or explosion is present, or if the potential for such exists, the situation must be reported by dialing 911 from a non-cellular phone or by activating a fire pull box. In the event of a spill, EO-EM will determine appropriate cleanup procedures and will notify the individuals or organizations responsible for completing spill reports or fulfilling regulatory reporting requirements.
The completion of a spill report is also required in the event of a spill. The spill report will be handled according to internal spill record keeping procedures and may require external agency notification, depending on the nature of the spilled material and the location of the release. External agency notification may consist of verbal or written notification to the National Response Center, Environmental Protection Agency Region VI, and/or the New Mexico Environment Department (NMED). The determination for the type of reporting will be made by EO-EM and ENV-CP in accordance with ENV-DO-QP-101.2, Environmental Reporting Requirements for Releases or Events (see Appendix B), DOE policies and federal and state regulatory reporting requirements. Copies of internal spill reports are maintained by ENV-CP. If an un-reportable spill occurs it will be documented in the spill log in Appendix D, and the ENV-CP CAR database.

Location	Activity	Control Measure
TA-03-0039	Filling equipment with lubricating oil	• All transfers take place indoors. • No floor drains discharge to daylight • Secondary containment of two pumps filled with lubricant is provided by the building
TA-03-0039 TA-03-0102	Storage of oil based cooling/cutting oil	• Storage racks are stationed inside building • Spill response kits are located at key locations throughout the facility
TA-03-0039	Covered outdoor storage of drums	• Outdoor drum areas are located under awnings and elevated from stormwater flows. Leaks can be

		detected by visual inspection. The areas where drum transfer operations take place do not have secondary containment, an oil catch basin, etc. However, due to small amounts being transferred, and the distance to the nearest storm drain, spill control equipment is adequate to contain a spill. • Drums at the recycle oil drum storage are located either on plastic containment units, or within steel curbing. The number of drums varies. Transfer operations occur by moving entire drums or pumping operations to and from other containers. The porch is also used for storage of drums containing non-oil substances. • At the outdoor oil distribution area, drums are stored on a containment pallet. Oil used is either diesel or mineral oil and is transferred to storage containers that are less than 55 gallons typically 2 times a year via a pump. However this is not a firm schedule and may be more or less frequent depending on the operational requirements of the facility. • Empty drums in this area consist of closed and open top drums. Empty closed top drums are transferred to room 42 of the building where they are rinsed to remove residue, crushed, and placed in the recycled metal bin for disposal. Empty open top drums are also taken to room 42, rinsed to remove any remaining residue, crushed, and placed in the recycled metal bin. If there are any issues regarding residues or disposal of these drums, the Waste Management Coordinator (WMC) is contacted to ensure that drums will be taken away from the facility and disposed of in an environmentally safe manner and in accordance with environmental regulatory requirements.

3.5 Erosion and Sediment Controls

The areas surrounding operations at the Facility, including the two buildings, material and waste storage areas, are covered with asphalt, thereby minimizing the potential for erosion from site. There are occasions that activities around the Facility grounds do cause soil to be exposed (i.e. repair of utility lines), however, once these activities cease, the exposed soil is re-paved with asphalt or stabilized by other means. Structural controls that have been implemented at the facility are shown on the Site Map in Appendix C (Figure C-2) and include the following:

3.6 Management of Runoff

All stormwater drainage from the buildings at the Facility are captured by stormwater drop inlets and directed underground to off-site drainage areas. These areas are covered with native vegetation and grass and do not pose any potential threat to the environment.

3.7 Salt Storage Piles or Piles Containing Salt

No salt storage or piles containing salt are present at the facility. However, the roads and parking lots surrounding the two buildings are treated with salt during snow events in the winter. The salting operations are conducted by LANL's Maintenance Site Services Division and the salt for these activities is stored at the LANL Roads & Grounds Facility at TA-60. The LANL Roads & Grounds Facility has a separate SWPP Plan to comply with 2015 MSGP. Please refer to that document for the controls used by that facility. Also, please note that there are small containers (5-10 gallon) of de-icing salt staged throughout the Facility grounds during the winter months. These smaller amounts of salt are used for spot de-icing on sidewalks and walkways and do not require stormwater controls because they are not used for commercial or industrial purposes.

3.8 MSGP Sector-Specific Non-Numeric Effluent Limits

Operations and activities at the Facility fall under Sector AA – Metal Fabrication.

3.9 Employee Training

All employees who work in areas where industrial materials or activities are exposed to stormwater, or who are responsible for implementing activities necessary to meet the conditions of the 2015 MSGP, receive training annually. This includes (1) Personnel who are responsible for the design, installation, maintenance and/or repair of controls (including pollution prevention measures); (2) Personnel responsible for the storage and handling of chemicals and materials that could become contaminates in stormwater discharges; (3) Personnel who are responsible for conducting and documenting monitoring and inspections; (4) Personnel who are responsible for taking and documenting corrective actions. Annual employee training ensures that personnel are aware of (1) An overview of what is in the SWPPP; (2) Spill response procedures, good housekeeping, maintenance requirement, and material management practices; (3) The location of all controls on the site required by this permit and how they are to be maintained; (4) The proper procedures to follow with respect to the 2015 MSGP pollution prevention requirements; and (5) When and how to conduct inspections, record applicable findings, and take

corrective actions. After training, the employees are able to recognize and avoid situations that could lead to stormwater contamination, prevent spills and releases, and respond safely and effectively to a spill or release.
Training activities are documented in accordance with P781-1, *Conduct of Training Manual* and records are maintained in LANL's official training database, UTRAIN (see Appendix B). SWPPP training records are also maintained in Appendix H of this SWPPP.

3.10 Non-Stormwater Discharges

See section 2.3

The following are the non-stormwater discharges authorized under this permit:

- Discharges from emergency/unplanned fire-fighting activities;
- Fire hydrant flushing;
- Potable water, including waterline flushing;
- Uncontaminated condensate from air conditioners, coolers/chillers, and other compressors and from the outside storage of refrigerated gases or liquids;
- Irrigation drainage;
- Landscape watering provided all pesticides, herbicides, and fertilizers have been applied in accordance with the approved labeling;
- Pavement wash waters where no detergents or hazardous cleaning products are used (e.g., bleach, hydrofluoric acid, muriatic acid, sodium hydroxide, nonylphenals), and the wash waters do not come into contact with oil and grease deposits, sources of pollutants associated with industrial activities, or any other toxic or hazardous materials, unless residues are first cleaned up using dry clean-up methods (e.g., applying absorbent materials and sweeping, using hydrophobic mops/rags) and you have implemented appropriate control measures to minimize discharges of mobilized solids and other pollutants (e.g., filtration, detention; settlement);
- Routine external building washdown/power wash water that does not use detergents or hazardous cleaning products (e.g., those containing bleach, hydrofluoric acid, muriatic acid, sodium hydroxide, nonylphenols);
- Uncontaminated ground water or spring water;
- Foundation or footing drains where flows are not contaminated with process materials; and
- Incidental windblown mist from cooling towners that collects on rooftops or adjacent portions of your facility, but not intentional discharges from the cooling tower (e.g., "piped" cooling tower blowdown; drains).

3.11 Waste, Garbage and Floatable Debris

STO-FOD operations and facility personnel perform weekly inspections/rounds to identify housekeeping issues (including waste items) Personnel remove all waste items and dispose of them in an appropriate manner. Portions of the Facility also have fences that surround areas where trash or other wind carried waste items can be caught. Also, see section 3.2.

3.12 Dust Generation and Vehicle Tracking of Industrial Materials

The area at and surrounding the facility is covered by asphalt and/or gravel. Dust suppression is not needed or performed at this facility.

SECTION 4: SCHEDULES AND PROCEDURES FOR MONITORING

4.1 Stormwater Monitoring

Analytical monitoring has comprised of quarterly benchmark, quarterly visual assessments, and annual impaired waters monitoring at TA-3-39. There are no effluent limitations monitoring requirements associated with Sector AA under the 2015 MSGP. Monitoring events occur from storm events that result in an actual discharge from the site and that follow the preceding measurable storm event by at least 72 hours (3 days). For runoff from snowmelt, the monitoring is performed at a time when a measurable discharge from the site occurs.

Samples are analyzed consistent with 40 CFR Part 136 analytical methods using test procedures with quantification limits at or below benchmark values for all benchmark parameters associated with this facility. Runoff samples are collected by taking a minimum of one grab sample from a discharge, collected within the first 30 minutes of a measurable storm event. If it is not possible to collect the sample within the first 30 minutes of a measurable storm event, the sample is collected as soon as practicable after the first 30 minutes and documentation is kept with the SWPPP explaining why it was not possible to take samples within the first 30 minutes.

4.2 Monitoring Schedule

For this permit term, monitoring began in the first full quarter following October 1, 2015 Benchmark and visual assessment monitoring will continue on a quarterly basis at least once in each of the intervals identified below if a storm event occurs that results in an actual discharge.

- April 1 – May 31
- June 1 – July 31
- August 1 – September 30
- October 1 – November 31

Impaired waters monitoring are performed on an annual basis with a sample collected in the period between April 1 and November 30 of each calendar year, unless there is no qualifying storm event that results in a discharge from the facility.

LANL is located in a high elevation, semi-arid climate where the majority of rainfall occurs during a period between July and September. Freezing conditions that would prevent runoff from occurring for extended periods may also occur during the winter months. If adverse weather conditions prevent the collection of samples according to the relevant monitoring schedule identified above, a substitute sample will be collected during the next qualifying storm event or as soon as practical.

4.3 Substantially Identical Outfalls

There is currently only one outfall location for this facility: (004) which is representative of the facility's storm drain system that discharges east of the facility at the fence line where samples are collected. Discharge from the facility is to Two Mile Canyon, which is a tributary of Pajarito Canyon (impaired waters).

4.4 Summary of Monitoring Requirements

Pollutants under impaired waters monitoring, and quarterly benchmark monitoring constituents are identified in the most recent version of the ENV-CP-QAPP-MSGP, *Quality Assurance Project Plan for the Storm Water Multi-Sector General Permit for Industrial Activities Program* (see Appendix B). All analyses and/or field parameters are identified in the most recent version of the *MSGP Field Implementation Plan*. These plans were written and are updated by ENV-CP. Specific monitoring information contained in the SAP includes the following:

- Analytical constituent(s) per outfall,
- Frequency of analysis (annual or quarterly),
- Matrix type (snow melt or rainfall)
- Sample type (grab)
- Preservation,
- Container type,
- Unfiltered,
- Holding times,
- Detection limits,
- Volume, and
- Analytical method.

Monitoring Type	Location	Parameters	Numeric Limitations	Schedule	Procedures
Benchmark	See Site Map for outfall locations.	Aluminum: Iron: Zinc: Nitrate+ Nitrite Nitrogen:	0.75 mg/L 1.0 mg/L 0.101 mg/L (dissolved) 0.68 mg/L	Quarterly	ENV-CP's current year Field Implementation Plan ENV-CP-QAPP-MSGP: Quality Assurance Project Plan for the Storm Water Multi-Sector General Permit for Industrial Activities Program
Quarterly Visual Assessments	See site map for outfall locations. All outfalls	Visual assessment for color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen and other obvious indicators of stormwater pollution.	None	Quarterly	ENV-RCRA-QP-064: Multi-Sector General Permit Storm Water Visual Inspections; ENV-CP-QAPP-MSGP: Quality Assurance Project Plan for the Storm Water Multi-Sector General Permit for Industrial Activities Program

Impaired Waters	See site map for outfall locations.	PCBs: Aluminum: Adjusted Gross Alpha:	0.00064 µg/L 1,699 µg/L 15 pCi/L	N/A	ENV-CP's current year Field Implementation Plan ENV-CP-QAPP-MSGP: Quality Assurance Project Plan for the Storm Water Multi-Sector General Permit for Industrial Activities Program

Numeric control values for comparison with analytical results are provided by ENV-CP stormwater compliance personnel. The results of these comparisons are documented in the MSGP Annual Reports.

4.5 Monitoring Results

If the average of the 4 monitoring values for any parameter exceeds the benchmark, or if prior to completion of 4 quarterly samples, an exceedance of the 4 quarter average is mathematically certain, the Pollution Prevention Team and ENV-CP personnel will:

- Review the selection, design, installation, and implementation of control measures to determine if modifications are necessary to meet the effluent limits,
- Implement the necessary modifications, and
- Continue quarterly monitoring until 4 additional quarters of monitoring have been completed for which the average does not exceed the benchmark.

If the average of the 4 monitoring values for any parameter does not exceed the benchmark, monitoring for that particular parameter will no longer be performed.

Monitoring for an impaired water pollutant is discontinued if the pollutant for which the waterbody is impaired is not detected above natural background levels in stormwater discharged from the facility after one year of monitoring, or is not detected. In addition, if the 303(d) list no longer identifies a pollutant as causing impairment, monitoring for that pollutant will be discontinued.

4.6 Recordkeeping

For each monitoring event, except snowmelt monitoring, the following information is recorded and maintained through field data sheets, LANL database systems, and Discharge Monitoring Records (Appendix J):

- The date, exact place, and time of sampling or measurements;
- The date and duration (in hours) of the rainfall event
- Rainfall total (in inches) for that rainfall event

- Time (in days) since the previous measurable storm event
- The individual(s) who performed the sampling or measurements;
- The date(s) analyses were performed
- The individual(s) who performed the analyses;
- The analytical techniques or methods used; and
- The results of such analyses.

For snowmelt monitoring, all information except rainfall event durations, totals, and time since previous event is included. Additionally, all records of monitoring information, including all calibration and maintenance records are maintained for a minimum period of at least three years from the date the permit expires.

SECTION 5: INSPECTIONS AND CORRECTIVE ACTIONS

5.1 Routine Facility Inspection Procedures

Routine inspections of all areas of the facility where industrial materials or activities are exposed to stormwater, and of all stormwater control measures are conducted and documented quarterly (Jan-March, April-June, July-September, October-December). The inspections are performed by a qualified member of the Stormwater PPT (typically the Deployed Environmental Professional or MSGP Project Lead). Per Sector AA, the inspections will include the following areas: raw metal storage areas, finished product storage areas, material and chemical storage areas, recycling areas, loading and unloading areas, equipment storage areas, and paint areas (if applicable).

One routine inspection is conducted during an active stormwater discharge, if feasible. Routine inspections evaluate the following, at a minimum:

- Presence of previously unidentified discharges of pollutants from the site;
- Control measures needing maintenance or repairs;
- Failed controlled measures that need replacement;
- Incidents of noncompliance;
- Need for additional control measures to comply with permit requirements.

The additional Technology-Based Effluent Limits listed for Sector-AA in Section 8 of the 2015 MSGP include the following:

- Good housekeeping measures – raw steel handling storage; and paints and painting equipment. Minimize exposure to stormwater and/or recover and properly manage scrap metal, fines, and metal dust. Minimize exposure of paint and painting equipment to stormwater.
- Spill Prevention and Response Procedures – metal fabricating areas; storage areas for raw metal; metal working fluid storage areas; cleaners and rinse water; lubricating oil and hydraulic fluid operations; and chemical storage areas.
- Spills and leaks

All areas identified in Section 2 of this SWPPP as potential pollutant sources are inspected in addition to the control measures listed in Section 3.

The Stormwater PPT member performing the inspection documents the inspection observations and notes potential stormwater pollution problems that were encountered on the routine facility inspection form (see Appendix G). Note: All inspection results that are identified corrective actions are entered into the ENV-CP Corrective Action Reporting database. This database is used to populate the “Corrective Action” section of the MSGP Annual Reports. Any required corrective actions identified during the inspection are addressed in accordance with Section 5.4 *Corrective Actions Process* of this plan and ENV-RCRA-QP-022, *MSGP Stormwater Corrective Actions* (see Appendix B).

Facility personnel or the Deployed Environmental Professional may also perform daily, weekly or other periodic facility surveys in between quarterly routine inspections to further ensure compliance with the SWPPP.

5.2 Quarterly Visual Inspection Procedures

The quarterly visual assessments are conducted at the single TA-3-039 & 102 Metal Shop Facility outfall by qualified stormwater sampling personnel. The procedure used is ENV-CP-QP-064, Multi-Sector General Permit Stormwater Visual Inspections (see Appendix B). Visual assessments will:

- use a clean clear glass sample container in a well lit area;
- be collected in the first 30 minutes of a discharge from a storm event or document why the sample couldn't be collected during the specified time frame (adverse conditions, snowmelt, etc);
- be conducted at least 72 hours since the last storm event;
- include documentation of rationale if a visual assessment is unable to be collected in a quarter (no precipitation event or adverse conditions);
- perform an additional assessment during the next qualifying storm event if unable to perform it in a particular quarter;
- perform one quarterly assessment during snow melt discharge.

Collection of quarterly visual assessments occurs on the following schedule for each calendar year in accordance with ENV-CP-QP-064, *MSGP Storm Water Visual Inspections* (see Appendix B):

- April 1 – May 31
- June 1 – July 31
- August 1 – September 30
- October 1 – November 30.

The visual assessment will evaluate stormwater for the following water quality characteristics: color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of stormwater pollution.

The person performing the visual assessment will document potential stormwater pollution problems that were observed during the assessment on the Quarterly Visual Assessment form. Any required corrective actions identified during the assessment will be addressed in accordance with Section 5.4 *Corrective Actions Process* of this plan. The results of the Quarterly Visual Assessments are filed in Appendix G of this plan.

5.3 Corrective Actions Process

Upon discovery of any of the following conditions, the condition must be documented within 24 hours of the discovery in the ENV-CP MSGP CAR database maintained by Operations Integration Office (OIO):

- an unauthorized release or discharge (e.g., spill, leak, or discharge of non-stormwater not authorized by this or another NPDES permit to a water of the U.S.) occurs at the facility;
- a discharge violates a numeric effluent limit;
- control measures are not stringent enough for the discharge to meet applicable water quality standards or the non-numeric effluent limits of this permit;
- a required control measure was never installed, was installed incorrectly, or not in accordance with Part 2 and/or 8, or is not being properly operated or maintained;
- Whenever a visual assessment shows evidence of stormwater pollution (e.g., color, odor, floating solids, settled solids, suspended solids, foam).

Within 14 days of discovery of the identified condition, corrective action(s) to eliminate or further investigate the condition or documentation that no corrective action is needed will be documented by the Deployed Environmental Professional or other Stormwater PPT member in the ENV-CP MSGP CAR database. Upon review by ENV-CP will determine whether the corrective action needs to be entered into the Laboratory Performance Feedback and Improvement (PFIT) System. This determination will be conducted in accordance with ENV-CP-QP-022, *MSGP Stormwater Corrective Actions* and ENV-CP-QP-007, *Spill Investigations* (see Appendix B). This is required to track the status of all issues and a report (the MSGP Annual Report) will be generated from the CAR database and submitted to EPA by ENV-CP. If it is determined that corrective actions are necessary, the facility must immediately take all reasonable steps necessary to minimize or prevent the discharge of pollutants until a permanent solution is installed and made operational, including cleaning up any contaminated surfaces so that the material will not discharge in subsequent storm events. Also if any corrective actions are identified the SWPPP must be reviewed and a determination made as to whether to modify it. If any modifications to control measures are needed these will be made before the next storm event if possible, or as soon as practicable following that storm event. If a runoff event should occur while a control measure is off line, EM&R will be contacted. A DEP will evaluate control measures informally to ensure all control measures are maintained.

5.4 Conditions Requiring Review to Determine if Modifications Are Necessary

If any of the following conditions occur, a review of the selection, design, installation, and implementation of control measures will be performed to determine if modifications are necessary to meet the effluent limits in this permit:

- construction or a change in design, operation, or maintenance at the facility significantly changes the nature of pollutants discharged in stormwater from the facility, or significantly increases the quantity of pollutants discharged; or
- the average of 4 quarterly sampling results exceeds an applicable benchmark. If less than 4 benchmark samples have been taken, but the results are such that an exceedance of the 4 quarter average is mathematically certain (i.e., if the sum of quarterly sample results to date is more than 4 times the benchmark level) this is considered a benchmark exceedance, triggering this review.

If a review identifies any necessary modifications, they will be performed following the corrective action process identified in Section 5.4 above.

SECTION 6: DOCUMENTATION TO SUPPORT ELIGIBILITY CONSIDERATIONS UNDER OTHER FEDERAL LAWS

6.1 Documentation Regarding Endangered Species

The Los Alamos National Laboratory (LANL) Threatened and Endangered Species Habitat Management Plan (HMP) (see Appendix B) was prepared to provide for the protection of federally listed threatened and endangered species and their habitats at LANL. The HMP was designed to be a comprehensive landscape-scale management plan that balances the current operations and future development needs of LANL with the habitat requirements of threatened and endangered species. It also facilitates DOE compliance with the Endangered Species Act (ESA) and related federal regulations. The HMP received concurrence from the U.S. Fish and Wildlife Service (USFWS) (see Appendix B) and was first

implemented in 1999. All changes to the HMP, such as adding new species or changing requirements, are assessed in a new consultation with the USFWS before being implemented. The HMP provided guidance by species for different types of activities allowed without further review by the USFWS. Currently, the only federally-listed species that have habitat or occur at LANL are the Southwestern Willow Flycatcher (Empidonax trailii extimus), Jemez Mountains Salamander (Plethodon neomexicanus), and Mexican Spotted Owl (Strix occidentalis lucida). Suitable habitats for these species, along with a protective buffer area surrounding the habitats, have been designated as Areas of Environmental Interests (AEIs). An AEI consists of a core area that contains important breeding or wintering habitat for a specific species and a buffer area around the core area. The buffer protects the core area from disturbances that would degrade the value of the core area to the species.

The HMP includes ecorisk analyses which account for any industrial facility's stormwater discharges, allowable non-stormwater discharges, and stormwater discharge-related activities. In addition, the Site-wide Environmental Impact Statement (SWEIS) biological assessment (BA) covered the continuation of Laboratory operations and included outfalls.

As determined by earlier evaluations, stormwater discharges, allowable non-stormwater discharges, and stormwater discharge-related activities from LANL MSGP locations are not likely to adversely affect any species that is federally-listed as endangered or threatened under Criterion D Section iii, the ESA, and will not result in the adverse modification or destruction of habitat that is federally-designated as "critical habitat" under the ESA. New activities are evaluated to determine if they will have an impact to any species. If an activity can be completed within the guidelines of the HMP it can go forward as scheduled; however, if the activity can not comply with the guidelines, the HMP requires that a project-specific BA be prepared for the action and go through the consultation process with the USFWS.

6.2 Documentation Regarding Historic Properties

In August, 2015 and December 2008, the Cultural Resources Team (using GPS spatial data as well as conducting visual inspections), reviewed the Laboratory industrial sites (see list below) and their associated outfalls and monitoring stations subject to the 2015 Multi-Sector General Permit (Permit #NMR050000) for effects on historic properties. All of these sites were found to be undertakings of no effect and in compliance with Section 106 of the National Historic Preservation Act (i.e., Criterion B).

- TA-3-22 Power and Steam Plant
- TA-3-38 Metals Fabrication Shop
- TA-3-38 Wood Shop
- TA-3-39 and 102 Metal Shop
- TA-3-66 Sigma Complex
- TA-60 Asphalt Batch Plant
- TA-60-1 Heavy Equipment Yard
- TA-60 Material Recycle Facility
- TA-60 Roads and Grounds
- TA-60-2 Warehouse
- TA-54 Area L
- TA-54 Area G
- TA-54 Maintenance Facility West
- TA-54 RANT

6.3 Documentation Regarding NEPA Review

The Final Site-Wide Environmental Impact Statement for the Operation of Los Alamos National Laboratory (DOE/EIS-0380) was issued in May 2008, and a Record of Decision in September 2008. Stormwater issues and associated pollution prevention requirements and activities at LANL are analyzed in Chapters 4 and 5 of the 2008 Site-Wide EIS. These activities are integrated into environmental reviews on a project-specific level through both the LANL excavation permit process and the LANL project requirements (PR-ID) process. Stormwater issues are identified and pollution prevention activities are implemented during the design and construction phases of all LANL projects, and as part of facility operations, including routine maintenance. LANL staff monitors stormwater pollution prevention compliance at the MSGP sites in accordance with Section 4.0 *Monitoring* of this plan. Corrective actions are taken as necessary as described in Section 5.4 *Corrective Actions Process* of this plan.

SECTION 7: SWPPP CERTIFICATION

TA-03 0039 & 0102 Metal Shop Facilities
STORMWATER POLLUTION PREVENTION PLAN

CERTIFICATION STATEMENT

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Signature: _____ Date: 8/28/15

Cliff Kirkland
Facility Operations Director
Science and Technology Operations, STO-FOD

SECTION 8: SWPPP MODIFICATION

The SWPPP will be modified by the Stormwater PPT and reviewed by the MSGP Project Lead whenever necessary to address any of the triggering conditions for corrective actions listed in Section 5.4 of this SWPPP to ensure that they do not reoccur; or to reflect changes implemented when a review following the triggering conditions listed in Section 5.4 of this SWPPP indicates that changes to control measures are necessary to meet the effluent limits described in this SWPPP. Changes to this SWPPP document must be made in accordance with the corrective action deadlines defined in Section 5.4 and must be signed and dated in accordance with the signatory requirements listed in Appendix B Subsection 11 (Signatory Requirements) of the 2015 MSGP. A record of amendments to the SWPPP will be tracked in the amendment log located in Appendix I of this SWPPP.

APPENDIX A

LANS NOI and Delegation of Authority Letter

APPENDIX B

Referenced Documents
(Included at end of document)

ENV-RCRA-QP-022, MSGP Stormwater Corrective Actions

ENV-CP—QP-007, Spill Investigations

ENV-DO-QP-101, Environmental Reporting Requirements for Releases or Events

P 322-3, Performance Improvement from Abnormal Events

P 781-1, Conduct of Training

ENV-RCRA-QP-064, Multi-Sector General Permit Storm Water Visual Inspections

ENV-CP-QAPP-MSGP, Stormwater Multi-Sector General Permit for Industrial Activities Program

APPENDIX C

Maps

Figure C-1: General Location Map

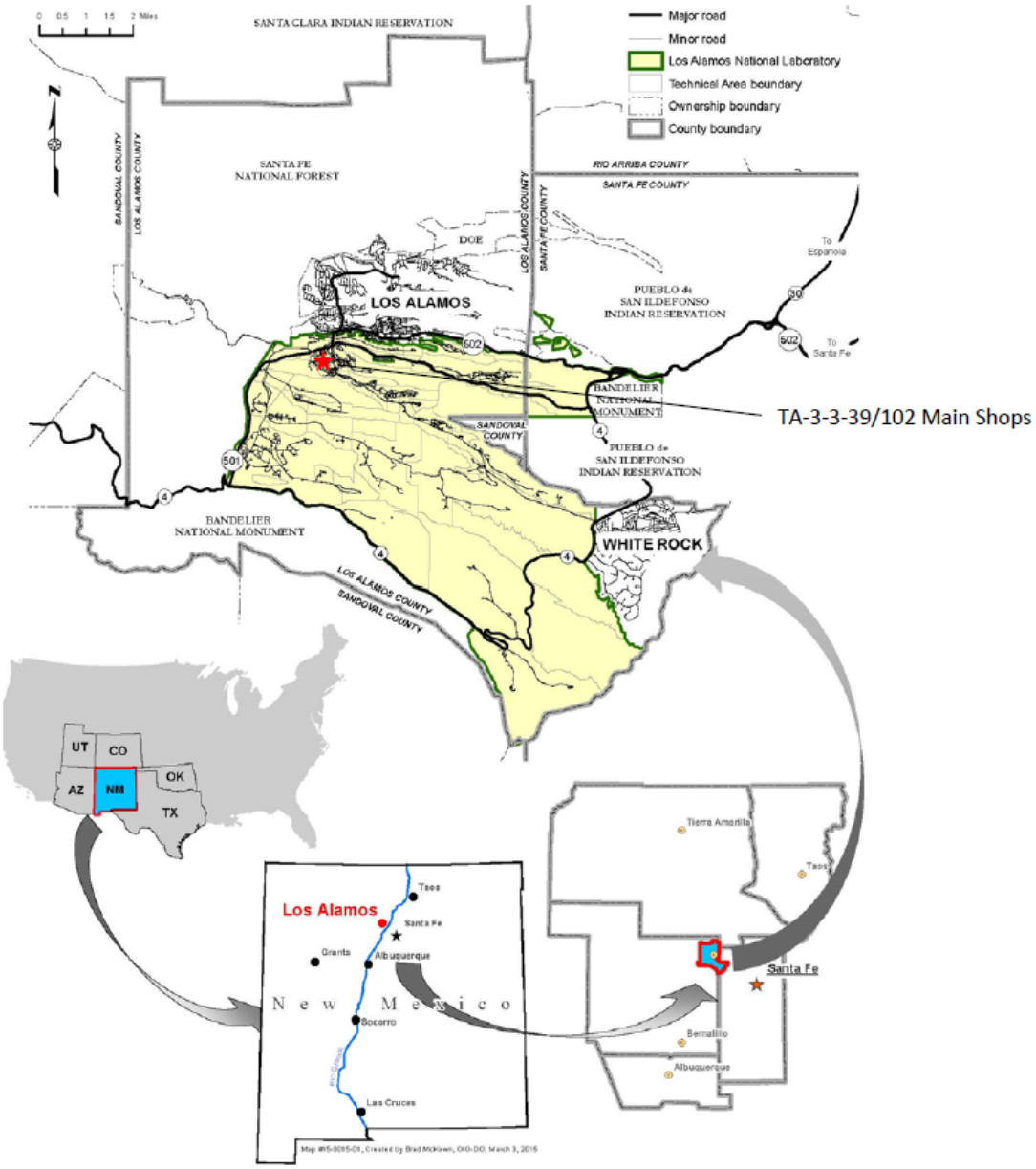


Figure C-2: Site Map

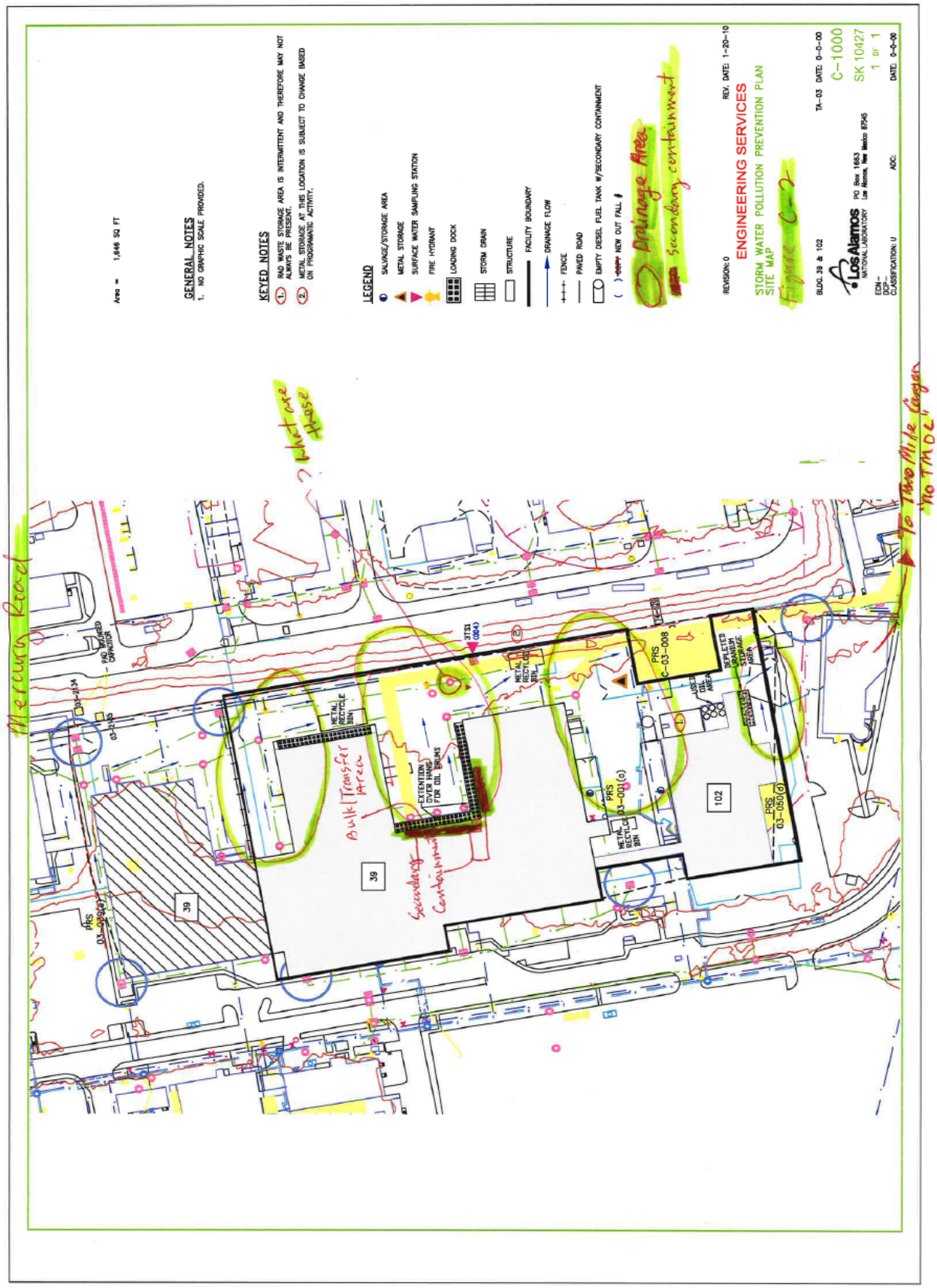


Figure C-3: Location(s) of Nearby Surface Water and Receiving Waters

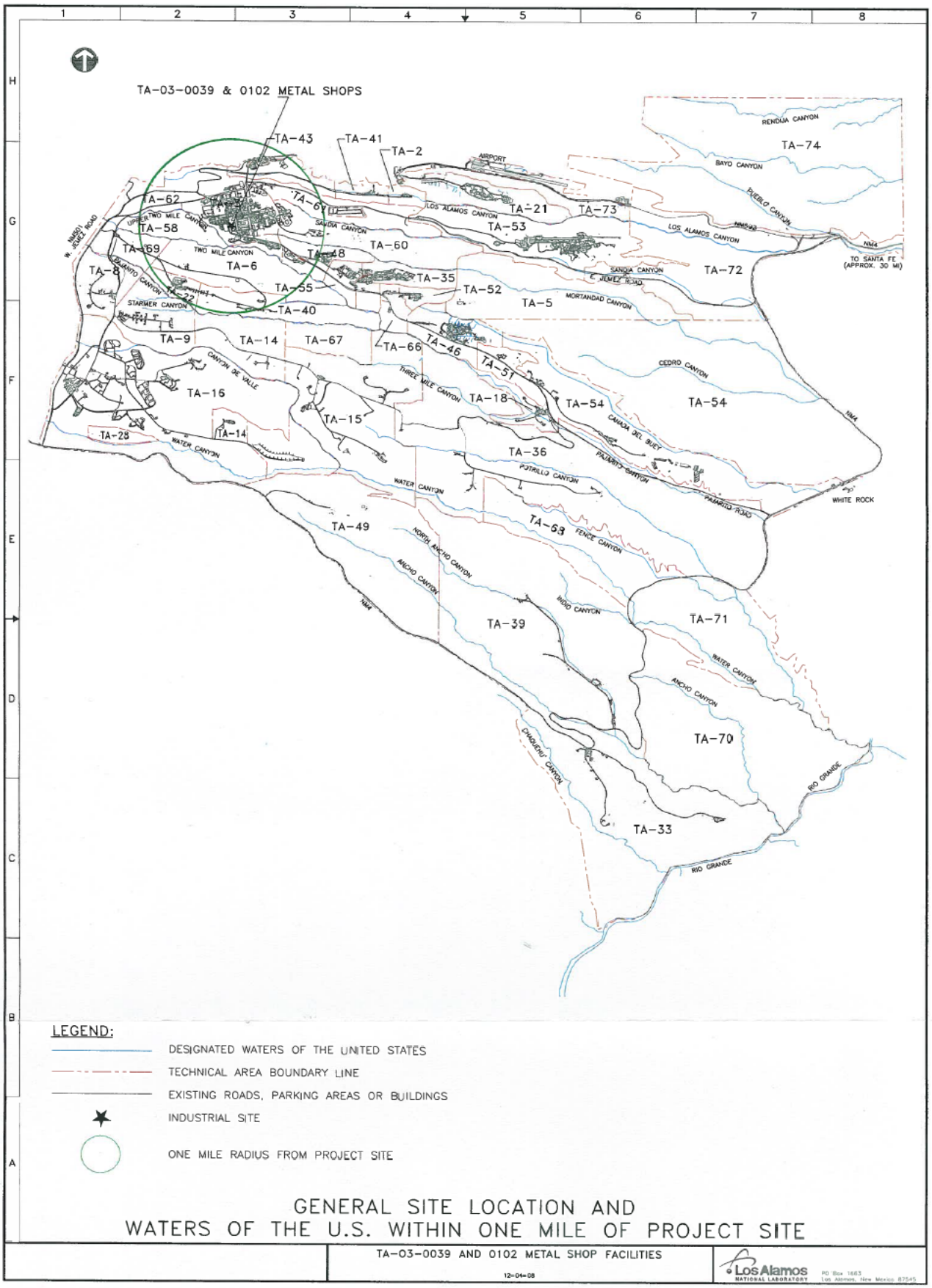
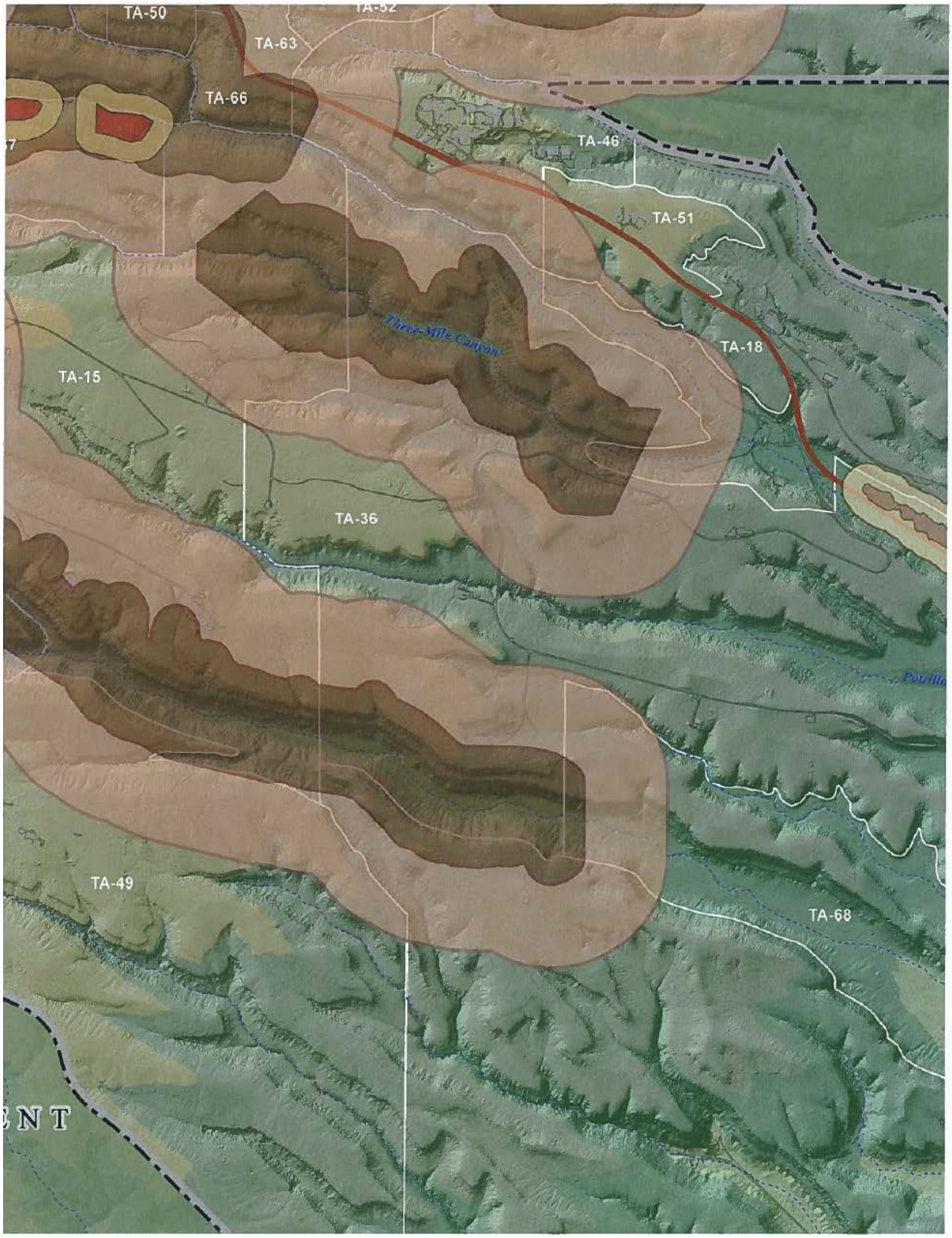


Figure C-4: Threatened and Endangered Species map for the laboratory



APPENDIX D

Spill Log – Record of Spills, Leaks and Other Releases

Spill Log

Table for Tracking Past and Future Spills

Date	Spill Location	What Spilled	Quantity Spilled	Corrective Action Taken	Plans to Prevent Recurrence

APPENDIX E

Non Stormwater Discharge Certification

NON-STORMWATER DISCHARGE

ASSESSMENT AND CERTIFICATION

Main Shops TA-3-39/102 Facility

Completed by: Marc R. Gallegos

Title: Deployed ENV Professional

Date: 8/25/15

Date of Evaluation	Outfall Directly Observed During the Test (Location)	Identify Potential Significant Sources of Non- Stormwater	Method Used to Test or Evaluate Discharge	Is Non-Storm Water Present?	How Often?	Describe Results from Test for the Presence of Non-Storm Water Discharge
8/25/15	All	None	Walkdown of facility	No	N/A	New 2015 MSGP Permit

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and completed. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name & Official Title: DSESH-STO ESH MANAGER

Signature:

Date Signed: 8-26-15

APPENDIX F

Stormwater Monitoring Results

APPENDIX G

Facility Inspections

Inspection Forms and Completed Reports:

Quarterly Routine Inspections
Quarterly Visual Assessments
Annual (Comprehensive Site Inspection)

Name of Facility:	**Responsible FOD (Name & Organization):**	
Qualified Inspector(s): **Others Present:**	**Inspection type:** ☐ **Quarterly** ☐ **Other**	**Date of inspection (MM/DD/YYYY):** **Time of inspection:**

Weather: ❑ **Clear** ❑**Cloudy** ❑ **Rain** ❑ **Sleet** ❑ **Fog** ❑ **Snow** ❑ **High Winds** ❑ **Other:**
Temperature: **° F** **Is Inspection Being Conducted During a Storm Water Discharge?** ❑**Yes** ❑**No**

#	Structural Control Measures (BMP)s	Location	Operating Effectively (Yes or No)?	If No, Need to Maintain (M), Repair (R) or Replace (RP)?	Corrective Action Needed and Notes (identify needed maintenance and repairs, or any failed control measures that need replacement)
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12					

Were additional BMPs or Control Measures implemented? ☐ **Yes** ☐ **No Describe:**

Were previously identified conditions corrected before the next anticipated storm event? ☐ **Yes** ☐ **No If No, describe reason:**

Area/Activity (Areas of Industrial Materials or Activities Exposed to Storm Water)	Inspected?	Controls Adequate?	Corrective Action Needed and Notes (List area letter with comments below)
A. Material loading/unloading & storage areas			
B. Equipment operations & maintenance areas			
C. Fueling Areas			
D. Outdoor vehicle & equipment washing areas			
E. Waste Handling & disposal areas			
F. Erodible areas / construction			
G. Non-storm water / illicit connections			
H. Salt storage piles or pile containing salt			
I. Dust generation & vehicle tracking			

Are the SWPP Plan maintenance, schedules and procedures being implemented at the facility? ☐ **Yes** ☐ **No**

Were any Corrective Actions initiated or completed? ☐ **Yes** ☐ **No Describe:**

Are there any conditions requiring Corrective Action? ☐ **Yes** ☐ **No If Yes, List Number of Corrective Actions Required** ____
(Note – need a Corrective Action Form for each listed)

Non-Compliance

Describe any incidents of non-compliance and/or need for corrective action observed and not described above:

Additional Control Measures

Describe any additional control measures needed to comply with the permit requirements:

Notes

Use this space for any additional notes or observations from the inspection:

Inspector's Signature and date: _____

CERTIFICATION STATEMENT

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Print name and title: _____

Signature: _____ **Date:** _____

MSGP Quarterly Visual Assessment Form

Complete a separate form for each outfall you assess. When adverse weather conditions prevent the collection of a sample during the quarter, a substitute sample must be taken during the next qualifying storm event. Maintain this document in your SWPPP).

Name/Location of Facility:	Permit Number: NMR05GB21	Inspection Quarter: ☐Apr-May ☐Jun-July ☐Aug-Sep ☐ Oct-Nov

Outfall ID:	"Substantially Identical Outfall"? ☐ Yes ☐ No	If YES identify other Outfalls in the Group:

Person(s) collecting sample (PRINT): Signature :

PPT Member? ☐ Yes ☐ No

Person(s) examining sample (PRINT): Signature :

PPT Member? ☐ Yes ☐ No

Date & Time Discharge Began:	Date & Time Sample Collected:	Date & Time Sample Examined:

Substitute Sample? ☐ Yes ☐ No	If YES, identify quarter/year when sample was originally scheduled to be collected:

Was the sample collected in the first 30 minutes? ☐ Yes ☐ No If No, explain why not:

Nature of Discharge: ☐ Rainfall. Amount_____inches ☐ Snowmelt. Amount_____inches

Previous Storm Ended > 72 hours Before Start of This Storm? ☐Yes ☐ No	If No, Explain: *

PARAMETERS

Color	☐ None ☐ Other	If Other describe:
Odor ☐ None ☐ Musty ☐ Sewage ☐ Sulfur ☐ Sour ☐ Solvents ☐ Petroleum/Gas ☐ Other		If Other, describe the odor:
Clarity: ☐ Clear ☐ Slightly Cloudy ☐ Cloudy ☐ Opaque ☐ Other (describe):		
Floating Solids: ☐ Yes ☐ No		If YES, describe if raw or waste materials(s):
Settled Solids:** ☐ Yes ☐ No		If YES, are solids Fine ☐ Coarse ☐ If Other describe:
Suspended Solids: ☐ Yes ☐ No		If YES, are solids Fine ☐ Coarse ☐ If Other describe:
Foam (gently shake sample): ☐ Yes ☐ No		If YES, on the surface ☐or ☐ in the water. Describe color:
Oil Sheen ☐ Yes ☐ No ☐ Color of Sheen:		Thickness: Flecks ☐ Globs ☐ Describe if other:
Other Obvious Indicators of Pollution Present in the sample? Yes☐ No☐		If YES describe:

SITE OBSERVATIONS

Potential pollutants found during visual examination? ☐ Yes ☐ No If Yes, list pollutant(s)and if possible indicate the source: If source is identified during collection of sample, please notify Tim Zimmerly @ 699-7621 or 664-0105

Pollutant	Source	Pollutant	Source

NOTE: A clean up of the site should be conducted if the pollutant source is known. Was proper Notification made? ☐ Yes ☐ No

If Yes, indicate who was notified:

CORRECTIVE ACTION

If storm water contamination was identified in this sample through visual assessment, was a Corrective Action Form filled out within 24 hrs of observation? Yes☐ No☐ If No, explain why not:

Was a Corrective Action Plan identified within 14 days of the observation? Yes☐ No☐ If No, explain why not:

Other Relevant Information: Yes☐ No☐ Use the back of this form to list any concerns, comments, and/or descriptions of pictures taken, (attach additional sheets as necessary).
* The 72-hour interval can be waived when the previous storm did not yield a measurable discharge or if you are able to document (attach applicable documentation) that less than a 72-hour interval is representative of local storm events during the sampling period.
** Observe for settled solids after allowing the sample to sit for approximately one-half hour.

APPENDIX H

Records of Employee Training Related to the SWPPP

(Maintained on LANL site premises)

APPENDIX I

SWPPP Amendment Log

SWPPP Amendment Log

Date of Amendment	Plan Section	Reason for Amendment	Amendment	PE Certification needed?

APPENDIX J

MSGP Discharge Monitoring Reports

(Maintained on LANL site premises)

ENV-CP-QAPP-MSGP, R5	
Effective Date: 11/04/2013	Next Review Date: 11/04/2015

Environment, Safety, Health Directorate

Environmental Protection Division – Compliance Programs Group

Quality Assurance Project Plan

Stormwater Multi-Sector General Permit for Industrial Activities Program

Reviewers:

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Derivative Classifier: ☐ **Unclassified** ☒ **DUSA** **ENVPRO**

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Users are responsible for ensuring they work to the latest approved version.

History of Revisions

Document Number *[Include revision number, beginning with Revision 0]*	**Effective Date** *[Document Control Coordinator inserts effective date]*	**Description of Changes** *[List specific changes made since the previous revision]*
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1	12/05	Annual review and revision
2	07/07	Annual review, incorporated organizational restructure changes.
3	07/09	Biennial Review and Revision
4	07/09	Biennial Review and Revision
5	10/13	Biennial Review and Revision. New format implemented.

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1.0 QUALITY PROGRAM

LANL will comply with the monitoring requirements as specified by the 2008 National Pollutant Discharge Elimination System (NPDES) Stormwater Multi-Sector General Permit for Industrial Activities. Compliance will be demonstrated through the successful implementation of this project plan and applicable procedures.

Los Alamos National Laboratory (the Laboratory) has established a comprehensive stormwater program for its industrial activities. Historically, the Laboratory operated under the NPDES Baseline General Permit and then under the NPDES 1995, 2000, and 2008 Multi-Sector General Permits. The Laboratory submitted its NOI for 2008 coverage in December 2008.

The 2008 MSGP was issued on September 22, 2008 and became effective on September 29, 2008.

The purpose of this project plan is to ensure compliance with the following:

- 2008 NPDES Multi-Sector General Permit (MSGP) and the Clean Water Act (CWA)
- DOE Order 450.1, *Environmental Protection Program*, and DOE Order 5400.5, *Radiation Protection of the Public and Environment*, which establish environmental protection program policies, requirements, and responsibilities

The Environmental Protection, Environmental Compliance Programs (ENV-CP) Water Quality Team has been tasked with overseeing institutional stormwater compliance related activities at the Laboratory.

1.1 QUALITY PROGRAM PURPOSE

This Quality Assurance Project Plan (QAPP) describes the policies and requirements that ensure MSGP activities are conducted in a consistent, agreed-upon manner.

This QA Project Plan describes the policies and requirements that ensure the MSGP processes are conducted in a consistent, agreed-upon manner. Drivers for the quality plan include:

- DOE Order 414.1C, *Quality Assurance*
- SD330, *LANL Quality Assurance Program*

This QA Project Plan (QAPP), including implementing procedures, is a sub-tier document to the SD330, *LANL Quality Assurance Program*. The following documents provide requirements to ensure that the MSGP Program is operated in accordance with established plans and procedures:

- SD330, *LANL Quality Assurance Program*
- QA Project Plan for the MSGP (this document)
- Implementing procedures

1.2 ORGANIZATION

ENV-CP is responsible for compliance oversight of the Laboratory's MSGP coverage. The Group is organized by teams under the line management direction of the Group Leader. Teams are cross-functional and focus on specific Laboratory water quality responsibilities, deliverables, or

products. Teams are guided by Team Leaders who have the responsibility to assure the program is completed and properly implemented.

The Team Leader coordinates the project and reports to the ENV-CP Group Leader. The Project Lead implements program oversight, coordinates contractor efforts (if there are any), and reports to the Team Leader. A QA Specialist is assigned to work for the Team Leader to provide quality assurance assistance, advice, and review. In addition, representatives from other groups may participate and contribute to this team as subject matter experts for project activities. The project organization is shown in Attachment 1.

Applicable regulatory drivers include the following:

- Clean Water Act (CWA)
- 2008 NPDES Multi-Sector General Permit (MSGP)
- DOE Order 450.1, *Environmental Protection Program*
- DOE Order 5400.5, *Radiation Protection of Public and Environment*
- P401, *Procedure to Identify, Communicate, and Implement Environmental Requirements*

1.3 RESPONSIBILITIES

The following table lists specific responsibilities:

Who	What
Group Leader	Assure that qualified staff complies with regulatory requirements associated with the MSGP.
Project Lead	Ensure that MSGP-related activities are performed in accordance with the requirements specified in this plan.
ENV-CP Staff	Perform MSGP-related activities as assigned by the Team Leader or Project Leader

2.0 PERSONNEL DEVELOPMENT

Qualified team members will be hired and trained as prescribed in ENV-DO-QP-115, *Personnel Training*. Minimum training requirements for ENV personnel are described in the ENV Division Qualification Standards. The LANL Human Resources Division maintains documentation of education qualification. Required MSGP qualifications and training plans are listed below.

2.1 MSGP CURRICULA

The MSGP Program requires personnel with the following training requirements:

MSGP Inspectors

Curricula 10697 ENV-RCRA MSGP Inspector
Item 43337 ENV-CP-QAPP-MSGP
Item 54892 ENV-RCRA-QP-022 MSGP Stormwater Corrective Actions

Item 42415 ENV-DO-QP-101 *Environmental Reporting Requirements for Releases or Events*
Item 42547 ENV-DO-QP-111 *Reporting Environmental Releases to Pueblo Governments*
Item 40708 ENV-DO-QP-108 *Preparation of External Correspondence for Review and Approval*
Item 43172 ENV-DO-QP-112 *Coordinating Regulatory Inspections*
Item 42891 ENV-DO-QP-113 *Tracking Issues and Actions*
Item 43805 ENV-DO-QP-114 *Logbook Use and Control*
Item 45777 ENV-DO-QP-100 *General Field Safety*

Curricula 131 Field Worker Training Requirements
Item 43562 or 3583 or 16585 CPR/AED: LANL Workplace
Item 3574 or 13264 First Aid

MSGP SWPPP Preparers

Curricula 7814 ENV-RCRA MSGP SWPPP Preparer
Item 43337 ENV-CP-QAPP-MSGP
Item 56593 ENV-RCRA-QP-044 *Preparing Storm Water Discharge Monitoring Reports (MDMRs) for the NPDES Multi-Sector General Permit*
Item 40708 ENV-DO-QP-108 *External Correspondence*
Item 43172 ENV-DO-QP-112 *Coordinating Regulatory Inspections*
Item 42891 ENV-DO-QP-113 *Tracking Issues and Actions*
Item 43805 ENV-DO-QP-114 *Logbook Use and Control*
Item 45777 ENV-DO-QP-100 *General Field Safety*

Curricula 51 ENV-RCRA Design Engineer
Item 44269, COE Review of LANL Produced Design Documents, AP-341-620
Item 44266, COE System Design Descriptions, AP-341-61
Item 44263, COE Engineering Drawings and Sketches, AP-341-608
Item 44261, COE Calculation, AP-341-605
Item 44258, COE Requirements and Criteria Document, AP-341-602
Item 44257, COE Functions & Requirements Document, AP-341-601
Item 43658, CORE Engineering Overview
Item 55428, COE Management Level Determination, AP-341-502
Item 54168, P342 Engineering Standards
Item 47029, COE LANL Review of Design by External Agencies, AP-341-622
Item 43666, Engineering Design Management
Item 43663, Engineering Technical Baseline
Item 44225, COE Evaluation of Vendor Information, AP-341-701

MSGP Visual Assessors

Curricula 10698 ENV-RCRA MSGP Visual Assessor
Item 43337 ENV-RCRA-QAPP-MSGP
Item 50493 ENV-RCRA-QP-064 *MSGP Storm Water Visual Assessments*
Item 42415 ENV-DO-QP-101 *Environmental Reporting Requirements for Releases or Events*
Item 42547 ENV-DO-QP-111 *Reporting Environmental Releases to Pueblo Governments.*
Item 40708 ENV-DO-QP-108 *External Correspondence*

Item 43172 ENV-DO-QP-112 *Coordinating Regulatory Inspections*
Item 42891 ENV-DO-QP-113 *Tracking Issues and Actions*
Item 43805 ENV-DO-QP-114 *Logbook Use and Control*
Item 45777 ENV-DO-QP-100 *General Field Safety*

Curricula 131 Field Worker Training Requirements
Item 43562 or 3583 or 16585 CPR/AED: LANL Workplace
Item 3574 or 13264 First Aid

2.2 MSGP INSPECTOR QUALIFICATIONS

Inspections:

- Post high school education or experience in engineering or environmental science or a related field; or industrial site field experience involving stormwater pollution prevention.
- 2 years experience of completing MSGP inspections or 1 year MSGP inspection experience with the Certified Inspector of Sediment and Erosion Control (CISEC) certification.
- 6 months knowledge of LANL facility operations.
- Demonstrated ability, as determined by the Multi-Sector General Permit Project Lead and/or Water Quality Team Leader, to successfully and effectively evaluate and identify the following at industrial sites:
    - Conditions and activities that could impact stormwater quality at the facility.
    - Inadequate or ineffective BMPs.
    - Required modification or maintenance of existing BMPs.
    - Locations requiring new or additional BMPs.
    - Potential pollutant sources associated with the facility.
    - Appropriate and correct site stabilization measures.
- Demonstrated ability, as determined by the Multi-Sector General Permit Project Lead and/or Water Quality Team Leader, to evaluate the compliance status of each industrial facility and document identified issues during an inspection.
- Demonstrated ability, as determined by the Multi-Sector General Permit Project Lead and/or Water Quality Team Leader, to properly and effectively complete inspection reports, including the ability to perform the following:
    - Prepare reports in a clear, concise manner, identifying site conditions and issues.
    - Write legibly and describe conditions clearly and accurately.
    - Use proper spelling and grammar.
    - Complete the MSGP Routine Inspection Report forms accurately.
    - Accurately enter findings into the Corrective Actions Report database.

- Conduct inspections in a professional manner.
- Be a member of, or contractor supporting, ENV-RCRA or ENV Division.

2.3 MSGP SWPPP PREPARER QUALIFICATIONS

SWPPP Preparation:

One of the 2 criteria below must be satisfied:

- BS degree or experience in engineering, environmental science, or related field, with a background involving stormwater pollution prevention and regulatory compliance relating to MSGP sites and a 1 year minimum of LANL facility operations knowledge and 1 year experience of completing MSGP inspections; or
- Certified Professional in Erosion and Sediment Control (CPESC) or Professional Engineer (PE) with a demonstrated background in stormwater management, sediment and erosion control, and regulatory compliance.

In addition to:

- Demonstrated ability, as determined by the Multi-Sector General Permit Project Lead and/or Water Quality Team Leader, to:
  - Prepare SWPPPs per LANL format and in compliance with NPDES MSGP requirements.
  - Identify and specify appropriate BMPs and stabilization measures.
  - Identify potential pollutant sources associated with the facility.
  - Perform necessary calculations to meet regulatory requirements.
  - Prepare a site map.
  - Be a member of, or contractor supporting, ENV-CP or ENV Division.

5.4 MSGP VISUAL ASSESSOR QUALIFICATIONS

Quarterly Visual Assessments:

- Education or experience in engineering, environmental science, or a related field; or industrial site field experience involving stormwater pollution prevention; and
- Completed ENV-RCRA training on how to collect and evaluate visual assessment; and
- Demonstrated ability, as determined by the Multi-Sector General Permit Program Lead and/or Water Quality Team Leader, to:
  - Collect quarterly visual samples at the designated outfall.
  - Complete the applicable portions of the MSGP Quarterly Visual Assessment Form.
  - Have working knowledge of the regulatory requirements in Section 4.2 of the MSGP.

5.5 TRAINING RESPONSIBILITIES

All personnel performing MSGP project-related work are required to obtain appropriate training prior to performing work governed by a procedure. Training for all project personnel will be performed and documented in accordance with ENV-DO-QP-115, *Personnel Training*.

The following table lists specific responsibilities regarding training requirements.

Who	What
Group Leader	Ensure project personnel meet all Laboratory training requirements.
Program Lead	Establish and document job descriptions for each position within the MSGP Project. Ensure all project personnel have the appropriate level of education,

	experience, and training.

3.0 QUALITY IMPROVEMENT

The MSGP Project subscribes to the principles of problem prevention and continuous improvement. The Project Lead is committed to evaluating improvement opportunities identified by trending and reporting.

The Project Lead provides verbal and written updates, as needed, to the Team Leader and Group Leader to keep group management apprised of the focus of the MSGP Project activities and to address any shortcomings that may be identified.

3.1 CORRECTIVE ACTIONS WITHIN ENV-RCRA

Corrective actions for all ENV-RCRA programs and projects are initiated, tracked, corrected, and documented according to P330-6 *Nonconformance Reporting*, P322-4 *Laboratory Performance Feedback and Improvement Process*, *SD330, Los Alamos National Laboratory Quality Assurance Program*, and Division/Group procedures.

3.3 QUALITY IMPROVEMENT RESPONSIBILITIES

The following table lists specific responsibilities for quality improvement:

Who	What
Project Lead	Monitor program performance and ensure issues are corrected in a timely manner.
ENV-CP Staff	Identify opportunities for process improvement, health and safety enhancement, environmental protection, or other improvements of the program's operations. Discuss the identified opportunities with the Project Lead. Ensure issues are reported and corrected in a timely manner.

4.0 DOCUMENT CONTROL/RECORDS MANAGEMENT

The program lead, at least one reviewer, and the Group Leader will approve all revisions to this plan. Revisions to the plan will be provided to the QA Specialist. This plan will be reviewed and revised (if necessary) biennially.

This document will be controlled under the organization's document control system (ENV-DO-QP-106, *Document Control*). Controlled copies of ENV documents are located on the Internet: http://int.lanl.gov/orgs/env/rcra/qa.shtml, all other copies are uncontrolled.

Procedures will be developed as necessary and in accordance with ENV-DO-QP-105, *Preparation, Review, and Approval of Procedures*.

Phone calls, email, or fax communications will be documented and controlled if the content provides direction or results in decisions.

4.1 PROGRAM RECORDS

The number, type, and detail of all records to be kept will provide sufficient information to allow an individual with equivalent education and training to verify or reconstruct the results. Implementing procedures specify the records, forms, logbook entries, or other information to be kept as documentation of the performance of the procedure.

Records to be kept in the ENV-CP records system include the following:

- Copy of the Multi-Sector General Permit
- Annual Site Compliance Evaluation reports
- Corrective Action Reports
- Reports and certifications required by MSGP
- Records of all data used to complete MSGP Notice of Intent
- Discharge Monitoring Reports

Records to be kept by the Deployed Environmental Professional assigned to the FOD in which the industrial facility resides includes the following:

- Copies of Stormwater Pollution Prevention Plans
- Reports and certifications required by MSGP
- Routine Inspection Forms
- Supporting analytical data reports including Visual Assessment Forms
- Corrective Action Reports
- Discharge Monitoring Reports
    - Annual Site Compliance Evaluation reports

All ENV-CP records will be maintained and available (after the deadline for submittal as given in applicable procedures) for auditing in the records center at ENV-CP (ENV-DO-QP-110, *Records Management*). Records will be archived in compliance with Laboratory and DOE requirements for records retention, storage, and management.

4.2 PROGRAM RECORDS RESPONSIBILITIES

The following table lists specific responsibilities for program records management:

Who	What
Team Leader	Ensure QAPP meets minimum specifications for documentation and records of the SD330, *Los Alamos National Laboratory Quality Assurance Program*
Program Lead	Conduct annual review of records to ensure compliance with project requirements.

4.3 ELECTRONIC MEDIA

The project will utilize electronic means as necessary to maintain data and perform calculations on these data. Electronic means will not however replace paper copies. All records that must be maintained to meet the requirements of the Permit will be kept in hard copy as the official record.

4.4 DATABASES

Analytical data will be maintained in the LANL Water Quality Database (WQDB). Security, verification, and validation of data are maintained in accordance with LANL procedures.

Security -- ENV data will be maintained electronically in a secure manner and will be protected from loss by being maintained as part of an official dataset that is backed up at least weekly.

Verification of data -- All ENV data, either electronic or hardcopy must undergo a verification and validation process that includes the following:

Verification

- Paper deliverables match electronic data that are stored in an official dataset. Paper deliverables include:
  - chain of custody for sample data
  - field log, if applicable, for sample data
  - data packages for analytical data
  - documentation packages for supporting data (e.g., geographic information system)
- All hand-entered data have been verified by a person other than the individual performing the entry
- Electronic uploads of data (e.g., electronic data deliverables) have been spot checked (at least 10%) to ensure the upload performed as expected
- Hard copy supporting information (e.g., data packages, chains of custody, validation reports, etc.) is evaluated for completeness, archived, and available for audit

Validation --analytical data validation is the responsibility of the EP Directorate. The process will include the following:

- Validate that sample and quality assurance/quality control data and information meet contract specifications
- Assign validation flags, as appropriate
- Identify the analytical supplier
- Identify the analytical method

Verification of calculations -- A person other than the person who generated the query will review for accuracy all compliance related calculations performed in a database through queries. This review will be documented and forwarded to the appropriate record series.

Spreadsheets:
Backups -- All spreadsheets used to hold data and generate reports to be used in demonstrating compliance will be maintained in a secure location. The preferred location is on the Group server. Spreadsheets will be backed up at least weekly.

Verification of data -- All compliance-related data uploaded into a spreadsheet will be verified to be accurate against the original paper copy. Data that are uploaded through electronic means will undergo a 10% verification. Data that are uploaded through manual means will undergo a 100% verification. Someone other than the data entry person must perform the 100% review. This review will be documented and forwarded to the appropriate record series.

Verification of calculations -- A person other than the person who generated the spreadsheet will review for accuracy all compliance-related calculations performed in a spreadsheet. This review will be documented and forwarded to the appropriate record series. Modifications to the function of these spreadsheets will also be verified in this manner.

Software control -- The integrity of spreadsheets will be ensured by limiting access to these spreadsheets to only trained, authorized personnel. Additionally, at least once per year, the function of the spreadsheets will be verified by hand calculations. Documentation of this review will be forwarded to the appropriate record series.

4.4 IMPLEMENTATION RESPONSIBILITIES

The following table lists specific responsibilities:

Who	What
Program Lead	Regularly assess data integrity methods used by MSGP personnel.

5.0 PLANNING AND PERFORMING WORK

Work conducted under this program ensures compliance with the 2008 Multi-Sector General Permit; the Clean Water Act; and DOE Orders 450.1, *Environmental Protection Program*, and 5400.5, *Radiation Protection of the Public and Environment*.

Work that contributes to achieving the quality specifications of the MSGP deliverables will be planned and documented as described in this document and implementing procedures.

Work will be performed according to applicable plans and implementing procedures. The team leader will provide first line supervision of personnel assigned to project tasks to ensure work is performed to achieve project quality specifications. Before changing a work process that affects the project quality specifications, the team leader will ensure the same level of planning and review as used in the initial project planning steps.

5.1 WORK PROCESSES

All work should be regarded as a process. Each process consists of a series of actions and is planned and carried out by qualified workers using specified work processes and equipment under administrative, technical, and environmental controls established by management to achieve an end result. Workers are the best resource of contributing ideas for improving work processes and will be involved in work process design, process evaluation, and providing the feedback necessary for improvement.

All work is planned and performed using the principles of Integrated Safety Management and in compliance with P300, *Integrated Work Management for Work Activities*.

5.3 WORK PERFORMANCE

Management should ensure that the following are clearly identified and conveyed to workers prior to beginning work:

- customer and data requirements for the work and final product;
- acceptance criteria applicable to work and final product;
- hazards associated with the work;
- technical standards applicable to work and final product; and
- safety, administrative, technical, and environmental controls to be employed during the work.

The work processes used to meet the regulatory requirements and the requirements of this plan can be divided as follows:

- Stormwater Pollution Prevention Plans (Multi-Sector General Permit Section 5.0)
- Inspections (Multi-Sector General Permit Section 4.0)
- Monitoring (Multi-Sector General Permit Section 6.0)
- Discharge Monitoring Reports (Multi-Sector General Permit Section 7.1 – Reporting Monitoring Data to EPA)
- Best Management Practices (Multi-Sector General Permit Section 2.0 –Control Measures)
    - Reporting and Recordkeeping (Multi-Sector General Permit Section 7.0)

5.4 STORMWATER POLLUTION PREVENTION PLAN

Stormwater Pollution Prevention Plan (SWPPP) development and implementation by the regulated industrial facility is required for MSGP compliance (refer to Section 8.0 of the 2008 MSGP for S*ector-Specific Requirements for Industrial Activity* and Appendix D, *Sectors of Industrial Activity Covered by This Permit*). The SWPPP is intended to document the selection, design, and installation of control measures. Additional documentation requirements are intended to document the implementation (including inspection, maintenance, monitoring, and corrective

action) requirements identified in the 2008 MSGP permit. The SWPPP is a written assessment of potential sources of pollutants in stormwater runoff and control measures that will be implemented at the specific industrial facility to minimize the discharge of pollutants in runoff from the site. These control measures include site-specific Best Management Practices (BMPs), inspections, employee training, and reporting. The procedures detailed in the SWPPP must be implemented by the facility and updated as necessary, with a copy of the SWPPP kept on-site.

The SWPPP development process involves evaluating regulated industrial activities and requiring Facility Management support in implementation, improvement, and revision of the Plans.

5.4.1 DISCHARGE MONITORING REPORTS

The Laboratory is required to submit analytical results of stormwater monitoring and to keep the results with the facility specific SWPPP. The Laboratory must certify and submit analytical monitoring results obtained from each facility specific sampling location (i.e., the sampling station located at the monitored outfalls) associated with industrial activity on a Discharge Monitoring Report (DMR) form or use it to report any of the following:

- no discharge for all outfalls for a specific monitoring period;
- the industrial facility status has changed to inactive and unstaffed;
- the facility status has changed to active; or
- no further pollutant reductions are achievable for all outfalls and for all pollutants (see Section 6.2.1.2 of the 2008 MSGP).

5.4.2 ANNUAL SITE COMPLIANCE EVALUATION REPORT

The Laboratory is required to submit an annual report (Attachment 2) to the Environmental Protection Agency (EPA) that includes the findings from the comprehensive site inspection and any corrective action documentation. The documentation must include the following:

- identification of the condition triggering the need for corrective action review;
- date and description of the problem identified;
- summary of the corrective action taken or to be taken;
- notice of whether SWPPP modifications are required as a result of the discovery or corrective action;
- date corrective action was initiated; and
- date corrective action was completed or is expected to be completed.

The following table lists responsibilities:

Who	What
Project Lead	Ensure that SWPPP requirements are performed in accordance with the MSGP.

Facility Management Support	Implement SWPPP requirements as recommended by the Project Lead.
ENV-CP Staff and Deployed Environmental Professionals (DEPs)	Assure SWPPP implementation as required by MSGP.
DEPs	Develop, modify, and update SWPPPs and assist facility personnel with SWPPP implementation.

5.5 INSPECTIONS

The MSGP requires periodic inspection of industrial processes and maintenance of (BMPs) to assure effectiveness of control measures. The Laboratory has implemented a quarterly or monthly inspection process (depending on the industrial facility) to support this determination. A copy of the Routine Inspection Form is provided in Attachment 3.

5.6 STORMWATER MONITORING

Benchmark stormwater monitoring is the required mechanism for determining the effectiveness of corrective actions and meeting the requirements of the MSGP. Refer to Attachment 4, *MSGP Facilities and Stormwater Monitored Outfalls Associated with Industrial Activity 2011***,** for a list of Laboratory sites that have monitoring requirements. Laboratory management has made an investment in time and materials, in addition to a commitment to comply with the 2008 MSGP Permit. All stormwater monitoring is conducted by ENV-CRP personnel. The MSGP Project currently has a network of 23 monitoring stations. Considerations to be used for MSGP stormwater monitoring development decisions will include MSGP requirements, new state water quality standards, Administrative Authority requests, or new permit requirements. Stormwater monitoring will be conducted as specified in the MSGP.

Effluent Limitations stormwater monitoring is required for the following type of facility of LANL:

Regulated Activity	**Parameter**	**Effluent Limit**	**Monitoring Frequency**	**Sample Type**
Discharges from asphalt emulsion facilities	Total Suspended Solids	23.0 mg/L daily max. 15.0 mg/L, 30-day avg.	1/year	grab
	pH	6.0-9.0 s.u.	1/year	grab
	Oil and Grease	10.0 mg/L 30-day avg.	1/year	grab

This determination was made in accordance with Section 1.1.2.4 of the MSGP. The TA-60 Asphalt Batch Plant meets the criteria for effluent limitations monitoring in this section. Exceedances of the effluent limits in this table require immediate action. In addition, if follow-up monitoring after corrective actions also exceeds an effluent limit guideline, an Exceedance Report for Numeric Effluent Limits must be submitted to EPA no later than 30 days after lab results have been received and verified.

Impaired Waters stormwater monitoring is required for discharges made to an impaired water. The canyons within and surrounding Los Alamos National Laboratory are declared as Impaired Waters by the New Mexico Environment Department. The pollutants vary from canyon to canyon and are listed in Attachment 5, *Pollutants Under Impaired Waters Monitoring.* The pollutants may be discontinued in subsequent annual monitoring if the concentration is below background levels in stormwater or if the constituent is not detected.

Visual assessments are also required by the MSGP and are an important tool for collecting information to determine the effectiveness of controls in preventing potential contaminants from migrating off Laboratory property. Accordingly, field personnel must conduct visual assessments for stormwater collected at the monitoring stations or discharged through substantially identical outfalls associated with industrial facilities located throughout the Laboratory. Information recorded will document all observations that are required by the MSGP (see ENV-RCRA-QP-064, *Multi-Sector General Permit Storm Water Visual Inspections*).

The Laboratory's MSGP permit requires stormwater quality monitoring to evaluate compliance with water quality standards and evaluation against benchmarks. Parameters sampled at the monitoring stations are selected based on permit requirements and the results of the previous year.

Four stormwater samples per year are required under the 2008 MSGP, but it is not necessary to collect them in consecutive quarters if climatic conditions that prevented quarterly collection are documented (see *Adverse Weather Conditions* in Section 6.1.5 of the MSGP). Sample locations are listed in Attachment 4, *MSGP Facilities and Stormwater Monitored Outfalls Associated with Industrial Activity 2011*, and collection will be conducted in accordance with LANL and NPDES Permit requirements and the current year MSGP Sampling and Analysis Plan.

Stormwater samples are used to demonstrate compliance with water quality standards and requirements to evaluate results against benchmark parameters (Attachments 5 and 6). Any persons involved in the preparation, retrieval, and analysis must maintain positive control of samples at all times until sample disposal. ENV-RCRA personnel will follow guidance in the Associate Directorate for Environmental Programs (ADEP) document ENV-WQH-QP-029, *Creating and Maintaining a Chain of Custody*, as well as, ENV-RCRA-QP-047, *Inspecting Storm Water Runoff Samplers and Retrieving Samples*, and ENV-RCRA-QP-048, *Processing MSGP Storm Water Samples*.

Chain of custody is maintained during:

Activity	Responsibility
Sample collection and preparation	All persons (other than analytical personnel) performing sample preparation and collection will be trained to sample collection procedures and must adhere to the chain of custody requirements therein.
Analysis	Analytical laboratories performing sample analysis will maintain sufficient procedures to ensure positive control of samples as specified in the existing Statement of Work.
Storage/ disposal	Analytical laboratories will maintain retained samples and/or sample portions under chain of custody until reanalysis, or ultimate disposal.

The LANL Sample Management Office (SMO) will be the central point for all analytical laboratory selection, evaluations, sample submittal, and data return. The SMO will evaluate potential analytical laboratories, prepare analytical statements of work that include requirements, and arrange contracts with selected laboratories for analysis of all samples. The SMO will accept samples from field collection personnel, process the sample, ship the samples to the off-site analytical laboratories, and receive the data packages from the laboratories.

All analytical data will be received from analytical laboratories in electronic format and uploaded into a database. All received data will be checked for completeness and adherence to contract requirements. After uploading, all data will undergo verification and validation (V&V) for evidence of laboratory contamination, improper analytical method, and other analytical issues which could potentially affect data quality.

Field data collected by sample collection personnel will be verified and validated by the SMO when field personnel deliver samples to the SMO.

If significant V&V issues are identified, results will be forwarded to and discussed with the responsible project leads.

Data issues that result from procedural failures, personnel errors, or other failures to follow requirements will be documented as issues and corrected according to ENV-DO-QP-113, *Tracking Issues and Actions*.

The following table lists responsibilities:

Who	What
Project Lead	Ensure that all project monitoring requirements are performed in accordance with the MSGP. Review and update the MSGP Sampling and Analysis Plan annually.

	When complete, communicate findings to the team members for implementation. Make appropriate arrangements with the SMO to accept, process, and submit samples to an analytical laboratory for required analyses as specified in the SAP.
MSGP Water Quality Compliance Personnel	• Implement monitoring program as required by the MSGP Project Lead. • Conduct stormwater sampling in accordance with the MSGP Sampling and Analysis Plan and applicable procedures. • Ensure procedures for sample handling and control during sample preparation and retrieval are followed.
Sample Management Office	• Develop Statements of Work (SOW) for all analytical laboratories that perform analytical work for the MSGP project in accordance with P840-1, *Procurement Quality*. • Ensure analytical laboratories comply with the DOE's SOW. Conduct an annual audit of the laboratory to ensure compliance with the SOW. • Approve Statements of Work for analytical laboratories that are contracted to analyze water samples. • Approve analytical laboratories that are contracted to analyze water samples for regulatory compliance purposes. • Accept samples and submit them to and approved analytical laboratory for analysis. • Track progress of samples at the analytical laboratory and resolve issues with sample analysis. • Receive data packages from the analytical laboratory and enter data into the database. • Provide the MSGP Project Lead with monthly invoice updates. • Perform V&V of field data submitted and uploaded from forms when samples are submitted to the SMO.
Operations Integration Office (OIO), Systems Integration (SI)	Perform V&V of data packages uploaded by the SMO or send data packages to a subcontractor company for independent V&V.

5.7 DISCHARGE MONITORING REPORTS

The Laboratory is required to submit analytical results of stormwater monitoring and to keep the results with the specific SWPPP. The Laboratory must submit analytical monitoring results obtained from each monitoring station associated with industrial activity on a MSGP Discharge Monitoring Report (MDMR) form (one form must be submitted for each storm event from which, a sample was collected).

MDMRs shall be written in accordance with ENV-RCRA-QP-044, *Preparing Storm Water Discharge Monitoring Reports (MDMRs) for the NPDES Multi-Sector General Permit*. MDMRs shall be submitted to EPA within 30 calendar days of receiving validated

analytical results. Refer to the DMR language under the SWPPP Section above for additional requirements.

Site analytical requirements are defined by the industrial activity in the MSGP permit. All MSGP analytes applicable to LANL are consistent with the requirements of 40 CFR Part 136, *Guidelines Establishing Test Procedures for the Analysis of Pollutants.*

Sample analytical requirements vary by site depending on the industrial activities performed at the site. Refer to Attachment 5 for a list of analytes by industrial sector. If an insufficient quantity of sample is available, then sample collection will be prioritized at that location for future events. Additional samples may be collected to meet permit requirements.

ENV-RCRA shall refer to the requirements of the 2008 Multi-Sector General Permit, and the most current MSGP Sampling and Analysis Plan to determine the priorities of required analyses.

The following table lists responsibilities:

Who	What
Project Lead	• Ensure implementing procedures for sample analyses are used. • Ensure that MDMRs are submitted to EPA and NMED in accordance with the MSGP.
MSGP Water Quality Compliance Personnel	Assure MDMRs are completed and certified as required by the MSGP and have received a full quality assurance review.

5.8 ADVERSE WEATHER CONDITIONS AND CLIMATES WITH IRREGULAR STORMWATER RUNOFF

Section 4.2.3 of the 2008 MSGP allows the industrial facility to take a substitute sample during the next qualifying storm event when adverse weather conditions prevent the collection of samples during a specific quarter. Adverse weather conditions are those that are dangerous or create inaccessibility for personnel, such as local flooding, high winds, or electrical storms, or situations that otherwise make sampling impractical, such as drought or extended frozen conditions. Documentation of the rationale for no visual assessment for the quarter must be included in the facility specific SWPPP.

Since LANL is located in an area where limited rainfall occurs during parts of the year (i.e., in a semi-arid climate) and has periods of freezing conditions, LANL has identified an alternative monitoring period of four quarters as follows for each calendar year.

- April 1-May 31

- June 1-July 31
- August 1-September 30
- October 1-November 30

The following table lists specific responsibilities.

Who	What
Project Lead	Ensure that the monitoring schedule is documented in facility specific SWPPPs and provided to EPA on the MDMRs.

5.9 REPORTING AND RECORDKEEPING

All monitoring data shall be collected in accordance with the requirements specified in the 2008 MSGP. LANL will submit monitoring results to EPA within 30 days of receiving validated laboratory results. The address for submittal of monitoring results is as follows.

U.S. Environmental Protection Agency
Office of Water, Water Permits Division
Mail Code 4203M, ATTN: MSGP Reports
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460

LANL shall keep copies of the following documentation for a period of at least 3 years from the date that LANL's coverage under the MSGP expires or is terminated.

- SWPPP (including any modifications made during the term of the 2008 MSGP)
- Additional documentation requirements as identified in Section 5.4 of the MSGP
- All reports and certifications required by the MSGP
- Monitoring data
- Records of all data used to complete the NOI.

The following table lists specific responsibilities:

Who	What
Project Lead	Periodically audit MSGP records to ensure documentation of compliance is being retained.
Deployed Environmental Professionals	Retain records as required by the MSGP for industrial facilities located in their FOD.

5.10 BEST MANAGEMENT PRACTICES

It is critical that the Laboratory be able to effectively inspect and maintain the Best Management Practices that have been installed at various locations. Quarterly inspections must be completed and provided to the Project Lead for inclusion into the records system. In addition, the Project Leader conducts a Comprehensive Annual Site Inspection and writes a report to document the status of BMPs and other identified corrective actions. This report is sent to EPA each year. Laboratory management has made an investment in time and materials, in addition to a commitment to minimizing the potential migration of contaminants in stormwater. Report findings are evaluated and in conjunction with facility personnel, BMPs are modified, installed, or removed as necessary.

The following table lists responsibilities.

Who	What
Project Lead	Assist facility personnel and Deployed Environmental Professionals with implementation, inspection, and maintenance of BMPs at MSGP facilities.
Facility Management Support	• Coordinate with Project Lead and provide funding as needed to install, inspect, maintain and implement identified BMPs. • Certify the corrective actions identified by the Project Lead and/or facility personnel (or their representatives) for their individual facilities in the Annual Report.

5.11 INFORMATION MANAGEMENT

The Water Quality Database is a database information system designed in part to support the information management (IM) needs of the Laboratory's MSGP. MSGP support includes stormwater discharge monitoring reporting, Geographic Information System (GIS) development, and other IM activities as needed.

The following table lists responsibilities:

Who	What
Project Lead	Coordinate with IM support personnel to meet regulatory requirements.

5.12 RESPONDING TO WATER QUALITY EXCEEDANCES

The identification of a pollutant source(s) contributing to a water quality exceedance will be addressed through the creation of a corrective action that is entered into the Corrective Acton

Report database in accordance with ENV-DO-QP-113, *Tracking Performance Feedback and Actions* and *ENV-RCRA-QP-022, MSGP Stormwater Corrective Actions*. Federal stormwater regulations implemented under the Laboratory's MSGP (40 CFR 122, EPA Administered Permit Programs: The National Pollutant Discharge Elimination System) require that corrective action be taken if exceedances of water quality standards or MSGP numeric effluent limits are identified. Corrective actions are typically accomplished by modifying, as appropriate, existing BMPs and SWPPPs.

When a water quality exceedance occurs, the Laboratory will submit the data on the required MDMRs, investigate the occurrence, and document corrective actions.

When an exceedance of the MSGP benchmark parameters is detected, the Project Lead will assure the analytical data is reviewed, notify appropriate SWPPP owners, and recommend and track corrective actions where required.

The following steps lead to corrective actions:

STEP	Action
1	Establish that an analytical result from a location is valid and has exceeded a standard or MSGP benchmark.
2	Evaluate and demonstrate that the analyte is of LANL origin, if possible.
3	Determine the source and assign responsibility for the corrective action.
4	Develop a corrective action plan.

The following table lists responsibilities:

Who	What
Project Lead	• Assure that analytical data is reviewed and accurate. • Notify appropriate SWPPP owners, Laboratory management, and Deployed Environmental Professionals. • Develop a corrective action plan. • Follow up with corrective actions if required. • Track corrective actions.
Facility Management and DEP	• Review analytical data with Project Lead and provide input into a possible corrective action necessary to improve water quality where needed. • Evaluate and improve BMPs in accordance with site conditions, industry standards, and manufacturer

	recommendations.

5.13 INSTRUMENTATION AND EQUIPMENT

Compliance will be tracked by performing inspections of samplers and other associated equipment, inspecting BMPs, and conducting annual site compliance evaluations. Adequate records will be maintained to demonstrate the operating history of essential instrumentation and equipment.

LANL will properly operate and maintain all systems of monitoring and control and related appurtenances which are installed or used to achieve compliance with the MSGP and the SWPPP. Backup instrumentation and equipment will be timely deployed in the event of equipment failure.

Instrument calibration is essential for documenting the quality of data obtained with the instrument. All technical work that depends upon the accuracy of data will be performed using equipment for which the calibration status and limits of accuracy are known and controlled.

Field team personnel will calibrate and perform maintenance procedures on all monitoring and analytical field instruments to ensure accuracy of measurements and will maintain appropriate records of such activities. All field calibrations will be documented as prescribed by procedures or manufacturer's instructions.

The following table lists specific responsibilities.

Who	What
Project Lead	• Ensure data are collected and equipment is operated and maintained in accordance with project requirements. • Provide equipment maintenance and calibration specifications and ensure MSGP Water Quality Compliance Team personnel operate and conduct field activities in accordance with implementing procedures and specific work orders.

6.0 DESIGN

Design activities will be conducted and reviewed in accordance with PD340, *Conduct of Engineering* and P341, *Engineering Process Manual*.

Design standards under this program include, but are not limited to temporary and permanent BMPs, corrective action measures, and stormwater monitoring support.

Design inputs will be specified and approved on a timely basis for making design decisions. Inputs will contain the level of detail required to permit the performance of design activities correctly.

Formal design reviews, including design verifications and evaluation of design changes, will be conducted to ensure that the design input is correctly incorporated into the design output. Changes to design will undergo the same review as the original design.

Verification and validation of the adequacy of designs are conducted before relying on the performance of the design function. Verification and validation are conducted in accordance with implementing procedures.

The following table lists responsibilities.

Who	What
Project Lead	• Provide input to the design process in accordance with appropriate standards, requirements, and implementing procedures. • Determine the qualifications required to perform a review of design documents. • Identify a resource with skills, knowledge, ability, training, and certifications required to complete the review of the facility engineering design documents. • Communicate the results of the review to the requestor.
ENV-CP Staff	Review design documents and requests as assigned. Inform the Project Lead of concerns regarding the facility engineering designs.

7.0 PROCUREMENT

Items and services required for this process are commercial grade in nature and no special procurement requirements or needs are necessary. All procurements will be made in accordance with P840-1, *Procurement Quality*. For items and all services for which special requirements are necessary, the Project Lead and project members will identify such items or services.

The following table lists responsibilities:

Who	What
Group Leader	Ensure all procurements are conducted in accordance with P840-1.
Project Lead	Recommend to Group Leader contracting items and services. Develop acceptance criteria.
ENV-CP Staff	Identify potential suppliers of products or services necessary to complete work activities that must be procured from outside ENV-RCRA.

8.0 INSPECTION AND ACCEPTANCE TESTING

Any materials or services will be inspected and/or tested prior to acceptance for use in this project in accordance with P330-8, *Inspection and Test for Acceptance*. Most supplies used during performance of project activities are commercial grade in nature and require no special acceptance practices or procedures.

The following table lists responsibilities:

Who	What
Group Leader	Ensure procedures for inspection meet SD330, *Los Alamos National Laboratory Quality Assurance Program* requirements.
Project Lead	Verify that all materials and services meet acceptance criteria.
ENV-CP Staff	Follow established procedures for inspection and acceptance testing.

9.0 MANAGEMENT ASSESSMENT

The ENV-CP Group conducts internal management assessments of projects and programs in accordance with the requirements in P328-3, *Management Assessment* and P328-4, *Management Observation and Verification*. Assessments of the program are documented and filed as records.

When violations of requirements are found during a management assessment, a nonconformance report is initiated in accordance with P330-6, *Nonconformance Reporting* for nonconforming items. Nonconforming services or processes are tracked and documented in accordance with P322-4, *Issues and Corrective Action Management*.

The following table lists responsibilities:

Who	What
Group Leader	Ensure management self-assessments for the MSGP program are conducted as specified in implementing procedures.
Project Lead	Ensure program management self-assessments are conducted.

10.0 INDEPENDENT ASSESSMENT

Independent assessments are those assessments conducted by organizations external to ENV-RCRA. As required by the SD330, *Los Alamos National Laboratory Quality Assurance Program*, this program may be assessed by outside organizations in accordance with P328-2, *Independent Assessment*.

Periodically audits/assessments will be conducted, with input from the Project Lead identifying one or more areas of the project to be audited.

The following table lists responsibilities:

Who	What
Project Lead	• Approve audit schedules. • Provide input to the QA Specialist as to the content of audit. • Review audit reports for factual accuracy. Address all findings and implement corrective actions as appropriate.
QA Specialist	• Identify areas to be addressed during internal audits. • Contract with the Quality Management Group to perform annual internal audits. • Review audit procedures to ensure they meet the requirements in this section.
Team Members	Cooperate with auditors by providing information, data, etc. Implement corrective actions as directed by the Project Lead.

11.0 ATTACHMENTS

Attachment 1- MSGP Program Organization

Attachment 2 – Annual Reporting Form

Attachment 3 – Routine Inspection Form

Attachment 4 – MSGP Facilities and Storm Water Monitored Outfalls Associated with Industrial Activity 2011, Permit NMR05GB21

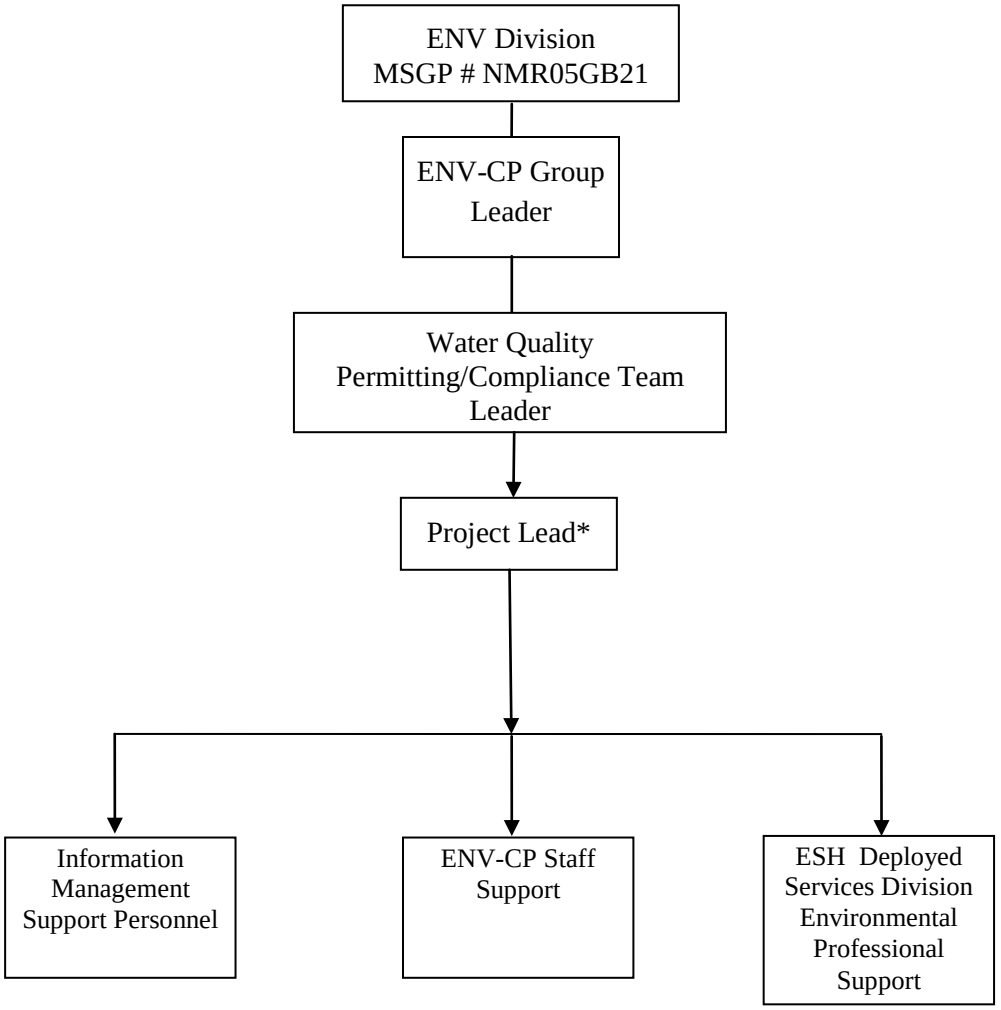
Attachment 5 – Pollutants under Impaired Waters Monitoring

Attachment 6 – Analytes by Industrial Sector

Attachment 7 – References and Guidance Documents

Click here for "Required Read" credit.

ATTACHMENT 1- MSGP PROGRAM ORGANIZATION



*Project Lead acts as liaison and will work directly with Team Leaders for staff assignments.

ATTACHMENT 2 – ANNUAL REPORTING FORM

NPDES Permit Tracking No.:

EPA

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

Annual Reporting Form

A. GENERAL INFORMATION

1. Facility Name:

2. NPDES Permit Tracking No.:

3. Facility Physical Address:

a. Street:

b. City: c. State: d. Zip Code: -

4. Lead Inspectors Name: Title:

Additional Inspectors Name(s):

5. Contact Person: Title:

Phone: - - Ext. E-mail:

6. Inspection Date: / /

B. GENERAL INSPECTION FINDINGS

1. As part of this comprehensive site inspection, did you inspect all potential pollutant sources, including areas where industrial activity may be exposed to stormwater?
☐ YES ☐ NO

If NO, describe why not:

NOTE: *Complete Section C of this form for each industrial activity area inspected and included in your SWPPP or as newly identified in B.2 or B.3 below where pollutants may be exposed to stormwater.*

2. Did this inspection identify any stormwater or non-stormwater outfalls not previously identified in your SWPPP? ☐ YES ☐ NO

If YES, for each location, describe the sources of those stormwater and non-stormwater discharges and any associated control measures in place:

NPDES Permit Tracking No.:

3. Did this inspection identify any sources of stormwater or non-stormwater discharges not previously identified in your SWPPP? ☐ YES ☐ NO

If YES, describe these sources of stormwater or non-stormwater pollutants expected to be present in these discharges, and any control measures in place:

4. Did you review stormwater monitoring data as part of this inspection to identify potential pollutant hot spots? ☐ YES ☐ NO ☐ NA, no monitoring performed

If YES, summarize the findings of that review and describe any additional inspection activities resulting from this review:

5. Describe any evidence of pollutants entering the drainage system or discharging to surface waters, and the condition of and around outfalls, including flow dissipation measures to prevent scouring:

6. Have you taken or do you plan to take any corrective actions, as specified in Part 3 of the permit, since your last annual report submission (or since you received authorization to discharge under this permit if this is your first annual report), including any corrective actions identified as a result of this annual comprehensive site inspection?

☐ YES ☐ NO

If YES, how many conditions requiring review for correction action as specified in Parts 3.1 and 3.2 were addressed by these corrective actions? ☐☐

***NOTE:** Complete the attached Corrective Action Form (Section D) for each condition identified, including any conditions identified as a result of this comprehensive stormwater inspection.*

NPDES Permit Tracking No.:

C. INDUSTRIAL ACTIVITY AREA SPECIFIC FINDINGS

Complete one block for each industrial activity area where pollutants may be exposed to stormwater. Copy this page for additional industrial activity areas.

In reviewing each area, you should consider:

- Industrial materials, residue, or trash that may have or could come into contact with stormwater;
- Leaks or spills from industrial equipment, drums, tanks, and other containers;
- Offsite tracking of industrial or waste materials from areas of no exposure to exposed areas; and
- Tracking or blowing of raw, final, or waste materials from areas of no exposure to exposed areas.

INDUSTRIAL ACTIVITY AREA _____:

1. Brief Description:

2. Are any control measures in need of maintenance or repair? ☐ YES ☐ NO

3. Have any control measures failed and require replacement? ☐ YES ☐ NO

4. Are any additional/revised control measures necessary in this area? ☐ YES ☐ NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

INDUSTRIAL ACTIVITY AREA _____:

1. Brief Description:

2. Are any control measures in need of maintenance or repair? ☐ YES ☐ NO

3. Have any control measures failed and require replacement? ☐ YES ☐ NO

4. Are any additional/revised c necessary in this area? ☐ YES ☐ NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

INDUSTRIAL ACTIVITY AREA _____:

Brief Description:

2. Are any control measures in need of maintenance or repair? ☐ YES ☐ NO

3. Have any control measures failed and require replacement? ☐ YES ☐ NO

4. Are any additional/revised BMPs necessary in this area? ☐ YES ☐ NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

NPDES Permit Tracking No.:

NOTE: *Copy this page and attach additional pages as necessary*

INDUSTRIAL ACTIVITY AREA _____:

1. Brief Description:

2. Are any control measures in need of maintenance or repair? ☐ YES ☐ NO

3. Have any control measures failed and require replacement? ☐ YES ☐ NO

4. Are any additional/revised BMPs necessary in this area? ☐ YES ☐ NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

INDUSTRIAL ACTIVITY AREA _____:

1. Brief Description:

2. Are any control measures in need of maintenance or repair? ☐ YES ☐ NO

3. Have any control measures failed and require replacement? ☐ YES ☐ NO

4. Are any additional/revised BMPs necessary in this area? ☐ YES ☐ NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

INDUSTRIAL ACTIVITY AREA _____:

1. Brief Description:

2. Are any control measures in need of maintenance or repair? ☐ YES ☐ NO

3. Have any control measures failed and require replacement? ☐ YES ☐ NO

4. Are any additional/revised BMPs necessary in this area? ☐ YES ☐ NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

NPDES Permit Tracking No.:

D. CORRECTIVE ACTIONS

Complete this page for each specific condition requiring a corrective action or a review determining that no corrective action is needed. Copy this page for additional corrective actions or reviews.

Include both corrective actions that have been initiated or completed since the last annual report, and future corrective actions needed to address problems identified in this comprehensive stormwater inspection. Include an update on any outstanding corrective actions that had not been completed at the time of your previous annual report.

1. Corrective Action # ☐☐ of ☐☐ for this reporting period.

2. Is this corrective action:

- ☐ An update on a corrective action from a previous annual report; or
- ☐ A new corrective action?

3. Identify the condition(s) triggering the need for this review:

- ☐ Unauthorized release or discharge
- ☐ Numeric effluent limitation exceedance
- ☐ Control measures inadequate to meet applicable water quality standards
- ☐ Control measures inadequate to meet non-numeric effluent limitations
- ☐ Control measures not properly operated or maintained
- ☐ Change in facility operations necessitated change in control measures
- ☐ Average benchmark value exceedance
- ☐ Other (describe): _____

4. Briefly describe the nature of the problem identified:

5. Date problem identified: ☐☐/☐☐/☐☐☐☐

6. How problem was identified:

- ☐ Comprehensive site inspection
- ☐ Quarterly visual assessment
- ☐ Routine facility inspection
- ☐ Benchmark monitoring
- ☐ Notification by EPA or State or local authorities
- ☐ Other (describe): _____

7. Description of corrective action(s) taken or to be taken to eliminate or further investigate the problem (e.g., describe modifications or repairs to control measures, analyses to be conducted, etc.) or if no modifications are needed, basis for that determination:

8. Did/will this corrective action require modification of your SWPPP? ☐ YES ☐ NO

9. Date corrective action initiated: ☐☐/☐☐/☐☐☐☐

10. Date correction action completed: ☐☐/☐☐/☐☐☐☐ or expected to be completed: ☐☐/☐☐/☐☐☐☐

11. If corrective action not yet completed, provide the status of corrective action at the time of the comprehensive site inspection and describe any remaining steps (including timeframes associated with each step) necessary to complete corrective action:

NPDES Permit Tracking No.:

E. ANNUAL REPORT CERTIFICATION

1. Compliance Certification

Do you certify that your annual inspection has met the requirements of Part 4.2 of the permit, and that, based upon the results of this inspection, to the best of your knowledge, you are in compliance with the permit? ☐ YES ☐ NO

If NO, summarize why you are not in compliance with the permit:

2. Annual Report Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Authorized Representative Printed Name: Title:

Signature: Date Signed:

ATTACHMENT 3 – ROUTINE INSPECTION FORM

Name of Facility:	**Responsible FOD (Name & Organization):**	
Qualified Inspector(s): **Others Present:**	**Inspection type:** □ **Quarterly** □ **Other**	**Date of inspection (MM/DD/YYYY):** **Time of inspection:**

Weather: ❑ **Clear** ❑**Cloudy** ❑ **Rain** ❑ **Sleet** ❑ **Fog** ❑ **Snow** ❑ **High Winds** ❑ **Other:**
Temperature: **° F** **Is Inspection Being Conducted During a Storm Water Discharge?** ❑**Yes** ❑**No**

#	**Structural Control Measures (BMP)s**	**Location**	**Operating Effectively (Yes or No)?**	**If No, Need to Maintain (M), Repair (R) or Replace (RP)?**	**Corrective Action Needed and Notes** (identify needed maintenance and repairs, or any failed control measures that need replacement)
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12					

Were additional BMPs or Control Measures implemented? □ **Yes** □ **No Describe:**

Were previously identified conditions corrected before the next anticipated storm event? □ **Yes** □ **No If No, describe reason:**

Area/Activity (Areas of Industrial Materials or Activities Exposed to Storm Water)	**Inspected ?**	**Controls Adequate?**	**Corrective Action Needed and Notes (List area letter with comments below)**
A. Material loading/unloading & storage areas			
B. Equipment operations & maintenance areas			
C. Fueling Areas			
D. Outdoor vehicle & equipment washing areas			
E. Waste Handling & disposal areas			
F. Erodible areas / construction			
G. Non-storm water / illicit connections			

H. Salt storage piles or pile containing salt			
I. Dust generation & vehicle tracking			
Are the SWPP Plan maintenance, schedules and procedures being implemented at the facility? □ Yes □ No			
Were any Corrective Actions initiated or completed? □ Yes □ No Describe:			
Are there any conditions requiring Corrective Action? □ Yes □ No If Yes, List Number of Corrective Actions Required _____ **(Note – You need enter a Corrective Action in the MSGP Corrective Action Report database for each listed)**			

ATTACHMENT 4 -- MSGP FACILITIES AND STORM WATER MONITORED OUTFALLS ASSOCIATED WITH INDUSTRIAL ACTIVITY 2011, PERMIT NMR05GB21

Location	Permitted Facility	Operation	Activity	Sector	Monitored Outfall	• Canyon
TA-15-185	TA-15-185 PHERMEX	Vehicle Maintenance Shop	Vehicle Maintenance	P	15-PHRMX-1	• Water
TA-3-0034	TA-3-0034 Metal Shop	Fabricated Metals	Fabricated Metals	AA	3-MST-1	• Mortandad
TA-3-22	TA-3-22 Power & Steam Plant	Power Plant	Steam Electric Power	O	3-PSP-1 3-PSP-5 3-PSP-8	• Sandia • •
TA-3-38	TA-3-38 Metals Fab Shop	Metal Shop	Fabricated Metals	AA	3-MFS-1	• Sandia
TA-3-39	TA-3-39 & 102 Metal Shop	Metal Shop	Fabricated Metals	AA	3-TS-1	• Pajarito
TA-3-66	TA-3-66 Sigma Complex	Sigma Foundry	Primary Metals	F	3-Sigma-6	• Sandia
TA-54	TA-54 Area G	Area G - South Side	TSD	K	54-G-1	• Pajarito
TA-54	TA-54 Area G	Area G -North Side	TSD	K	54-G-2	• Canada del Buey
TA-54	TA-54 Area G	Area G - South Side	TSD	K	54-G-3	• Pajarito
TA-54	TA-54 Area G	Area G - South Side	TSD	K	54-G-4	• Pajarito
TA-54	TA-54 Area L	Area L	TSD	K	54-L-1	• Canada del Buey
TA-54-38	TA-54 RANT	RANT	TSD	K	54-RANT-1	• Canada del Buey
TA-60	TA-60 Asphalt Batch Plant	Asphalt Batch Plant	Asphalt Paving	D	60-ABP-1	• Mortandad
TA-60	TA-60 MRF	Materials Recycling Facility	Scrap Recycling	N	60-MRF-1	• Sandia
TA-60-250	TA-60 Roads and Grounds	Roads & Grounds Facility	Vehicle Maintenance & Storage	P P P	60-RG-1 60-RG-3 60-RG-8	• Mortandad • Sandia • Sandia
TA-60-1	TA-60-1 Heavy Equipment Yard	Motor pool	Vehicle Maintenance	P	60-HEY-2	• Sandia
TA-60-2	TA-60-2 Warehouse	Motor pool	Vehicle Maintenance	P	60-WH-1	• Sandia
TA-9-28	TA-9-28 Heavy Equipment Maintenance	Motor pool	Vehicle Maintenance	P	9-HEM-1	• Pajarito

ATTACHMENT 5 – POLLUTANTS UNDER IMPAIRED WATERS MONITORING

Permitted Facility	Monitored Outfall	Assessment Unit	Canyon	Pollutant
TA-54 Area G TA-54 Area L TA-54-RANT	54-G-2 54-L-1 54-RANT-1	NM-128.A_00	Canada del Buey (within LANL)	PCBs Aluminum Gross Alpha
TA-54 Area G TA-54 Area G TA-54 Area G	54-G-1 54-G-3 54-G-4	NM-128.A_08	Pajarito Canyon (within LANL below Arroyo de la Delfe)	PCBs Aluminum Copper Gross Alpha
TA-15-185 PHERMEX	15-PHRMX-1	NM-128.A_13	Water Canyon (within LANL below Area-A Canyon)	PCBs Aluminum Gross Alpha
TA-3-39 & 102 Metal Shop	3-TS-1	NM-128.A_15	Two Mile Canyon (Pajarito to headwaters)	PCBs Aluminum Gross Alpha
TA-9-28 Heavy Equipment Maintenance	9-HEM-1	NM-128.A_16	Arroyo de la Delfe (Pajarito Canyon to headwaters)	Aluminum Mercury Gross Alpha
TA-60 Asphalt Batch Plant TA-3-0034 Metal Shop TA-60 Roads and Grounds	60-ABP-1 3-MST-1 60-RG-1	NM-9000.A_042	Mortandad Canyon (within LANL)	Aluminum Copper Gross Alpha
TA-3-38 Metals Fab Shop TA-3-22 Power & Steam Plant TA-3-22 Power & Steam Plant TA-3-22 Power & Steam Plant TA-3-66 Sigma Complex TA-60-1 Heavy Equipment Yard TA-60 MRF TA-60 Roads and Grounds TA-60 Roads and Grounds TA-60-2 Warehouse	3-MFS-1 3-PSP-1 3-PSP-5 3-PSP-8 3-Sigma-6 60-HEY-2 60-MRF-1 60-RG-3 60-RG-8 60-WH-1	NM-9000.A_047	Sandia Canyon (Sigma Canyon to NPDES outfall 001)	PCBs Aluminum Copper Gross Alpha Mercury

ATTACHMENT 6 – ANALYTES BY INDUSTRIAL SECTOR

Permitted Facility	Monitored Outfall	Sector	Activity	Analyte	Monitoring Requirement
TA-3-0034 Metal Shop	3-MST-1	AA	Fabricated Metals	Aluminum	Quarterly Benchmark Monitoring (QBM)
TA-3-38 Metals Fab Shop	3-MFS-1			Iron	QBM
TA-3-39 & 102 Metal Shop	3-TS-1			Nitrate plus Nitrite Nitrogen	QBM
				Zinc	QBM
TA-60 Asphalt Batch Plant	60-ABP-1	D	Asphalt Paving	Oil and Grease	Effluent Limitations Guidelines (ELG)
				pH	ELG
				Total Suspended Solids	QBM and ELG
TA-3-66 Sigma Complex	3-Sigma-6	F	Primary Metals	Copper	QBM
				Zinc	QBM
TA-54 Area G	54-G-1	K	Treatment, Storage or Disposal Facility (TSD)	Ammonia	QBM
TA-54 Area G	54-G-2			Arsenic	QBM
TA-54 Area G	54-G-3			Cadmium	QBM
TA-54 Area G	54-G-4			Chemical Oxygen Demand	QBM
TA-54 Area L	54-L-1			Cyanide	QBM
TA-54 RANT	54-RANT-1			Lead	QBM
				Magnesium	QBM
				Mercury	QBM
				Selenium	QBM
				Silver	QBM
TA-60 MRF	60-MRF-1	N	Scrap Recycling	Aluminum	QBM
				Chemical Oxygen Demand	QBM
				Copper	QBM
				Iron	QBM
				Lead	QBM
				Total Suspended Solids	QBM
				Zinc	QBM
TA-3-22 Power & Steam Plant	3-PSP-1	O	Steam Electric Power	Iron	QBM
	3-PSP-5				
	3-PSP-8				

ATTACHMENT 7 – REFERENCES AND GUIDANCE DOCUMENTS

- 40 CFR 122, *EPA Administered Permit Programs*
- 40 CFR 136, *Guidelines Establishing Test Procedures for the Analysis of Pollutants.*
- Clean Water Act, Title 33 U.S.C. 1251
- DOE O 414.1C, *Quality Assurance*
- DOE Order 450.1, *Environmental Protection Program*
- DOE Order 5400.5, *Radiation Protection of Public and Environment*
- EPA QA/G-4, *Guidance for the Data Quality Objectives Process*

LANL Documents:

- P322-4, *Laboratory Performance, Feedback, and Improvement*
- P328-3, *Management Assessments*
- P328-4, *Management Observation and Verification*
- P330-6, *Nonconformance Reporting*
- P330-8, *Inspection and Test for Acceptance*
- P340, *Conduct of Engineering*
- P341, *Engineering Process Manual*
- P401, *Procedure to Identify, Communicate, and Implement Environmental Requirements*
- P407, *Water Quality*
- P840-1, *Procurement Quality*

ENV Documents:

- ENV-DO-QP-105, *Preparation, Review, and Approval of Procedures*
- ENV-DO-QP-106, *Document Control*
- ENV-DO-QP-113, *Tracking Performance Feedback and Actions*
- ENV-DO-QP-115, *Personnel Training*
- ENV-CP-QP-022, *MSGP Storm Water Corrective Actions*
- ENV-CP-QP-044, *Preparing Storm Water Discharge Monitoring Reports (MDNRs) for NPDES MSGP*
- ENV-CP-QP-047, *Inspecting Storm Water Runoff Samplers and Retrieving Samples*
- ENV-CP-QP-048, *Processing MSGP Storm Water Samples*
- ENV-CP-QP-064, *Multi-Sector General Permit Storm Water Visual Inspections*
- ENV-WQH-QP-029, *Creating and Maintaining a Chain of Custody*
- Surface Water Monitoring Plan, October 2001, Rev. 0.0

ENV-CP-QP-007.9	
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Environment, Safety, Health Directorate

Environmental Protection – Compliance Programs Quality Procedure

Spill Investigations

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Derivative Classifier: ☐ **Unclassified** ☒ **DUSA** ____**ENVPRO**__

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Document Number *[Include revision number, beginning with Revision 0]*	**Effective Date** *[Document Control Coordinator inserts effective date]*	**Description of Changes** *[List specific changes made since the previous revision]*
0	12/98	New Document.
1	06/00	Annual review, added Cerro Grande fire hazards
2	07/01	Annual review
3	06/03	Annual review
4	04/04	Annual review, changes to HCPs
5	02/07	Annual review, changes to reflect organizational restructure
6	07/08	Annual review
7	09/10	Biennial Review and revision
8	04/11	Removed prerequisites, added note re: on-call spill reporting.
9	07/13	Biennial review and revision, implemented new procedure format.

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1.0 PURPOSE

This Environmental Protection – Compliance Programs Group (ENV-CP) procedure describes processes and implements requirements for spill investigations.

2.0 SCOPE

This procedure applies to all ENV-CP staff and personnel conducting spill investigations.

2.1 HAZARD REVIEW

The work described in this procedure is field work and has a **LOW hazard** rating as documented by submittal of a completed *ENV Low Hazard Verification form* to the Quality Assurance Specialist.

3.0 RESPONSIBILITIES

The following personnel require training before implementing this procedure:

- ENV-CP staff and contract personnel who perform spill response and investigation require training on this procedure.

Annual re-training to this procedure is required. Specific training requirements will be updated as needed.

The training method for this procedure is part "self-study" and part on-the-job training (OJT). The OJT training is to be conducted by a Team Leader or person designated as Subject Matter Expert (SME) by the ENV-CP Group Leader. The self-study and OJT will be documented in accordance with ENV-DO-QP-115, *Personnel Training*.

Actions specified within this procedure, unless proceeded with "should" or "may," are to be considered mandatory (i.e., "shall", "will", "must").

3.1 PREREQUISITES

- None

4.0 DOCUMENT CONTROL/RECORDS MANAGEMENT

The following records generated as a result of this procedure are to be submitted in accordance with ENV-DO-QP-110, *Records Management*.

- Field notebook documentation of the release including:
  - time and date of the release
  - time and date of ENV-CP notification
  - location of the release and from where the release occurred (equipment, etc,)
  - type of material released
  - quantity of material released
  - if an impact to a watercourse, SWMU, or PRS occurred

- time release was stopped
- any immediate mitigating actions implemented to contain or control the release

➢ Any written report and verbal notification list generated should the release be deemed reportable.

- Non-Reportable LANL Spill Report (Attachment 2)

5.0 WORK PROCESSES

Responsibility is to assure the immediate mitigation and timely notification of appropriate regulatory organizations in the event of a spill or unplanned discharge that has or may affect the environment. Work requires frequent and unscheduled site visits to any area of the Laboratory during a spill or unplanned release as support staff for the on-scene EO-EM Incident Commander.

Specific activities associated with Spill Response and Investigation:

- Respond to the spill or unplanned release site;
- Report to the On-Scene EO-EM Incident Commander and Site Safety Officer;
- Receive site safety requirements;
- Provide decision support;
- Investigate the nature and extent of the spill or unplanned release;
- Evaluate the potential environmental impact to water quality;
- Report the occurrence to the regulatory agencies, if necessary; and
- Provide support to mitigation plan and implementation.

5.1 FIELD ACTIVITY

If the spill or unplanned discharge is determined to be a non-emergency event by EO-EM response, such as a release of potable water, perform the following steps:

Step	Action
1	Perform a site visit in coordination with the Facility Operations Director designee.
2	Assess potential environmental damage.
3	Provide mitigation measures and requirements.
4	Document the event.
5	Notify regulatory agencies and DOE, if necessary.
6	Facilitate collection of samples, if necessary.

For emergency response, perform the following steps:

Step	Action
1	Report to on-scene commander and await instructions.
2	Perform a site visit in coordination with EO-EM.

3	Adhere to access requirements as developed by the EO-EM Site Safety Officer and Incident Commander.
4	Identify source and cause of release and document.
5	Provide notification and written report if necessary.
6	Facilitate collection of samples if necessary and safe to do so.

If sample collection is required, contact the following sampling personnel:

- ENV-CP
  - NPDES outfall
  - Sanitary treatment solids
  - Wastes and chemical spills (liquid, solid, hazardous)
- ADEP Corrective Actions Program
  - Surface water
  - Storm water runoff
  - Groundwater
  - Sediments

5.2 COMMUNICATION

Take a cellular phone that will transmit from the location to be visited. Also take a contact pager to receive messages.

If cellular service is unavailable, use a portable radio set to the appropriate radio frequency.

If in a secure area where cell phone use is prohibited, use the radio. Be sure to have radio checked and authorized for use within secure areas or within the boundaries of the WFO FOD or WX Division. Government-owned cellular phones, with batteries removed, may be brought into the secure area but used only if approval is given by the EO-EM Incident Commander or FOD or designee. Rules of use for Smartphones and other mobile devices (BlackBerry, iPhones, iPads) can be found on the Computing Communications webpage for mobile devices, http://int.lanl.gov/computing/communications/mobile/index.shtml.

Radio or cellular contact must be established with a designated contact prior to leaving ENV-CP and upon arrival/departure at the site in accordance with ENV-DO-QP-100, *General Field Safety*.

The Incident Commander can make special communication exceptions.

All photography at LANL must adhere to the procedure and P202-5, *Prohibited and Controlled Articles*.

Wastes generated from activities described in the procedure will be properly characterized, managed, and disposed in accordance with P409, *Waste Management*, P930-1, *LANL Waste Acceptance Criteria*, and P403, *Environmental Aspects Identification Requirement*.

5.3 FACILITY MANAGEMENT WORK CONTROL REQUIREMENTS FOR FIELD ACTIVITIES

Most field activities performed by the ENV-CP spill response personnel are impacted by facility management work control requirements. Requirements vary between the respective Facility Operations Divisions (FODs) and therefore necessitate ENV-CP response personnel to acquire FOD approval for site access in advance of starting work activities. The exception to this is in response to emergency situations as support to EO-EM staff.

Should work be required to stop/pause, reference P101-18, *Procedure for Pause/Stop Work*, for guidance.

5.4 FACILITY MANAGEMENT-SPECIFIC ACCESS REQUIREMENTS

TA-16 and TA-11 high explosives areas have specific access requirements. Access inside the security gate requires annual site-specific training. Curricula# 5243 must be assigned and all the training courses completed before arriving at TA-16.

For access to perimeter gates during normal working hours, contact MSS-UI at 665-0106.

For perimeter gates with key core MSS-UI, prior notification for after hours entry is required. Perform the following steps:

Step	Action
1	Call SOC Los Alamos at 667-4437.
2	Identify yourself to the on duty officer or attendant.
3	Provide the following information: Group, color and make of vehicle (s), which perimeter gate you are entering, and approximate time of arrival and finally, length of stay.

Failure to notify security personnel in advance could result in a security violation against the visiting Team Member.

Provide notification to SOC Los Alamos at 667-4437 when leaving area.

For access to WX areas requiring during normal working hours, perform the following steps:

- Ensure the required security clearance (Q clearance) is held, and
- Contact the FOD or designee for entry requirements.

5.4.1 CHEMISTRY METALLURGY RESEARCH FACILITY ACCESS

For access to the Chemistry Metallurgy Research Facility, perform the following:

- Must have the required Q clearance to pass the security gate.
- If access into any of the buildings is necessary, contact the FOD for an escort**.**
- If responding to an emergency with EO-EM, ENV-CP staff will be considered part of the EO-EM response team, met at the access gate, and escorted to the spill site.

5.4.2 TA-3-66 SIGMA FACILITY ACCESS

For access to the Sigma facility (TA-3-66), perform the following:

- For non-emergency responses, obtain prior site-specific training and authorization or contact the FOD for personnel escort.
- For emergency response with EO-EM, ENV-CP staff will be considered part of the EO-EM response team, met at the access gate, and escorted to the spill site.

5.5 REGULATORY SPILL REPORTING

If a spill is determined to be a threat to the environment or human health, regulatory and DOE notification may be necessary. Contacts and telephone numbers can be found on Attachment 1, Release Notification Phone List.

If a Spill impacts a Solid Waste Management Unit (SWMU) or Area of Concern (AOC), contact ENV-CP and ADEP Corrective Action Program for possible additional notification requirements. See Attachment 1 to this document.

If ENV Division or designated SME personnel determine after a site inspection or verbal notification that a spill is non-reportable to DOE or applicable regulatory agencies, a non-reportable spill report must be completed by appropriate facility designated personnel. See attachment 2 for the spill report form and information to be collected. Once the form has been accurately completed it can be sent to the SME at ENV-CP for required documentation.

For ENV Division designated on-call personnel, follow guidance for spill reporting as described in ENV-DO-QP-101, *Environmental Reporting Requirements for Releases or Events*.

NOTE: On-call representatives are required to follow up in writing (email is sufficient) with the spills program lead regarding all releases during their on-call schedule. If no spills are reported in off-work hours, please confirm in writing with the spills program lead at the end of your on-call schedule.

For additional information concerning spill and unplanned discharge determination and notification requirements, contact the ENV-CP Water Quality Permitting and Compliance Team Leader.

6.0 REFERENCES

None

7.0 DEFINITIONS

Field Work: Performance of Laboratory related activities in areas that are removed or isolated from an established populated base of operation (that is, where emergency support and medical assistance is not readily available.)

NPDES: National Pollutant Discharge Elimination System

EO: Emergency Operations Division

EO-EM: Emergency Management Group (A.K.A. EO-3)

PRS: Potential Release Site

SOC Los Alamos: Security contractor for Los Alamos National Laboratory

SWMU: Solid Waste Management Unit

8.0 ATTACHMENTS

Attachment 1- ENV-CP Release Notification Phone List

Attachment 2- LANL Spill Report Form

By requesting credit for this required reading I acknowledge that I have read and understand the contents of this document and I will follow and meet the requirements in this document unless it is unsafe to do so.	Click to Acknowledge

ATTACHMENT 1- ENV-CP RELEASE NOTIFICATION PHONE LIST

Los Alamos National Laboratory
ENV-CP
Release notification phone list
March 2013

Los Alamos National Laboratory

(1)	Emergency Management (EO-EM)	667-6211
(2)	ENV-ES Group Office	665-885
(3)	ENV-CP Group Office	667-0666
(4)	ENV-DO	667-2211
(5)	Central Alarm Station	667-4437
	L.A. Fire Dept. dispatch	

New Mexico Environment Department

See Web address below

(1)	NMED Emergency Hotline	827-9329
(2)	NMED Non-Emergency Hotline	476-6000
(3)	Surface Water Quality Bureau	827-0187
	Erin Trujillo	827-0418
(4)	Ground Water Quality Bureau	827-2918
	Robert George	476-3648
	Jennifer Fullem	827-2909
(5)	NMED/HWB	
	Ruth Horowitz	476-6025

U.S Environmental Protection Agency

(1)	USEPA Emergency Hotline	(214) 655-6450
	After Work Hours	(214) 655-6595
(2)	Jan Walker (214) 655-8431	

U.S. Department of Energy

(1)	Gene Turner	667-5794

State Emergency Response Commission (SERC) Notification

New Mexico State Police (Immediate Notification)	(505) 827-9126 (24-hour #)
State and Local Preparedness Bureau (Follow-up Notification)	(505) 476-9600 (daytime # only)

National Response Center

U.S. Coast Guard 1-800-424-8802
See NRC web address below for report form

New Mexico State Police

New Mexico State Police	1-800-827-9126 (24 hr. #) or 827-9300 (dispatch, 24 hr. #)

Local Emergency Planning Committee (LEPC) LAPD

Philmont Taylor	(505) 663-3511

On Call Environmental Contact for Releases
Group Representatives for Notifications to External Agencies

Name	Group	Work Phone	Pager	Cellular Phone	Email address
Jake Meadows	ENV-CP	606-0185	664-1333	231-0460	jmeadows@lanl.gov
Mike Saladen	ENV-CP	665-6085	664-4226	699-1284	saladen@lanl.gov
Mark Haagenstad	WM-WMP	665-2014	664-5356	699-1733	mph@lanl.gov
Tim Zimmerly	ENV-CP	664-0105	699-7621	664-1237	tzimmer@lanl.gov
Terrill Lemke	ENV-CP	665-2397	664-7082	699-0725	tlemke@lanl.gov

Web addresses:
NMED home page http://www.nmenv.state.nm.us
National Response Center home page http:/www.nrc.uscg.mil/nrchp.html
Reportable Quantities web page http://homer.ornl.gov/rq/

ATTACHMENT 2- LANL SPILL REPORT FORM

LANL SPILL REPORT

Environmental Protection Division (ENV)
Compliance Programs Group (CP)
Los Alamos National Laboratory

Spill Coordinator	Telephone	Mail Stop	Division	Group
Responsible Facility/User Group				
Contact Person	Telephone	Mail Stop	Pager #	

Spill Location		Date of Spill	Time of Spill	Date Discovered	Time Discovered
Date Spill Stopped	Time Spill Stopped	Method used to Stop Spill			
Actions taken to Mitigate Damage					
Nearest Water Course Affected? □ Yes □No □ NA *(If yes, please describe.)*					
Source and Cause of Spill *(pipeline, tank, truck, overflow, etc.)*					
Materials Spilled					
Estimated Amount of Material Spilled					
Cleanup Started? □ Yes □ No		Date Started	Time Started		
Cleanup Finished? □ Yes □ No		Date Finished	Time Finished		
Cleanup Method					
Weather Conditions					
Comments					

Estimate the quantity of waste generated by the spill cleanup procedures, how that waste is packaged and the current disposition of wastes.
Describe any sampling performed during spill cleanup and attach analytical results to this form.
Describe current status of the spill site and the need for further cleanup or monitoring activities.
Describe actions taken to prevent recurrence of such a spill.
Injuries or Exposure? □ Yes □ No *(If yes, please describe.)*

Did evacuation occur? □ Yes □ No	Were facilities or equipment damaged? □ Yes □ No
Did fire/explosion occur? □ Yes □ No	Was there a potential for fire/explosion? □ Yes □ No

Did the spill enter sewer drains, streams, or stream beds? □ Yes □ No *(If yes, give location and ultimate drainage.)*
Who discovered the Spill?

Spill Information

Describe the spill response, in chronological order. Include a call-out response personnel, steps taken to contain the spill, and steps taken to clean it up. Also describe spill control equipment used.

Additional Information

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name of certifying official:	Title:	Organization:	Date signed:

ENV-DO-QP-101.2	
Effective Date: June 12, 2012	Next Review Date: May 12, 2014

Environment, Safety, Health Directorate

Environmental Protection – Division Office

Quality Procedure

Title: Environmental Reporting Requirements for Releases or Events

Reviewers:

Name:	Organization: ENV-QPMO, QA Specialist	Signature:	Date:
Melanie Lamb		Signature on file	6/1/12

Derivative Classifier: ☒ **Unclassified**

Name:	Organization:	Signature:	Date:
Anthony Grieggs	ENV-RCRA	Signature on file	6/7/12

Approval Signatures:

Responsible Line Manager:	Organization:	Signature:	Date:
Anthony Grieggs	ENV-RCRA, Group Leader	Signature on file	6/7/12
Responsible Line Manager:	Organization:	Signature:	Date:
Tina Marie Sandoval	ENV-QPMO, Office Leader	Signature on file	6/4/12
Responsible Line Manager:	Organization:	Signature:	Date:
Alison M. Dorries	ENV-DO, Division Leader	Signature on file	6/12/12

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0	02/09	New document
1	4/10	Revision and update
2	6/12	Biennial Review/Revision, new template implemented.

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ATTACHMENT 2: Summary of Emergency Release or Event Reporting Requirements 23

1.0 PURPOSE

This Environmental Protection Division (ENV-DO) procedure describes how to determine whether an unplanned release, spill, fire, or other event needs to be reported under environmental regulations and how to fulfill all immediate reporting requirements (within the first 24 hours). Emergency and abnormal event notification requirements for reporting to Laboratory and DOE management are specified in PD1200, *Emergency Management*, and P322-3, *Performance Improvement from Abnormal Events*. Environmental reporting requirements regarding releases or other events are included in this procedure.

2.0 SCOPE

This procedure applies to ENV-DO on-call representatives and subject matter experts (SMEs) who must respond to any release, spill, or event at the Laboratory that may require immediate notification to local, state or federal regulatory agencies or Pueblo Environmental Departments (refer to ENV-DO-QP-111, *Reporting Environmental Releases To Pueblo Governments*) and describes the actions that must be performed within the first 24 hours. This procedure does **not** cover the response procedures for "continuous releases" under CERCLA and EPCRA (see definitions) nor the follow-up notifications and reports.

2.1 WORK HAZARD ANALYSIS

The work described in this procedure consists of field work that does not require an Integrated Work Document (IWD) and is rated as having a **LOW hazard** level as documented by submittal of an *ENV Low Hazard Verification* form to the Quality Assurance Specialist.

3.0 RESPONSIBILITIES/PREREQUISTIES

The following personnel require training before implementing this procedure:

- ENV-DO managers and designated on-call representatives and SMEs who may be asked to fulfill reporting requirements during release-related exercises or during actual releases, or within 24 hours.

Annual retraining to this procedure is required. This procedure will be reviewed biennially by all affected personnel and updated as necessary.

Training to this procedure will be by "self-study" (reading) and is documented in accordance with the trainee's organization's procedure for training.

3.1 PREREQUISITES

- None

Note: Actions specified within this procedure, unless preceded with "should," or "may," are to be considered mandatory (i.e., "shall," "must," "will").

4.0 DOCUMENT CONTROL/RECORDS MANAGEMENT

The following records generated as a result of this procedure are to be submitted as records according to the responder's group's internal records management process:

- Field documentation of the release, including:
  - Time and date of the release
  - Time, date, and description of notifications
  - Location and source of the release
  - Type of material released
  - Quantity of material released
  - Impacted media
  - Time release was stopped
  - Any immediate mitigation actions taken to contain or control the release
  - Documentation of any verbal notifications
  - Samples taken
- Copies of any written notifications generated
- Documentation of any analytical results, and quality assurance of results
- Any other contingency plan or emergency plan documentation
- Documentation of any PCB notification
- Documentation of any RCRA permit non-compliance that threatens human health and environment
- Documentation of treatment of any RCRA unstable chemicals, leaking or compromised gas cylinders

5.0 WORK PROCESSES

Events covered by this procedure include detonation or burns of unstable material, leaking or compromised gas cylinders, puncturing of bulging containers, fires, explosions, chemical or radiological spills inside or outside of buildings, wastewater spills, potable water or fire fighting water as well as impacts to cultural and biological resources not adequately documented, and other releases to the environment.

On a semi-annual basis ENV-DO will prepare a list of individuals designated as on-call representatives and will designate the week each will be on-call. This list will be distributed to on-call representatives and Laboratory managers including PADOPS, ADES&H, ADEP, Emergency Operations (ADSS-EO), ENV-DO, ENV-RCRA, and ENV-ES. The on-call representative can be reached by pager at 664-7722.

5.1 RESPONSIBILITY OF ON-CALL REPRESENTATIVE

The ENV on-call representative is the party primarily responsible for:

- determining if the incident will require immediate notification to external agencies in accordance with LANL, State, and Federal regulatory reporting requirements
- notifying ENV Division management of immediate reporting requirements; and

- if needed, coordinating with other on-call SMEs and the Emergency Operations Center (EOC) to ensure the required notifications for environmental reporting and abnormal events are being addressed for the Laboratory.

The ENV-DO on-call representative is not responsible for the following, EOC will make these determinations:

- determining if the RCRA Contingency Plan must be implemented, or
- if a shock-sensitive material or leaking or compromised gas cylinder constitutes an emergency.

However, in order to ensure that the appropriate expertise is available for the affected media, the ENV on-call representative may immediately confer with an SME of the ENV group that has programmatic responsibility. If an SME from the responsible group is able to respond to the event, the remaining steps in this procedure may be passed to that person.

A list of contact numbers for on-call representatives and SMEs for ENV groups (ES & RCRA) is available in the ENV-RCRA group office. The ENV-DO and ADSS-EO may also be contacted to determine the on-call representative for each group.

5.2 FOLLOW-UP REPORTING

This procedure describes the initial external notifications (within the first 24 hours) to regulatory agencies and Pueblo Environmental Departments. After completion of the steps in this procedure, the ENV group specifically responsible for compliance with the relevant regulations (responsible group) will complete the required notifications and reports, as applicable under the appropriate regulations, according to established procedures.

5.3 SUMMARY OF POLICY ON REPORTING

The ENV on-call representative and SMEs have the authority and responsibility for deciding when to report and for making the report to regulatory agencies within regulatory deadlines and to Pueblo Environmental Departments when potentially impacted.

LANL management and DOE LASO must be informed as soon as possible that a report was or will be made, but their approval is not required prior to the report being made to the regulatory agency or Pueblo. LANL management, with input from ENV SMEs, will determine if an ORPS (Occurrence Reporting Processing System) report or other type of Lessons Learned will be necessary.

NOTE: ADSS-EO maintains a current list of on-call LANL managers.

5.4 USING THIS PROCEDURE

This procedure has four separate paths (and corresponding sections) to follow for determining if a release or event is reportable. Follow each of these paths to determine if one or more are applicable:

- RCRA
- TSCA
- CWA, NM WQA, and NM WQCC Regulations
- CERCLA and EPCRA.
- CAA
- Endangered Species Act (ESA), New Mexico Endangered Plant Species Act
- Bald Eagle Protection Act, Migratory Bird Treaty Act
- New Mexico Wildlife Conservation Act
- National Environmental Policy Act (NEPA)
- National Historic Preservation Act (NHPA)
- Native American Graves Protection and Repatriation Act (NAGPRA)
- Archaeological Resources Protection Act (ARPA)

Under CERCLA or EPCRA, a Reportable Quantity (RQ) is the action level that may trigger an appropriate response to a release under the provisions of these regulations. A release may not meet RQ reporting limits **but still may be reportable** under RCRA and CWA requirements.

NOTE: The 24-hour deadline (15 minutes in some cases) applies regardless of whether it occurs during business hours, non-business days or after business hours.

Additional information and guidance on how and when to report a release is available at this link: http://homer.ornl.gov/nuclearsafety/env/guidance/cercla/rqs-gen.pdf.

All potential ENV-DO on-call representatives or SMEs should follow the various links at this site and be familiar with the guidance before any release or event occurs.

5.5 DETERMINING IF A RELEASE IS REPORTABLE UNDER RCRA

Follow the flow charts in Attachment 1 to determine if an event is reportable under RCRA. The three groups of circumstances described below (also delineated in the flow charts in Attachment 1) are evaluated to determine if an event is reportable.

Under the RCRA permit requirements, the ADSS-EO manager determines if the “RCRA Contingency Plan” provisions should be implemented. The flow chart in Attachment 1 starts with this determination. The ENV on-call representative or an ENV-RCRA SME performs notifications that are necessary.

The ADSS-EO Manager will normally attempt to contact the ENV-RCRA SME for guidance in making this decision. If the ENV-RCRA SME is successfully contacted, the completion of the remainder of this procedure may be passed on to this individual.

The ENV on-call representative makes the determination that one or more of these conditions occurred through consultation with ENV-RCRA and appropriate SMEs. 24-hour notification can be made by the on-call representative or by an SME of ENV-DO.

The EOC manager makes the determination that unstable chemicals, leaking or compromised gas cylinders represent an emergency situation and, typically with ENV-RCRA, how best to respond. 24-hour notification can be made by the on-call representative or ENV-RCRA SME.

If a release/event is reportable under RCRA rules, determine if the release/event is reportable under other rules and proceed to the section *Reporting a Release or Event*.

5.6 DETERMINING IF A RELEASE IS REPORTABLE UNDER TSCA

In practice, only spills of Polychlorinated Biphenyls (PCBs) or PCB-suspect untested mineral oil to the environment (generally outdoors or with the potential to reach the outdoors) are reportable. Spills that are contained indoors are generally not reported.

A release of PCB's is reportable to the EPA under TSCA if it is over 10 pounds PCB's by weight or at concentrations of 50 ppm or greater.

Follow the steps in *Determining if a Release is Reportable under CERCLA, EPCRA, or Other Regulations* to determine if the RQ (of 1 pound) for PCBs has been triggered. Additionally, reporting requirements are triggered if over 270 gallons of untested mineral oil suspected of containing PCBs has been spilled.

There are nine items containing PCBs that are in use at the CMR Building. In addition, there is one PCB contaminated transformer in use at TA-48. All other known PCB equipment at the Laboratory has been taken out of service and disposed of in accordance with TSCA regulations.

If a release (see definitions) is reportable under TSCA, continue through the next sections to determine if the release/event is reportable under other rules and proceed to *Reporting a Release or Event* and determine if additional reporting is necessary (below).

If the spill is ...	**Then...**
over 10 pounds by weight of PCBs (TSCA) **OR** if PCBs are at concentrations ~50 ppm that directly contaminate surface water sewers, drinking water supplies, grazing lands, or vegetable gardens	Report to EPA Region 6 (Office of Prevention, Pesticides and Toxic Substances Branch) through EPA's 24-hour spill response number 866-372-7745 as soon as possible after discovery but no later than 24 hours after discovery.

5.7 DETERMINING IF A RELEASE IS REPORTABLE UNDER CWA OR NM WATER QUALITY ACT

The CWA and NM Water Quality Act (NMWQA) (equivalent to the national Clean Water Act) does not use RQs (as described in the next section). Instead the NM Water Quality Control Commission (NMWQCC) regulations state: *"Any amount of any material in such quantity as may with reasonable probability injure or be detrimental to human health, animal or plant life, or property, or may unreasonably interfere with the public welfare or the use of property. This includes chemical, biohazardous, petroleum-product, and sewage spills and incidents. In addition to recent spills, the discovery of evidence of previous unauthorized discharges, such as contaminated soil or ground water, also must be reported."*

The above rule requires the use of professional judgment to determine if reporting is required. No quantifiable metric is available to assist in making this determination, however. The ENV on-call representative or SME has the authority and responsibility to make this determination.

Spills of potable water or fire fighting water (e.g., water line breaks) require reporting if there is a release of over 5000 gallons or if the release impacts a Solid Waste Management Unit (SWMU). Contact the ADEP for the location of SWMUs and coordinate any necessary water quality notifications with ENV-RCRA.

For oil discharges (film/sheen/discoloration) to water in stream channels, additionally notify the National Response Center (24-hour verbal notification) and EPA Region 6.

5.7.1 ADDITIONAL REPORTING REQUIREMENT FOR PETROLEUM STORAGE TANKS

New Mexico Environment Department (NMED) regulations from June 2009 require verbal reporting within 24 hours of release of petroleum products from regulated tanks to the Petroleum Storage Tank (PST) Bureau when there is:

- evidence of release of regulated substances;
- unusual operational conditions (that would cause concern about a release); or
- monitoring results that show loss from the system.

Regulated tanks include those of 1320 gallons to 55,000 gallons and exclude all sizes of tanks used to fuel emergency generators.

This reporting requirement is <u>in addition</u> to the reporting under NMWQCC Regulations and CWA requirements for such releases. Call the PST Bureau at 476-4397 during business hours and 827-9329 after closing.

If there is more than one activity team member, the PIC conducts a readiness check during the tailgate briefing to note any local work conditions that could affect the work and reminds the team of the documented hazards and controls. At this time workers also verify that each other's PPE is adequate.

If a release (see Definitions) is reportable under NMWQCC Regulations, continue through the next sections to determine if the release/event is reportable under other rules and proceed to the Section, *Reporting a Release or Event.*

5.7.2 Additional Reporting Requirements Under NPDES Pesticide General Permit

Adverse incidents, an unusual or unexpected incident that an Operator has observed upon inspection or of which the Operator otherwise becomes aware, requires reporting under the NPDES Pesticide General Permit (PGP).

The Operator should report any adverse incidents in which:

(1) There is evidence that a person or non-target organism has likely been exposed to a pesticide residue, and
(2) The person or non-target organism suffered a toxic or adverse effect. The phrase toxic or adverse effect includes effects that occur within Waters of the United States on non-target plants, fish, or wildlife that are unusual or unexpected (e.g. effects are to organisms not otherwise described on the pesticide product label or otherwise not expected to be present) as a result of exposure to a pesticide residue, and may include:
    - Distressed or dead juvenile and small fishes;
    - Washed up or floating fish;
    - Fish swimming abnormally or erratically;
    - Fish lying lethargically at water surface or in shallow water;
    - Fish that are listless or nonresponsive to disturbance;
    - Stunting, wilting, or desiccation of non-target submerged or emergent aquatic plants; and/or
    - Other dead or visibly distressed non-target aquatic organisms (amphibians, turtles, invertebrates, etc.)

The phrase toxic or adverse effects also includes any adverse effects to humans (e.g. skin rashes) or domesticated animals that occur either from direct contact with or as a secondary effect from a discharge (e.g. sickness from consumption of plants or animals containing pesticides) to Waters of the United States that are temporally and spatially related to exposure to a pesticide residue.

If an Operator observes or otherwise becomes aware of an adverse incident due to pesticide application, the Operator must immediately notify the appropriate EPA Incident Reporting contact within 24 hours of the incident of the Operator becoming aware of the adverse incident. EPA Incident Reporting Contacts are listed at www.epa.gov/npdes/pesticides. These reporting requirements are in addition to any required under Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).

5.8 DETERMINING IF A RELEASE IS REPORTABLE UNDER CERCLA OR EPCRA

Under CERCLA or EPCRA, a Reportable Quantity is the action level that may trigger an appropriate response to a release under the provisions of these regulations. RQs are summarized in 40 CFR Part 302. An RQ is based on the quantity of chemical released within any 24-hour period. The RQs for extremely hazardous substances can be found in 40 CFR Part 355, Appendices A and B, in the column labeled "RQ". This table has two columns of RQs: the Statutory RQ and the Final RQ. Use the weight in the Final RQ column for determining if the release must be reported. The chemicals that have not been assigned RQs by EPA have been given statutory RQs of one pound by Congress.

Releases (see definitions) that occur within a closed space with no emissions to the ambient environment (see definitions) are exempt from this requirement.

The exceedance of an RQ requires immediate notification.

NOTE: Response procedures for "Continuous Releases" are not covered in this procedure.

5.8.1 REGULATORY CLASSIFICATION OF THE RELEASED MATERIAL

Determine the regulatory classification of the substance released with respect to the hazard classifications: Extremely Hazardous Substance (EHS) and/or Hazardous Substance (HS) (see definitions).

Often during the course of an emergency, complete information will not be available regarding type and amount of material released. In this case, best professional judgment must be used to establish the level of confidence associated with the estimates. If the uncertainty is high enough that future estimates may require reporting, it is best to err on the side of caution and follow the reporting requirements in the section *Reporting a Release or Event.*

- Identify the constituents in the material released using the Material Safety Data Sheet (MSDS), laboratory analysis, data sheet, manifest, or manufacturer information.
- A summary of the RQs can be found in 40 CFR Part 302 and 40 CFR Part 355, Appendices A and B. The RQ may also be determined using the on-line RQ Calculator (http://homer.ornl.gov/rq/)
- Calculate the amount of the listed chemical involved in the release (the weight of the material released multiplied by the percentage of the concentration of the listed chemical present in the material).

After determining the RQ of a released material, the ENV-DO on-call representative or SME will perform the following steps to determine if an RQ has been released.

Step	Action
1	Obtain an estimate of the quantity and type of material released (e.g. 4 pounds of chlorine gas or 150 curies of tritium).
2	Compare this quantity against the RQs provided in Appendix B to 40 CFR 302 and 40 CFR 355, Appendices A and B.
3	If this is an airborne release of radioactive materials, it is reportable if the RQ is exceeded AND if the release could cause an annual exposure to the nearest downwind residence or business of 10 mrem (40 CFR 61, Subpart H).[1] The exposure estimate should be made by an environmental health physicist. **If the release…** — **Then…** Is over the RQ AND could cause the Laboratory to exceed the 10 mrem/yr standard to downwind businesses or residences — Proceed to section *Reporting a Release or Event.* Is less than the RQ AND could NOT cause the Laboratory to exceed the 10 mrem/yr standard. — No reporting is required under CERCLA or EPCRA. Proceed to Step 4.
4	If this is a release of non-rad material, it is reportable if the RQ is exceeded. **If the amount released is..,** — **Then…** Equal to or greater than the RQ — Proceed to Section *Reporting a Release or Event.* Less than the RQ — Proceed to Step 3
5	Continue to re-evaluate the release as new data becomes available. Perform Steps 1 through 3 as necessary.

[1] It should be noted that "Area sources and other sources that are subject to regulations that limits their total annual emissions should generally report their releases at or above the RQ of hazardous substances (HSs) and extremely hazardous substances (EHSs) that are caused by accidents, malfunctions, unanticipated releases and other releases that are not part of the facility's normal operations." Federal Register, Volume 67, No. 47, Notices FRL-7172-4, Guidance on the CERCLA Section 101(10)H, "Federally Permitted Release Definition for Certain Air Emissions".

5.9 DETERMINING IF A RELEASE IS REPORTABLE UNDER BIOLOGICAL OR CULTURAL REQUIREMENTS

There are a number of laws and regulations related to protection of biological and cultural resources which are applicable to the Laboratory. These laws and regulations include:

- National Environmental Policy Act
- Endangered Species Act
- Bald Eagle Protection Act
- Migratory Bird Treaty Act
- New Mexico Wildlife Conservation Act
- New Mexico Endangered Species Act
- National Historic Preservation Act
- Native American Graves Protection and Repatriation Act
- Archaeological Resources Protection Act

Reporting of impacts to biological resources under the preceding laws and associated regulations is not specifically defined. This is also the case for reporting of most cultural resources impacts under the National Historic Preservation Act. The use of professional judgment by the ENV-DO on-call representative and SME is required.

Reporting of impacts under the Native American Graves Protection and Repatriation Act is specifically governed by the following document "A Standard Operating Procedure for the Inadvertent Discovery of Native American Human Remains and Associated Funerary Objects, Sacred Objects, or Objects of Cultural Patrimony at Los Alamos National Laboratory" (LA-UR-06-6712) prepared for the Department of Energy Los Alamos Site Office (DOE LASO) by the LANL Cultural Resources Team and implemented on January 30, 2008.

Reporting of impacts under the Archaeological Resources Protection Act (ARPA) is governed in part by the Act and also by LANL Cultural Resources Team Procedure ES-415, *Archaeological Resources Protection Act.*

5.9.1 REPORTS TO DOE LASO

In general, any release or event that poses a significant impact to biological or cultural resources requires reporting to DOE LASO as soon as possible and may require reporting to LANL management and DOE HQ through the ORPS. Examples of significant impacts to biological resources include:

- Release of toxic substances into listed species habitat
- Damage to a wetland or listed species habitat by a landscape-altering event such as wildfire
- Other events that would likely result in death or injury of a threatened or endangered species

- Examples of significant impacts to cultural resources include:
- Unauthorized excavation of an archaeological site
- Damage to an archaeological or historic site
- Removal of archaeological or historic artifacts

The ENV on-call representative or SME for biological or cultural resources should notify DOE LASO as soon as possible so that DOE LASO can complete the required notifications to the appropriate agencies (e.g., U.S. Fish and Wildlife Service, State Historic Preservation Office) within 24 hours.

5.10 REPORTING A RELEASE OR EVENT

If a release or event is reportable (as determined by one or more of the previous sections), the Laboratory is required to meet certain reporting requirements. The emergency notification requirements in this section must be followed upon determination that a release or event is reportable.

For informational purposes, a summary of emergency release/event reporting requirements is provided in Attachment 2. This document summarizes the primary statutes and the associated reporting requirements.

Maintain a notebook to record pertinent information about the release and to document the actions taken (see section *Records Resulting from This Procedure*).

If RCRA reporting requirements are triggered, see the flow chart in Attachment 1, Emergency Notification Requirements for RCRA.

Perform the following steps immediately after establishing that reporting will be performed:

Step	Action
1	• Number of persons injured and the nature of injuries (e.g., life-threatening or minor injury) • Extent of any protective actions taken (e.g., evacuations) • Name, address, and telephone number of the person to contact for further information • Whether the substance is an HS or EHS (see definitions) • Associated health risks and medical attention necessary for exposed individuals • If available, information concerning the release of any hazardous and/or mixed waste which may endanger public or private drinking water supplies • Assessment of actual or potential hazards to human health or the environment outside the facility • If available, estimated quantity and disposition of recovered material that resulted from the incident • Precautions to take due to the release/event, including, in the case of fire, those associated with special hazards due to hazardous and/or mixed waste • Any other information which may help emergency personnel responding to the incident.
2	*[For RCRA: skip this step; see flow chart (Attachment 1).]* For releases of substances that are classified as CERCLA hazardous substances, contact the **National Response Center at 800-424-8802**. **Note:** If it is an EHS but not a CERCLA hazardous substance, reporting is only necessary to state and local authorities. **Exception:** For reportable water releases, the NRC needs to be notified ONLY if the release includes oil (such as a sheen on the water surface).

Step	Action
3	*[For RCRA: skip this step; see flow chart (Attachment 1).]* If the release is outside the LANL boundaries, or has the potential to go outside, additionally contact the **New Mexico State Police** at 505-827-9126 (State Emergency Response Commission—SERC). Contact the **Los Alamos County Police** at (505) 662-8222 (Local Emergency Planning Committee—LEPC). Contact the **New Mexico Environment Department**: • During work hours: 505-476-6000 • 24-hr Emergency Hotline: 505-827-9329 DOE O 231.1A Requires notification and reporting through the Facility Operations Director to DOE LASO and DOE HQ given a set of reporting criteria where the timelines from time of event and categorization given the circumstances of the event to verbal and/or written notification is 2-hours. For certain types of environmental events, the reporting criteria are more stringent than what is required in Federal and State laws and requirements (e.g. 50 percent of an RQ is ORPS reportable within the ORPS system). For all environmental events, the ENV On Call individual and/or ENV SME must ensure that the appropriate FOD or designee has been engaged as per P322-3, *Performance Improvement from Abnormal Events*, and this will ensure that ORPS notification and reporting criteria are being met.
4	If requested by any of the above organizations, provide updates as new information becomes available.

Any release to the environment that has been determined to be reportable by the ENV on-call representative or SME shall be reported through the LANL management chain in accordance with PD1200, *Emergency Management* and P322-3, *Performance Improvement from Abnormal Events*. LANL management shall be notified immediately that a release notification to state or federal regulatory agencies is required so that DOE notification and reporting requirements are met. LANL management approval is not required prior to environmental reports and notifications made to the regulatory agencies in order to assure that the deadline for reporting is not exceeded.

5.10.1 Steps to notify LANL Management

To notify LANL management and to complete the environmental reporting process to DOE, state and federal agencies, and Pueblo Environmental Departments, perform the following steps:

Who	Step	Action
ENV-DO on-call representative or SME	**1**	Determine that a release to the environment is reportable to state, federal, or Pueblo entities and required under regulations. **NOTE:** ORPS reporting is a FOD and RAD responsibility and will seek advisement from ENV SMEs.
	2	Contact the following individuals by phone. • Team Leader/Direct Supervisor • Group Leader/Deputy Group Leader • ENV-DO Division Leader or Designee for Reporting If no direct contact can be made, leave messages by pages or phone.
ENV-DO Division Leader or Designee for Reporting	**3**	Notify the ADES&H Directorate Office and assure that the notification process continues through the LANL management chain to the PADOPs Office as specified in PD 1200-1 Emergency Management, and P322-3, *Performance Improvement from Abnormal Events*.
	4	Notify the ADEP Directorate Office if the release originated or impacted a Solid Waste Management Unit (SWMU) or Potential Release Site (PRS).
		As per PD1200, verbal and written notifications must be made up the management chain by use of the PADOPS report. Generally, this is the responsibility of the FOD or the FOD designee. However, ENV on-call personnel may be required to perform this function from time to time. Therefore, on-call personnel must understand who will perform this reporting function.
ENV-DO on-call representative or SME	**5**	Notify the DOE LASO program contact for the release.
	6	Complete the environmental reporting to state and federal agencies prior to the regulatory deadline for reporting.
	7	Notify Pueblo Environmental Departments of the release when potentially impacted.
SME	**8**	Complete 14-day and other follow-up reports to the state and federal agencies.

If the release involved radioactive materials, the ENV on-call representative or SME will notify ENV-ES. ENV-ES will additionally notify:

EPA Region 6

(214) 665-8541

If there is a release of contaminants to a wetland or destruction of a wetland, OR if the event could result in the "take" of a threatened or endangered species (i.e., a wildfire), the ENV on-call representative or SME will notify DOE LASO Environmental Office as soon as possible. DOE LASO is required to notify U.S Fish and Wildlife Service within 24 hours.

After all the above notifications have been made, or when requested, the ENV on-call representative or SME will hand off responsibility for additional actions and follow-up to the affected environmental group. (Which group is responsible will depend on the type and location of the release and the governing regulations or statutes.) Provide all relevant records. See Section: Records Resulting from this Procedure.

In order to communicate events at LANL which may impact the public and or the environment, ENV staff will notify the New Mexico Environment Department of events that may not require formal regulatory notification. Examples of such events in the past have been small wild land fires.

6.0 REFERENCES

The following documents are referenced in this procedure:40 CFR 302, *Designation, Reportable Quantities, and Notification*

- 40 CFR 261, 264 Subpart D 270.30
- DOE guidance document *PCB Spill Response and Notification Requirements* (EH-231-059/1294), available on the ENV-RCRA web page
- DOE – Office of Environmental Guidance, *CERCLA Information Brief*, EH-231-001-0490 (April 1990)
- EPA Web Site: http://www.epa.gov/
- EPCRA Information Web Site: http://www.chemicalspill.org/EPCRA-facilities/spill.html
- Federal Register, Volume 67, No. 47, Notices FRL-7172-4, Guidance on the CERCLA Section 101(10)H, *Federally Permitted Release Definition for Certain Air Emissions*
- PD1200, *Emergency Management*
- P322-3, *Performance Improvement from Abnormal Events*
- LANL RCRA Permit No. NM0890010515-1
- LANL NPDES Permit No. NM00283 National Response Center (NRC) Web Site: http://www.nrc.uscg.mil/
- NMWQCC Regulations, 20.6.2 NMAC, dated December 1, 2001
- P407, *Water Quality*

- QP-5.8, *Identification, Documentation, and Reporting of Newly Discovered Potential Release Sites,* ADEP Procedure.
- RQ Calculator Web Site: http://homer.ornl.gov/rq/

7.0 DEFINITIONS

ADES&H: Associate Directorate for Environment, Safety, and Health

ADEP: Associate Directorate for Environmental Programs

CAA: Clean Air Act

CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act

Continuous Release: A release is continuous if it "occurs without interruption or abatement or if it is routine, anticipated, intermittent, and incidental to normal operations or treatment processes." The release must also be "stable in quantity and rate," which means that it must be predictable and regular in the amount and rate of emission. The response procedures for continuous releases are not covered by this document. See guidance in Reporting Continuous Releases of Hazardous and Extremely Hazardous Substances under CERCLA and EPCRA. [DOE/EH-0441, guidance document, 372,099 bytes, 51 pp.], available at: http://homer.ornl.gov/sesa/environment/guidance/cercla/CONTIN.PDF.

CWA: Clean Water Act

ENV-DO: Environmental Protection Division

Environment: includes "water, air, land, and the interrelationship which exists among and between water, air, land, and all living things." (40 CFR 355.20)

EPCRA: Emergency Planning and Community Right-to-Know Act

ER-DO: Emergency Response Division

Extremely Hazardous Substance (EHS): EPCRA establishes emergency reporting requirements for extremely hazardous substances in 40 CFR 355, Appendix A. All of these substances are also CWA and CERCLA "hazardous" substances

FOD: Facility Operations Director

Hazardous Substance (HS): These substances are summarized in 40 CFR Part 302. As used in this context, refers to: (1) any elements, compounds, mixtures, solutions, or substances specially designated by EPA under Section 311 of the Clean Water Act (CWA) (40 CFR 116.4); (2) any toxic pollutants listed under Section 307(a) of the CWA; (3) any hazardous substances regulated under Section 311 (b)(2)(A) of the CWA; (4) any listed or characteristic RCRA hazardous waste (40 CFR 261), (5) any hazardous air pollutants listed under Section 112 of the Clean Air Act (CAA); or (6) any imminently hazardous chemical substances or mixtures regulated under Section 7 of the Toxic Substances Control Act (TSCA)

LEPC: Local Emergency Planning Committee. Locally, the contact is through Los Alamos County Police and Fire Departments

NMWQA: New Mexico Water Quality Act

NMWQCC: New Mexico Water Quality Control Commission

NPDES: National Pollutant Discharge Elimination System

NRC: National Response Center

OSC: On-Scene Commander

PADOPS: Principal Associate Director for Operations

PCBs: Polychlorinated Biphenyls

PST: Petroleum Storage Tank

RCRA: Resource Conservation and Recovery Act

Release: Any unpermitted spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing of contaminants into the environment, excluding: (1) emissions from the engine exhaust of any vehicle, (2) certain releases of source, byproduct, or special nuclear material from a nuclear incident, or (3) normal application of fertilizer

RQ: Reportable quantity

SARA: Superfund Amendments and Reauthorization Act

SERC: State Emergency Response Commission. In NM, the contact is through the NM Department of Public Safety.

SME: Subject Matter Expert.

TSCA: Toxic Substances Control Act

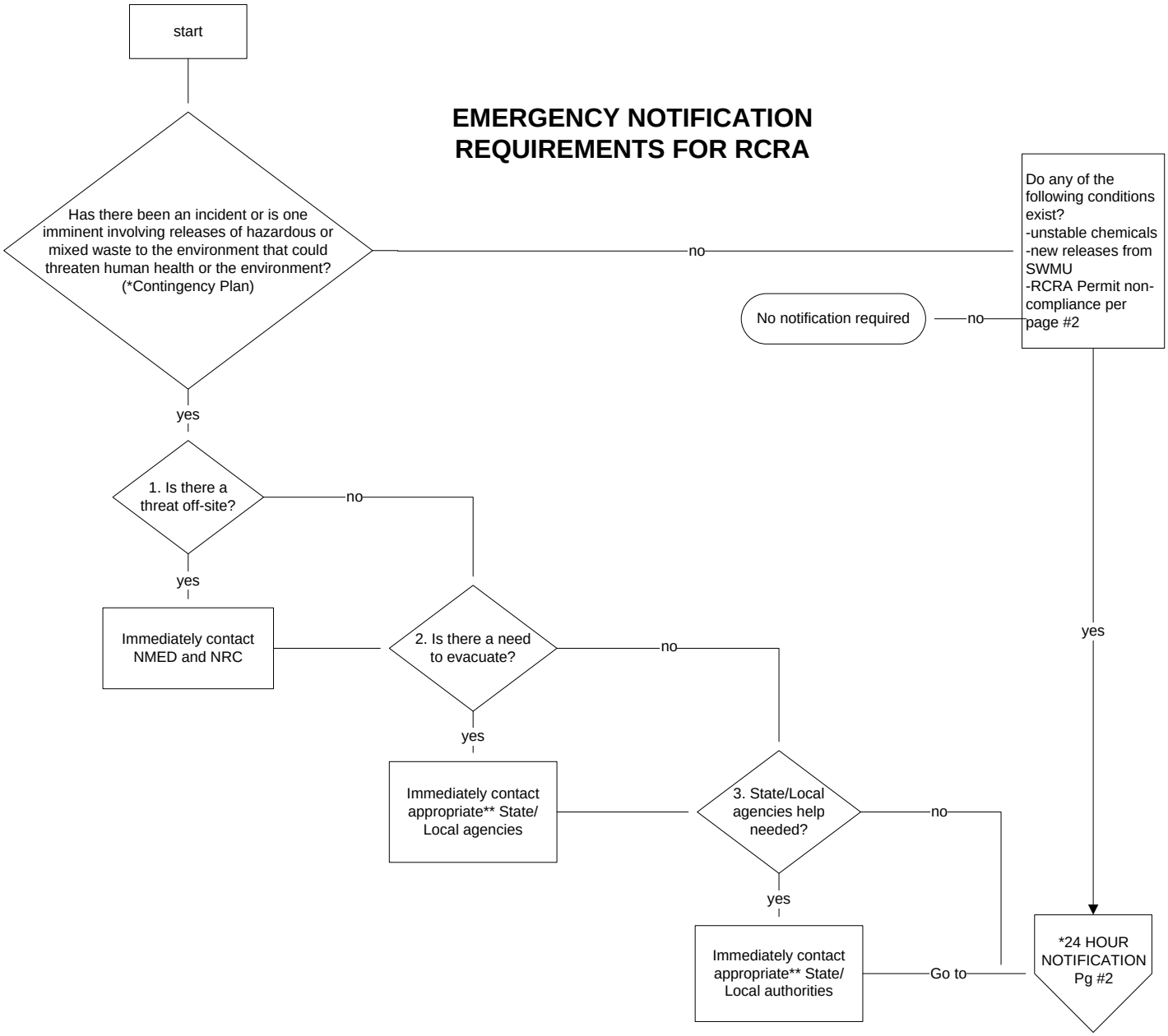
8.0 ATTACHMENTS

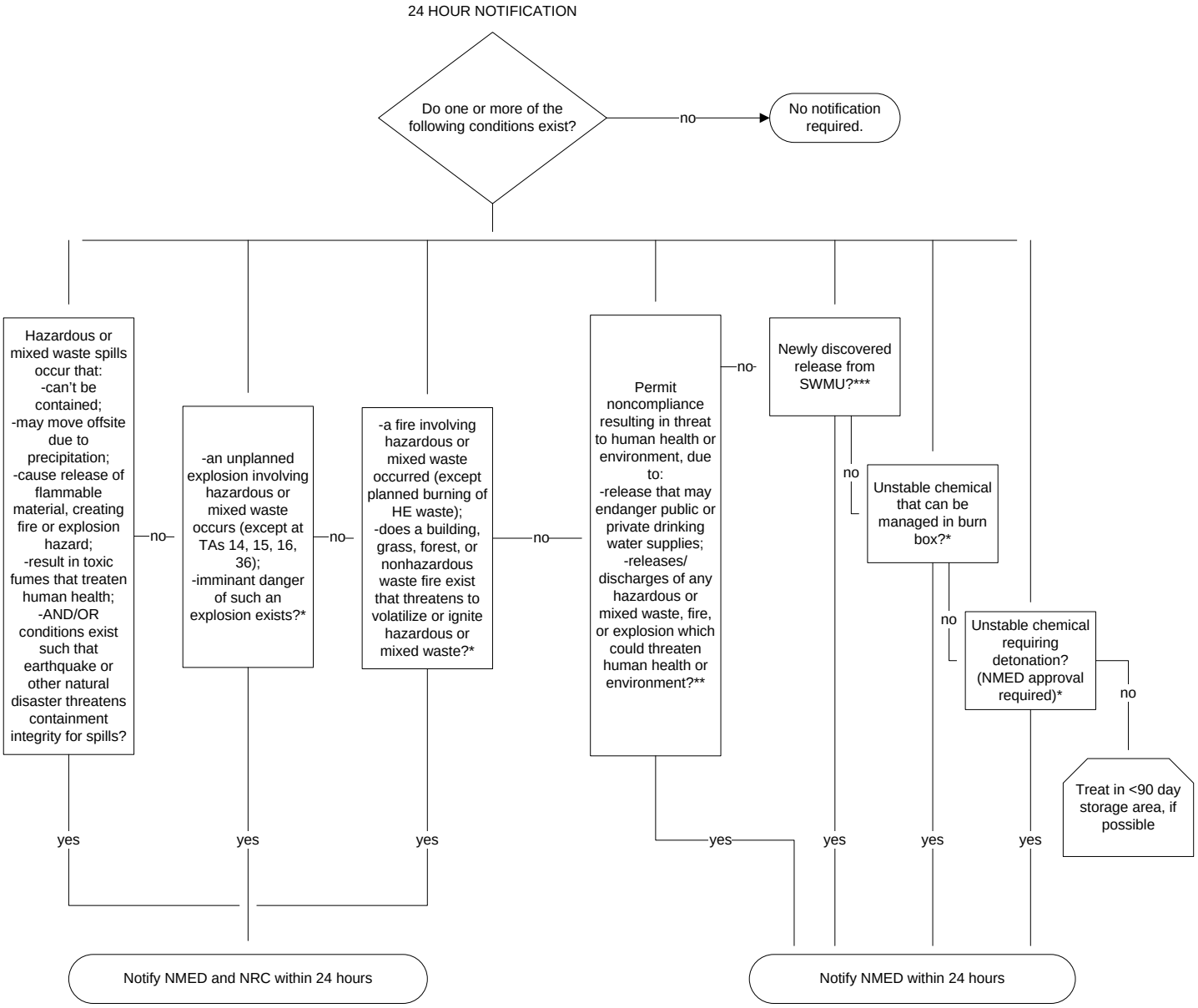
Attachment 1: Emergency Notification Requirements for RCRA

Attachment 2: Summary of Emergency Release or Event Reporting Requirements

By requesting credit for this required reading I acknowledge that I have read and understand the contents of this document and I will follow and meet the requirements in this document unless it is unsafe to do so.	Click to Acknowledge

ATTACHMENT 1: EMERGENCY NOTIFICATION REQUIREMENTS FOR RCRA





*Contingency Plan implementation, need for burn box use, or for detonation to be determined by EM&R
**To be determined by ENV-RCRA
***To be determined by WES-WA and ENV-RCRA

ATTACHMENT 2: SUMMARY OF EMERGENCY RELEASE OR EVENT REPORTING REQUIREMENTS

NOTE: This is only a guide and does not cover all federal, state, or permit reporting requirements. Refer to the Code of Federal Regulations and the RCRA Permit for more details regarding these regulations.

STATUTE	REGULATIONS	INCIDENT	REPORT TO/BY	REPORTING
Clean Water Act(CWA)	40 CFR 110.6	Oil discharge (film/sheen/discoloration) to water surface or shoreline, or violation of water quality standards.	NRC. If not practical then EPA by person in charge of facility.	Immediately, no later than 24 hours. Follow-up not required.
Clean Water Act (CWA)	40 CFR 117.21	Discharge of hazardous substance (equal to or above RQ)	Appropriate govt. agencies by person in charge of facility.	Immediately Follow-up not required.
Clean Water Act (CWA)	40 CFR 122.28	Adverse incident which includes evidence that a person or non-target organism has been exposed to a pesticide residue or the person or non-target organism suffered a toxic or adverse effect.	Report to EPA within 24 hrs.	30 Day Adverse Incident Written Report for PGP required.
New Mexico Water Quality Control Commission Regulations (NMWQCC Regulations)	20.6.2.1203 NMAC	Discharge from any facility of oil or other water contaminant, in such quantity as may with reasonable probability injure or be detrimental to human health, animal or plant life, or property, or unreasonably interfere with the public welfare or use of the property.	New Mexico Environment Department by ENV-RCRA. Copy to EPA.	As soon as possible after learning of such a discharge, but in no event more than 24 hours thereafter (verbal notification). 7 day written report (Calendar Days) 15 day written Corrective Action Plan.
Comprehensive Environmental, Response, Compensation, and Liability Act (CERCLA)	40 CFR 302.6(a)	Hazardous substance release (Equal to or greater than RQ).	Report to NRC by ENV or WES SME	Within fifteen minutes Follow-up not required
Emergency Planning and Community Right- to-Know Act (EPCRA)	40 CFR 355.40	Release of SARA extremely hazardous substance or CERCLA hazardous substance equal to or greater than RQ.	LEPC, SERC, or local emergency response personnel (911 in case of transportation related release) by owner/operator.	Within fifteen minutes Follow-up required within seven calendar days.

STATUTE	REGULATIONS	INCIDENT	REPORT TO/BY	REPORTING
Resource Conservation and Recovery Act (RCRA)	40 CFR 262.34, 263.30, 264.51, 264.56 & .196, 265.51, .56 & .196, 270.14, & .30, 273.17, .37 & .54, 279.43 & .53, 280.50, .52, .53, .60,	Release, fire, or facility explosion that threatens human health or environment.	NRC/OS C/state/ local /EPA Regional Administrator by ENV-DO or ENV-RCRA SME.	Immediate and/or within 24 hours (see flow chart) Follow-up: varies from 5 to 30 days report to OSC/NRC/EPA Regional Administrator.
Toxic Substance Control Act (TSCA)	40 CFR 761.120, 761.125	PCB spill (equal to or greater than 50 ppm) with release to surface water/drinking water supplies/sewers/ grazing lands, etc. OR PCB spill over 10 pounds	NRC and EPA Region 6 Office of Pesticides and Toxic Substances by person in charge.	Within 24 hours Follow-up: as required by agency.
Operational events to include environmental releases and reporting	DOE Order 231.1A	As per criteria within DOE Order 231.1A. Examples include 50 percent of an RQ	DOE LASO and DOE HQ by FOD through ESH-OFF	Verbal notifications in 2 hours after categorization and written notifications within from 2 hours to NLT 2 business days depending on the severity and DOE criteria
N/A	N/A	Incidents which may be of concern to the public, such as wild land fires, activities which may have a visual impact that concerns the public, etc.	NMED	As soon as possible

ENV-RCRA-QP-022.2	
Effective Date: February 28, 2013	Next Review Date: January 28, 2015

Environment, Safety, Health Directorate

Environmental Protection – Water Quality and RCRA Quality Procedure

MSGP Storm Water Corrective Actions

Reviewers:

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Derivative Classifier: ☒ **Unclassified**

Name:	Organization:	Signature:	Date:
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Approval Signatures:

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Responsible Line Manager:	Organization:	Signature:	Date:
Terrill Lemke	ENV-RCRA Team Lead	Signature on file	2/8/13
Responsible Line Manager:	Organization:	Signature:	Date:
Anthony Grieggs	ENV-RCRA Group Leader	Signature on file	2/28/13

History of Revisions

Document Number *[Include revision number, beginning with Revision 0]*	**Effective Date** *[Document Control Coordinator inserts effective date]*	**Description of Changes** *[List specific changes made since the previous revision]*
0	08/10	New Document.
1	11/10	Incorporated ENV-RCRA-QP-062 *MSGP Routine Inspections* into this document.
2	01/13	Biennial revision, new template implemented.

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1.0 PURPOSE

This procedure is written to provide requirements for identifying, documenting and entering corrective actions into the ENV-RCRA MSGP Corrective Action Report Findings database.

2.0 SCOPE

Requirements set forth in this document apply to Los Alamos National Laboratory industrial facilities covered by the National Pollutant Discharge Elimination System (NPDES) Storm Water Multi-Sector General Permit (MSGP). This "general permit" requires identification, documentation, tracking and reporting of corrective actions in accordance with sections 2.2.1, 3, 4.1.2, 4.2.2, 4.3.2, 5.0, 5.2, 5.4, 6.2.1, 6.2.1.2, 7.2 and Appendices B and I.

2.1 HAZARD REVIEW

The work described in this procedure is office work only and has a **LOW hazard** rating as documented by submittal of a completed *ENV Low Hazard Verification form* to the Quality Assurance Specialist.

3.0 RESPONSIBILITIES

The following personnel require training before implementing this procedure:

- Group and Team Leader
- ENV-RCRA MSGP Storm Water compliance personnel
- Deployed Environmental Professionals (DEPs)
- Other LANL or subcontract personnel identified as being required to conduct storm water assessments as part of their job duties.

In addition to training to this procedure, the following training is also required prior to performing this procedure:

- ENV-RCRA QAPP-MSGP *Quality Assurance Project Plan for the Storm Water Multi-Sector General Permit for Industrial Activities*

The training method for this procedure is "self-study" (required read). For ENV-RCRA staff, this is documented in accordance with ENV-DO-QP-115, *Personnel Training*. Other participating groups may require training documentation pursuant to local procedures.

Actions specified within this procedure, unless preceded with "should" or "may", are to be considered mandatory (i.e., "shall", "will", "must").

3.1 ROLES AND RESPONSIBILITIES

3.1.1 ENV-RCRA MSGP STORM WATER TEAM

ENV-RCRA MSGP Storm Water Team members will be fully knowledgeable of the specific regulatory requirements identified in the 2008 MSGP and are responsible for ensuring compliance with these requirements and entering corrective actions. Team members will evaluate corrective actions that the DEPs enter into the ENV-RCRA MSGP Corrective Action Report Findings database and modify them as needed for quality assurance. This team will also periodically review open corrective actions and follow up with the DEPs, ES&H Managers, or Upper Management, as deemed necessary, to ensure close out of the corrective action. The team members will notify upper management of instances of non-compliance with the permit. A team member may also be responsible for responding to the regulatory authority (EPA) regarding identified storm water issues and/or negotiate settlement of any identified issues.

3.1.2 DEPLOYED ENVIRONMENTAL PROFESSIONALS

DEPs will be fully knowledgeable of the site specific Storm Water Pollution Prevention Plan (SWPPP) and corrective action requirements identified in the MSGP for the facilities they are deployed to. In addition, they shall be appropriately trained to meet the job qualifications identified in the *Quality Assurance for Storm Water Multi-Sector General Permit for Industrial Activities Program* (ENV-RCRA-QAPP-MSGP) and shall be familiar with the regulatory requirements identified in the 2008 MSGP. Further, they shall be familiar with facility operations so that potential pollution discharge sources can be determined and corrective actions can be identified.

The DEPs are responsible for identifying and entering corrective actions observed at their industrial facilities into the ENV-RCRA MSGP Corrective Action Report Findings database. They are also responsible for updating corrective actions in a timely manner that cannot be implemented immediately. They will work with the ES&H Manager and ENV-RCRA storm water personnel to ensure identified corrective actions are implemented by overseeing repairs and/or improvements or instituting additional controls. If it is determined that corrective actions are necessary following an assessment, any modification to the control measures must be made before the next storm event if possible, or as soon as practicable following that storm event.

NOTE: These time intervals are not grace periods, but are schedules considered reasonable for documenting your finding(s) and for making repairs and improvements. They are included in the MSGP Permit to ensure that the conditions prompting the need for these repairs and improvements are not allowed to persist indefinitely (see Section 3.3 of the 2008 MSGP). In no instance will the corrective action remain open indefinitely.

3.1.3 ENV-RCRA STORM WATER TEAM LEADER

The ENV-RCRA Storm Water Team Leader is responsible for compliance oversight relative to the 2008 MSGP. The Team Leader will ensure costs needed to implement the regulatory requirements identified in the 2008 MSGP are identified and environmental risks are assessed. Upper management will be notified of these costs or environmental risks, as deemed necessary. In the event there is a dispute regarding the regulatory requirements contained in the MSGP, the Team Leader will make the final determination of the required action. The Team Leader will notify upper management of instances of non-compliance with the permit.

3.1.4 ENV-RCRA GROUP LEADER

The ENV-RCRA Group Leader or designee is responsible for ensuring there is adequate funding to implement the regulatory requirements identified in the 2008 MSGP. The Group Leader also acts as the duly authorized signatory that certifies the reports. The Group Leader will notify upper management of instances of non-compliance with the permit or other identified environmental risk.

3.1.5 ES&H MANAGER

The ES&H manager shall identify funding for their industrial facilities to ensure compliance with the 2008 MSGP. The ES&H Manager is also responsible for ensuring that industrial facilities are complying with the 2008 MSGP permit and notifying upper management of instances of non-compliance with the permit or other identified environmental risk.

3.1.6 FACILITIES OPERATIONS DIRECTOR

The Facilities Operations Director (FOD) provides organizational leadership to ensure that all facility and programmatic activities under their authority are performed in compliance with the 2008 MSGP. The FOD is also responsible for establishing an environmental compliance envelope. It is the FOD's responsibility to maintain trained and qualified Environmental Professionals and Waste Management Coordinators on staff.

3.1.7 COMPUTER PROGRAMMER

Maintains and updates the ENV-RCRA MSGP Corrective Action Report Findings database as requested by MSGP storm water personnel.

3.2 PREREQUISITES

In addition to training to this procedure, the following training is also required prior to performing this procedure:

- *ENV-RCRA QAPP-MSGP, Quality Assurance Project Plan for the Storm water Multi-Sector General Permit for Industrial Activities Program*

4.0 DOCUMENT CONTROL/RECORDS MANAGEMENT

The following records generated as a result of this procedure are to be submitted to the designated RM-POC in accordance with ENV-DO-QP-110, *Records Management* and filed in project files.

- MSGP Comprehensive Site Inspection Annual Report
- Completed Routine Inspection Forms
- Electronic records within the ENV-RCRA MSGP Corrective Action Report Findings database.
- Copies of automated e-mail notifications

5.0 WORK PROCESSES

5.1 IDENTIFYING CORRECTIVE ACTIONS

If any of the following conditions occur, the DEP or ENV-RCRA storm water team member must review and revise the selection, design, installation, and implementation of control measures to ensure that the condition is eliminated and will not be repeated in the future:

- An unauthorized release or discharge (e.g., spill, leak, or discharge of non-storm water not authorized by the 2008 MSGP);
- You become aware, or EPA determines, that your control measures are not stringent enough for the discharge to meet applicable water quality standards;
- An inspection or evaluation of the facility by an EPA official and/or local or State entity, determines that modification to the control measures are necessary to meet the non-numeric effluent limits in the 2008 MSGP;
- You find in the routine facility inspection, quarterly visual assessment, or comprehensive site inspection that the control measures are not being properly operated and maintained;
- Construction or a change in design, operation, or maintenance at the facility significantly changes the nature of pollutants discharged in storm water from the facility, or significantly increases the quantity of pollutants discharged; or
- The average of four quarterly sampling results exceeds an applicable benchmark. If less than four benchmark samples have been taken, but the results are such that an exceedence of the four quarter average is mathematically certain, (i.e., if the sum of quarterly sample results to date is more than four times the benchmark level) this is considered a benchmark exceedence, triggering this review;
- If effluent limitation guidelines are exceeded at the Asphalt Batch Plant (Sector D); or
- If impaired water quality standards are exceeded.

5.2 ROUTINE INSPECTIONS

Routine inspections shall be conducted by the DEP (or a qualified member if the DEP is not trained and qualified) at all areas of the facility where industrial materials or activities are exposed to storm water, and of all storm water control measures used to comply with the effluent limits contained in the 2008 MSGP. Routine inspections shall be conducted at least quarterly; however, some facilities conduct monthly inspections (as specified in the facility specific SWPPP). Routine inspections shall be conducted during periods when the facility is in operation. A certified copy of completed Routine Inspection Forms shall be maintained in the facility's SWPPP.

At least once each calendar year, the routine facility inspections must be conducted during a period when a storm water discharge (either rain or snow) is occurring. The DEP(s) or storm water personnel from ENV-RCRA are responsible for identifying and entering corrective actions observed during the routine inspections into the ENV-RCRA MSGP Corrective Action Report Findings database. The database is set up to allow access for all identified DEPs associated with a particular FOD if the FOD has more than one DEP. Contact a member of the ENV-RCRA storm water team if you do not have access to this database and the FOD has assigned you responsibility for MSGP corrective actions.

NOTE: If the industrial facility is inactive and unstaffed and there are no industrial materials or activities exposed to storm water, routine inspections may not be required. A determination of whether a facility is inactive or unstaffed shall be made in coordination with storm water personnel from ENV-RCRA as there are specific documentation and certification requirements that have to be met prior to discontinuing routine inspections.

5.3 COMPREHENSIVE INSPECTIONS

Qualified ENV-RCRA storm water personnel will conduct one comprehensive inspection of all industrial facilities and those that meet the "no exposure" criteria subject to the 2008 MSGP before September 29th of each year. At least one member of the facility's storm water pollution prevention team shall participate in this inspection. This is usually the DEP.

This inspection must cover all areas of the industrial facility affected by the requirements in the 2008 MSGP including the areas identified in the SWPPP as potential pollutant sources where industrial material or activities are exposed to storm water, areas where control measures are used to comply with the effluent limits, and areas where spills and leaks have occurred in the past 3 years. The inspector must include review of the monitoring data (analytical results from benchmark and impaired waters and visual assessments) collected that calendar year as part of the comprehensive inspection. Inspectors must examine the following at a minimum:

- Industrial materials, residue, or trash that may have or could come into contact with storm water;
- Leaks or spills from industrial equipment, drums, tanks, and other containers;

- Offsite tracking of industrial or waste materials, or sediment where vehicles enter or exit the site;
- Tracking or blowing of raw, final, or waste materials from areas of no exposure to exposed areas; and
- Control measures needing replacement, maintenance, or repair.
- Storm water controls measures required by the 2008 MSGP must be observed to ensure that they are functioning correctly.

NOTE: The annual comprehensive site inspection may also be used as one of the routine inspections, as long as all components of both types of inspections are included.

ENV-RCRA will then enter all identified corrective actions into the ENV-RCRA MSGP Corrective Action Report Findings database. It is the responsibility of the DEP to update the database to reflect updates to these corrective actions.

Information compiled during the comprehensive inspection is used to complete the Annual Report. This report shall be submitted to EPA (postmarked) within 45 days of the last facility inspection completed in September of each year. For example, if the last facility was inspected (as part of the comprehensive site inspection) on September 22, the report shall be postmarked before or on November 6th. A complete certified copy of the Annual Report shall be maintained in the facility's SWPPP.

5.4 SPILLS

All leaks or spills shall be cleaned up immediately and entered into the ENV-RCRA MSGP Corrective Action Report Findings database. This can be done by either the DEP or an ENV-RCRA MSGP storm water team member. If the spill is immediately cleaned up, and controls are put in place to prevent further leakage, the corrective action can be closed.

5.5 ALLOWABLE NON-STORM WATER DISCHARGES

The following are allowable non-storm water discharges authorized by the 2008 MSGP:

- Discharges from fire-fighting activities;
- Fire hydrant flushing;
- Potable water, including water line flushings;
- Uncontaminated condensate from air conditioners, coolers, and other compressors and from the outside storage of refrigerated gases or liquids;
- Irrigation drainage;
- Landscape watering provided all pesticides, herbicides, and fertilizer have been applied in accordance with the approved labeling;
- Pavement wash waters where no detergents are used and no spills or leaks of toxic or hazardous material have occurred (unless all spilled material has been removed);

- Routine external building washdown that does not use detergents; and
- Uncontaminated ground water or spring water.

Any person authorized to conduct work at LANL can identify a potential storm water issue. If this occurs, they should contact the DEP or an ENV-RCRA MSGP storm water team member who will determine if a corrective action is needed.

5.6 ENTERING CORRECTIVE ACTIONS

To enter a corrective action into the ENV-RCRA MSGP Corrective Action Report Findings database, perform the following steps:

NOTE: Be clear and concise, use correct grammar and punctuation, and correct any spelling errors. This information will be used to populate a report that will be submitted to the EPA. Therefore, it is critical that all information entered into the ENV-RCRA MSGP Corrective Action Report Findings database is correct and meets these criteria.

Step	Action
1	From this web page: http://int.lanl.gov/environment/water/guidance/swmgp.shtml, under the heading "Compliance Tools". Click on the link "MSGP Corrective Action Report Findings Database" Click on "Enter New Corrective Action."
2	Under the "Corrective Action Header" tab, enter the following: • Facility Name by clicking on the "List" tab and selecting a facility. • Date Problem was Identified (mm/dd/yyyy) • Date of Notification to ENV-RCRA (mm/dd/yyyy) • FOD Responsible for CA (Name & Org) by clicking in the box. FOD designations (for example "STO") and the associated name will come up. Just select the appropriate FOD. **NOTE:** Contact the MSGP Project Leader at 667-1312 or hbensen@lanl.gov if the FOD name or organization is incorrect, so this can be corrected. • Describe Specific Evaluation Location (for example "Northeast corner of Building TA-3-66") • Inspector Z-Number by clicking in the box, which will populate it with your Z number. In most instances, the DEP should be identified as the inspector. Note: If you are entering the CA and are not the DEP, you will have to enter the DEP's Z number or they will not have the ability to update the corrective action. Once all of the above information is entered correctly, click "Save" and go

	to Step 3. All boxes identified with a red asterisk are "required fields" and shall be filled out. Note: The system will automatically assign a Corrective Action Report ID number.
3	Click "Go To Corrective Action Details" in the middle of the screen. Under the "Corrective Action Details" tab, enter the following: • Identify the condition triggering the need for this review by clicking on the "List" tab and selecting an option or selecting "Other" and entering a description of the condition. • Briefly describe the nature of the problem identified during the inspection (e.g., erosion, damage to a BMP, trash, spill, etc.) and the specific evaluation location. **NOTE:** Spills or other emergency situations may identify the need for a corrective action that was not identified during an inspection. • How the problem was identified by clicking on the "List" tab and selecting an option or selecting "Other" and entering a description of the problem. • Description of the corrective action taken, or to be taken, to eliminate or further investigate the problem (e.g., describe modifications or repairs to control measures, analyses to be conducted, etc.) or if no modifications are needed, the basis for that determination. • Did/will the corrective action require modification of your SWPPP. Type in "Y" for yes and "N" for no. • Date Corrective action was initiated (mm/dd/yyyy) • Date corrective action was completed **OR** expected completion date (mm/dd/yyyy) **NOTE:** If the corrective action has not been completed, enter an expected completion date. Do not put a date in both locations. If the corrective action has not been completed, provide the status of the corrective action and describe any remaining steps (including timeframes associated with each step) necessary to complete the corrective action. **NOTE:** This should only be filled out if the corrective action has not been completed. If the corrective action has been completed, enter "N/A." Make sure to hit the "save" tab in the bottom right hand corner so the corrective action information is retained. If you want to enter more corrective actions, go back to the "Corrective Action Header" tab and press the "Enter New Corrective Action" button in the lower left hand corner of the screen (see step #2). Hitting the "Exit" button will cause you to exit from the system.

	All boxes identified with a red asterisk are "required fields" and shall be filled out. If a date is not included or identified as an expected completion date, ENV-RCRA storm water compliance personnel will enter a completion date of 30 days after the corrective action was identified.

5.7 UPDATING CORRECTIVE ACTIONS

To update a corrective action in the ENV-RCRA MSGP Corrective Action Report Findings database, perform the following steps:

Step	Action
1	From this web page: http://int.lanl.gov/environment/water/guidance/swmgp.shtml, under the heading "Compliance Tools". Click on the link "MSGP Corrective Action Report Findings Database" to access the database and tab down to the corrective action number you want to edit. Click on "Edit."
2	Navigate to the blank that you will be changing and input the updated information. It is anticipated that most changes will occur relative to updating the status of corrective actions. Save all changes to the information. Remember, you should only have a date under "Date corrective action completed **OR** the "expected to be completion," but not both.

5.8 VALIDATING CORRECTIVE ACTIONS

ENV-RCRA storm water personnel will periodically validate the information contained in the ENV-RCRA MSGP Corrective Action Report Findings database. To validate a corrective action in the ENV-RCRA MSGP Corrective Action Report Findings database, perform the following steps:

Step	Action
1	From this web page: http://int.lanl.gov/environment/water/guidance/swmgp.shtml, under the heading "Compliance Tools". Click on the link "MSGP Corrective Action Report Findings Database" to access the database.

2	Check all entered fields for a corrective action to ensure that all information is clear, correct, and concise. If not, correct the information by navigating to the information that needs to be changed and making the change. Save all changes to the information. All information shall be validated before running the final annual report.
3	For ENV-RCRA storm water personnel only, under "status" select "void" if the corrective action is a repeat of a previous corrective action or if it is determined not to be a corrective action. This will delete the corrective action from the annual report.

5.9 INSTITUTIONAL PERFORMANCE FEEDBACK AND IMPROVEMENT TRACKING SYSTEM (PFITS)

PFITS is the institutional performance and tracking system for identified issues. A corrective action that meets any of the following criteria will be entered into the PFITS system, as deemed necessary.

- Corrective action was not completed by the expected completion date entered into the database.
- No action was taken to remedy an identified issue with a control measure within 14 days of discovery or before the next storm event or as soon as practicable following that storm event (Section 3.3 of the 2008 MSGP).
- Repeat corrective actions or trends identified by ENV-RCRA MSGP storm water personnel.
- Conditions requiring immediate action, where failure to take action would result in pollutants being released to water of the state or an immediate non-compliance with the 2008 MSGP.
- Violations identified by the regulatory authority.
- Other issues as deemed necessary by MSGP storm water personnel.

Once every month, ENV-RCRA storm water personnel will evaluate a summary of open corrective actions in the ENV-RCRA MSGP Corrective Action Report Findings database and using the above criteria will determine which corrective actions, if any, should be transferred into PFITS. When the monthly notification of outstanding corrective actions is sent out, evaluate whether any of the outstanding corrective actions meet the above conditions. Send those that do to the Environmental Protection Division's Improvement Management Coordinator (IMC) so that she can enter the information into PFITS. The summary report will contain the following information, at a minimum:

- Date the corrective action was identified;
- Person that identified the corrective action;

- A description of the nature of the problem identified and what needs to be done to address the corrective action.
- Whether the corrective action was identified internal to LANL or External to LANL.

5.10 NOTIFICATIONS FOR NEW AND OVERDUE CORRECTIVE ACTIONS

When a new corrective action is entered into the ENV-RCRA MSGP Corrective Action Report Findings database, the FOD, ESH&Q Manager, Operations Manager, inspector (usually the DEP) and ENV-RCRA MSGP storm water personnel are notified automatically by e-mail (unless the corrective action is closed the same day it is entered). This will assist the FOD, ESH& Q Managers, Operations Managers and the DEPs with keeping track of new corrective actions.

An automatic e-mail is sent the first of each month notifying the FOD, ESH&Q Manager, Operations Manager and DEPs of all overdue corrective actions for their industrial facilities. The Environmental Protection Division Leader and ENV-RCRA Group Leader receive a web link that contains a bar graph showing corrective actions 30 to 60 days overdue, 60 to 90 days overdue, 90 days to 1 year overdue, and those greater than a year overdue. In addition, they receive a link with summary information on each corrective action overdue sorted by FOD.

6.0 REFERENCES

- Federal Register: *Final National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges from Industrial Activities.* Federal Register: September 29, 2008, Volume 73, Number 189.
- P300, *Integrated Work Management*
- P315, *Conduct of Operations Manual*
- PD103, *Worker Safety and Health Policy*
- SD100, *Integrated Safety Management System Description Document with Embedded 10 CFR 851 Worker Safety and Health Program*
- P101-18, *Procedure for Pause/Stop Work*
- PD410, *Los Alamos National Laboratory Environmental ALARA Program*
- P121, *Radiation Protection*
- ENV-DO QP-106, *Document Control*
- ENV-DO-QP-115, *Personnel Training*
- ENV-DO-QP-104, *Work Safety Review*

In addition to these documents, please read any site specific requirements before proceeding with work.

7.0 DEFINITIONS

Best Management Practice (BMP): Schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of "waters of the United States." BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. (*40 CFR Part 122.2)*

Control Measure: Any BMP or other method (including effluent limitations) used to prevent or reduce the discharge of pollutants to waters of the United States.

CA: Corrective Action

DEP: Deployed Environmental Professional

EPA: Environmental Protection Agency

FOD: Facility Operations Director

MSGP: Multi-Sector General Permit

SWPPP: Storm Water Pollution Prevention Plan

8.0 ATTACHMENTS

Attachment 1- Annual Reporting Form

Attachment 2- NPDES Multi-Sector General Permit Routine Inspection Form

Click here for "Required Read" credit.

ATTACHMENT 1- ANNUAL REPORTING FORM

NPDES Permit Tracking No.:

EPA

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

Annual Reporting Form

A. GENERAL INFORMATION

1. Facility Name:
2. NPDES Permit Tracking No.:
3. Facility Physical Address:
   a. Street:
   b. City: c. State: d. Zip Code:
4. Lead Inspectors Name: Title:
   Additional Inspectors Name(s):
5. Contact Person: Title:
   Phone: - - Ext. E-mail:
6. Inspection Date: / /

B. GENERAL INSPECTION FINDINGS

1. As part of this comprehensive site inspection, did you inspect all potential pollutant sources, including areas where industrial activity may be exposed to stormwater? ☐ YES ☐ NO

   If NO, describe why not:

NOTE: *Complete Section C of this form for each industrial activity area inspected and included in your SWPPP or as newly identified in B.2 or B.3 below where pollutants may be exposed to stormwater.*

2. Did this inspection identify any stormwater or non-stormwater outfalls not previously identified in your SWPPP? ☐ YES ☐ NO

   If YES, for each location, describe the sources of those stormwater and non-stormwater discharges and any associated control measures in place:

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3. Did this inspection identify any sources of stormwater or non-stormwater discharges not previously identified in your SWPPP? ☐ YES ☐ NO

If YES, describe these sources of stormwater or non-stormwater pollutants expected to be present in these discharges, and any control measures in place:

4. Did you review stormwater monitoring data as part of this inspection to identify potential pollutant hot spots? ☐ YES ☐ NO ☐ NA, no monitoring performed

If YES, summarize the findings of that review and describe any additional inspection activities resulting from this review:

5. Describe any evidence of pollutants entering the drainage system or discharging to surface waters, and the condition of and around outfalls, including flow dissipation measures to prevent scouring:

6. Have you taken or do you plan to take any corrective actions, as specified in Part 3 of the permit, since your last annual report submission (or since you received authorization to discharge under this permit if this is your first annual report), including any corrective actions identified as a result of this annual comprehensive site inspection?
☐ YES ☐ NO

If YES, how many conditions requiring review for correction action as specified in Parts 3.1 and 3.2 were addressed by these corrective actions? ☐☐

NOTE: *Complete the attached Corrective Action Form (Section D) for each condition identified, including any conditions identified as a result of this comprehensive stormwater inspection.*

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C. INDUSTRIAL ACTIVITY AREA SPECIFIC FINDINGS

Complete one block for each industrial activity area where pollutants may be exposed to stormwater. Copy this page for additional industrial activity areas.

In reviewing each area, you should consider:

- Industrial materials, residue, or trash that may have or could come into contact with stormwater;
- Leaks or spills from industrial equipment, drums, tanks, and other containers;
- Offsite tracking of industrial or waste materials from areas of no exposure to exposed areas; and
- Tracking or blowing of raw, final, or waste materials from areas of no exposure to exposed areas.

INDUSTRIAL ACTIVITY AREA _____:

1. Brief Description:

2. Are any control measures in need of maintenance or repair? ☐ YES ☐ NO

3. Have any control measures failed and require replacement? ☐ YES ☐ NO

4. Are any additional/revised control measures necessary in this area? ☐ YES ☐ NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

INDUSTRIAL ACTIVITY AREA _____:

1. Brief Description:

2. Are any control measures in need of maintenance or repair? ☐ YES ☐ NO

3. Have any control measures failed and require replacement? ☐ YES ☐ NO

4. Are any additional/revised c necessary in this area? ☐ YES ☐ NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

INDUSTRIAL ACTIVITY AREA _____:

Brief Description:

2. Are any control measures in need of maintenance or repair? ☐ YES ☐ NO

3. Have any control measures failed and require replacement? ☐ YES ☐ NO

4. Are any additional/revised BMPs necessary in this area? ☐ YES ☐ NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

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***NOTE:** Copy this page and attach additional pages as necessary*

INDUSTRIAL ACTIVITY AREA _____:

1. Brief Description:

2. Are any control measures in need of maintenance or repair? ☐ YES ☐ NO
3. Have any control measures failed and require replacement? ☐ YES ☐ NO
4. Are any additional/revised BMPs necessary in this area? ☐ YES ☐ NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

INDUSTRIAL ACTIVITY AREA _____:

1. Brief Description:

2. Are any control measures in need of maintenance or repair? ☐ YES ☐ NO
3. Have any control measures failed and require replacement? ☐ YES ☐ NO
4. Are any additional/revised BMPs necessary in this area? ☐ YES ☐ NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

INDUSTRIAL ACTIVITY AREA _____:

1. Brief Description:

2. Are any control measures in need of maintenance or repair? ☐ YES ☐ NO
3. Have any control measures failed and require replacement? ☐ YES ☐ NO
4. Are any additional/revised BMPs necessary in this area? ☐ YES ☐ NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

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D. CORRECTIVE ACTIONS

Complete this page for each specific condition requiring a corrective action or a review determining that no corrective action is needed. Copy this page for additional corrective actions or reviews.

Include both corrective actions that have been initiated or completed since the last annual report, and future corrective actions needed to address problems identified in this comprehensive stormwater inspection. Include an update on any outstanding corrective actions that had not been completed at the time of your previous annual report.

1. Corrective Action # ☐☐ of ☐☐ for this reporting period.

2. Is this corrective action:
   - ☐ An update on a corrective action from a previous annual report; or
   - ☐ A new corrective action?

3. Identify the condition(s) triggering the need for this review:
   - ☐ Unauthorized release or discharge
   - ☐ Numeric effluent limitation exceedance
   - ☐ Control measures inadequate to meet applicable water quality standards
   - ☐ Control measures inadequate to meet non-numeric effluent limitations
   - ☐ Control measures not properly operated or maintained
   - ☐ Change in facility operations necessitated change in control measures
   - ☐ Average benchmark value exceedance
   - ☐ Other (describe): _____

4. Briefly describe the nature of the problem identified:

5. Date problem identified: ☐☐/☐☐/☐☐☐☐

6. How problem was identified:
   - ☐ Comprehensive site inspection
   - ☐ Quarterly visual assessment
   - ☐ Routine facility inspection
   - ☐ Benchmark monitoring
   - ☐ Notification by EPA or State or local authorities
   - ☐ Other (describe): _____

7. Description of corrective action(s) taken or to be taken to eliminate or further investigate the problem (e.g., describe modifications or repairs to control measures, analyses to be conducted, etc.) or if no modifications are needed, basis for that determination:

8. Did/will this corrective action require modification of your SWPPP? ☐ YES ☐ NO

9. Date corrective action initiated: ☐☐/☐☐/☐☐☐☐

10. Date correction action completed: ☐☐/☐☐/☐☐☐☐ or expected to be completed: ☐☐/☐☐/☐☐☐☐

11. If corrective action not yet completed, provide the status of corrective action at the time of the comprehensive site inspection and describe any remaining steps (including timeframes associated with each step) necessary to complete corrective action:

NPDES Permit Tracking No.:

E. ANNUAL REPORT CERTIFICATION

1. Compliance Certification

Do you certify that your annual inspection has met the requirements of Part 4.2 of the permit, and that, based upon the results of this inspection, to the best of your knowledge, you are in compliance with the permit? ☐ YES ☐ NO

If NO, summarize why you are not in compliance with the permit:

2. Annual Report Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Authorized Representative Printed Name: Title:

Signature: Date Signed:

ATTACHMENT 2- NPDES MULTI-SECTOR GENERAL PERMIT ROUTINE INSPECTION FORM

Los Alamos National Laboratory
ENV-RCRA

NPDES Multi-Sector General Permit Routine Inspection Form
(rev. 03/2009) Page 1 of __ (use additional sheets if necessary)

Name of Facility:	**Responsible FOD (Name & Organization):**	
Qualified Inspector(s): **Others Present:**	**Inspection type:** ☐ Quarterly ☐ Other	**Date of inspection (MM/DD/YYYY):** **Time of inspection:**

Weather: ❑ Clear ❑Cloudy ❑ Rain ❑ Sleet ❑ Fog ❑ Snow ❑ High Winds ❑ Other:
Temperature: ° F
Is Inspection Being Conducted During a Storm Water Discharge? ❑Yes ❑No

#	Structural Control Measures (BMP)s	Location	Operating Effectively (Yes or No)?	If No, Need to Maintain (M), Repair (R) or Replace (RP)?	**Corrective Action Needed and Notes** (identify needed maintenance and repairs, or any failed control measures that need replacement)
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12					

Were additional BMPs or Control Measures implemented? ☐ Yes ☐ No **Describe:**

Were previously identified conditions corrected before the next anticipated storm event? ☐ Yes ☐ No **If No, describe reason:**

Area/Activity (Areas of Industrial Materials or Activities Exposed to Storm Water)	Inspected?	Controls Adequate?	**Corrective Action Needed and Notes (List area letter with comments below)**
A. Material loading/unloading & storage areas			
B. Equipment operations & maintenance areas			
C. Fueling Areas			
D. Outdoor vehicle & equipment washing areas			
E. Waste Handling & disposal areas			
F. Erodible areas / construction			
G. Non-storm water / illicit connections			
H. Salt storage piles or pile containing salt			
I. Dust generation & vehicle tracking			

Are the SWPP Plan maintenance, schedules and procedures being implemented at the facility? ☐ Yes ☐ No

Were any Corrective Actions initiated or completed? ☐ Yes ☐ No **Describe:**

Are there any conditions requiring Corrective Action? ☐ Yes ☐ No **If Yes, List Number of Corrective Actions Required** _____
(Note – need a Corrective Action Form for each listed)

Los Alamos National Laboratory
ENV-RCRA

NPDES Multi-Sector General Permit Inspection Form
(rev. 03/2009) Certification Sheet

Non-Compliance

Describe any incidents of non-compliance and/or need for corrective action observed and not described above:

Additional Control Measures

Describe any additional control measures needed to comply with the permit requirements:

Notes

Use this space for any additional notes or observations from the inspection:

Inspector's Signature and date:_____

CERTIFICATION STATEMENT

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Print name and title: _____

Signature:_____ **Date:**_____

MSGP STORM WATER VISUAL INSPECTIONS

Purpose

This procedure is written to provide requirements for conducting visual monitoring under the 2008 National Pollutant Discharge Elimination System (NPDES) Storm Water Multi-Sector General Permit (MSGP) for industrial facilities.

Scope

Requirements set forth in this document apply to Los Alamos National Laboratory industrial facilities covered by the MSGP. These facilities include, a warehouse, several metal fabrication areas/shops, a heavy equipment yard, an asphalt batch plant, roads and grounds, a foundry, a power plant, a material recycling facility and several hazardous waste treatment, storage or disposal (TSD) facilities. Inspection waivers may be granted by ENV-RCRA for adverse weather conditions and unstaffed or inactive sites.

Hazard review

The work described in this procedure is field work and consists solely of visual evaluations, and has been documented to have a **LOW hazard** rating by submittal of a completed *ENV Low Hazard Verification* form to the Quality Assurance Specialist.

Signatures

Prepared by: Signature on File Holly Wheeler, ENV-RCRA	Date: 02/22/12
Approved by: Signature on File Melanie Lamb, ENV Quality Assurance Specialist	Date: 02/14/12
Authorized by: Signature on File Terrill Lemke, ENV-RCRA Team Leader	Date: 02/27/12
Authorized by: Signature on File Anthony Grieggs, ENV-RCRA Group Leader	Date**: 03/06/12
Classification Review by Signature on File Anthony Grieggs, Derivative Classifier	Date: 03/06/12 ☒ Unclassified

**Effective Date

General information about this procedure

In this procedure

This procedure addresses the following major topics:

Topic	Page
General information about this procedure	2
Who requires training to this procedure?	2
Roles and responsibilities	5
Visual examinations	5
Completing the MSGP storm water visual inspection form	6
Guidance	8
Records resulting from this procedure	9

Attachments

This procedure has the following attachments:

Number	Attachment Title	No. of pages
1	MSGP Visual Inspection Form	1
2	Example MSGP Visual Inspection Form	1
3	Facilities and Storm Water Stations Associated With Industrial Activity	1

History of revision & review

This table lists the revision history, reviews, and effective dates of this procedure:

Revision	Date	Description of Changes or Review
0	7/09	New document.
1	3/10	Clarifications and added attachments.
2	2/12	Biennial review/revision.

Who requires training to this procedure?

The following personnel require training before implementing this procedure:

- Group and Project Leader
- MSGP Visual Assessors
- ENV-Deployed Environmental Professional (DEP)
- ENV-RCRA Sampling Team

Training method

Training to this procedure will be by **"self-study" (reading)** and will be documented in accordance with ENV-DO-QP-115 *Personnel Training*.

General information about this procedure, continued

Prerequisites

In addition to training to this procedure, the following training is also required prior to performing this procedure:

- ENV-RCRA-QAPP-MSGP *Multi-Sector General Permit Quality Assurance Project Plan*

Definitions specific to this procedure

Adverse weather conditions: Weather that prohibits collection of samples such as local flooding, high winds, hurricanes, tornadoes, electrical storms, etc. Could also include drought, extended frozen conditions, etc.

Best Management Practices (BMPs): Schedules of activities, practices, prohibitions of practices, structures, vegetation, maintenance procedures, and other management practices to prevent or reduce pollution. BMPs can also include treatment requirements, operating procedures, and practices to control facility site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Clarity: Clearness or cleanness of appearance. This includes the visual observation of suspended sediment.

Color: Unpolluted water will be clear and colorless. Color should not be confused with clarity.

Floating solids: Particulate material floating on the surface of the water. Examples include: leaves, pinecones, pine needles, dead grass, twigs, branches, and common trash.

Foam: An accumulation of fine frothy bubbles formed in or on the surface of water. A mass of bubbles of air in a matrix of liquid film.

Odor: The property or quality of waters that affects or stimulates the sense of smell. Examples of odors that may be present are burnt oil, sewage, diesel, sulfuric, or detergent odors.

Oil sheen: The presence of rainbow-like colors glistening on the surface of a liquid. The color of oil sheen will vary dependent on thickness and consistency.

Settled solids: Settled particulate material i.e. heavier than water. Examples include sand, gravel, metal turnings, and glass.

Suspended solids: Particulate materials that are floating between the bottom of the sample and the surface of the water.

Unstaffed and Inactive Sites: A facility maintaining certification with the SWPPP that it is inactive and unstaffed and visual examinations are not required.

General information about this procedure, continued

References

- Federal Register: *Final National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges from Industrial Activities.* Federal Register: September 29, 2008, Volume 73, Number 189.
- P300, *Integrated Work Management for Work Activities*
- P315, *Laboratory Institutional Operations Program*
- PD103, *Worker Safety and Health Policy*
- SD100, *Integrated Safety Management System Description*
- P101-18, *Procedure for Pause/Stop Work*
- PD410, *Los Alamos National Laboratory Environmental ALARA Program P121 Radiation Protection*
- ENV-DO-QP-106, *Document Control*
- ENV-DO-QP-102, *Office Safety and Security*
- ENV-DO-QP-104, *Work Safety Review*
- ENV-DO-QP-115, *Personnel Training*

In addition to these documents, please read any site specific requirements before proceeding with work.

Note

Actions specified within this procedure, unless preceded with “should,” or “may,” are to be considered mandatory (i.e., “shall,” “must,” “will”).

Roles and Responsibilities

Deployed Environ-mental Professionals	Deployed environmental professionals (DEPs) are responsible for collecting quarterly visual samples at substantially identical outfalls and completing required documentation, unless arrangements are made to use ENV-RCRA resources. DEPs will be fully knowledgeable of the site specific SWPPP. Whenever practicable the same person should carry out the inspection and examination of the discharges throughout the life of the permit to ensure consistency in interpretation of results. Further, DEPs shall be familiar with facility operations so that potential pollution discharge sources can be determined.
ENV-RCRA MSGP storm water compliance personnel	MSGP storm water compliance personnel are responsible for filling out a visual assessment form if requested by work order for MSGP monitored outfalls. Storm water compliance personnel are also responsible for evaluating the quality of completed visual assessments, retaining a record of QA'd forms on the server and distributing these forms to the DEPs for inclusion into the appropriate facility SWPPP.

Visual Examinations

Visual examinations	Visual examinations of storm water discharge shall be conducted quarterly for each discharge point covered by the MSGP and the site specific SWPPP.
Grab samples	A grab sample will be collected during daylight hours in a 1 liter wide mouth clear glass bottle or plastic container within 30 minutes of discharge from a storm event. If it is not possible to collect the sample within the first 30 minutes of discharge, the sample must be collected as soon as practicable after the first 30 minutes. The sampler will document the reason a sample could not be collected within 30 minutes. If no samples are collected because the sampler was not triggered (or for some other reason), documentation shall be kept in the facility's SWPPP explaining why visual examinations were not conducted.

Completing the MSGP Storm Water Visual Inspection Form

Location, date & time, inspector, etc.	Complete the top section of form including location as indicated on site map, date and time, outfall ID (i.e. the monitored outfall), person collecting and examining the sample and signature, and inspection quarter. **NOTE:** See Attachment 2 for an example of a filled-out MSGP Visual Inspection form. **NOTE:** See Attachment 3 for facility name, location, and station numbers. Include the date and time the discharge began, sample collection date and time and visual assessment date and time for each sample. Identify the nature of the discharge (i.e., rainfall or snowmelt). Determine whether it has been greater than 72 hours from the last storm event. If "No", explain when the last storm event occurred.
Sample documentation	Provide documentation if sample is not collected within 30 minutes of discharge.

Completing the MSGP Storm Water Visual Inspection Form, continued

Describe sample parameters

Refer to section 3.0, Definitions. See attachment 2 for an example of a filled-out MSGP Visual Inspection form.

Parameter	Description
Color	Describe the color of the discharge.
Odor	Describe any odors that may be observed in the discharge. Caution: any unusual odors should be documented.
Clarity	Clarity can be described as the depth in which you can look into or through water. For example an individual can see through a clear glass of clean water in daylight. Generally the clarity of the water is a good visual indicator of the purity of water. If the water is poor in clarity there is most likely suspended solids throughout the water.
Floating Solids	Note any floating solids in the sample. Careful examination should determine whether the solids are raw or waste materials (i.e. vegetative materials).
Settled Solids	Note any settled solids in the sample. Settled solids may be an indicator of unstable ground cover combined with a high intensity storm water runoff event.
Suspended Solids	Note any suspended solids in the sample. Most often suspended solids include fine sediment. This may be an indication of an unstable channel that may have eroding banks. Some water appears to be colored because of relatively coarse particulate material in suspension such as sediment.
Foam	Note an accumulation of fine frothy bubbles formed in or on the surface of water. Describe the color of the foam.
Oil Sheen	Note if there is an oil sheen present, the thickness, and consistency. If yes, contact the ENV-RCRA Project Leader for MSGP **immediately**. Follow-up action is required within 24 hours.
Other	Describe any other indicators of storm water pollution in addition to the descriptions mentioned above.

Completing the MSGP Storm Water Visual Inspection Form, continued

ENV Deployed Environ-mental Professional	Place completed and signed form into the facility SWPPP. Provide a copy to the MSGP Project Leader or other designee at ENV-RCRA.
Site observations	Note if there are any potential sources of pollutants on site. If yes, contact an MSGP representative of ENV-RCRA and document the following: • potential sources; • indicate if there are any BMPs on site and evaluate and note effectiveness; • if no BMPs, determine if installation could correct future pollutant migration; and • the nature of discharge (i.e., runoff or snow melt).
Source of pollutants	While conducting the visual examinations, personnel should constantly be attempting to relate any pollutant that is observed in the samples to the sources of pollutants that are on the site.

Guidance

Clean up	A clean up of the site should be conducted if the pollutant source is known and well defined. The FOD, ESH Manager, and MSGP representative of ENV-RCRA should also be contacted and made aware of the situation. A design change could also be incorporated into the storm water pollution prevention plan to eliminate or minimize the contaminant source from occurring in the future. Personnel should evaluate whether or not additional BMPs should be implemented in the pollution prevention plan to address the observed contaminant, and if BMPs have already been implemented, evaluate whether or not these are working correctly or need maintenance. Corrective actions must be taken if BMPs are not performing effectively. Actions should be taken as soon as practicable from the discovery of any pollutants. **NOTE:** This time frame (and those listed below) is not a grace period. Rather, it is a schedule considered <u>reasonable</u> for documenting your findings and for making repairs and improvements. The time frame is to ensure that the conditions prompting the need for these repairs and improvements are <u>not allowed to persist indefinitely</u>. Failure to take prompt action can result in fines and penalties for non-compliance.

Guidance, continued

Corrective action	If storm water contamination is identified through visual assessment, a corrective action must be entered into the ENV-RCRA MSGP Corrective Action Report database within 24 hours of the observation. A corrective action plan must be identified within 14 days of the observation. **NOTE:** If possible, the corrective action must be implemented before the next anticipated storm event.
Follow up	A date for completion of implementation must be entered into the database to ensure that appropriate actions are taken in response to the examinations.

Records resulting from this procedure

Records	The following records generated as a result of this procedure are to be submitted to an MSGP representative of ENV-RCRA in accordance with ENV-DO-QP-110 *Records Management*. • MSGP Quarterly Visual Assessment Form

Click here to record "self-study" training to this procedure.

MSGP Quarterly Visual Assessment Form

Complete a separate form for each outfall you assess. When adverse weather conditions prevent the collection of a sample during the quarter, a substitute sample must be taken during the next qualifying storm event. Maintain this document in your SWPPP).

Name/Location of Facility:	Permit Number: NMR05GB21	Inspection Quarter: ☐Apr-May ☐Jun-Jul ☐Aug-Sep ☐Oct-Nov
Outfall ID:	"Substantially Identical Outfall"? ☐ Yes ☐ No	If YES identify other Outfalls in the Group:
Person(s) collecting sample (PRINT): PPT Member? ☐ Yes ☐ No	Signature :	
Person(s) examining sample (PRINT): PPT Member? ☐ Yes ☐ No	Signature :	
Date & Time Discharge Began:	Date & Time Sample Collected:	Date & Time Sample Examined:
Substitute Sample? ☐ Yes ☐ No	If YES, identify quarter/year when sample was originally scheduled to be collected:	

Was the sample collected in the first 30 minutes? ☐ Yes ☐ No If No, explain why not:

Nature of Discharge: ☐ Rainfall. Amount_____inches ☐ Snowmelt. Amount_____inches

Previous Storm Ended > 72 hours Before Start of This Storm? ☐Yes ☐ No	If No, Explain: *

PARAMETERS

Color ☐ None ☐ Other	If Other describe:
Odor ☐ None ☐ Musty ☐ Sewage ☐ Sulfur ☐ Sour ☐ Solvents ☐Petroleum/Gas ☐ Other	If Other, describe the odor:
Clarity: ☐ Clear ☐ Slightly Cloudy ☐ Cloudy ☐ Opaque ☐ Other (describe):	
Floating Solids: ☐ Yes ☐ No	If YES, describe if raw or waste materials(s):
Settled Solids:** ☐ Yes ☐ No	If YES, are solids Fine ☐ Coarse ☐ If Other describe:
Suspended Solids: ☐ Yes ☐ No	If YES, are solids Fine ☐ Coarse ☐ If Other describe:
Foam (gently shake sample): ☐ Yes☐ No	If YES, on the surface ☐or ☐ in the water. Describe color:
Oil Sheen ☐ Yes ☐ No ☐ Color of Sheen:	Thickness: Flecks ☐ Globs ☐ Describe if other:
Other Obvious Indicators of Pollution Present in the sample? Yes☐ No☐	If YES describe:

SITE OBSERVATIONS

Potential pollutants found during visual examination? ☐ Yes ☐ No If Yes, list pollutant(s)and if possible indicate the source: If source is identified during collection of sample, please notify Tim Zimmerly @ 699-7621 or 664-0105

Pollutant	Source	Pollutant	Source

NOTE: A clean up of the site should be conducted if the pollutant source is known. Was proper Notification made? ☐ Yes ☐ No
If Yes, indicate who was notified:

CORRECTIVE ACTION

If storm water contamination was identified in this sample through visual assessment, was a Corrective Action Form filled out within 24 hrs of observation? Yes☐ No☐ If No, explain why not:

Was a Corrective Action Plan identified within 14 days of the observation? Yes☐ No☐ If No, explain why not:

Other Relevant Information: Yes☐ No☐
Use the back of this form to list any concerns, comments, and/or descriptions of pictures taken, (attach additional sheets as necessary).

* The 72-hour interval can be waived when the previous storm did not yield a measurable discharge or if you are able to document (attach applicable documentation) that less than a 72-hour interval is representative of local storm events during the sampling period.

** Observe for settled solids after allowing the sample to sit for approximately one-half hour.

Example of Filled-Out MSGP Quarterly Visual Assessment Form

MSGP Quarterly Visual Assessment Form

Complete a separate form for each outfall you assess. When adverse weather conditions prevent the collection of a sample during the quarter, a substitute sample must be taken during the next qualifying storm event. Maintain this document in your SWPPP).

Name/Location of Facility: TA-3-66 Sigma Foundry	Permit Number: NMR05GB21	Inspection Quarter: ☒ Jan-Mar ☐ Apr-Jun ☐ Jul-Sep ☐ Oct-Dec
Outfall ID: 3-Sigma-1	"Substantially Identical Outfall"? ☒ Yes ☐ No	If **YES** identify other Outfalls in the Group: 3-Sigma-2, 3-Sigma-3, 3-Sigma-4, 3-Sigma-5, 3-Sigma-6 and 3-Sigma-7
Person(s) collecting sample (PRINT): PPT Member? ☐ Yes ☒ No Joe Doe	Signature : Joe Doe	
Person(s) examining sample (PRINT): PPT Member? ☐ Yes ☒ No Joe Doe	Signature : Joe Doe	
Date & Time Discharge Began: 1/14/2010 at 3:00 P.M.	Date & Time Sample Collected: 1/14/2010 at 3:25 P.M.	Date & Time Sample Examined: 1/14/2010 at 4:30 P.M.
Substitute Sample? ☐ Yes ☒ No	**If YES**, identify quarter/year when sample was originally scheduled to be collected:	
Was the sample collected in the first 30 minutes? ☒ Yes ☐ No If No, explain why not:		
Nature of Discharge: ☐ Rainfall. Amount_____inches	☒ Snowmelt. Amount___0.25 inches	
Previous Storm Ended > 72 hours Before Start of This Storm? ☒ Yes ☐ No	**If No**, Explain: *	

PARAMETERS

Color	☐ None ☒ Other	**If Other** describe: light brown
Odor ☒ None ☐ Musty ☐ Sewage ☐ Sulfur ☐ Sour ☐ Solvents ☐ Petroleum/Gas ☐ Other		**If Other,** describe the odor:
Clarity: ☐ Clear ☒ Slightly Cloudy ☐ Cloudy ☐ Opaque ☐ **Other (describe)**:		
Floating Solids: ☐ Yes ☒ No		**If YES,** describe if raw or waste materials(s):
Settled Solids:** ☐ Yes ☒ No		**If YES,** are solids Fine ☐ Coarse ☐ If Other describe:
Suspended Solids: ☒ Yes ☐ No		**If YES,** are solids Fine ☒ Coarse ☐ If Other describe:
Foam (gently shake sample): ☐ Yes ☒ No		**If YES,** on the surface ☐ or ☐ in the water. Describe color:
Oil Sheen ☐ Yes ☒ No ☐ **Color of Sheen**:		**Thickness**: Flecks ☐ Globs ☐ Describe if other:
Other Obvious Indicators of Pollution Present in the sample? Yes ☐ No ☒		**If YES** describe:

SITE OBSERVATIONS

Potential pollutants found during visual examination? ☐ Yes ☒ No **If Yes,** list pollutant(s)and if possible indicate the source: If source is identified during collection of sample, please notify Tim Zimmerly @ 699-7621 or 664-0105

Pollutant	Source	Pollutant	Source

NOTE: A clean up of the site should be conducted if the pollutant source is known. Was proper Notification made? ☐ Yes ☐ No
If Yes, indicate who was notified:

CORRECTIVE ACTION

If storm water contamination was identified in this sample through visual assessment, was a Corrective Action Form filled out within 24 hrs of observation? Yes ☐ No ☐ **If No**, explain why not:

Was a Corrective Action Plan identified within 14 days of the observation? Yes ☐ No ☐ **If No**, explain why not:

Other Relevant Information: Yes ☐ No ☒
Use the back of this form to list any concerns, comments, and/or descriptions of pictures taken, (attach additional sheets as necessary).

* The 72-hour interval can be waived when the previous storm did not yield a measurable discharge or if you are able to document (attach applicable documentation) that less than a 72-hour interval is representative of local storm events during the sampling period.

** Observe for settled solids after allowing the sample to sit for approximately one-half hour.

Los Alamos National Laboratory
FACILITIES AND STORM WATER STATIONS ASSOCIATED WITH INDUSTRIAL ACTIVITY

2008 MSGP PERMIT #NMR05GB21

LOCATION	OPERATION	Activity	Sector	STATION	DRAINAGE
TA-3-22	POWER PLANT	STEAM ELECTRIC POWER	O	E121.9, 03-0022N, 03-0022S	Sandia
TA-3-38	METAL SHOP	FABRICATED METALS	AA	03-0038W	Sandia
TA-3-39, 102	METAL SHOP	FABRICATED METALS	AA	03-0039E	Pajarito
TA-3-66	SIGMA FOUNDRY	PRIMARY METALS	F	E122.3	Sandia
TA-60	ASPHALT BATCH PLANT	ASPHALT BATCH PLANT	D	E200.5	Mortandad
TA-54	AREA G - South Side	TSD	K	54-PAD10E, E248.5, E248	Pajarito
TA-54	AREA G - North Side	TSD	K	E227	Canada del Buey
TA-54	AREA L	TSD	K	E223	Canada del Buey
TA-54-38	RANT	TSD	K	E220	Canada del Buey
TA-15-185	VEHICLE MAINTENANCE SHOP	VEHICLE MAINTENANCE	P	E262.4	Water
TA-60-1	MOTORPOOL	VEHICLE MAINTENANCE	P	60-0001	Sandia
TA-60	MATERIALS RECYCLING FACILITY	RECYCLING	N	E122.35	Sandia
TA-60-250	ROADS & GROUNDS FACILITY	VEHICLE MAINTENANCE & STORAGE	P	E123.4, 60-00RG, 60-00RGE	Sandia
TA-3-0034	METAL SHOP	FABRICATED METALS	AA	03-0034	Sandia
TA-9-28	HEAVY EQUIPMENT MAINTENANCE OPERATIONS	VEHICLE MAINTENANCE AND STORAGE	P	09-0028W	Upper Pajarito
TA-60-2	WAREHOUSE	WHAREHOUSE	P	60-002E	Sandia

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Performance Improvement from Abnormal Events

1.0 PURPOSE

This document defines the process for responding to and notifying others of abnormal events at Los Alamos National Laboratory (LANL or the Laboratory). The abnormal event process is part of the LANL Contractor Assurance System (CAS), and is focused on effectively driving continuous performance improvement from each event.

Events that pose an immediate threat to life or property are subject to additional emergency notification requirements. See Section 3.12.

2.0 AUTHORITY AND APPLICABILITY

2.1 Authority

This document is issued under the authority of the Laboratory Director to direct the management and operation of the Laboratory, as delegated to the Contractor Assurance Officer (CAO), as provided in the Prime Contract. This document derives from the Laboratory Governing Policies, particularly the section on Management Systems, and SD320, *Los Alamos National Laboratory Contractor Assurance System Description Document*.

- Issuing Authority (IA): Contractor Assurance Officer (CAO)
- Responsible Manager (RM): Quality and Performance Assurance–Performance Assurance (QPA-PA) Group Leader
- Responsible Office (RO): Quality and Performance Assurance–Performance Assurance (QPA-PA)

2.2 Applicability

This document applies to all Laboratory workers, including employees of Los Alamos National Security, LLC (LANS), its contractors/subcontractors, students, guests, affiliates, or visitors. This document applies to work-related events on-site, i.e., within the physical boundaries of LANL, and off-site when the workers are (1) in LANL pay status, and (2) working under LANL procedures and requirements. Events involving LANL workers that occur at another Department of Energy (DOE)/National Nuclear Security Administration (NNSA) contractor site and where the work is under that site's procedures and requirements are managed by that contractor's abnormal event process.

Abnormal events include all abnormal conditions, accidents, incidents, or deviations from the planned outcome of a workplace activity that did or could have adversely affect(ed) health or safety of workers, the public, the environment, or the integrity of LANL programs or facilities.

Roles assigned in this document are based on P313, *Roles, Responsibilities, Authorities, and Accountability*. Key roles are filled by the Facility Operations Directors (FODs) and trained investigators from QPA-PA who support the FODs. The term FOD in this document refers to individuals in the Nuclear and High-Hazard Operations Directorate (NHHO), but for events that do not fall within the boundary of an NHHO-managed FOD Unit, refer to individuals outside of NHHO designated to fill the FOD role. Examples of the FOD role served from outside NHHO include:

- Construction/demolition project managers for events within their project,
- Subject matter experts, such as the Environmental Protection (ENV) Division Director, for multi-facility events or events with institutional impact, and
- The Laboratory Deputy Director for all Team Investigations.

Management authority and responsibility for execution of the abnormal event process are assigned to the FODs. FODs may delegate responsibilities and authorities for the abnormal event process to Operations Managers or Duty Officers. Facility-owning Responsible Associate Directors (RADs) establish their involvement in the process through agreements with the FODs. Details of the abnormal event process and procedures are maintained by QPA-PA and found on the Occurrence Reporting webpage.

Processes related to Operational Emergencies (OEs), security incidents, and the Price-Anderson Amendments Act (PAAA)/Worker Safety and Health (WSH) program are beyond the scope of this document. See Section 3.12.

3.0 PROCEDURE DESCRIPTION

The Laboratory has adopted a graded approach for investigating and resolving abnormal events. See Table 1 for a summary of the three-tier graded approach, and Attachment A, *Abnormal Event Process*, for the process flow at each of the three tiers.

Table 1. Graded Approach to Abnormal Events

Event Type	Examples	Who Investigates/Resolves
High-significance Occurrence Reporting and Processing System (ORPS)-reportable events are subject to Team Investigation. See Section 3.11.	▪ Fatality, terminal or disabling injury ▪ Criticality accident or near miss ▪ Radiation exposure exceeding limits for a worker or member of the public	▪ A team appointed by the Deputy Laboratory Director investigates. ▪ The Institutional Management Review Board (IMRB) oversees corrective action.
Low- to moderate-significance ORPS-reportable events, exceeding the ORPS thresholds. See Section 3.2.	▪ Injury requiring hospitalization ▪ Failures of safety-required equipment ▪ Moderate-hazard electrical shock events ▪ Violations of safety requirements	▪ Facility Operations Directors (FODs) with support from full-time, trained investigators in QPA-PA investigate. ▪ Appropriate Management Review Boards (MRBs) oversee corrective action.

Table 1. Graded Approach to Abnormal Events		
Event Type	**Examples**	**Who Investigates/Resolves**
Sub-ORPS events fall below the ORPS thresholds. See Section 3.10.	▪ Minor workplace incidents or near misses ▪ Minor equipment failures ▪ Operational concerns resulting in pause or stop work	▪ Improvement Responsible Managers (IRMs) from the facility or program where the event occurred investigate. ▪ Local MRB oversees corrective action.

3.1 Notify Management of an Abnormal Event

Abnormal events at LANL require immediate management notifications. Workers generally witness first hand or discover evidence of abnormal events, and it is their responsibility to recognize the abnormality, stabilize the situation to the extent possible (e.g., pause or stop work), and initiate the notifications to their chain of facility and line management. These immediate notifications must be concise and factual.

Workers who are involved in any abnormal event or who discover any abnormal condition must:

- Notify their immediate supervisor, or the first immediately available manager in the worker's chain of command; and
- Notify the FOD or FOD designee if required by local procedures or if their immediate supervisor is unavailable.

Supervisors and first line managers, group-level managers, and division-level managers who are notified by a worker or in any way become aware of an abnormal event must:

- Ensure notification of the FOD/designee for all abnormal events;
- Notify the first immediately available manager in their upward chain;

  Note: For minor events, line managers at each level may use their judgment as to the extent of additional, upward, line-management notification; and

- Follow any additional FOD or RAD expectations for additional notifications.

RADs, upon being notified of an abnormal event in their facility should, according to their judgment:

- Consult with the FOD/designee on response to the event;
- Notify their Principal Associate Director (PAD)
- Notify the Deputy Laboratory Director (see Section 3.1.1), and
- Notify affected sponsors or external program managers of the involved facility or project.

The management notifications described above are generally verbal. The responsibility for official written notification of the event is reserved to the FOD in accordance with Section 3.3.

3.2 Categorize the Event

Within two hours of becoming aware of an abnormal event, the FOD or FOD designee must gather key facts, decide whether an abnormal event has in fact occurred, and categorize the event as either ORPS or Sub-ORPS. Categorization follows the reporting criteria of DOE Order 232.2, *Occurrence Reporting and Processing of Operations Information*. Reporting and categorization criteria compliant with DOE requirements are maintained in procedures by QPA-PA found on the Occurrence Reporting webpage. Events falling below the ORPS thresholds are processed as Sub-ORPS. See Section 3.10.

The event categorization establishes the next steps, including:

- External notifications to include NNSA-Los Alamos Site Office (LASO) Facility Representative and possibly DOE Headquarters Operations Center (HQ OC).
- Reporting timelines.
- Rigor applied to the investigation, causal analysis, and corrective action.
- Approvals required for the final report.

Categorization places each ORPS-reportable event into a Significance Category (SC) based on DOE requirements as follows:

- **Significance Category OE**. Operational Emergencies, the highest significance, are categorized exclusively by the LANL Emergency Operations (EO) Division (see Section 3.12)
- **Significance Category 1 (SC1)**: Occurrences that have a significant impact on safe facility operations, worker or public safety and health, regulatory compliance, or public/business interests
- **Significance Category 2 (SC2)**: Occurrences that have a moderate impact on safe facility operations, worker or public safety and health, regulatory compliance, or public/business interests
- **Significance Category 3 (SC3)**: Occurrences that have a minor impact on safe facility operations, worker or public safety and health, regulatory compliance, or public/business interests
- **Significance Category 4 (SC4)**: Occurrences that have some impact on safe facility operations, worker or public safety and health, public/business interests
- **Significance Category R (SCR)**: Occurrences flagged as recurring, based usually on a history of prior similar abnormal events at LANL, and indicating failure of prior corrective actions. Declaration of a Category R event requires concurrence of the Deputy Laboratory Director and chartering of a resource-intensive Team Investigation to evaluate the historic data (see Section 3.11)

If early information is incomplete, the FOD must categorize conservatively (at the higher level being considered) within two hours, then adjust the category at the critique or as more information becomes available.

Events at all levels of severity (ORPS and Sub-ORPS) are subject to additional screening and possibly reporting under the PAAA/WSH program (see Section 3.12).

3.3 Transmit Prompt (E-mail) Event/Incident Notification

As soon as possible after categorization (indicating that an abnormal event has in fact occurred) the FOD or designee sends an e-mail (Event/Incident Notification) to key stakeholders both inside and outside LANL with the best available information about the event. The Event/Incident Notification includes the following:

- Date/Time of Discovery
- Date/Time of Categorization
- Location of the event (TA/Building; RAD)
- Description of the event, including the following information when relevant:
  - Personal injuries
  - Damage to facilities, systems, equipment
  - Impact of event on other activities and operations
  - Protective actions taken or recommended
  - Weather conditions at the scene
  - Level of media or public interest
- Other notifications made
- Whether or not the event is to be included in the Daily/Special Executive Report
  - Title and text for Executive Report
- Whether or not the event is ORPS-reportable
  - ORPS reporting criteria (Group/Subgroup/Criterion)
  - SC

The distribution group for the e-mail includes at a minimum:

- RAD for the event, and any subordinates in the RAD chain according to FOD/RAD agreements
- Associate Director for Nuclear and High-Hazard Operations (ADNHHO)
- QPA-PA investigator assigned to the facility
- QPA-PA staff responsible for the Daily/Special Executive Report
- NNSA Facility Representative for the FOD Unit (required within two hours of the event for all ORPS-reportable events)

  Note: Through agreement with the assigned NNSA Facility Representative, FODs establish facility-specific expectations to include telephone notification if necessary to ensure meeting the two-hour requirement.

- DOE HQ OC (required within two hours of the event for certain ORPS-reportable events, and identified with an asterisk [*] in DOE reporting criteria maintained by QPA-PA and found on the Occurrence Reporting webpage.)

In addition, through agreement with the RAD, FODs establish facility-specific expectations for inclusion of the RAD or certain RAD staff on distribution of Event/Incident Notifications.

3.3.1 Daily or Special Executive Report

The Event/Incident Notification is followed by a Daily Executive Report or Special Executive Report to LANL, LANS, and LASO senior managers. Only ORPS-reportable events and the most significant Sub-ORPS events are included in these Executive Reports. Executive Reports are generated from the FOD's Event/Incident Notification and transmitted by QPA-PA staff on a time scale dependent on event significance as follows:

- For SC2/3/4 ORPS-reportable events (not marked with an asterisk) and any Sub-ORPS event designated by the FOD for inclusion in the Daily Executive Report, QPA-PA develops from the Event/Incident Notification an Operations Event entry into the Daily Executive Report for the next business day.
- For SC1, and SC2*/3*/4*events (requiring notification within two hours of the event to HQ OC by the FOD), QPA-PA develops from the Event/Incident Notification a Special Executive Report to be distributed as soon as possible but no later than two hours after receipt of the FOD's Event/Incident Notification.
- For OE events (requiring notification within15-30 minutes of the event to HQ OC by EO personnel), QPA-PA develops from the EO information as forwarded by the FOD, a Special Executive Report to be distributed as soon as possible but no later than two hours after receipt of the EO e-mail. See Section 3.12 for cautions about exclusive communications authority assigned to EO personnel.

3.4 Critique the Event

The worker-involved meeting to discuss the abnormal event, called the "critique," is the most immediate part of the event investigation and plays a central role in launching an effective partnership between workers, supervisors, and managers to understand the event and improve future performance. Critiques are required for ORPS-reportable events and are optional, at FOD discretion, for Sub-ORPS events (see Section 3.10).

All critiques at the Laboratory must meet three key expectations:

- Critiques must be held as soon as possible after the event. The critique should be held the same day as the event, and for ORPS-reportable events must be held no later than close of the business day following the event. The FOD may, due to extenuating circumstances (e.g., a key involved worker is unavailable), grant an extension of this deadline.
- Attendance in the worker/responder portion of the critique must be held to the minimum necessary and sufficient to understand the event and immediate response. The guideline for minimum attendance is the FOD, QPA-PA investigator, and the involved worker(s). Supervisors and first line managers are encouraged to attend, but to maintain a manageable size and candid environment, managers above group level are encouraged to defer attendance to the critique closeout or post-critique follow-on meetings. The PAAA Office Coordinator, NNSA Facility Representatives, and (for nuclear facilities only) Defense Nuclear Facilities Safety Board Representatives must be invited to all critiques, but attendance is at their discretion and critiques proceed on schedule if they are absent. The size guidelines for LANL critiques apply equally to all events, from minor to the most severe.
- The critique must be an open discussion forum, never a blame placing session. Event investigation is often perceived as a punitive process. Combating this perception begins at the critique, where the FOD and all managers in attendance must take active steps to set and maintain a tone of learning from the experience rather than finding fault with individuals.

Involved workers, responders, managers and subject matter experts called upon to attend the critique must candidly explain the sequence of events leading up to, during, and immediately following the event, participate openly and effectively in the problem-solving discussion, and cooperate fully with the FOD and critique leader.

3.5 Open Event Record in the Performance Feedback and Improvement Tracking System (PFITS) and ORPS

For all abnormal events (ORPS and Sub-ORPS) a record is opened in the PFITS system. For ORPS-reportable events, parallel records are entered into the DOE ORPS system; for Sub-ORPS events, the PFITS record is the sole record of the event. PFITS maintenance beginning at this step is according to the local event-related Performance Feedback and Improvement (PFI) processes, administered with support of Improvement Management Coordinators (IMCs).

Consistency between the ORPS and PFITS systems is ensured by attachment of the written ORPS Notification Report to the PFITS record. The QPA-PA investigator provides assistance to the FOD in generating the Notification Report, or for SC4 events, the Notification/Final Report, in the ORPS system. Notification Reports must be submitted to the ORPS system within the first two business days after the event as follows:

- OE and SC1: no later than Close of Business (COB) the next business day after the day of categorization, not to exceed 80 hours from the date and time of categorization.
- SC2 and SCR: no later than COB the next business day after the day of categorization.
- SC3: no later than COB on the second business day after the day of categorization.
- SC4: Notification/Final (Short Form) Report: no later than COB on the second business day after the day of categorization.

3.6 Investigate

Investigations are required for ORPS-reportable events, and are led by the QPA-PA investigator as the agent of the FOD. Investigations for Sub-ORPS events are required only for more significant events, in accordance with criteria found in P322-4, *Laboratory Feedback and Improvement Process*. Sub-ORPS investigations, if performed, are generally led by the Improvement Responsible Manager (IRM) and IMC according to local event-related PFI processes (see Section 3.10). The most serious events are investigated by a multidisciplinary team (see Section 3.11). All investigations of abnormal events are graded to the risk or significance of the event, and must be performed by individuals trained according to P322-1, *Causal Analysis and Corrective Action Development*.

Subject matter experts are consulted by the lead investigator as deemed necessary to understand the specific event. Human Performance Improvement (HPI) Practitioners should be involved to address human error as it relates to organizational weakness and latent conditions.

3.7 Determine Causal Factors

Causal analysis is required for ORPS events in SCs OE/1/2/3/R, and is optional for SC4. ORPS causal analysis is led by the QPA-PA investigator as agent of the FOD, or by the Team Chair for Team Investigations (see Section 3.11),Causal analysis for Sub-ORPS events is required only for more significant events, in accordance with criteria found in P322-4, *Laboratory Feedback and Improvement Process*. Sub-ORPS causal analysis, if performed, is generally led by the IRM and IMC according to local event-related PFI processes (see Section 3.10). The target for completion of ORPS causal analysis and submittal of a report to the FOD is Day 24 from the event; a similar timeframe is recommended but not required for Team Investigations and Sub-ORPS events (see Attachment A, *Abnormal Event Process*). For all abnormal events the causal analysis must be performed by individuals who are trained and using methods in accordance with P322-1, *Causal Analysis and Corrective Action Development.*

3.8 Develop Corrective Actions

Corrective action development in response to identified causal factors is the same for all abnormal events (events requiring Team Investigations, ORPS-reportable events, and Sub-ORPS events) and follows event-related PFI processes within facilities and programs. PFI processes are described in P322-1, *Causal Analysis and Corrective Action Development* and P322-4, *Laboratory Performance Feedback and Improvement Process*.

Recording and tracking of corrective actions is shared between the DOE ORPS and the LANL PFITS systems. Basic corrective action statements are entered into the ORPS Final Report. Detailed action plans and all active tracking of actions to closure, including changes to the due date or content of the action, are managed using the PFI process and the PFITS system.

ORPS Final Reports (except SC4, for which Notification/Final Reports must be completed in two business days, but corrective actions are optional) must be completed 45 calendar days from categorization of the event. See Attachment A, *Abnormal Event Process*. Extensions beyond 45 days are coordinated between the FOD and QPA-PA investigator, and require FOD concurrence. Team Investigations follow a schedule established in the charter process. See Section 3.11.

Closure of Sub-ORPS events follows guidelines in P322-4, *Laboratory Performance Feedback and Improvement Process.*

3.9 Submit Final Report in PFITS and ORPS

For ORPS-reportable events, FODs approve by signature and own the Final Report. QPA-PA staff assist with filling all required Final Report fields and obtaining Derivative Classifier (DC) review either by QPA-PA staff or the FOD/RAD organizations. Parallel PFITS records for each event comprise the official record of corrective actions and concurrence of all assigned action owners.

NNSA Facility Representatives have approval and change control authority for ORPS Final Reports in significance categories SCR, SC2, SC1, and OE. Coordination of draft reports in these SCs with the Facility Representative and resolution of Facility Representative rejections are shared duties for the FOD and QPA-PA staff. The record of Facility Representative approvals and all change control is kept in PFITS.

Sub-ORPS reports consist of the PFITS record of the event. See Section 3.10.

Team Investigations are entered into the ORPS system but are also published according to the charter. See Section 3.11.

3.10 Sub-ORPS Events

Management notifications (see Section 3.1), categorization by the FOD (see Section 3.2), and prompt e-mail notification (see Section 3.3) apply to both ORPS and Sub-ORPS events. Process steps described in Sections 3.4 through 3.9 are carried out for Sub-ORPS events with the roles shifted from the FOD and QPA-PA investigators to responsible managers and IMCs in the facilities and programs. These differences from ORPS-reportable events are noted in each section above and summarized here as follows:

3.10.1 Criteria for Sub-ORPS Reporting

By definition, Sub-ORPS events include all events reported by the FOD in an Event/Incident Notification that do not meet any ORPS threshold. The Laboratory does not publish de minimis criteria or a "floor" for incidents warranting Event/Incident Notification, i.e., Sub-ORPS reporting. FODs are expected to use operational experience, professional judgment, and common sense in their decisions. Guidance and oversight of the Sub-ORPS reporting decision process are the responsibility and authority of ADNHHO.

3.10.2 Critique of Sub-ORPS Events

Critiques are optional, at the discretion of the FOD, for Sub-ORPS events. If the FOD opts to hold a critique, it should be held soon after the event, but there are no firm timeline requirements. The role of the QPA-PA investigator is replaced by a local IMC who serves as the records manager for the event and enters information about the event and response into PFITS.

3.10.3 Sub-ORPS Investigation, Causal Analysis, and Corrective Action Development

For Sub-ORPS events the requirement and level of rigor for investigation, causal analysis, and corrective action is graded to the severity of the event in accordance with criteria found in P322-4, *Laboratory Feedback and Improvement Process*. Sub-ORPS investigation, causal analysis, and corrective action, if required, are generally led by the IRM and IMC, in accordance with methods and training found in P322-1, *Causal Analysis and Corrective Action Development.* FOD involvement is at local discretion; QPA-PA investigators are generally not involved.

3.10.4 Reporting and Closure of Sub-ORPS Reports

Records and tracking to closure of Sub-ORPS events are strictly within the PFITS system. There are generally no external reporting requirements (see Section 3.12 regarding possible exceptions for PAAA/WSH events) and no timelines for Sub-ORPS events other than guidelines of the PFI process.

Sub-ORPS records are placed in PFITS at the appropriate level of the PFI significance hierarchy based on criteria in P322-4, *Laboratory Performance Feedback and Improvement Process*, and, if applicable, P141, *Price Anderson Amendments Act (PAAA), Worker Safety and Health (WSH), and Classified Information Security (CIS) Enforcement Procedure*.

3.11 Team Investigations

Team Investigations are performed by a three- to six-member team, and are reserved for the most serious ORPS-reportable events. They are subject to all requirements of Sections 3.1 through 3.9 above, but are sponsored by the affected senior managers and chartered by the Deputy Laboratory Director, who assumes the role of the FOD. The IMRB, chaired by the Deputy Laboratory Director supported by the Institutional Improvement Management Coordinator (IIMC) provides the PFI process regarding acceptance of causal factors and development of corrective actions.

Team Investigations are required for events with final categorizations of OE, SC1 and SCR (see the note below). For SC2/3/4 events, declaration of a Team Investigation is rare but may be recommended to the Deputy Laboratory Director. Proposals and plans for a Team Investigation are developed and submitted to the Deputy Laboratory Director by a sponsor group, comprising at a minimum the following collection of individuals:

- FOD with responsibility for the facility
- RAD with responsibility for the facility
- ADNHHO
- Contractor Assurance Officer

The sponsor group initiates the recommendation to launch a Team Investigation as the significance of the event is understood. Alternatively, the Deputy Laboratory Director may decide to launch a Team Investigation, directing the appropriate sponsor group to assemble and develop the plans. When a Team Investigation is declared, the FOD ensures the event scene is preserved and authority is formally turned over to the Team Chair.

The Team Chair is assigned full-time to the investigation, reports to the Deputy Laboratory Director for the duration of the Team Investigation process, and ensures the Team's report of investigative findings and causal analysis, addressing the scope and within the timeline of the charter memo, is submitted to the Deputy Laboratory Director. QPA-PA supports all aspects of the Team Investigation process and provides a trained investigator to serve full time in support of the process. Team members and consultants assigned in the charter memo are appointed as needed, up to full-time, to the investigation. The Team Chair has authority to enlist additional resources (safety experts, HPI Practitioners, etc.) as deemed necessary. The sponsor group proposes—and the Deputy Laboratory Director approves—resource and cost allocations for the Team's effort.

Guidance on the Team Investigation process, including recommended qualifications of the Chair and team members, charter, infrastructure, investigation, causal analysis, factual accuracy reviews, final report format and content, corrective action development, and approval process are maintained in procedures by QPA-PA found on the Occurrence Reporting webpage.

Note: The requirement for a Team Investigation is based on final ORPS categorization as OE, SC1, or SCR. Events that are declared an OE based on early data but after additional information becomes available are deemed by EO personnel to have at no time actually met the emergency criteria DO NOT automatically require Team Investigation. Such events retain the OE designation in the EO Division records but, like all events, are recategorized by the FOD in the ORPS system as new information becomes available.

3.12 Limitations

Additional event-related processes that apply to certain types of events are beyond the scope of this document, and in some instances preempt requirements of this document.

Operational Emergencies (OEs). Events requiring emergency response (e.g., explosion, fire, hazardous material release) are subject to categorization, notifications, and response under PD1200, *Emergency Management*, and EO-DO-PLAN-100, *Hazardous Materials Program Emergency Plan*, found on the EO webpage, plus any facility-specific emergency management plans and procedures. For the duration of emergency conditions, EO personnel and procedures take precedence and the requirements of this document are preempted.

The first responsibility of all employees in such events is to request immediate assistance by calling 911 and/or Emergency Operations-Emergency Management (EO-EM, 667-6211) as noted in Attachment A, *Abnormal Event Process*. All verbal and written communications regarding a declared OE, both internal and external to LANL and from declaration through termination of the emergency condition, are managed exclusively by EO personnel. After the OE is terminated by EO personnel, the FOD regains control of the event scene and the balance of the abnormal event process proceeds according to this document. Contact EO Division immediately for assistance with severe events that do or might meet OE criteria.

Security Incidents. Incidents of known or potential security concern must be reported to the Security Incident Team (SIT) in the Security Integration Office, in accordance with requirements in P201-3, *Reporting Known and Potential Incidents of Security Concern*. Events strictly of security concern are not subject to the requirements in this document. For events that present components of security concern but also safety or operational issues, the FOD must work with the SIT to ensure requirements of this document and P201-3 are met. Contact the SIT for assistance with the security inquiry program.

Price-Anderson Amendments Act/Worker Safety and Health (PAAA/WSH). Events at all levels of severity (ORPS and Sub-ORPS) are subject to all requirements in this document, but also to additional screening and possibly reporting to the DOE Noncompliance Tracking System (NTS) in accordance with P141, *Price Anderson Amendments Act (PAAA), Worker Safety and Health (WSH), and Classified Information Security (CIS) Enforcement Procedure*. Contact the local PAAA Point of Contact and/or PAAA Coordinators in the QPA PAAA Program Office for assistance with this program.

4.0 RESPONSIBILITIES

4.1 Deputy Laboratory Director

- Approves and charters Team Investigations.
- Receives and approves final reports from Team Investigations.
- Directs and oversees, through the IMRB, corrective actions from Team Investigations.

4.2 Associate Directors (as Facility-Owning Responsible Associate Directors [RADs])

- Establish agreement with each sponsored FOD regarding roles, responsibilities, and RAD involvement in the abnormal event process, including categorization, critique, corrective action development, and report approval. Written agreements are recommended but not required.
- Coordinate with the FOD on an effective PFI process, including MRB structure and IMC staffing, to support the 45-day closure of ORPS and Sub-ORPS abnormal event reports.

- For events warranting Team Investigation in an owned facility, serve as members of the Sponsor Group.

4.3 Group- and Division-Level Managers

- Ensure the appropriate immediate management notifications of abnormal events, compliant with facility and organizational expectations.
- Cooperate with FOD and QPA-PA investigators in all steps of event critiquing, investigation, causal analysis, and corrective action development.
- Participate in the Sub-ORPS process in accordance with FOD/RAD agreements and local PFI processes.

4.4 Supervisors/First Line Managers

- Ensure timely notification of the FOD (or FOD designee in accordance with local expectations) and first available line manager (group-level or above) for every abnormal event within their work area or span of supervision.
- Cooperate with the FOD and QPA-PA investigator in all steps of event critiquing, investigation, causal analysis, and corrective action development.

4.5 Workers

- Report to supervisors or first line managers any abnormal event or condition, whether within or beyond the bounds of the assigned work area.
- Participate candidly and openly when invited to critiques of abnormal events, or when interviewed as part of the investigation.
- Cooperate with the FOD, FOD staff, and QPA-PA investigator in abnormal event investigations, causal analysis, and corrective action development.

4.6 Associate Director for Nuclear and High Hazard Operations (ADNHHO)

- For all Team Investigations, serves as a member of the Sponsor Group advising the Deputy Laboratory Director and supporting the execution of the investigation.

4.7 Contractor Assurance Officer

- For all Team Investigations, serves as a member of the Sponsor Group advising the Deputy Laboratory Director and supporting the execution of the investigation.

4.8 Facility Operations Directors (FODs) (as defined in Section 2.2)

- Establish agreement with each sponsoring RAD regarding roles, responsibilities, and RAD involvement in the abnormal event process, including categorization, critique, corrective action development, and report approval. Written agreements are recommended but not required.
- Categorize each abnormal event within two hours of discovery.
- As soon as possible after categorization, transmit an Event/Incident Notification describing the event.
- Ensure required notifications to NNSA Facility Representatives and DOE HQ OC are made within required timelines.

- Manage the abnormal event process for the facility, including immediate communications, critique, investigation, causal analysis, and handoff to the local PFI process for corrective action development.
- Review, comment, approve, and assume ownership of every written report destined for the DOE ORPS system.
- Coordinate with the RAD on developing an effective PFI process, including MRB structure and IMC staffing, to support the closure of ORPS and Sub-ORPS abnormal event reports.
- Monitor and drive continuous improvement in meeting the target timeline of developing and providing to QPA-PA corrective actions and other report closure information by Day 45 after categorization of each ORPS-reportable event.
- Resolve conflicts or disputes regarding any aspect of the abnormal event process, and provide field managerial support to the assigned QPA-PA investigator.
- For events warranting Team Investigation, serve as a member of the Sponsor Group.

4.9 Quality and Performance Assurance–Performance Assurance (QPA-PA)

- Deploys trained investigators to support FODs in all aspects of the abnormal event process, from categorization to final report.
- Drafts for FOD review and submits after FOD approval all written reports of abnormal events destined for the DOE ORPS system.
- Maintains official records for each ORPS-reportable event of the complete process from categorization to final report.
- Monitors and drives continuous improvement in meeting the target timeline of delivering draft Update/Final ORPS reports, complete with investigative findings and causal analysis, by Day 24 after categorization of each ORPS-reportable event.
- Provides trained investigators as requested for Deputy Laboratory Director-chartered Team Investigations.
- Serves as a central clearinghouse for the Daily Executive Report and Special Executive Report (for OE and SC1 events).
- Coordinates development and dissemination to Laboratory management and the workforce, lessons learned in response to abnormal events, as needed.

5.0 IMPLEMENTATION

The requirements in this document are effective on the date of issue.

6.0 TRAINING

Personnel assigned responsibilities for the abnormal event process (e.g., Supervisors and First Line Managers in Moderate and High Hazard Operations), must be trained to this document in accordance with P781-1, *Conduct of Training Manual*, utilizing the graded approach found in the Systematic Approach to Training outlined in P781-1.

Specifically, within one year of issuance of this document FODs, Deputy FODs, Operations Managers, Duty Officers, and all other FOD Unit personnel assigned specific ORPS responsibilities must complete the following:

- Course #6206, *Occurrence Investigating and Reporting*

Note: (1) Prior completion of this course satisfies the requirement; refresher completion of Course #6206 is recommended every two years but is not a requirement. (2) If the training is neither grandfathered nor completed within six months of issuance of this document, the individual can continue to fulfill his/her roles and responsibilities with written authorization from the ADNHHO. The written authorization will include a schedule for completing the required training and will expire if training is not completed as scheduled.

Managers and supervisors frequently involved in event investigations or causal analyses should consider additional professional development, including one or more of the following courses:

- Course #53220, *Causal Analyst Training 2011*
- Course #43428, *HPI, Human Performance Improvement, Full Day*
- Course #46713, *HPI Practitioners*
- Course #45090, *HPI Accident Investigation*

7.0 EXCEPTION OR VARIANCE

To obtain an exception or variance to this document, see the following instructions:

- Managers may request an exception or variance from the IA through the RM.
- At the IA's request, the RM will provide a recommendation or supporting information.
- The IA or designee will provide the requester with a written response and copy the RM.

The requesting organization must maintain the official copy of record of the approved correspondence granting the exception or variance.

8.0 DOCUMENTS AND RECORDS

8.1 Office of Record

The Policy Office is the Laboratory Office of Record for this Institutional Document and maintains the administrative record.

QPA-PA is the Laboratory Office of Record for ORPS-reportable events, excluding corrective action records but including categorization records, Team Investigation charters, investigation records, causal analysis records, and all written reports from the initial Event/Incident Notification to the ORPS Final Report.

Responsible FOD and RAD offices are the Laboratory Offices of Record for all records related to Sub-ORPS events, and for records of corrective actions, including change control and closure records, for both Sub-ORPS and ORPS events. PFITS is the record system for all such records. Specific responsibilities are divided between FOD and RAD offices according to local event-related PFI processes.

9.0 DEFINITIONS AND ACRONYMS

9.1 Definitions

See LANL *Definition of Terms*.

Abnormal Event—Abnormal events include all abnormal conditions, accidents, incidents, or deviations from the planned outcome of a workplace activity that did or could have adversely

affect(ed) health or safety of workers, the public, the environment, or the integrity of LANL programs or facilities.

Facility Operations Director (FOD) Unit—A collection of buildings, structures, and work areas under a single FOD's span of responsibility. Abnormal events are assigned to FOD Units based on the physical location of the event.

Facility Operations Director (FOD)/Responsible Associate Director (RAD)—A general term to describe the joint management team of a FOD Unit and the RAD for a facility.

9.2 Acronyms

See LANL *Acronym Master List*.

ADNHHO	Associate Director for Nuclear and High-Hazard Operations
CAO	Contractor Assurance Officer
CAS	Contractor Assurance System
COB	Close of Business
DC	Derivative Classifier
DOE	Department of Energy
ENV	Environmental Protection
EO	Emergency Operations
EO-EM	Emergency Operations-Emergency Management
ESH&Q	Environment, Safety, Health, and Quality
FOD	Facility Operations Director
HPI	Human Performance Improvement
HQ	Headquarters
IA	Issuing Authority
IIMC	Institutional Improvement Management Coordinator
IMC	Improvement Management Coordinator
IMRB	Institutional Management Review Board
IRM	Improvement Responsible Manager
LANL	Los Alamos National Laboratory
LANS	Los Alamos National Security, LLC
LASO	Los Alamos Site Office
MRB	Management Review Board
NHHO	Nuclear and High-Hazard Operations
NNSA	National Nuclear Security Administration
NTS	Noncompliance Tracking System
OC	Operations Center
OE	Operational Emergency
ORPS	Occurrence Reporting and Processing System
PAAA	Price-Anderson Amendments Act
PAD	Principal Associate Director
PFI	Performance Feedback and Improvement
PFITS	Performance Feedback and Improvement Tracking System

QPA-PA	Quality and Performance Assurance–Performance Assurance
RAD	Responsible Associate Director
RM	Responsible Manager
RO	Responsible Office
SC	Significance Category
SIT	Security Incident Team
WSH	Worker Safety and Health

10.0 HISTORY

Revision History		
09/20/06	ISD 322-3.0	Initial Issue, ISD 322-3.0, *Manual for Communicating, Investigating, and Reporting Abnormal Events.*
09/25/06	ISD 322-3.1	Administrative Change. IP300-SD5 replaced and rescinded by IP320.0.
10/15/08	ISD 322-3.2	The following Quick Changes (minor non substantive) were made: Global change to document: QA-OA to ESH-IO. Page 5, Overview, paragraph 3 , add: 1. sentence: Events that do not meet ORPS reporting criteria are reported in the LIMTS system as described in P322-4, *Laboratory Performance Feedback and Improvement Process*. 2. add ESH Integration Office (ESH-IO) to sentence Events that meet a DOE defined reporting criterion are reported and investigated by trained and qualified… Page 5, Overview, paragraph 4, changed to: The Associate Director for Environment, Safety, Health, and Quality is the Issuing Authority (IA) for this document. The ESH-IO Office Manager is the Responsible Manager (RM) and the Occurrence Reporting Team (OR) is the Responsible Office (RO). Page 8, Abnormal Event/Condition Process Outline, change bullet 14 and add bullet 15: ▪ 14) All ORPS corrective actions are entered into LIMTS and tracked as described in P322-4. ▪ 15) ORPS events are trended and analyzed for repetitive events on a quarterly basis. Page 13, bullets 6 and 7: Events that do not meet ORPS reporting criteria are reported in the LIMTS system as described in P322-4. Page 12, Note: Delete note. Page 13, Categorization process, item 2, second bullet, change to: Events that do not meet ORPS reporting criteria are reported in the LIMTS system as described in P322-4. Page 14, Preparing for a Critique, item 2, second bullet, add: must be notified. Page 16, item 2, add: and consider extent of condition. Page 17, bullet 4, change to: Events are reported in LIMTS system as described in P322-4.

Revision History		
12/11/08	P322-3, Rev. 0	Renumbered document, ISD 322-3, *Manual for Communicating, Investigating, and Reporting Abnormal Events*.
04/15/09	P322-3, Rev. 1	Quick Change Replace previous IA with newly identified AD. Clarification of existing requirements as documented in detailed individual procedures (pages 5, 7, 10, 12, 15, 17, 18). Revision of flowchart to reflect adherence to P322-4.
07/27/11	P322-3, Rev. 2	Major Revision Change title from "Manual for Communicating, Investigating, and Reporting Abnormal Events," to "Performance Improvement from Abnormal Events." Revise process to achieve consistency with Performance Feedback and Improvement Process changes. Revise organizational roles due to move of ORPS Team from Environment, Safety, Health, and Quality (ESH&Q) to CAO-PF. Change IA, RO, and RM to match organizational restructure.
09/20/12	P322-3, Rev. 3	Changed CAO-PF to Quality and Performance Assurance-Performance Assurance (QPA-PA) throughout document due to reorganization. Clarified language in Section 2.2. Updated links, titles, and acronyms.

11.0 REFERENCES

Prime Contract:

- DOE O 232.2, *Occurrence Reporting and Processing of Operations Information*

11.1 Other References

- SD320, *Los Alamos National Laboratory Contractor Assurance System Description Document*
- P313, *Roles, Responsibilities, Authorities, and Accountability*
- Occurrence Reporting webpage
- P322-4, *Laboratory Performance Feedback and Improvement Process*
- P322-1, *Causal Analysis and Corrective Action Development*
- P141, *Price Anderson Amendments Act (PAAA), Worker Safety and Health (WSH), and Classified Information Security (CIS) Enforcement Procedure*
- PD1200, *Emergency Management*
- EO-DO-PLAN-100, *Hazardous Materials Program Emergency Plan*, found on the EO webpage
- P201-3, *Reporting Known and Potential Incidents of Security Concern*
- P781-1, *Conduct of Training Manual*

12.0 FORMS

There are no forms associated with this document.

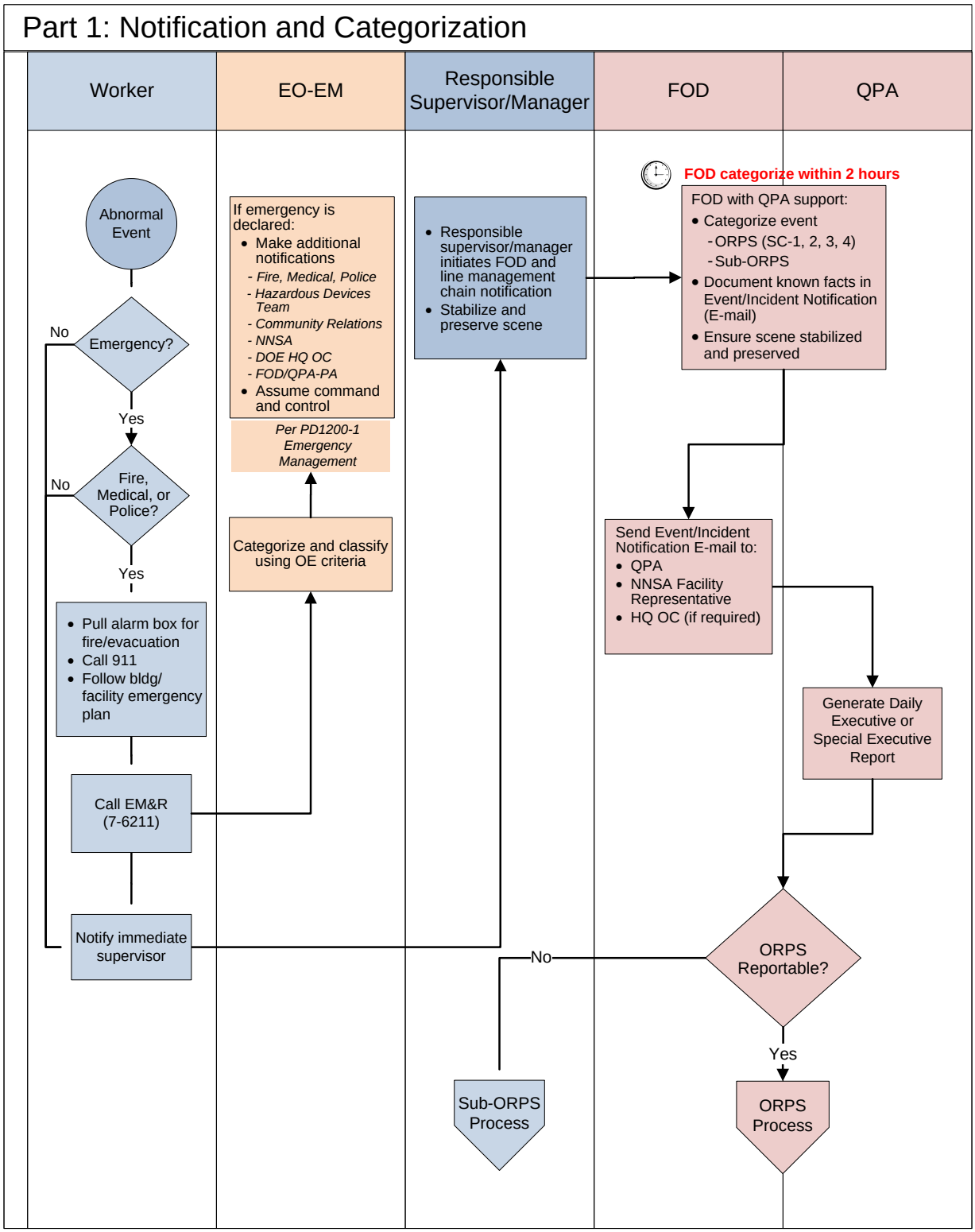
13.0 ATTACHMENTS

Attachment A. *Abnormal Event Process*

14.0 CONTACT

Quality and Performance Assurance–Performance Assurance (QPA-PA)
Telephone: (505) 606-2145

No: P322-3 Performance Improvement from Abnormal Events
Attachment A. Abnormal Event Process (Page 1 of 4)



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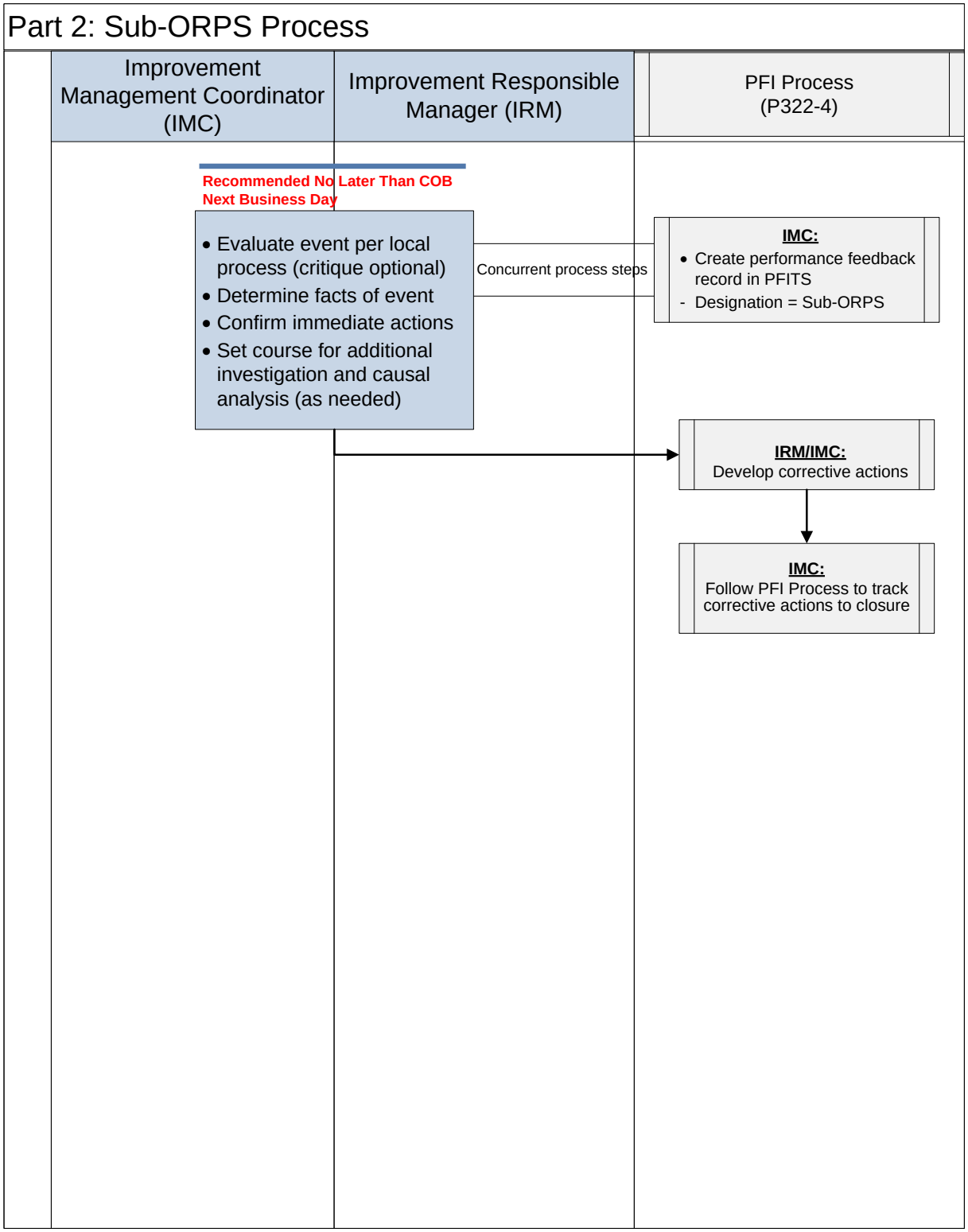

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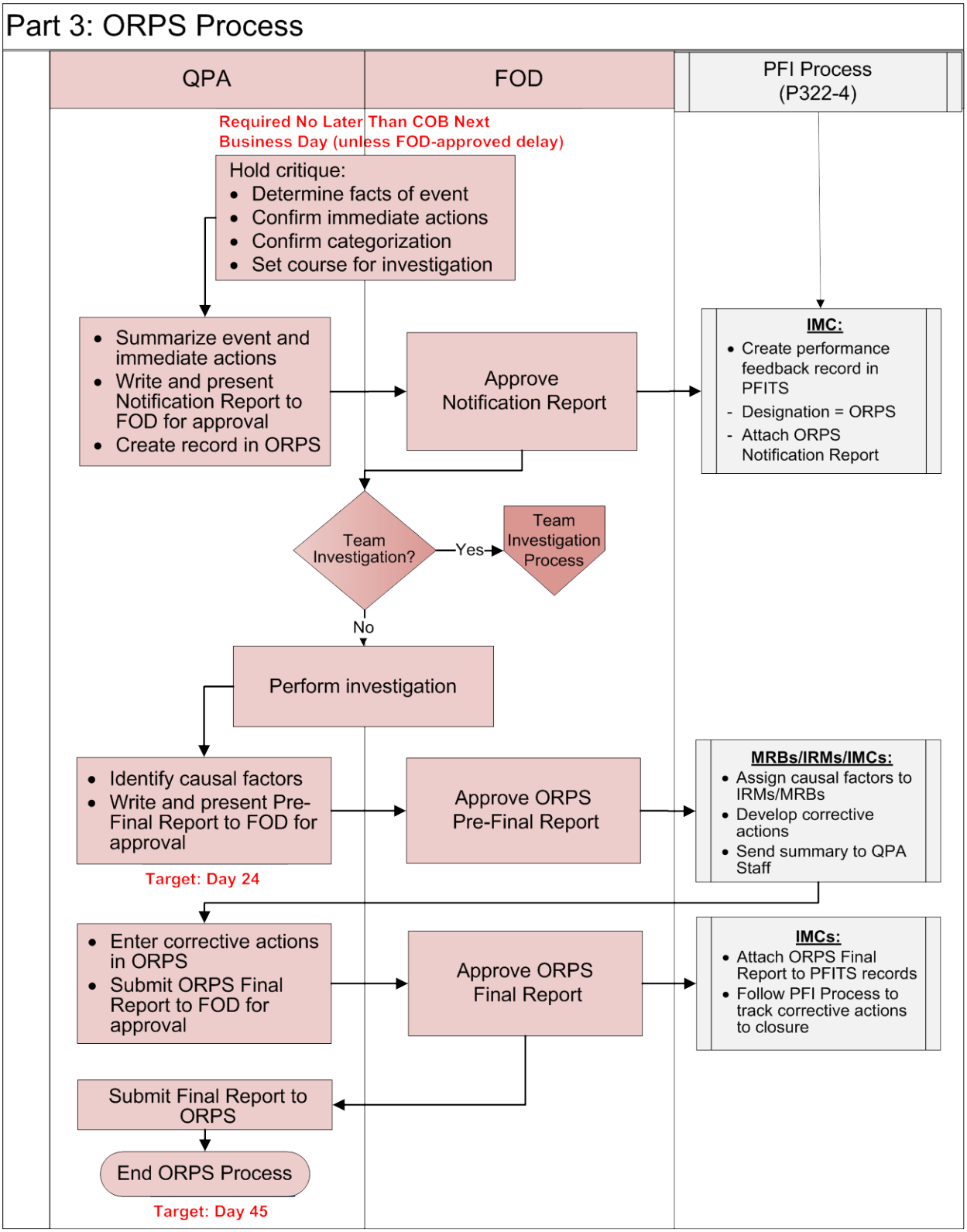

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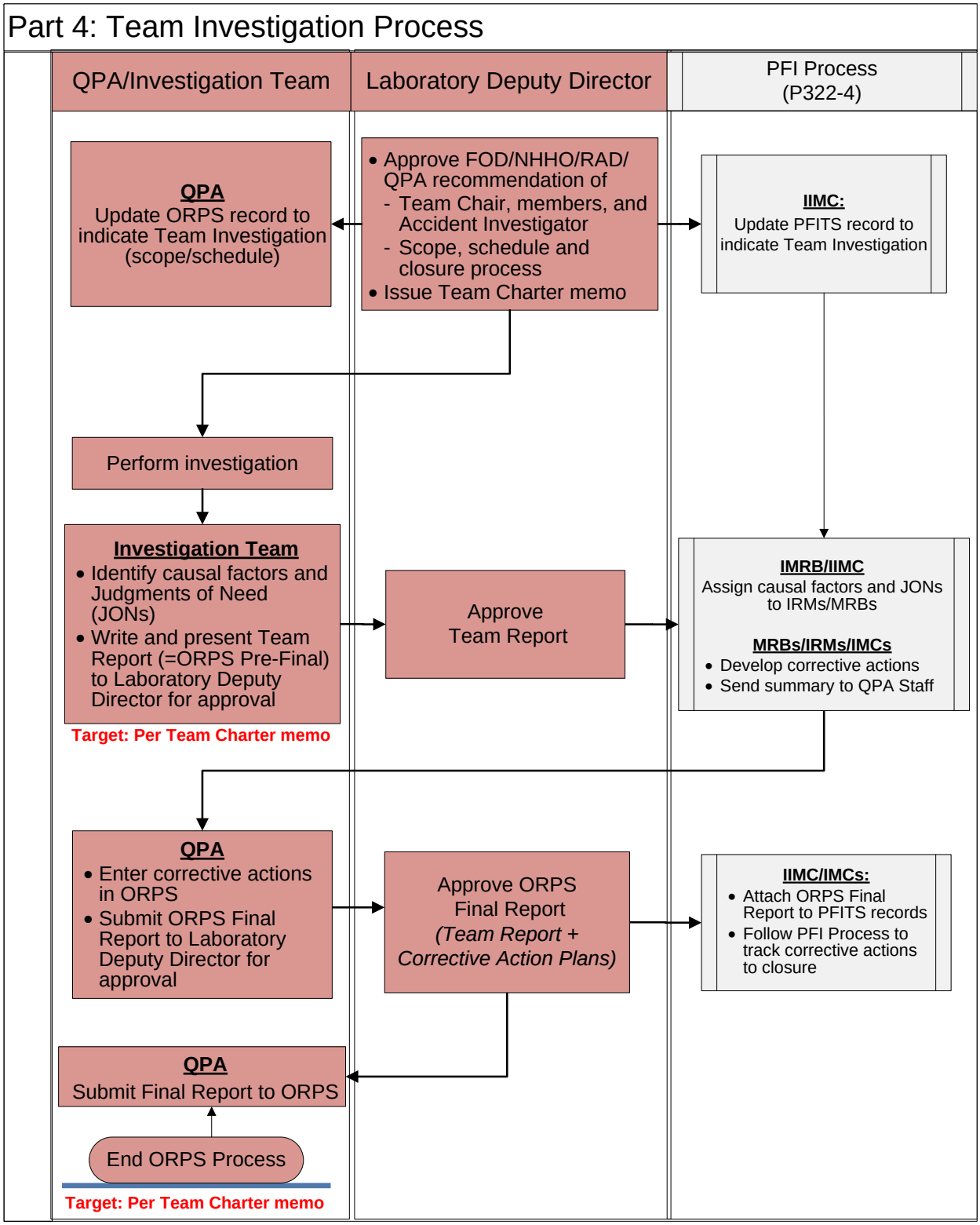
Attachment A. Abnormal Event Process (Cont.) (Page 4 of 4)



IMPORTANT

If you wish to receive credit for the preceding document you **must** enter the course through U*Train* **not** the Policy Office website.

No: P781-1
Revision: 10

Issued: 12/22/14
Effective Date: 12/22/14

Conduct of Training

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Conduct of Training

1.0 PURPOSE

This document establishes Los Alamos National Laboratory (LANL or the Laboratory) training program management requirements that meet regulatory drivers and contractual requirements. The implementation of the processes defined in this document assures workers have the knowledge, skills, and abilities to perform their assigned duties efficiently, safely, securely, and compliantly.

Note: This document supports the implementation of, but does not duplicate, applicable regulatory and contractual requirements pertaining to training program management.

2.0 AUTHORITY AND APPLICABILITY

2.1 Authority

This document is issued under the authority of the Laboratory Director to direct the management and operation of the Laboratory, as delegated to the Associate Director for Business Innovation (ADBI) as provided in the Prime Contract. This document derives from the Laboratory Governing Policies, particularly the section on Human Resources and from Department of Energy (DOE) Order (O) 151.1C, *Comprehensive Emergency Management System*, DOE O 414.1D, *Quality Assurance*, DOE O 422.1, *Conduct of Operations*, DOE O 426.2, *Personnel Selection, Training, Qualification, and Certification Requirements for DOE Nuclear Facilities*, DOE O 470.4B, *Safeguards and Security Program,* DOE handbooks, manuals, and guides and from applicable Code of Federal Regulations (CFR) requirements.

- Issuing Authority (IA): Associate Director for Business Innovation (ADBI)
- Responsible Manager (RM): Service Innovations (SI) Division Leader
- Responsible Office (RO): Service Innovation-Institutional Training Services (SI-ITS)

2.2 Applicability

This document applies to all workers managing, performing or conducting training activities, including contracted training services, conducted at the Laboratory. This includes all formal learning activities that provide job–required or job-related knowledge and skills.

Organizational-level training documents must be compliant with the provisions of this document. Where this document disagrees with organizational-level procedures, this document takes precedence until the differences are resolved.

The provisions of this document are not applicable to the following:

- External professional and/or continuing education programs required for obtaining and/or maintaining professional credentials or certifications required as a condition of employment.
- Training provided by Laboratory organizations to external non-Laboratory workers on behalf of other agencies.
- Sponsor-required programmatic training performed by Laboratory workers at the Laboratory. This training will follow the Conduct of Training Requirements except where the requirements of those external sponsors differ from those of the Conduct of Training Requirements. In these cases, the requirements of the sponsor will take precedence.

3.0 PROCEDURE DESCRIPTION

This document provides direction for the training, qualification, and certification of workers. Required implementing instructions for this document are in the following Tier III Functional Series Documents:

- ITS-FSD-001,R1.0, *Conduct of Training Manual*,
- ITS-FSD-003,R1.0, *Training Management Manual*, and
- ITS-FSD-002,R2.0, *UTrain Manual*.

The DOE orders referenced in this document are found on the DOE Directives, Delegations, and Requirements webpage. The DOE manuals, standards, and handbooks are found on the DOE Office of Health, Safety, and Security webpage. The CFRs are found on the Government Printing Office webpage.

Laboratory policy and procedures referenced in this document are found on the Policy Office webpage and the Forms listed are located on the Forms Center webpage.

The templates, checklists, and other tools referenced in this document are on the Conduct of Training Manual Tools webpage.

Note: As of this this revision, conditional authorizations are no longer allowed.

3.1 Training Administration

3.1.1 Position Training Level Determination

The level of Laboratory-wide, facility- and job-specific training, and qualification and/or certification required for each Laboratory position must be determined and documented commensurate with a worker's assigned duties and tasks.

Training, qualification, and certification for workers conducting nonnuclear and radiological activities must conform to the requirements of DOE O 151.1C, *Comprehensive Emergency Management System*, DOE O 414.1D, *Quality Assurance*, DOE O 422.1, *Conduct of Operations*, DOE O 470.4B, *Safeguards and Security Program*, and the American Society of Mechanical Engineers, (ASME) Nuclear Quality Assurance NQA-1-2008 and NQA-1-2009, *Quality Assurance Requirements for Nuclear Facility Applications,* as applicable to the position. Additional requirements may be stipulated by applicable regulatory drivers and contractual requirements.

Training, qualification, and certification for workers conducting nuclear work must meet the requirements listed above and those of DOE O 426.2, *Personnel Selection, Training, Qualification, and Certification Requirements for DOE Nuclear Facilities* and NQA-1-2008 and NQA-1A-2009, *Quality Assurance Requirements for Nuclear Facility Applications,* as applicable to the position.

Positions that include activities or tasks that are difficult to perform, that have a high consequence for inadequate performance, that are infrequently performed, or that require moderate- or high-hazard integrated work documents, may require additional qualification or certification by the responsible line manager. These qualifications/certifications may be required at the position/job, activity, or task level.

Figure°1, *Position Level Determination Flowchart*, provides a flowchart to assist with determining the training level.

3.1.1.a Level 1 Determination: Training Only

Level 1 Determination applies to those positions with tasks having a low probability of adverse consequences resulting from performance failure. Generally, the entry-level knowledge, skills, and abilities of workers in these positions are sufficient to satisfy the position requirements and no additional management action is required to qualify the workers. Workers at this level complete Laboratory-wide, facility- or building-specific, and organizational training requirements. A formal qualification standard is not required. However, if an organization uses a training identification and assignment checklist or training questionnaire, documentation of training assignment is strongly recommended.

3.1.1.b Level 2 Determination: Training, Qualification or Certification for Nonnuclear and Radiological Facility Work Activities

Training and qualification are required if the risks associated with task or job performance failure are "moderate or high" and/or if the entry-level knowledge, skills, and abilities of new hires are insufficient to allow for competent performance. Training for a Level 2 Determination must address applicable risks and hazards, topics related to facility safety, and job/activity/task-specific training designed to provide the knowledge and skills required to perform assigned duties and tasks. For work performed under an integrated work document, when external or internal LANL requirements drive qualification or certification, or best-management practices indicate the need for formal training and qualification, a qualification standard is required. A Level 2 Determination is required for all work performed under moderate-hazard integrated work documents or equivalent detailed procedures in nonnuclear facilities. See the Qualification Standard template.

3.1.1.c Level 3 Determination: Qualification for Nuclear Facility Work Activities

Work performed within or in support of nuclear facilities may require formal qualification.

DOE O 426.2 requires qualification for the following position categories:

- managers,
- technical staff,
- technicians,
- maintenance workers,
- operators,
- supervisors,
- instructional analysts/developers, and
- training and instructors.

Note: Correct determination of a position category requires a crosswalk of a worker's day-to-day job activities against the position category definitions in DOE O 426.2, Attachment 2.

DOE O 426.2 specifies requirements for entry-level education and experience, training-program contents, examinations, qualification, requalification, and record keeping for qualification in nuclear facilities. Section 3.3.7 of this document provides detailed guidance for nuclear facility qualification.

A listing of regulatory required qualification, certification, and/or licensure is located in the *Conduct of Training Manual*.

3.1.1.d Level 4 Determination: Certification for Nuclear Facility Work Activities

Certification (of qualification) is required for positions in which inadequate performance on assigned tasks and activities can result in unacceptable consequences. In addition to positions that must be certified as stipulated by regulatory drivers and contractual requirements, certification may be required for other positions based on the outcome of job and task analyses. Variables that must be considered in determining if a position requires certification include task/activity complexity, difficulty, frequency of performance of the task/activity, and potential adverse consequences.

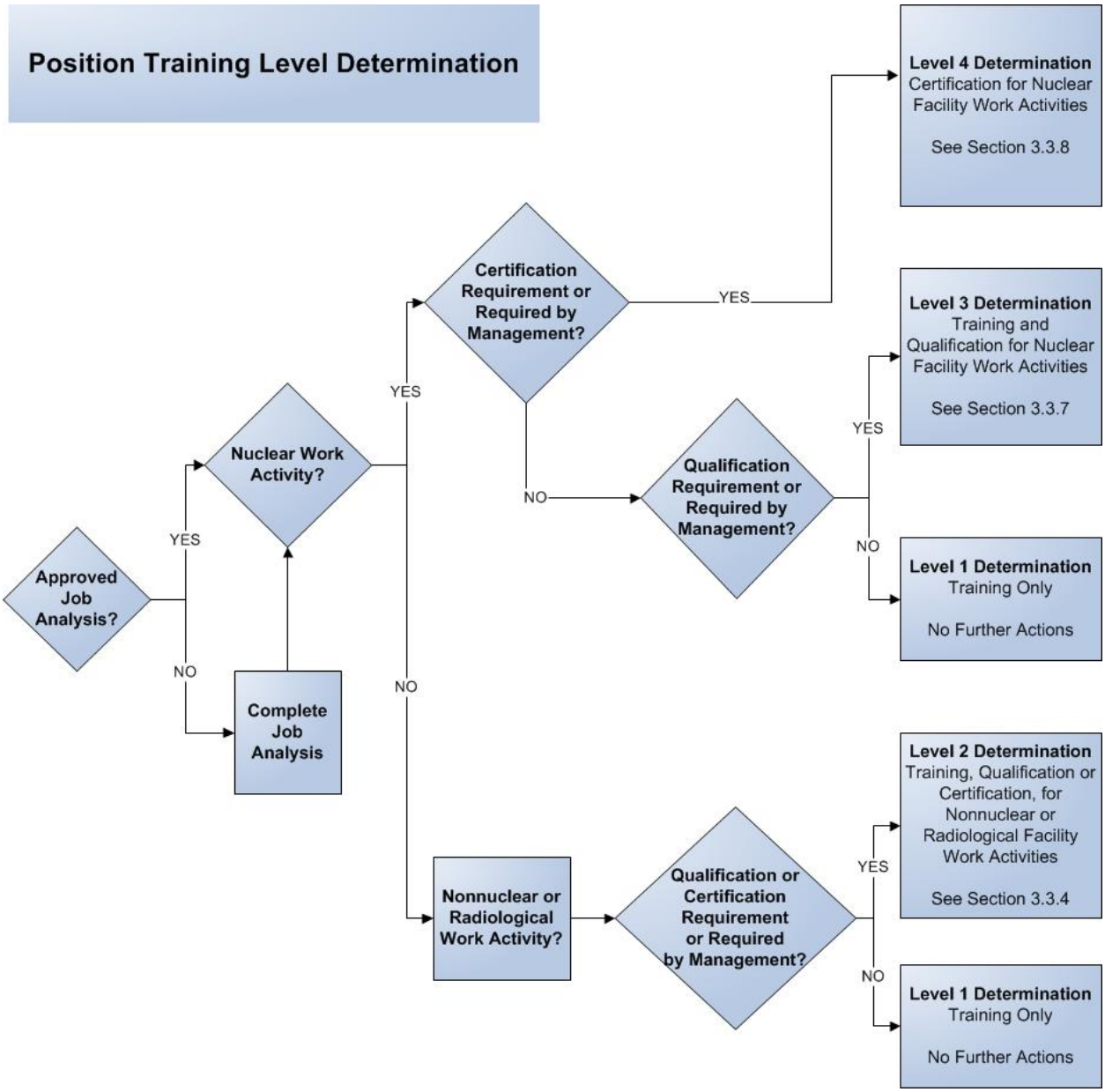

Fig. 1. Position Training Level Determination Flowchart

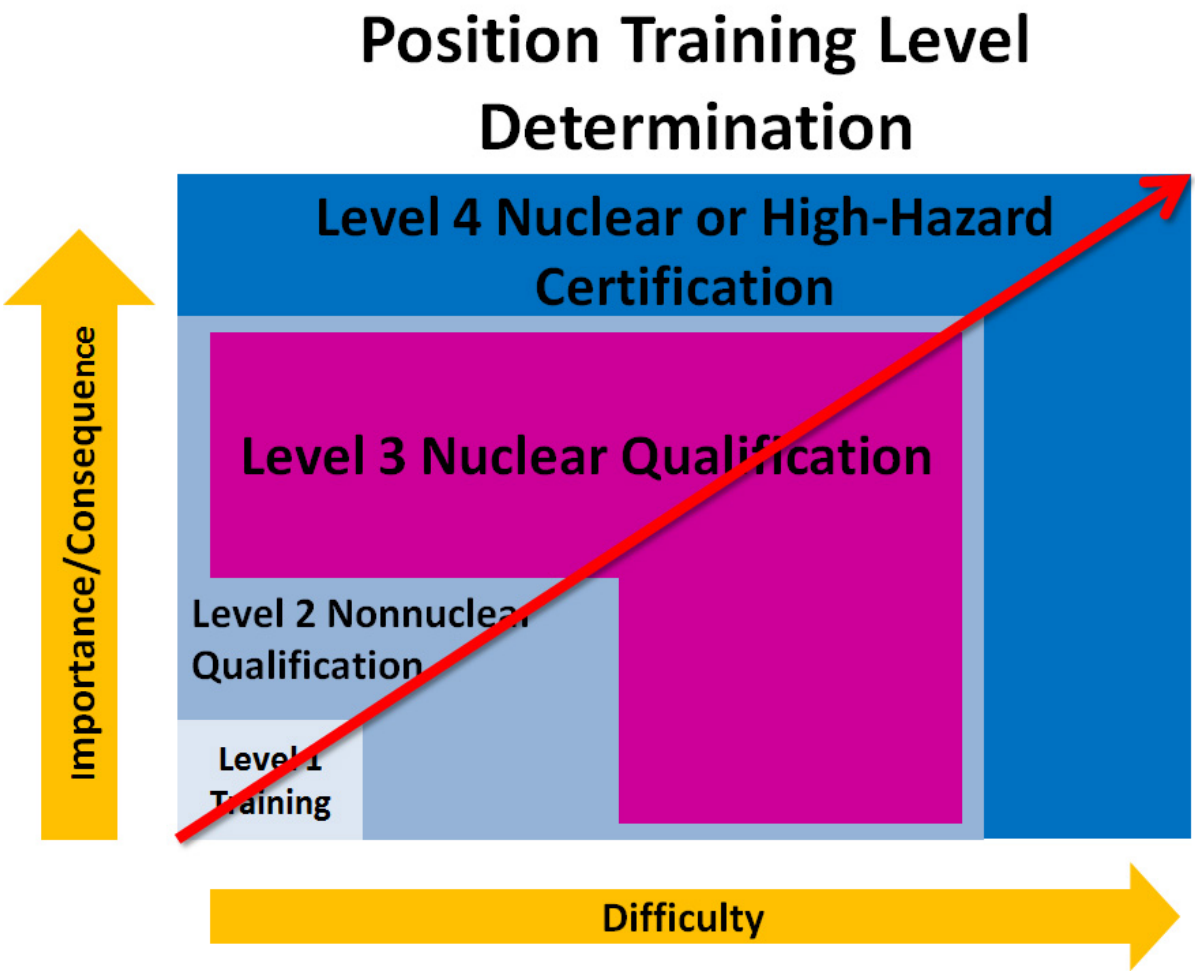

Fig. 2. Position Training Level Determination Schematic

3.1.2 Training Program Plans

At a minimum, each Directorate and all Programs/Offices that are independent of Directorate affiliation, must develop, implement, and maintain a Training Program Plan. These plans define and document the manner in which organizations implement Conduct of Training requirements. Training program plans at lower organizational levels may be required by regulatory drivers, contractual requirements, and/or responsible Associate Directors.

While each Training Program Plan addresses the detailed training implementation requirements unique to the specific Directorate, program, or office, it must include the following:

- any specific requirements that are more restrictive than the requirements established in the Laboratory's training policies and procedures,
- any Laboratory training policy and procedure requirement(s) that do not apply or for which the program has received a waiver, and
- justification(s) for each requirement from which a waiver has been allowed.

Training Program Plans must be developed using the Training Program Plan template unless format/content is prescribed by a regulatory driver or contractual requirement (e.g., DOE O 151.1C, *Comprehensive Emergency Management System*). Organizations should secure the assistance of the Institutional Training Services group or the Nuclear and High Hazard Training group in developing Training Program Plans. Additional information is embedded in the Training Program Plan template.

Note: Radiological and other nonnuclear facilities and organizations do not need to meet the Requirements of DOE O 426.2.

All Training Program Plans require concurrence of the Institutional Training Services Group Leader. Training Program Plans must be approved by the responsible line managers for the organizations to which they apply. Training Program Plans must be reviewed and revised as necessary on at least a triennial basis to assure they accurately reflect the owning organization's training program. Interim review and revision may be required as necessary to address modifications to the organization's training program resulting from changes to the safety basis, addition of new programs, operating experience, etc.

3.1.3 Security Classification Review of Training Materials

The DOE has declared some subject areas to be devoid of classification and sensitive information areas. The Laboratory Classification Officer has defined and approved Designated Unclassified Subject Areas (DUSAs). Training is included as a DUSA (Designator: TRNG).

The DUSA for training includes:

- requirements,
- training course material,
- procedures designed to ensure worker safety during routine operations involving unclassified substances and processes, and
- activities and facilities that do not require review by a derivative classifier or unclassified controlled nuclear information reviewing official.

When these reviews are not required, the document author must reference the DUSA exception.

Note 1: Before citing a DUSA, authors are strongly encouraged to work with derivative classifiers in their organizations and/or Classification Group staff to identify specific exclusions potentially applicable within their specific program/project areas.

Note 2: Documents that may contain unclassified controlled nuclear information must be reviewed by an unclassified controlled nuclear information reviewing official.

For specific guidance, the author should contact a derivative classifier or an unclassified controlled nuclear information reviewing official.

3.1.4 Training Substitutions

Workers in nonnuclear facilities, who have received formal documented training that is equivalent to a Laboratory training course, may request a substitution for the Laboratory course. Nonnuclear workers complete Form 2154, *Request a Training Equivalency (nonnuclear)* and submit the form to their supervisor/manager for concurrence. If the supervisor/manager concurs, the supervisor/manager submits the completed form to the training course/program owner. If the specific course requirements are met, the training course/program owner may grant the

substitution. Contact the Training Help Desk (7-1111, training@lanl.gov) for assistance in determining training course/program owners.

Workers in nuclear facilities must use P781-3, *Exceptions to Training, Education, and/or Experience Requirements for Nuclear Facility Workers*, to request course equivalencies.

Note: Course equivalencies are not allowed and credit will not be granted for continuing or certification-related training.

3.2 General Training Requirements

3.2.1 Laboratory-wide Training

Laboratory-wide training refers to formal training provided to a target audience that involves workers from two or more Principal Associate Directorates.

New Laboratory-wide training requirements or revisions to existing Laboratory-wide training requirements that result in a substantive change to training content, requirements and/or the target audience must be reviewed and validated by the Service Innovation-Institutional Service Group Leader and approved by the Service Innovation Division Leader before the training is implemented. Functional program owners may appeal disapproval of requests for new or revised Laboratory-wide training to the ADBI.

These protocols and the process described below, apply to the following:

- all training for which the target audience includes individuals from more than one Principal Associate Directorate or for which the training program owner is requiring training of individuals outside their Principal Associate Directorate, and
- "substantive changes" including all new Laboratory-wide training requirements that require a new Laboratory-wide training, a significant increase in training content/duration, the addition of new requirements in an existing Laboratory-wide training such as an examination, or a new requirement for refresher training.

Laboratory-wide training must be developed and implemented in accordance with the requirements of this document and the associated sections of the *Conduct of Training Manual*. The Service Innovation Division reserves the right to disallow the issue of new or revised Laboratory-wide training that does not meet the accepted training standards and practices as described in this document.

Note 1: Revision to maintain the currency of a Laboratory-wide training does not constitute a substantive change.

Note 2: If the Laboratory-wide training applies to a small target audience (generally less than twenty workers), functional program owners may submit a written request to the Service Innovation Division Leader through the SI-ITS Group Leader for an exception to these requirements.

Note 3: Inclusion of a Laboratory-wide training requirement in a new or revised Laboratory requirements document (e.g., procedure, manual, etc.) does not constitute approval of the training. Document authors must obtain approval for new or revised Laboratory training before the issue of the documents.

Procedural steps for requesting review and approval for new or revised Laboratory-wide training are as follows:

- The requester must consult with the SI-ITS Group Leader to determine if the requirement(s) is/are identified in the Institutional Training Requirements Matrix (see the *Conduct of Training Manual)*.
- If the requirement(s) is/are not identified, the requester must coordinate with the SI-ITS to conduct a Training Requirement Analysis.
- The SI-ITS reviews and validates the Training Requirement Analysis to ensure the requirements for the training are accurate and included in the Los Alamos National Security, Limited Liability Company contract with the National Nuclear Security Administration (NNSA).
- The SI-ITS Group Leader forwards the completed and validated Training Requirement Analysis to the Service Innovation Division Leader for review and approval.
- The Service Innovation Division Leader reviews the request for new or revised Laboratory-wide training and, as necessary, consults with the SI-ITS Group Leader and/or functional program owner for the training. Upon approval or disapproval of the request, the Service Innovation Division Leader may request concurrence from the ADBI.
- After the approval or disapproval of new or revised Laboratory-wide training, the SI-ITS Group Leader notifies the functional program owner of the decision.

3.2.2 General Employee Training

General Employee Training (GET) provides an overview of environment, safety, health, and other information applicable to all new workers. GET is required for all new Laboratory workers who will be at the Laboratory for 10 or more workdays during any consecutive 12-month period and must be completed within their first 10 days after arrival at the Laboratory. Workers may, at their discretion, be excused from the GET classroom course upon successful completion of the open-book GET examination. Workers requiring unescorted access to nuclear facilities must successfully complete the GET examination.

Changes in GET topics must be communicated to the Laboratory population. Changes may be addressed Laboratory-wide through:

- all employee notices,
- targeted employee notifications,
- security smarts,
- Emergency Procedures and Protective Actions refresher training,
- the Annual Security Refresher briefing, and/or
- other refresher/continuing training.

Facility-specific aspects of GET may be addressed as part of facility-specific access training and/or as part of the qualification/certification continuing training program.

3.2.3 Building Emergency Plans/Facility-Specific Access Training

Building and/or facility-specific emergency plan training is conducted at the Laboratory through a comprehensive, coordinated, and documented program that is an integral part of the Emergency Management program at the Laboratory.

Facility-specific access training must be implemented commensurate with the hazards associated with the facility and activities therein. Facility-specific access training must address all emergency actions and procedures applicable to the facility. Building emergency plans for buildings within a facility may be incorporated into the facility-specific access training. If building emergency plans are separate from the facility-specific access training, they must not contain redundant information.

This training must have content specific to the building or facility it covers. It must not repeat any of the generic emergency actions training contained in the emergency preparedness module of GET.

Additional information on Building Emergency Plan Training and Facility-Specific Access Training is found in the *Conduct of Training Manual*.

3.3 Qualification and Certification at the Laboratory

3.3.1 Qualification

Qualification is a formal program that delineates the required education, experience, training, skills, examination(s), and any special requirement(s) necessary to ensure that workers can perform assigned duties in a safe and reliable manner.

Qualification programs consist of entry-level requirements (e.g., experience and education), non-training requirements as applicable (e.g., medical examination requirements), initial training requirements, continuing training requirements, and requalification requirements. These requirements are documented in qualification standards.

Responsible line managers or designees, supported by deployed training professionals, define, if any, the qualification requirements for each position in the organization. All training leading to qualification must be based on a systematic approach method and incorporate a graded approach to establish the appropriate level of rigor. All qualifications must be documented and recorded in UTrain.

As deemed appropriate due to the difficulty, importance, frequency, and/or hazards/risks of the work, responsible line managers have the authority to require qualification of assigned workers even if not required by regulatory drivers or contractual requirements.

3.3.1.a Position, System, Task, or Activity Qualification or Certification

Qualification or certification may be accomplished at the **position**, **system**, **task**, or **activity** level. The responsible organization must document qualification requirements in a qualification standard.

Position qualifications are based on a core set of tasks that are common to all workers assigned to the position. The qualification process includes, as applicable, the following:

- established entry-level education/experience prerequisites and non-training requirements as applicable,
- completion of prerequisite training, e.g., Laboratory-wide and facility-specific training requirements,
- position-specific initial/core training,
- On-the-Job Training (OJT),

- written examination, if required,
- performance evaluations,
- oral board, if required,
- qualification documentation,
- continuing training, and
- requalification.

Position-specific qualifications and certifications of qualifications must be recorded in UTrain.

Note: Licensing of workers (e.g., hazardous material transporters, forklift drivers, etc.) is a form of documenting qualification. Responsible line managers may, at their discretion issue, licenses for lower level/subordinate Department of Transportation and other requirements. As such, the process for licensing workers must meet the same requirements for qualification. Responsible line managers that require a license for a specific position are required to issue that license only after verifying that the qualification is current in UTrain. Licenses must meet configuration management requirements to stay consistent with UTrain and the qualification-specified licensure period. Licenses issued must conform to the physical requirements for badges and credentials and contain sufficient information to identify the type and level of qualification, authorization to operate specific equipment, authorizing official, and an expiration date for the license, which matches the qualification requirements.

System qualifications are based on the specific knowledge and skills to be qualified to perform assigned duties on a safety-significant system.

Activity qualifications are the training requirements to perform activities and tasks. The activity-specific training must correspond with the training prerequisites for the activity in the integrated work document, in accordance with P300, *Integrated Work Management*.

Task qualifications are the training requirements to perform specific tasks. This enables new workers to be trained and qualified to perform limited work tasks before they complete the full activity or position-level qualifications. An example would be to qualify workers to perform unclassified tasks that do not require a clearance before receiving a clearance.

3.3.2 Certification

Certification of qualification is the process by which Laboratory managers provide written endorsement of the workers' satisfactory achievement of qualification for a position. Certification also validates the adequacy of the qualification program and the workers' attainment of the required knowledge, skills, and abilities. Certification, in addition to qualification, may be required if there is a possibility of the following:

- off-site consequences (i.e., release of hazardous substances to the environment),
- serious injury or death to collocated workers,
- serious damage to the facility, or
- serious damage to the environment.

Responsible line managers have the authority to require certification, even when not stipulated by DOE orders or other regulations, based on the difficulty, importance, frequency, and hazards/risks of work performance.

Certification follows the completion of the qualification program for positions identified as requiring certification. Certification must not be granted until all training and qualification requirements have been satisfactorily met. All certifications must be documented and recorded in UTrain.

Satisfactory completion of qualifications that result in certification must be verified by a person other than the candidate's immediate supervisor (e.g. a skip-level manager). In some cases, the certifying entity may be in another organization.

Certification requires higher levels of rigor in the requirements associated with continuing training, examination, and reexamination for recertification than are required for qualification.

In addition to the requirements for qualification, certification of qualification includes, as applicable, the following:

- evaluations
    - written
    - performance evaluations,
    - operational evaluation, if required for the position, and
    - oral board, if required for the position,
- proficiency requirements
- certification documentation,
- continuing training,
- independent verification of qualifications for certification,
- approval of extension of qualification, and
- recertification.

3.3.3 Qualification Standards

Qualification standards are required for positions having qualification and certification requirements and are developed for specific positions or job functions, system, activity, or task qualifications. Qualification standards provide a roadmap of the training, qualification, and, where required, certification requirements necessary to provide workers with the knowledge and skills they need to perform their tasks and activities safely and effectively.

The objectives of qualification standards are as follows:

- to provide clear guidance on the training requirements for each qualified/certified position,
- to document and make available the position-related training information for use by workers, supervisors, management, and internal/external assessment teams, and
- to confirm that the program is structured and documented to facilitate any reviews and analyses of its effectiveness.

Each organization, with assistance from designated subject matter experts, expert performers, and/or training professionals, must develop qualification standards for the qualified/certified positions in the organization. The responsible organization must identify any special physical characteristics that may require a physical examination by using Form 1793, *Job-Demands Evaluation*.

Workers must use the qualification standard template to document all qualification standard development. Instructions for developing qualification standards are embedded in the template.

The training program owner has the authority to cancel a qualification standard developed and managed under his/her jurisdiction. This is accomplished by writing a qualification standard cancellation memorandum to the file and informing all parties affected by the cancellation stating the reasons for the cancellation and any changes or compensatory measures that need to be taken, if any, after the cancellation. The qualification standard cancellation memorandum is filed with a hard copy of the cancelled qualification standard with the cancelled or superseded box checked, in the qualification standard history file as a record of the cancellation. Copies of the cancellation memorandum are also distributed to affected workers.

Note: A qualification standard must not be cancelled unless there is a clear and compelling reason to do so, such as the position has been eliminated because the work is no longer being done; the duties of the position have been assumed by another position and absorbed by another qualification standard; or the regulatory requirements, job requirements, or integrated work documents requirements have been reduced to the level that the qualification is no longer needed. The justification for the cancellation must be clearly articulated in the qualification standard cancellation memorandum.

3.3.4 General Qualification Requirements

General qualification requirements for nonnuclear, radiological, moderate- or high-hazard workers are defined in the *Conduct of Training Manual*.

3.3.5 Mentoring for Qualification

Mentoring normally occurs with a Principal Investigator mentoring an undergraduate student, graduate research assistant, post-doctoral appointee, or new worker in the knowledge and skills necessary to gain competency and proficiency in a specific field of study or experimentation.

The qualification by mentoring process must be disciplined, systematic, and structured to withstand the scrutiny of internal and external assessments of the qualification program and, more importantly, to ensure that mentored workers perform their work safely and competently.

All qualifications by mentoring must be documented and recorded in UTrain. This must be accomplished by establishing a hierarchy of classes or modules and including them in a curriculum. Documentation of qualification by mentoring must meet the same standard as all other training documentation at the Laboratory and is completed in accordance with Section 3.5.

Additional information on mentoring is found in P507, *Student Programs*, P508, *Postdoctoral Program*, and SD601, *Conduct of Research and Development*.

3.3.6 Subcontractor Qualification Requirements

The Department of Energy requires that subcontractor workers who work in or support Laboratory facilities meet the qualification requirements for the job function they will be performing. Subcontract workers must meet the same qualification requirements as a LANS employee would if performing the same work. The operating organization must ensure that subcontractor workers who perform work in or support Laboratory facilities are qualified to perform their assigned tasks.

For subcontractor workers in Laboratory facilities who do not meet the requirements, work activities must be supervised by a person who is fully qualified for the work activities.

To ensure the subcontractor meets Laboratory facility training, qualification, and/or certification requirements, the requesting organization must:

- define the qualification requirements for every subcontract worker performing work activities at Laboratory nuclear facilities,
- communicate the qualification requirements to the subcontracting company through exhibits C and or D as appropriate,
- require specific documented evidence from the subcontractor proving that the qualification requirements are met,
- track the qualification requirements for the duration of the project to ensure that they continue to be met, and
- ensure subcontract workers performing work under a Laboratory integrated work document have the training required for authorization to perform that integrated work document recorded in UTrain.

These requirements are met by following the requirements of P850, *Subcontract Technical Representative Procedure*, and P101-12, *ES&H Requirements for Subcontractors*.

Additionally, all subcontracts for workers with specific qualifications or for training must be reviewed and approved prior to the issuance of the Request For Proposal or contract by the SI-ITS Group Leader or delegate in accordance with the current revision of the Acquisition Services Management Document 3041.00.0410, *Goods or Services Requiring Special Review/Approval.*

3.3.7 Nuclear Facility Qualification Requirements

Nuclear facility qualification requirements are defined in DOE O 426.2, *Personnel Selection, Training, Qualification, and Certification Requirements for DOE Nuclear Facilities*. Managers and workers implementing nuclear facility qualifications must follow the requirements listed in DOE O 426.2 for the position categories listed and as identified in the facility's Training Implementation Matrix.

Qualification must not be granted until all requirements (including written and operational evaluations) and other requirements specified in the qualification standard have been satisfactorily completed. All qualifications must be documented and recorded in UTrain.

These requirements are met by following the requirements of P850, *Subcontract Technical Representative Procedure*, and P101-12, *ES&H Requirements for Subcontractors*.

3.3.8 Nuclear Facility Certification Requirements

Nuclear facility certification requirements are found in DOE O 426.2, *Personnel Selection, Training, Qualification, and Certification Requirements for DOE Nuclear Facilities*. Managers and workers implementing nuclear facility certification must follow the requirements listed in DOE O 426.2 for the position categories listed and as identified in the facility's Training Implementation Matrix.

Certification must not be granted until all qualification requirements (including written and oral examinations and operational evaluations) and other specified requirements (e.g., medical examination) have been satisfactorily completed, and management has assured that the person is capable of safely performing all functions of the position. All certifications must be documented and recorded in UTrain. Satisfactory completion of qualifications that result in certification must be verified by signature by a person or group other than the candidate's immediate supervisor or the person/group that provided the training.

3.4 Systematic Approach to Training

The systematic approach to training is a five-step process for the generation, conduct, and assessment of effective training. The five steps in the process are analysis, design, development, implementation, and evaluation.

DOE Handbook (HDBK) 1078-94, *Training Program Handbook: A Systematic Approach to Training*, and DOE HDBK 1074-95, *Alternative Systematic Approaches to Training* provide detailed information on the systematic approach. All workers performing training functions at the Laboratory must be qualified in the application of the systematic approach through the Training Staff Qualification Program or have approved equivalent training.

As training is developed, training professionals and course developers must document and track the use of the systematic approach processes using the Systematic Approach to Training Checklist. To maintain systematic approach documentation, each training course must have a file or electronic directory that contains the following sections:

- analysis,
- design,
- development,
- implementation,
- evaluation, and
- instructor qualifications.

This documentation provides evidence that a systematic approach process was followed.

3.4.1 Analysis

The analysis stage identifies training requirements for a specific job position or function and ascertains that training programs are oriented specifically to the actual tasks performed by the worker doing the job. Training requirements are determined by analyzing the needs, the job or function, and the tasks. Training program goals are established and the scope of training content is defined from analysis results.

Training analysis may consist of needs analysis, training requirements analysis, job analysis, and task analysis:

- Needs analysis is a systematic process for identifying potential or existing training needs by examining and researching regulatory, contractual, or Laboratory policy and procedure requirements and differences between desired performance and existing or expected performance.
- Training requirements analysis is a systematic process for identifying training required by law, regulations, contractual requirements, or Laboratory policy and procedures.

- Job analysis determines specific tasks associated with the performance of a job and determines which tasks are critical to the competent performance of the job function and other tasks associated with the job function. Job analysis must involve knowledgeable workers, subject matter experts and expert performers, who are aware of the requirements of the job function and standards of performance required to properly perform the job.
- Task analysis involves breaking down each individual task into its components to determine the knowledge and skills required to perform the task.

Additional analysis information can be found in the *Conduct of Training Manual*.

3.4.2 Design

The design phase begins by considering the tasks selected for training in the analysis phase. For each of the selected tasks, learning objectives are produced detailing the essential knowledge and/or skills that must be addressed by the training. Valid learning objectives provide the foundation for subsequent training development or training procurement decisions. Training specialists use the Systematic Approach to Training Checklist to document the entry-level requirements, learning objectives, and evaluation criteria.

Additional design information can be found in the *Conduct of Training Manual*.

3.4.3 Development

The development phase translates design decisions into training materials. Using the objectives, instructional approach, and media selections from the design phase, the development phase produces course materials for the instructor, course materials for the worker, and evaluation instruments.

In the development phase, the training specialist, instructional technologist, and subject matter expert work together to achieve the following:

- develop learning content to support the learning objectives written in the design phase,
- develop training activities that help workers master the learning objectives and reinforce job performance,
- identify lessons learned and case studies to illustrate the relevance of the learning objectives to the worker's work environment,
- develop training and job aids that facilitate the transfer from the learning environment to the work environment,
- develop examination and/or evaluation materials to assess the workers' mastery of the objectives, as applicable,
- pilot the course, and
- revise the lesson plan and/or course materials based on the pilot findings.

All classroom lesson plans must include the building or facility emergency plan applicable to the training setting and OJT must address emergency actions. Instructors must familiarize themselves with the applicable emergency plan and remind workers of emergency procedures and emergency exits before beginning training. OJT conducted in the work setting must follow the safety and security requirements of the training activity in accordance with any applicable integrated work document.

Additional development information can be found in the *Conduct of Training Manual.*

3.4.4 Implementation

Instructors must prepare sufficiently to provide consistent and effective delivery of lessons. They must also review lesson plans to maintain familiarity with lesson content, equipment, and tools.

Instructors must identify and schedule a location appropriate for the number of scheduled workers, learning activities, equipment, and media to be used.

Whenever possible, course schedules must be available through UTrain at least two weeks before the first offering to allow prospective attendees to adjust their schedules so that they may attend the offered course. If operational schedules require shorter posting times, this can be done with training program owner concurrence. Schedule changes in UTrain must be posted at least five working days before the subsequent offerings. Workers scheduled for training must be notified of changes to the training schedule at least 24 hours in advance of the class.

Training grace periods may be allowed for certain courses; workers may contact a training point of contact for additional information.

Additional implementation information can be found in the *Conduct of Training Manual*.

3.4.5 Training Evaluation

Training evaluation is a systematic appraisal of the effectiveness of training materials, training process, and instructor and worker performance to meet the training program's goals and objectives in support of the organization's operations and mission. Individual concerns with job performance may be addressed with selective performance-based evaluations.

3.4.5.a Level I—Evaluating Reaction

Level I evaluation measures worker perceptions of a training program, for example including questions such as, "Was the material relevant to their work?", "Was the information useful to them?", and "How could the training be improved?"

Level I evaluations apply to all formal training conducted at the Laboratory and must be administered for scheduled classroom training sessions. Responsible line managers or designees responsible for training ensure that sufficient Level I evaluations are conducted to determine worker reactions to the training.

All instructors conducting instructor-led training, including on-the-job training, at the Laboratory must conduct end-of-course evaluations. Evaluation results are used to identify course and instructor improvement opportunities.

3.4.5.b Level II—Evaluating Learning

The purpose of evaluating learning is to determine and document a worker's acquisition of the knowledge and/or skills presented in the training.

At the Laboratory, the word examination is the umbrella term that covers tests, quizzes, and performance demonstrations. A test is a validated evaluation, written, oral, or performance-based method that measures a worker's mastery of the learning objectives and skills presented by training. A quiz is used to measure a worker's comprehension of training learning objectives. Tests must be proctored. Quizzes may or may not be, depending on the worker's ability to gain administrative-level access to the yellow network.

3.4.5.c Level III—Evaluating Performance

Level III evaluation attempts to answer the question “Are the newly acquired skills, knowledge, or abilities being applied in the work environment?”

The Service Innovation Institutional Training Services group performs Level III evaluations for specific Laboratory training programs when requested by senior management. Organizational concerns with job performance are addressed with selective performance-based evaluations. These evaluations are used to measure the actual on-the-job performance against the approved performance evaluation criteria (task, conditions, performance standards) as they appear in the performance demonstration and/or the validated and approved operating procedure.

3.4.5.d Level IV—Training Program Evaluation

A training program evaluation is the last step in the evaluation phase in a systematic approach to training and is the quality assurance component of a performance-based training program. It includes internal and/or external evaluations and recommendations to revise the training programs, based upon an analysis of the deficiencies identified in these evaluations.

The Service Innovation Institutional Training Services group conducts independent internal training and qualification program assessments for the Laboratory’s nuclear and nonnuclear training programs. These assessments are conducted in accordance with PD328, *LANL Assessment Program*, P328-2, *Independent Assessment*, and, as applicable, DOE-STD-1070-94, *Guidelines for Evaluation of Nuclear Facility Training Programs*.

Nuclear training and qualification programs are performed triennially in accordance with DOE O 426.2, *Personnel Selection, Training, Qualification, and Certification Requirements for DOE Nuclear Facilities,* and DOE-STD-1070-94. The Institutional Training Services and Nuclear and High-Hazard Operations management reserve the right to reschedule assessments to coincide with other assessments or to lessen the impact to operational schedules.

Training and qualification program assessments conducted by the Service Innovation Institutional Training Services group assess the following:

- the status of the organization’s training findings in all assessments over the previous four years to identify closure status, closure effectiveness, and program sustainability, and
- the status of the development and maintenance of qualification standards and the full implementation of those qualification standards through a two-year cycle of initial and continuing training.

Nonnuclear training and qualification programs are assessed against criteria reference and approach documents that apply to the program being assessed. These include but are not limited to:

- P781-1, *Conduct of Training,*
- *Conduct of Training Manual,*
- DOE O 414.1D, *Quality Assurance*,
- applicable contractual drivers, and
- applicable consensus standards.

Additional evaluation information can be found in the *Conduct of Training Manual.*

3.5 Training Staff Qualification Program

All Laboratory workers developing, implementing, and administering training must be qualified at a level commensurate with their assigned training responsibilities. The qualification requirements for these workers are included in the respective Training Staff Qualification standards:

- Instructor,
- Instructional Technologist,
- Training Coordinator,
- Training Manager, and
- Training Specialist.

Additional Training Staff Qualification Program information is defined in the *Conduct of Training Manual*. All training and qualification requirements are administered through UTrain curricula.

3.6 Data Management Systems and Training Records

Training records must be created, maintained, and dispositioned in accordance with management policies and procedures and records management best practices. Training coordinators and/or training administrators must receive all training-related records and process them as detailed in this section.

The Software and Applications Engineering Division maintains the Laboratory databases and tools such as UTrain, and successor systems as appropriate. These electronic tools are the official Laboratory basis for determining worker authorization and qualification to perform assigned tasks, and must be used by all organizations at the Laboratory.

3.6.1 UTrain

UTrain is the Laboratory system of record for documenting worker training, qualification, certification, and authorization. Training that provides job-required knowledge and skills, including awareness level training that provides job-related knowledge, must be recorded in UTrain including the following:

- Laboratory-wide training,
- facility-specific training, including all building emergency plan training,
- job-, activity-, and task-specific training,
- specialty training, and
- off-site training.

The *UTrain Manual* provides specific information on the use of UTrain.

3.6.2 Training Records

Training program owners in all organizations, through training coordinators and/or training administrators, must organize and maintain both electronic and original approved training program records for easy retrieval, assessment, and configuration management. Standardized and consistent electronic folder/directory structures must be aligned with and support the systematic approach to training phases of analysis, design, development, implementation, and evaluation, as well as a folder/directory for administrative files.

Note: Individual training records may contain sensitive information and must be protected in secured locations. In such cases, the Training Implementation Matrix or Training Program Plan must indicate the secure storage area. Formal training records at the Laboratory must not include Personally Identifiable Information.

3.6.2.a Categories of Required Training Records

There are two types of required training records:

- hard copy training records including machine-printed and handwritten input, and
- electronic training records and documentation that can include user-generated information and digital signatures.

All training records, irrespective of their location or format, must be stored in a manner that minimizes the risk of damage or destruction. Electronic training records must be backed up on a periodic basis. All training records must be maintained in a manner that provides ready access.

3.6.2.a(1) Worker Training and Qualification and/or Certification Records

Individual training records document a worker's completion of training, qualification, and/or certification requirements associated with the worker's work assignments. Individual training records include, but are not limited to the following:

- scored examinations,
- work products that are submitted for grading during a course,
- OJT checklists and performance examinations,
- completed qualification and certification packages,
- management assignment to job(s) or position(s),
- signature for certification of qualifications,
- certificates and licenses indicating completion of courses or programs,
- exceptions to training, education, or experience requirements, and
- extension of qualification/certification.

3.6.2.a(2) Master Course Files

Master course files include all electronic and paper documentation of analysis, design, development, implementation, evaluation, and revision activities relevant to a specific course or training program. The master files also include review and approval documentation. Master files may include supporting material related to the revision process such as examination item analyses, course evaluations, audit reports, and program owner reviews. Master files must contain current lists of qualified instructors for the course.

Analyses documents, task-to-training matrices, and other position-related documents that apply to more than one course may be indexed and filed separately. The master files must contain specific references to the location of these analyses.

All changes to training materials must be approved before the revised materials are used to teach the course. The training developer determines if additional training courses or materials might be affected by the revisions to be made. Development of new course material(s) is appropriate if existing materials cannot be satisfactorily revised to meet the majority of expectations.

Training professionals must verify course material accuracy at least once every three years (more often if documented on the training materials), or when ten authorized hand written changes have occurred since a formal revision.

3.6.2.a(3) Training Rosters

Training rosters include preprinted forms and other attendance sheets that document workers' attendance at training, briefings, seminars, and workshops. Training rosters are personally signed (in ink or electronically) by the workers, and at a minimum, must include Z-numbers as unique identifiers of the persons who attended, date of attendance, the course title, UTrain item number, and lead instructor's signature. UTrain requires workers to have an active Z-number for their completed training to be entered. Training rosters document the participant's successful completion of the course and may include grades and pass/fail status, if applicable.

Training attendance media must not allow workers to enter personally identifiable information, particularly Social Security numbers.

3.6.2.b Training Records Submittal

Instructors must send completed training attendance records to their designated training coordinator or training administrator within two working days of the time the record is generated. When applicable, the training coordinator or training administrator enters training and worker qualification data into UTrain within two working days of receipt of the data.

Instructors who generate training records must take all reasonable precautions to maintain original training records in good condition. If original records are lost, contaminated, or damaged beyond legibility, the generator or training developer may submit a copy of the original marked prominently as "replacement original record."

3.6.2.c Training Records Retention

Training records must be stored and maintained in accordance with P1020-1, *Laboratory Records Management.*

When the volume of training records approaches the storage capacity of the training records repository, the records must be processed for long-term storage in accordance with DOE, Laboratory, and National Archives Records Administration requirements. Records may be uploaded to an electronic searchable database to support long-term capability for research and accountability; however, the original hard copy records must be maintained.

3.6.2.d Training Transcript Request

A worker terminating employment with the Laboratory may request a transcript of his/her training received at the Laboratory. To expedite this process, the worker should request the transcript from his or her training coordinator or training administrator before the worker's last day of employment.

A worker no longer employed at the Laboratory may request a copy of his or her training transcript. The worker should first contact and make the request through his or her former group. If this is not an option, he/she must make the request by providing the following information to the Service Innovation-Institutional Training Services:

- a completed Form 2034, *Former Employee Request for Training Transcripts,*
- one form of identification that includes a photo, date of birth, and signature. Acceptable forms of identification include:

- officially issued state credential (drivers' license, identification card, etc.), or
- officially issued federal credential (military, etc.).

The training transcript is sent to the requester only.

Other federal, state, and local government agencies may request a training transcript for a new or potential worker, who was a former Laboratory worker, by completing the procedure above.

Non- federal, -state or -local government agencies or organizations may not receive training transcripts of former Laboratory workers directly from the Laboratory.

4.0 RESPONSIBILITIES

4.1 Service Innovation Division

Responsible for:

- Laboratory-wide policy, procedures, standards, and requirements for training and training services,
- infrastructure (tools, systems, and processes) to support the implementation of training policy, procedures, standards, and requirements,
- oversight of the Laboratory's training program implementation through training evaluation and assessment, and
- training services as required and when requested, in accordance with approved customer service agreements.

4.2 Facility Operations Directors

Responsible for:

- ensuring that workers have appropriate training and qualifications (operations, maintenance, and engineering, environmental, safety, security, waste management, technical support and administrative workers) to support the facility safe operating envelope,
- assuring subcontractor workers are qualified to perform work,
- developing facility access training,
- identifying positions requiring qualification and/or certification,
- approving the training and qualification programs for assigned workers in the FOD's chain of command, and
- reviewing and concurring with training implementation matrices and/or training program plans.

4.3 Responsible Associate Director

Responsible for:

- ensuring that workers have appropriate training and qualifications (operations, engineering, environmental, safety, security, etc.) to support facility and activities,
- assuring subcontractor workers are qualified to perform work,
- identifying positions requiring qualification and/or certification,

- approving the training and qualification programs for assigned workers, and
- reviewing and concurring with training implementation matrices and/or training program plans.

4.4 Training Program Owners

The training program owner is the group leader, division leader, program manager, or office leader responsible for ownership of a training program or course. Formerly, this function was referred to as the Major Sponsoring Organization.

Responsible for:

- identifying the training to be conducted;
- identifying and providing resources required to develop and conduct training;
- conducting a training-needs assessment to identify the training needs for the class to be conducted;
- ensuring that organizational workers performing training activities are qualified for assigned duties;
- obtaining approval for Laboratory-wide training taught to workers outside their division;
- developing training program descriptions that accurately reflect the program scope; and
- implementing the requirements of this document within his or her organization(s).

4.5 Responsible Line Managers

Responsible for:

- ensuring that workers have appropriate training and qualifications (operations, maintenance, and engineering, environmental, safety, security, waste management, technical support and administrative workers) to support the facility safe operating envelope,
- reviewing and updating assigned workers' curricula annually after the performance management cycle to ensure that changes to the facility, equipment, and program documentation are incorporated;
- taking corrective action when a worker does not meet the qualification or certification requirements for the work to be performed;
- processing training equivalencies in accordance with this document;
- processing training exceptions in accordance with this document;
- processing exceptions for nuclear facility workers to training, education or experience requirement in accordance with P781-3, *Exceptions to Training, Education, and/or Experience Requirements for Nuclear Facility Workers*;
- providing resources, allowing work time for training and holding workers accountable for meeting training requirements;
- revoking or suspending worker qualification/certification in accordance with this document when worker performance indicates serious safety concerns;
- documenting the selection of group subject matter experts and OJT instructors/evaluators;
- selecting subject matter experts, based on their experience and educational background, to participate in training analyses;

- approving OJT and evaluation materials;
- ensuring that workers are appropriately trained and qualified to perform all their work assignments;
- ensuring that all work is authorized by and performed in accordance with an approved integrated work document, if required;
- documenting that a worker is authorized to perform work; and
- assessing the quality of the OJT program and recommending improvements.

4.6 Work Supervisors/Persons in Charge

Responsible for:

- being knowledgeable of training for the assigned work; and
- verifying that workers are trained, qualified (certified when required), and authorized before performing work.

4.7 Service Innovation Division Leader

Responsible for

- reviewing requests, approving/disapproving new or revised Laboratory-wide training;
- evaluating requests for externally contracted training services;
- implementing Laboratory-wide training programs;
- serving as the training authority for the Laboratory;
- deploying resources based on identified training needs of the Laboratory;
- approving requests for externally-contracted training services;
- interacting with external and internal auditors;
- managing and administrating training at the Laboratory; and
- ensuring that training addresses the identified training needs of the Laboratory.

4.8 Institutional Training Services Group Leaders

Responsible for:

- identifying the Laboratory-wide training to be conducted;
- identifying resources required for Laboratory organizations to conduct that training;
- conducting a training-needs assessment to identify the prioritized facility/job/task/activity-specific training needs;
- ensuring that training workers are qualified and authorized for assigned duties;
- developing training program descriptions that accurately reflect the program scope;
- enforcing the requirements of this document within his or her training organization(s) and for any training activities assigned to the training organization;
- assigning staff to support each training program under his or her control;
- managing training programs assigned directly to his or her group(s) or team(s);

- reviewing and approving training documents developed by the group;
- interacting with external and internal auditors; and
- implementing the requirements of this document.

4.9 Institutional Training Services Team Leaders

Responsible for:

- ensuring that training workers are qualified and authorized for assigned duties;
- reviewing and approving documents developed by their team;
- developing training program descriptions that accurately reflect the program scope; and
- implementing the requirements of this document within their organization.

4.10 Training Specialists

Responsible for:

- applying the systematic approach to training in the analysis, design, development, implementation, and evaluation of training programs;
- working with customers, stakeholders and regulators to ensure that training programs meet customer needs, regulatory drivers, and contractual requirements;
- developing, implementing, and maintaining formal qualification and certification programs;
- developing and maintaining curricula;
- evaluating and assessing training program implementation;
- representing the training program before stakeholders and regulators;
- mentoring coordinators, training specialists, and support staff;
- developing training program policies, procedures, processes, tools, formats, templates, and examples;
- developing technical procedures;
- adhering to policies and programs concerning the Laboratory's training program and other applicable policies and programs; and
- researching, assembling, and/or evaluating information or data regarding industry practices or applicable regulatory changes affecting training program policies or programs; recommending sound, practical solutions to complex issues.

4.11 Instructional Technologists

Responsible for:

- developing, implementing, and maintaining training data-management systems; examples include, but are not limited to, UTrain, training questionnaires, the worker qualification function, and training-validation system;
- developing, tracking, trending, and reporting training metrics;
- developing and managing curricula;
- designing, authoring, developing, and managing web-based training;

- administering training-related programs;
- providing consultation and help-desk services;
- mentoring training coordinators and support staff;
- developing training program policies, procedures, processes, tools, formats, templates, and examples; and
- researching, assembling, and/or evaluating information or data regarding industry practices or applicable regulatory changes affecting training program policies or programs; recommending sound, practical solutions to complex issues.

4.12 Training Coordinators/Training Administrators

Responsible for:

- entering data from completed training and qualification and certification programs into UTrain;
- maintaining documentation required for worker qualification/certification;
- maintaining worker examinations and answer sheets; and
- updating worker records with applicable qualification or certification program provisions (e.g., exceptions, extensions, suspensions, and/or reinstatement of work status) and files with the associated documentation,

4.13 Workers

Responsible for:

- attending and completing all required training; and
- providing necessary information (full legal name, User ID, organization code/name) to properly document training attendance and completion status.

5.0 IMPLEMENTATION

The requirements in this document are effective on the date of issue.

This document complements PD781, *Training Program Management*, P781-2, *Qualification and Certification Extensions*, P781-3, *Exceptions to Training, Education, and/or Experience Requirements for Nuclear Facility Workers*, and P781-4, *Training Implementation Matrices*, in establishing the policy, procedures, standards, requirements, and processes for the conduct of training in all Laboratory facilities and programs.

6.0 TRAINING

To request and receive credit for this document, the worker must access it from within UTrain; Course #44576. Assignment of this self-study document is at the discretion of the responsible line manager.

7.0 EXCEPTION OR VARIANCE

To obtain an exception or variance to this document, see the following instructions:

- Managers may request an exception or variance from the IA through the RM.
- At the IA's request, the RM will provide a recommendation or supporting information.
- The IA or designee will provide the requester with a written response and copy the RM.

The requesting organization must maintain the official copy of record of the approved correspondence granting the exception or variance.

8.0 DOCUMENTS AND RECORDS

8.1 Office of Record

The Policy Office is the Laboratory Office of Record for this Institutional Document and maintains the administrative record.

9.0 DEFINITIONS AND ACRONYMS

9.1 Definitions

See LANL *Definition of Terms*.

Certifying Authority—A person or group other than the candidates' immediate supervision or the person/group that provided the training assigned by line management, who verifies that all certification requirements have been satisfactorily completed and forwards that information to the organization training manager.

Facility-Specific Training—Training that provides information necessary for workers to conduct activities within the facility within the safe- and secure-operating envelope.

Laboratory-wide Training—Training that applies to workers in organizations other than the training program owner's organization.

On-the-Job Training—Activity-level training that is a systematically designed instructional experience in which hands-on training is conducted and evaluated in the work environment.

Responsible Line Manager—The manager responsible for workers and work products within his or her organization.

Training Program Owner—The group leader, division leader, program manager, or office leader responsible for ownership of a training program or course.

Worker—Anyone working at the Laboratory, including Los Alamos National Security, Limited Liability Company employees, contractors, subcontractors, and may include visitors, students, and affiliates.

Worker Authorization—Enrolling (assigning) workers to an appropriate activity curriculum and ensuring the worker has completed and is current in the required training.

9.2 Acronyms

See LANL *Acronym Master List*.

ADBI	Associate Director for Business Innovation
ADNHHO	Associate Director for Nuclear and High-Hazard Operations
ASME	American Society of Mechanical Engineers
CFR	Code of Federal Regulations
DOE	Department of Energy
DUSA	Designated Unclassified Subject Areas
FOD	Facility Operations Director
GET	General Employee Training
HDBK	Handbook
IA	Issuing Authority
ITS	Institutional Training Services (group)
LANL	Los Alamos National Laboratory
NNSA	National Nuclear Security Administration
NQA	Nuclear Quality Assurance
O	Order
OJT	On-the-Job Training
PFITS	Performance Feedback and Improvement Tracking System
RM	Responsible Manager
RO	Responsible Office
SBP	Safety Basis Procedure
SI	Service Innovation Division
STD	Standard
USI	Unreviewed Safety Issue
USQ	Unreviewed Safety Question

10.0 HISTORY

Revision History		
12/22/08	P781-1, Rev. 0	Renumbered document, ISD 781-1, *Conduct of Training Manual*.
01/28/09	P781-1, Rev. 1	This document was updated to include specific procedures on how to identify training requirements, design training so the right target audience receives the right training, develop training, conduct training online and in the classroom, evaluate training, document training, and document and track qualifications and certifications. Reformatted to meet the requirements as set forth in P311-1, *Creating, Revising, and Cancelling Institutional Documents*.

Revision History		
03/12/09	P781-1, Rev. 2	Linked the Training Implementation Plan template Updated Table 1, *Training Classification Determination* Updated required reading Section 3.2.2.d Corrected Section 3.1.5.c to read triennial instead of biennial Corrected Section 3.4 to Certification, in addition to qualification *may* be required
07/22/10	P781-1, Rev. 3	Added Training Management Requirements Handbook Added Institutional Management Review Board (IMRB) process, and protocols for Laboratory-wide training as required by management. Removed the requirement to document formal reviews of employee training plans. Added Form 2150, *OJT Instructor/Evaluator Evaluation Record*. Removed requirement to use Form 2152, *Course Development Agreement*. Updated hyperlinks. Removed references to Analysis, Design, and Development template, and replaced with references to the Systematic Approach to Training Checklist. Updated Section 3.3.3.d, to reflect that all conditional authorizations for workers in training be documented in the Worker Qualification and Authorization System (WQAS). Added that interim qualifications are valid for two years only.
10/28/10	P781-1, Rev. 4	Extended the use of Interim Qualifications through September 30, 2011 in Section 3.3.4. Added paragraphs to Section 5.0 regarding the Unreviewed Safety Question/Unreviewed Safety Issue (USQ/USI) process.
10/25/11	P781-1, Rev. 5	Removed references to the Employee Development System (EDS), Training Validation Management System (TVMS) and WQAS and associated terminology. Added the UTrain Learning Management System, and associated terminology, as the Laboratory's official system of record for training data management. Fixed links, titles, and acronyms.
11/22/11	P781-1, Rev. 6	Clarified who may supervise an individual who has not yet completed the Training Staff Qualification Program (TSQP). Updated Attachment D. *Training Staff Education, Experience, and Qualification Requirements*.

Revision History		
12/13/12	P781-1, Rev. 7	Performed three-year review in accordance with PD311, *Requirements System and Hierarchy*. Section 5.0: Updated to reflect effective date of January 25, 2013 for nuclear, high- and moderate-hazard facilities and accelerators. Updated and clarified Training Classification Determination Level Updated Attachment A, *Training Classification Level Determination Flowchart*. Removed Interim Qualification Requirements Removed and retired Form 2143, *Interim Qualification Form* Removed references to the Virtual Training Center (VTC) Updated hyperlinks
08/08/013	P781-1, Rev. 8	Updated to remove the requirement of paper qualification cards for qualified workers. Issued as a PROVISIONAL document until November 6, 2013
11/06/13	P781-1, Rev. 8	Document became effective and is no longer provisional.
03/04/14	P781-1, Rev. 8	Administrative Change Updated/removed links throughout document. Updated language in Section 5.0 to reflect Unreviewed Safety Question/Unreviewed Safety Issue (USQ/USI) process and implementation dates for affected facilities.
04/08/14	P781-1, Rev. 9	Issued as a PROVISIONAL document until May 23, 2014. Title changed from "*Conduct of Training Manual*" to "*Conduct of Training*." Major Revision including removal of Conditional Authorizations, and extracting detailed instructions and putting them into Functional Series documents. Updated links, titles, and acronyms.
05/23/14	P781-1, Rev. 9	Document became effective and is no longer PROVISIONAL.
12/22/14	P781-1, Rev. 10	Removed requirements for worker authorization in the UTrain Worker Qualification and Authorization tool throughout document. In Section 4.4 and 4.7, deleted reference to customer service agreement. In Section 9.1, deleted term "authorize" and added "term worker authorization." Updated titles, organization names and acronyms.

11.0 REFERENCES

Prime Contract:

- DOE O 151.1C, *Comprehensive Emergency Management System*

- DOE O 414.1D, *Quality Assurance*
- DOE O 422.1, *Conduct of Operations*
- DOE O 426.2, *Personnel Selection, Training, Qualification, and Certification Requirements for DOE Nuclear Facilities*
- DOE O 470.4B, *Safeguards and Security Program*
- DOE O 243.1A, *Records Management Program*

11.1 Other References

- *Conduct of Training Manual*
- *Training Management Manual*
- *UTrain Manual*
- Training Program Plan template
- P781-4, *Training Implementation Matrices*
- P781-3, *Exceptions to Training, Education, and/or Experience Requirements for Nuclear Facility Workers*
- Institutional Training Requirements Matrix
- Training Requirement Analysis
- ASME NQA-1-2008 and NQA-1A-2009, *Quality Assurance Requirements for Nuclear Facility Applications*
- Qualification Standard template
- P300, *Integrated Work Management*
- P507, *Student Programs*
- P508, *Postdoctoral Program*
- SD601, *Conduct of Research and Development*
- P850, *Subcontract Technical Representative Procedure*
- P101-12, *ES&H Requirements for Subcontractors*
- DOE HDBK 1078-94, *Training Program Handbook: A Systematic Approach to Training*
- DOE HDBK 1074-95, *Alternative Systematic Approaches to Training*
- Training Staff Qualification Program
- Systematic Approach to Training Checklist
- PD328, *LANL Assessment Program*
- P328-2, *Independent Assessment*
- DOE-STD-1070-94, *Guidelines for Evaluation of Nuclear Facility Training Programs*
- 36 CFR Chapter XII, *National Archives and Records Administration*, Subpart B, *Records Management*
- SBP112-3, *Unreviewed Safety Question (USQ) Process*
- SBP113-3, *Unreviewed Safety Issue Process*
- PD781, *Training Program Management*

- P781-2, *Qualification and Certification Extensions*
- P311-1, *Creating, Revising, and Cancelling Institutional Documents*
- PD311, *Requirements System and Hierarchy*

12.0 FORMS

Form 2154, *Request a Training Equivalency (nonnuclear)*
Form 1793, *Job-Demands Evaluation*
Form 2034, *Former Employee Request for Training Transcripts*

13.0 ATTACHMENTS

There are no attachments associated with this document.

14.0 CONTACT

Service Innovation Institutional Training Services
Telephone: (505) 665-5605
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IMPORTANT

If you wish to receive credit for the preceding document you **must** enter the course through U*Train* **not** the Policy Office website.