



Reduce, Reuse, Recycle, Buy Green

Sandia National Laboratories Albuquerque, New Mexico Pollution Prevention Program Plan Fiscal Year 2011



Sandia is a multi-program laboratory managed and operated by Sandia Corporation, a wholly owned subsidiary of Lockheed Martin Corporation, for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-AC04-94AL85000.

SAND 2011-4912P

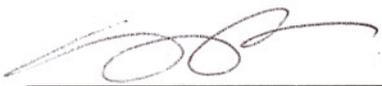
This page intentionally left blank.

SANDIA NATIONAL LABORATORIES
POLLUTION PREVENTION PROGRAM PLAN APPROVAL



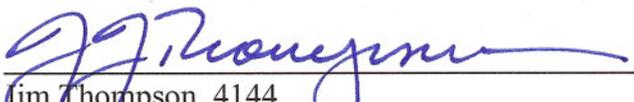
Ralph Wrons, 4144
SNL/NM Pollution Prevention Coordinator

3/30/2011
Date



Stephanie Salinas, 4143
EMS Coordinator

4/4/2011
Date



Jim Thompson, 4144
Manager, Regulated Waste and Pollution Prevention

3/30/11
Date

Author: How frequently does this document need to be reviewed and/or revised?	Annually	
Manager: Does this document need to be tracked?	<input checked="" type="radio"/> Yes	<input type="radio"/> No

This page intentionally left blank.

TABLE OF CONTENTS

Acronyms and Abbreviations	v
1.0 Introduction.....	7
1.1 Vision.....	8
1.2 Scope.....	8
1.3 Mission.....	8
1.3.1 Good Business Practice and Environmental Sustainability	8
1.4 Site Description and Operations	9
2.0 Legal and Other Requirements	9
2.1 Evaluation of Compliance.....	10
2.1.1 Records Management/Document Control.....	10
3.0 P2 Organization & Structure.....	12
3.1 P2 Staff.....	12
3.2 Training.....	13
3.3 Stewardship Partners.....	13
3.3.1 Line Organizations.....	13
3.3.2 ES&H Coordinators.....	13
3.3.3 Environmental Compliance Coordinators (ECCs).....	13
3.3.4 Environmental Management System (EMS)	13
3.3.5 Regulated Waste and Pollution Prevention.....	14
3.3.6 Environmental Programs SMEs.....	14
3.3.7 Procurement	14
3.3.8 Facilities Management & Operations	14
3.3.9 Fleet Maintenance.....	15
3.3.10 Property Management – Reapplication.....	15
3.3.11 Long-Term Environmental Stewardship (SNL/NM).....	16
3.3.12 Chemical Exchange Program (CEP).....	16
3.3.13 Industrial Hygiene.....	16
3.4 Relationship with DOE/SSO.....	16
4.0 P2 Program Implementation	17
4.1 Technical Assistance.....	17
4.2 Waste Prevention	18
4.2.1 Radioactive, Hazardous and Chemical Waste	18
4.2.2 Interactions with Other Organizations	18
4.3 Toxic and Hazardous Chemical Reduction.....	19
4.3.1 Mercury Reduction	19
4.3.2 Chemical Inventory Reduction	19
4.3.3 Lead Use Survey	19
4.4 Sustainable Acquisition (SA).....	19
4.5 Electronics Stewardship.....	20

4.6	Recycling of Solid Waste.....	20
4.6.1	Recycling Opportunity Assessment.....	21
4.6.2	Office Recycling.....	21
4.6.3	Reapplication & P2 Tent.....	22
4.6.4	Construction & Demolition (C&D) Waste Recycling.....	22
4.6.5	Scrap Metal.....	22
4.6.6	Wood.....	23
4.6.7	Decontamination and Demolition (D&D).....	23
4.6.8	Concrete and Asphalt Recycling Area (CARA).....	23
4.6.9	Recycling Geographic Information System (GIS).....	23
4.6.10	Reinvestment of Recycling Revenues.....	23
4.7	Awareness and Outreach.....	24
4.8	Data Analysis and Reporting.....	24
4.9	Self-Assessment (SA) - Activities.....	25
5.0	Reporting.....	25
5.1	Annual P2 Performance Reporting to DOE.....	26
5.2	RCRA Waste Minimization Certification.....	26
5.3	RCRA Biennial Report.....	26
5.4	EPA's WasteWise Program.....	26
5.5	Annual Site Environmental Report (ASER).....	27
5.6	Waste Generation and Chargeback Reports.....	27
5.7	P2 Progress Reports.....	27
	Appendix A – Regulatory Framework for P2.....	28

Acronyms and Abbreviations

AP	Affirmative Procurement
ASER	Annual Site Environmental Report
BG	Buy Green
C&D	Construction and Demolition
CARA	Concrete and Asphalt Recycling Area
CEP	Chemical Exchange Program
CIS	Chemical Information System
CPG	Comprehensive Procurement Guidelines
CSU	Computer Support Units
D&D	Decontamination and Demolition
DOE	U.S. Department of Energy
ECC	Environmental Compliance Coordinator
EMS	Environmental Management System
EO	Executive Order
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right to Know Act
EPEAT	Electronic Product Environmental Assessment Tool
EPP	Environmentally Preferable Purchasing
ES&H	Environment, Safety and Health
FEC	Federal Electronics Challenge
FTE	Full Time Equivalent
FY	Fiscal Year
HSM	Heating Systems Modernization
HWMF	Hazardous Waste Management Facility
IDT	Interdisciplinary Team
IH	Industrial Hygiene
ILMS	Integrated Laboratory Management System
ISMS	Integrated Safety Management System
JIT	Just-in-Time
LEED	Leadership in Energy and Environmental Design
LTES	Long-Term Environmental Stewardship
MOW	Member of the Workforce
NEPA	National Environmental Policy Act

NMRC	New Mexico Recycling Coalition
NNSA	National Nuclear Security Administration
OAA	Office Administrative Assistant
ODS	Ozone Depleting Substances
P2	Pollution Prevention
POC	Point of Contact
PPOA	Pollution Prevention Opportunity Assessment
R3	Reduce, Reuse, Recycle
RCRA	Resource Conservation and Recovery Act
RME	Residue Material and Equipment
RMWMF	Radioactive and Mixed Waste Management Facility
SA	Self-Assessment
SA	Sustainable Acquisition
Sandia	Sandia Corporation
SDN	Sandia Daily News
SES	Sustainable Environmental Stewardship
SME	Subject Matter Expert
SNL/CA	Sandia National Laboratories/California
SNL/NM	Sandia National Laboratories/New Mexico
SSO	Sandia Site Office
SWTF	Solid Waste Transfer Facility
TA	Technical Area
TEAMS	Tracking Environmental Actions Management System
UMC	Unneeded Materials and Chemicals
WIMS	Waste Information Management System

1.0 Introduction

The Pollution Prevention (P2) Program is a central element in the Sandia Corporation (Sandia) Environmental Management System (EMS). Sandia's P2 Program is multi-faceted and applies to all activities that use resources and generate waste. These activities include both routine and non-routine operations. Routine operations consist of production, analytical, research and development, treatment, storage, and disposal operations, and other, ongoing periodic and recurring work. Non-routine operations consist of one-time activities associated with new construction, deactivation, demolition, and decommissioning (D&D), and spill clean-up. The term "waste" includes hazardous waste, chemical waste, State-regulated waste, low-level radioactive waste, mixed waste and sanitary waste, as well as inefficient use of resources and overconsumption (e.g., buying more than is needed for the project). The term "resources" is all encompassing and includes any raw material, product, energy source, or natural resource used to fulfill Sandia's mission. This Program plan applies to operations and associated support activities at the Sandia National Laboratories site in Albuquerque, New Mexico (SNL/NM). Since fiscal year (FY) 2009, a separate plan now exists for the SNL site in Livermore, California (SNL/CA).

Sandia has a formal framework for managing its operations called the Integrated Laboratory Management System (ILMS) that flows down the requirements of Sandia's contract with U.S. Department of Energy (DOE). The ILMS and the supporting business rules and documents, such as this plan, are the means by which Sandia satisfies DOE's contractor assurance requirements. The Environment, Safety and Health (ES&H) elements of ILMS are implemented through the [ES&H Manual](#) and the actions of members of the workforce (MOW) and the Environmental Compliance programs in meeting those requirements. This integration is consistent with the requirements of [DOE Order 450.1A, Environmental Protection Program](#).

DOE Order 450.1A (June 2008) requires DOE elements to establish an EMS that is integrated into a DOE site's Integrated Safety Management System (ISMS). The integration of an EMS into the site's ISMS provides a unified strategy for the management of resources; the control and mitigation of risks; and the establishment and achievement of the organization's ES&H requirements and goals. A key component of this strategy is the identification of significant environmental aspects and the establishment of objectives and targets to mitigate those impacts. Environmental programs are crucial to the success of EMS and achieving and improving environmental performance.

The key functions of an environmental program will be:

- Designating the responsibility for achieving objectives and targets at relevant functions of the organization, and
- Determining the means and timeframe by which they are achieved.

The EMS Manual identifies several significant corporate environmental aspects that fall within the scope of the P2 Program. This P2 Program Plan meets the EMS Manual intent and addresses the ISMS/EMS requirements in the DOE Order 450.1A (see section 2.0).

This plan documents the P2 Program at Sandia and is updated annually. The plan provides programmatic guidance and specifies strategies, activities, and methods to reduce the quantity and toxicity of waste and pollutants, conserve resources, and purchase environmentally preferable products.

1.1 Vision

The P2 program promotes and integrates environmental sustainability into all Sandia operations.

1.2 Scope

The P2 Program promotes, supports and implements resource conservation, waste minimization, recycling and green purchasing to achieve environmental sustainability for operations and associated support activities at SNL/NM.

1.3 Mission

The P2 program provides technical support to line customers to meet their mission needs with the goals of optimizing resource efficiency and minimizing waste.

This is accomplished by developing, maintaining and enhancing the corporate infrastructure to integrate P2 into daily work activities. Progress and achievements are reported regularly to the government, Sandia internally and the community.

1.3.1 Good Business Practice and Environmental Sustainability

P2 is viewed as a “good business” practice and helps meet the intent of the Division 9000 goal of Process Efficiency Transformation. In essence, this is the true driver for P2 at Sandia. In this new culture, identification of environmental risks and the ability to develop and apply P2-based solutions becomes a critical means to improve processes, reduce operational costs, improve worker safety and health and protect the environment. The P2 vision is to include environmental sustainability in the transformation.

The environmental sustainability ethic is supported by Sandia’s ES&H objective of Environmental Stewardship which is to “be good environmental stewards and leave our environment in as good a condition as it was when we started our operations.”

Working with environmental sustainability in mind meets the mission’s resource requirements and can also do so in a way that “meets the needs of the present without compromising the ability of future generations to meet their needs.”¹

The City of Albuquerque exemplified the environmental sustainability ethic by announcing a goal to end landfilling of waste by 2030², which entails the entire re-thinking of commodity production, consumption and disposal. This example of a Sustainable Community goal will come in to play as Sandia locates more of its operations in the Sandia Science and Technology Park.

¹ United Nations’ World Commission on Environment and Development (Brundtland Commission) 1987

² Mayor Martin Chavez, City of Albuquerque, June 2006

Printed copies of this document are uncontrolled.

The controlled copy is at http://info.sandia.gov/esh/c_docs/prg.htm

To promote and integrate environmental sustainability into all Sandia operations, the P2 program will seek to include green chemistry principles to significantly reduce hazardous chemical purchases and waste generation; apply resource productivity principles to broadly institute procurement of sustainable products and services; achieve 100 percent recycling of all recyclable commodities; significantly reduce the use/waste of potable water where alternatives exist; and to incorporate sustainable materials management into process and project design practice.

According to SAND Report 2005-6281, *Moving Toward an Energy Surety Future*, striving for sustainability “is far better than blindly marching toward energy resource depletion, environmental exhaustion, and esthetic despair, only to discover that the scarce remaining resources are inadequate to produce the required new infrastructures.” In this light, it appears that environmental sustainability is the preferred business practice.

1.4 Site Description and Operations

As a DOE national laboratory, Sandia works in partnership with universities and industry to enhance the security, prosperity, and well being of the nation. Sandia provides scientific and engineering solutions to meet national needs in nuclear weapons and related defense systems, energy security, and environmental integrity, and addresses emerging national challenges for both government and industry. Sandia is a wholly owned subsidiary of Lockheed Martin Corporation, which manages and operates Sandia under the Management and Operating Prime contract, [DE-AC04-94AL85000](#), with the DOE Sandia Site Office (SSO) and National Nuclear Security Administration (NNSA). This contract defines the principles, working relationships, and contractual and legal requirements under which the laboratory operates.

SNL/NM works on the weaponization of nuclear explosives, nuclear reactor safety studies for the United States Nuclear Regulatory Commission, development of safe transport and storage systems for special nuclear materials including plutonium and uranium, and radioactive waste site characterization studies and disposal techniques. SNL/NM also conducts research in pulsed power nuclear reactors, thermonuclear fusion, renewable energy, environmental technologies, and supports projects for the Department of Homeland Security.

2.0 Legal and Other Requirements

Pollution Prevention (P2) concepts first appeared in the Resource and Conservation Recovery Act (RCRA) of 1976. An expressed concern was to minimize the generation of hazardous waste through process substitution, materials recovery, recycling, reuse, and treatment. It established the reduction or elimination of hazardous waste as national policy and required that hazardous waste generators and RCRA permit holders have a program in place to minimize waste.

The [Pollution Prevention Act of 1990](#) expanded on RCRA, formulating the following policy, known as the waste management hierarchy, for addressing management of waste and pollutants:

"The Congress hereby declares to be the national policy of the United States that pollution should be prevented or reduced at the source whenever feasible; pollution that cannot be prevented or reduced should be recycled in an environmentally safe manner whenever feasible; pollution that cannot be prevented or recycled should be treated in an environmentally safe manner whenever feasible; and disposal or other release into the

environment should be emphasized only as a last resort and should be conducted in an environmentally safe manner."

Other key pieces of environmental legislation and directives also incorporate P2, which include selected Federal legislation or mandates and applicable DOE orders. A brief description of these are provided in Appendix A and can also be found on the internal SNL/NM P2 website, under "Regulatory Drivers."

DOE Order 450.1A requires the site EMS to include objectives and measurable targets, reviewed and updated annually as appropriate, that contribute to achieving the Sustainable Environmental Stewardship (SES) goals in attachment 2 of the Order. The SES goals in the purview of the P2 Program include:

- Waste Prevention,
- Reduction of Toxic and Hazardous Chemicals and Materials, including Ozone Depleting Substances (ODS),
- Environmentally Preferable Purchasing (EPP),
- Electronics Stewardship, and
- Post-Consumer Material Recycling.

These goals are the basis of the Program Improvements identified for the P2 Program. Further, DOE Order 450.1A requires that sites ensure that annual budget requests include the funding and resources needed to implement the requirements of the Order, including achievement of the DOE SES goals.

The P2 Plan presents a specific strategy for implementing the P2 requirements within Sandia.

2.1 Evaluation of Compliance

The P2 Program coordinator is responsible for annually reviewing regulatory updates potentially applicable to the program, to determine if changes in requirements are necessary. These reviews and determination if program changes need to be made are documented in the "[Regulatory Requirements Review](#)" tracking spreadsheet.

The P2 Program coordinator ensures that the regulatory requirements are being addressed through the actions listed in the "[Evaluation of Compliance with Legal and Other Requirements](#)" spreadsheet.

2.1.1 Records Management/Document Control

Documentation to support Sandia's EMS is comprised of both EMS-specific and general corporate and site documents and information sources. Records describe the results of Sandia's projects and facilitate the administrative processes that allow the company to function. Records are the proof and evidence of decisions, progress, accomplishments, etc.

Both records and documents are considered recorded information according to [Corporate Policy: IM100 Information Management](#). Recorded information includes information that:

- Is generated or received for technical/administrative work in conducting Sandia business,
- Contains informational value as evidence of an organization's functions, policies, decisions, procedures, operations, mission, programs, projects, or activities for Sandia,
- Fulfills regulatory recordkeeping requirements specific to programmatic work,
- Documents business actions, such as: what happened, what was decided, what advice was given, who was involved, when it happened, the order of events and decisions, and
- Is an original document related to Sandia business that does not exist elsewhere.

3.0 P2 Organization & Structure

3.1 P2 Staff

The P2 Program staff consists of Sandia and contractor professionals with expertise in waste reduction and resource conservation strategies, practices and technologies. The lead for the P2 staff is designated as the site P2 Program Coordinator and is regarded as the SME. The P2 Program Coordinator is responsible for managing all P2 activities and, as an SME, is also responsible for routinely assessing regulatory requirements for relevance and applicability to their environmental program.

P2 staff members are assigned specific divisions to provide the following services:

- Operational assessments to include: Pollution Prevention Opportunity Assessments (PPOAs), lean events, process assessments and other methodologies, based on the line owner's preference to analyze waste streams and processes that generate them,
- Researching potential product substitutions, process changes, and green purchasing alternatives that result in resource conservation and the reduction or elimination of hazardous and toxic chemicals use and resultant waste,
- Tracking and reporting the purchases of recycled content, biobased and EPEAT registered electronic office equipment items,
- Cost-benefit analyses for P2 opportunities,
- Identification of recycling opportunities and improvement and coordination of recycling efforts,
- Recognition of line and support organization accomplishments and promoting awareness for P2,
- Tracking waste generation, compiling information and completing reports to DOE, State and Federal regulatory agencies, Sandia, and line organizations.

To promote paperless communication and increase awareness, the P2 Program maintains both external and internal websites. Information such as P2 requirements, guidance, technical assistance documents, and success stories are posted.

3.2 Training

Corporate trainings are managed through Sandia's Corporate Learning and Professional Development and tracked using Sandia's [Training and Employee Development System \(TEDS\)](#). Corporate-wide required trainings are automatically populated in TEDS. Specific job-related training requirements are determined by managers or through the Primary Hazard Screening (PHS) process. Managers are responsible for ensuring that all training requirements (corporate and organizational) and completions are input into TEDS.

The P2 program seeks out low-cost training opportunities to improve P2 staff knowledge on P2 strategies, practices and technologies. Examples are the annual Federal Environmental Symposia and regional P2 conferences specific to recycling and green purchasing. Training budget is also leveraged by taking advantage of relevant, locally available courses and workshops.

3.3 Stewardship Partners

The P2 staff interacts with many Sandia organizations to implement the requirements of the P2 Program in support of its vision and mission. The function of each of these organizations and relationship to the P2 Program is described below.

3.3.1 Line Organizations

The line organization is the key functional unit for the implementation of P2 opportunities, as well as ES&H requirements. Line organizations, with assistance from their ES&H Coordinator, their Environmental Compliance Coordinator (ECC) and the P2 staff, are responsible for:

- Reviewing operating practices to identify areas of improvement, and
- Evaluating and implementing cost-effective, alternative practices to reduce pollution, conserve resources, maximize recycling, and purchase environmentally preferred products.

3.3.2 ES&H Coordinators

ES&H Coordinators represent Sandia divisions and centers. They assist their organizations in implementing and complying with all applicable ES&H programs and regulations. The ES&H Coordinators are responsible for disseminating information, and representing the interests of their individual organization. They communicate P2 initiatives to line organizations.

3.3.3 Environmental Compliance Coordinators (ECCs)

ECCs are environmental professionals whose function is to advise and assist line organizations with environmental issues to ensure regulatory compliance. The ECCs work closely with ES&H coordinators, line staff, and other ES&H professionals to identify P2 opportunities for the identification and resolution of environmental issues. P2 works with Environmental Programs and Assurance department to incorporate appropriate language on P2 requirements or opportunities in Corporate Procedure [ESH100.2.ENV.22: Manage hazardous Waste at SNL/NM](#).

3.3.4 Environmental Management System (EMS)

The EMS is a continuing cycle of planning, implementing, evaluating, and improving processes to achieve environmental goals. Sandia's EMS provides an integrated approach for management and MOW to identify and manage environmental risks. P2 is a technical arm of the EMS

program, assisting with implementation of Division goals that align with P2 goals including waste prevention, toxic material reduction, sustainable acquisition and recycling.

3.3.5 Regulated Waste and Pollution Prevention

This department formed in FY10, combining the P2 group with Solid Waste, Hazardous Waste and Classified and Unclassified Waste management personnel. The department will provide guidance and assistance in waste reduction and diversion and exemplary service in collection, storage, treatment, packaging, shipping, disposal, policy communication, and training. The goal is to support the Laboratories' programs in proactively meeting the waste management hierarchy through close collaboration and regular communication.

The RWPP department operates three facilities: the Hazardous Waste Management Facility (HWMF), the Solid Waste Transfer Facility (SWTF) and the Disassembly and Sanitization Operations (DSO) Facility. P2 interfaces with personnel at the SWTF to improve recycling effectiveness and recycling awareness. Collaboration with the HWMF and DSO team supervisors includes identification of recycling and other waste reduction opportunities. Data from the SWTF and HWMF are used by P2 to complete many required reports.

3.3.6 Environmental Programs SMEs

Sandia employs environmental professionals with expertise in environmental regulations, e.g., air quality, wastewater, and stormwater. The P2 staff works with these SMEs to ensure that P2 projects and activities are implemented in full compliance with applicable regulations and to provide positive impact to regulatory requirements, permitted conditions, and other applicable permitting incentives.

3.3.7 Procurement

Supplies and services at Sandia sites can be procured by one of the following methods: Just-in-Time (JIT) contracts, purchase requisitions, and credit cards. Contractors may also bring in and use materials to complete the scope of their work. Each of these purchases is subject to the affirmative procurement (AP), biobased, and electronics stewardship requirements. Sandia's procurement, as directed in the prime contract, is responsible for:

- Providing support to activities that reduce procurement of toxic and hazardous materials,
- Implementing an AP program for U.S. Environmental Protection Agency (EPA) designated products that have a post-consumer recycled content,
- Implementing the U.S. Department of Agriculture Federal BioPreferred Procurement Program giving preference to biobased product alternatives and closed-loop procurement contracts, and
- Placing language that requires purchase of EPEAT (Electronic Product Environmental Assessment Tool) registered products into electronic office equipment procurement contracts.

P2 works with procurement on the above issues and assists them to develop language for new and proposed contracts to ensure that purchases are environmentally preferable and include life cycle environmental assessment where applicable.

3.3.8 Facilities Management & Operations

The management, operations and maintenance of existing buildings and utilities; planning, designing, modifying, and constructing new buildings; demolishing substandard structures; and providing site

Printed copies of this document are uncontrolled.

The controlled copy is at http://info.sandia.gov/esh/c_docs/prg.htm

services is essential to Sandia operations. The Facilities Management and Operations Center carries out these functions. P2 staff works with Facilities counterparts in the following areas:

- Recycling of Construction and Demolition debris,
- Environmentally preferable materials purchasing,
- Environmentally preferable site maintenance practices (grounds, roads, painting), and
- Review and revision to construction specifications to incorporate environmentally preferable materials/practices.

P2 shares the southern portion of the Facilities soil borrow site located at the south end of Sandia's Tech Area III. This 7.5 acre site opened in June 2006 and serves as an accumulation area for the collection of concrete and asphalt debris from the various Facilities construction and demolition projects conducted each year. Approximately once/year, the debris is crushed into reusable product for Facilities infrastructure projects. P2 shares annual maintenance costs of the borrow site, for purposes of SWPPP compliance and fugitive dust control. There is a [Field Operating Procedure \(FOP08-01\) associated with this Concrete and Asphalt Recycling Area \(CARA\)](#), and is available from the Center 4100 Controlled documents website.

3.3.9 Fleet Maintenance

The Fleet Services Department operates the Motor Pool Complex where they perform preventative, predictive, and corrective maintenance activities on vehicles, forklifts, heavy equipment, and carts controlled by Sandia. Fleet Services coordinates the use and preventative maintenance of all General Services Administration vehicles, which are serviced off-site at a contracted automotive repair shop. P2 provides Fleet Services with technical support regarding environmentally preferable practices and products.

3.3.10 Property Management – Reapplication

Property Reapplication is responsible for the management of property-numbered equipment (property), surplus material from line organizations, scrap metal, and Residue Material and Equipment (RME). RME is any material or equipment made surplus from a construction project, which can be sold via authorized auction or recycled.

The P2 staff works with Property Reapplication to:

- Coordinate the staging of scrap metal recycling containers for construction and demolition projects;
- Coordinate the staging of electronics scrap for periodic recycling shipments
- Maximize reuse and recycling opportunities with the surplus material sent to Reapplication; and
- Collect reuse and recycling data

A memorandum of understanding (signed June 2007) exists between P2 and Reapplication that focuses on the new P2 recycling tent and associated recycling processes for excess electronic products, office supplies, scrap metal, carpet tile, ceiling tile and other materials. There is an associated procedures document which has been developed into an Administrative Operating Procedure (AOP) with associated checklist.

3.3.11 Long-Term Environmental Stewardship (SNL/NM)

The Long-Term Environmental Stewardship (LTES) Program is responsible for providing a corporate-wide process for minimizing adverse environmental impacts from Sandia's operations, including new, active and legacy sites. Sandia's LTES Program has adopted the stewardship program definition contained in DOE Order 450.1A, which is defined as a program that "promotes the long term stewardship of a site's natural and cultural resources throughout its operational, closure, and post closure life cycle." LTES planning ensures that environmental quality will be protected through Management and Administration, Information Management, Institutional Controls, monitoring, and outreach. P2 collaborates with the LTES program to improve lifecycle management of hazardous materials and other issues as appropriate.

3.3.12 Chemical Exchange Program (CEP)

The [CEP](#) coordinates the exchange of chemicals at Sandia. Chemical owners submit unneeded chemicals for exchange and other researchers needing specific chemicals can browse the list of available chemicals and request those chemicals of interest free of charge. Once a needed chemical is identified, the transportation of the chemical to the laboratory where it is needed is arranged by the CEP. P2 supports the CEP by encouraging its use among MOW by virtue of a link to the CEP website from the P2 "SNL Freestore" website.

3.3.13 Industrial Hygiene

The mission of the Industrial Hygiene (IH) program is to provide services and tools to enable the line to reduce the risk of work-related diseases and illnesses and the incidence of regulatory non-compliances. IH primarily involves the control of occupational health hazards that occur during the course of work. IH coordinates a review of new chemical-based products by facilities organizations, on an as-needed basis, for the purpose of ensuring their environmental compliance and fire hazard assessment; the scope also includes pollution prevention assessment. Additionally, IH can be queried with respect to mercury and lead reduction initiatives.

3.4 Relationship with DOE/SSO

The DOE/SSO administers the Sandia contract and oversees Sandia (contractor) operations at SNL. Sandia and DOE work together in a cost-effective and timely manner utilizing best management practices to ensure regulatory compliance and the protection of human health and the environment.

Sandia and DOE facilitate communications through periodic meetings on the status of the P2 Program performance. SSO P2 Program point of contact (POC) is invited to periodic P2 program meetings to discuss activities, successes and potential issues.

SSO is the external POC whose roles include:

- Interfacing with the EPA,
- Communicating with the public,
- Making decisions and setting policy which obligates DOE, and
- Providing oversight to Sandia's P2 Program.

4.0 P2 Program Implementation

The P2 Program is implemented by conducting specific activities aligned with the SES goals outlined in Attachment 2 of DOE order 450.1A (See Appendix A, Regulatory Framework of this document) as well as additional activities in focus areas deemed important by the P2 program. This section describes the objectives and activities planned for FY10 for each of these focus areas. Planned activities are listed in a bulleted format for each focus area. The goals of all activities are to optimize processes, reduce environmental hazards, conserve environmental resources, minimize life-cycle cost and liabilities, and strive for environmental sustainability.

4.1 Technical Assistance

The prime opportunities for integrating P2 into laboratory operations are via direct technical assistance and customized guidance or support. In FY11, the P2 group will be more proactive in developing the means to and providing this assistance, e.g., “menu of services”. This may include developing a low-fee cost structure for operational assessments.

- Develop a P2 “Menu of Services” and associated presentation to promote awareness of P2 support capabilities. By Q1
- Maintain a tracking system (log) of technical assistance requests from line customers, including associated responses and actions taken by P2 personnel. Ongoing.
 - Strive to participate in at least two Lean/Six Sigma events per year to integrate P2 into Division thinking.
- Present the P2 Menu of Services (customized as appropriate) to one representing group within Divisions 1000, 2000, 5000 and 6000 (such as ES&H coordinator meetings or EMS coordination meetings, etc.). Schedule TBD.
 - Solicit opportunities to assist line customers
 - Discuss value of PPOA’s as well as other means of operational assessments.
- Attend and participate regularly in Division ES&H Coordinator or EMS meetings. (Ongoing)
 - Concentrate on Divisions 1000, 2000, 5000, 6000 & 10000
 - Present quarterly waste generation information, with breakdown charts
- Utilize operational assessments to include: PPOAs, Lean events, process assessments and other methodologies, based on the line owner’s preference to analyze the waste streams and processes that generate them,
- Assist Divisions with achieving targets set in Division EMS Action Plans, e.g., waste reduction, post-consumer recycling, sustainable acquisition.
 - Work with Centers and departments which have FY11 goals of reducing hazardous waste generation compared to the FY10 baseline
 - Assist with objectives for particular green purchasing targets established in FY11 EMS action plans.

4.2 Waste Prevention

Waste prevention will be accomplished in FY11 by eliminating or minimizing the generation of wastes and other pollutants, through source reduction including segregation, substitution, and reuse of materials that could otherwise create future environmental legacies.

4.2.1 Radioactive, Hazardous and Chemical Waste

- Work with the HWMF to further develop the FY10 proposed process improvement work plan that identified more environmentally beneficial disposition options for:
 - Soil contaminated with oil,
 - Ethylene/propylene glycols,
 - Oil mixed with water, and
 - Shipment of uncrushed fluorescent light tubes.
 - Rechargeable batteries
- Beryllium-contaminated material continues to be the highest State-regulated waste stream (D1000 & D2000). Review ESH100.2.IH.24 and understand beryllium contamination, decontamination and its disposal process impacts. Document and save to P2 shared drive.
- Per FY09 ROA, work with the HWMF to evaluate the downstream recyclers of hazardous materials to assure proper handling and treatment, while minimizing material exporting.
- Support Corporate EMS Target to reduce hazardous waste generation:
 - Determine FY10 corporate baseline with breakdown by Divisions, with highest generators identified by waste type and in what buildings. Share with EMS representatives by 11/30/10.
 - For highest waste generators, meet with Division EMS Team(s) to determine method of and timeline for Waste Reduction assessment by 3/15/2011.
 - Determine and prioritize hazardous waste (reduction) opportunities by 8/30/2011.
 - Lead and/or support PPOAs for applicable Divisions
- With completed assessment(s), report on potential reduction(s) and develop an implementation strategy for outward years.

4.2.2 Interactions with Other Organizations

- Continue to support and participate as P2 project reviewer for the Tracking Environmental Actions Management System (TEAMS) process to identify P2 actions in projects seeking NEPA approval.
- Set meetings with stakeholders and using FY08-10 baseline, develop a high-level outline for milestones and categories of work to strive for Sustainable Community goal of Zero Waste to landfill by 2025. By Q3.
 - Outline of plan established by P2 staff in Q1
- Triage new requirements or requests received during the year, not included in P2 plan. Decide to pursue or not, assign person and agree on timeline. Amend to P2 Plan if adopted.
- Work with Facilities Architect, et al, to review, prioritize and amend Construction Specifications for updated or new EPP, Waste Reduction or Recycling requirements.

4.3 Toxic and Hazardous Chemical Reduction

These activities will eliminate or minimize the acquisition, use and any associated release of toxic and hazardous chemicals and materials that would otherwise require control, treatment, monitoring, and reporting.

4.3.1 Mercury Reduction

- Create a mercury awareness program to encourage the reduction of mercury acquisition and use onsite.

4.3.2 Chemical Inventory Reduction

- Work with two Division ES&H/EMS teams to develop targets to reduce chemical inventories in FY12, to include participation in Chemical Exchange Program. By Q3

4.3.3 Lead Use Survey

- Perform operational assessment of lead use on site for purposes of potentially setting a target and recommendations for reduction in FY12.

4.4 Sustainable Acquisition (SA)

Sustainable acquisition replaces “Environmentally Preferable Purchasing” and includes procurement of products that contain recycled and biobased content, as well as other environmentally preferable products. Working with Procurement, Fleet, Facilities and line organizations, the following activities are intended to institutionalize SA and to meet the SSPP goal that 95% of all new, applicable, contract actions include appropriate SA requirements.

- Promote the acceptance of the new DEAR clause 970.5223-7 (Sustainable Acquisition Program) into Sandia’s Prime Contract, as replacement for DEAR Clause 970.5223-2 (Affirmative Procurement Program) now in Sandia’s Prime Contract
- Seek concurrence and implement SA language in Supply Chain Management P/P/P in order to establish unequivocal guidance for procurement. Contingent upon this occurring:
 - Work with Corporate and Strategic Purchasing to update/include Sustainable Acquisition language in JIT contracts
 - Identify and work with other affected Procurement areas that need attention, e.g., Section II language that would address the “95% requirement”.
 - Work with Facilities POCs to amend PO’s, specifications and design manual to require Energy Star, FEMP, and WaterSense products as applicable.
- Strive for 100% compliance with EPA’s comprehensive procurement guidelines (CPG),
 - Update/validate existing exemption justifications for AP reporting on a regular basis.
 - Implement controls on Sandia Office Supply contract to increase compliance in target CPG areas.
 - Produce lists stating required recycled content for specific products,
 - Provide list to vendors and update contract to reflect compliance.
 - Work with P-Card administrator to decrease non-compliant purchases
 - Work with janitorial supplier to list recycled content for sanitary, and
 - Work with paper supplier to get recycled content listed on product descriptions

Printed copies of this document are uncontrolled.

The controlled copy is at http://info.sandia.gov/esh/c_docs/prg.htm

- Purchase products listed in the USDA BioPreferred Program adopted for compliance by the DOE. The BioPreferred Program has identified 50 product types in 5 categories.
 - Update the matrix developed in FY09 by continuing to determine the applicable and non-applicable products, as well for Round 5 & Round 6 designated items,
 - Continue implementation of biobased and other substitutions at Facilities maintenance warehouse and Fleet services; see reporting requirements in 4.8.
 - Interface with Fleet & Procurement on P2-related input for the bid and award of a new auto parts supply contract.
- Make time available to address opportunities for improving provision of, and/or reporting of, environmentally preferable products not identified in this Program Plan. Record as needed.

4.5 Electronics Stewardship

The activities will incorporate practices geared to minimize the economic and environmental impacts of life cycle electronics ownership (procurement, operations, end-of-life disposition).

- Procurement,
 - Promote EPEAT Gold for Monitors.
 - Pursue 90 percent or higher of electronic product purchases to meet Electronic Product Environmental Assessment Tool (EPEAT) Gold requirements,
- Operations,
 - Work with CSU to achieve 100 percent monitors power management,
 - Assist CSU Production Tools and Energy Management with the implementation of Nightwatchman (NW) and WakeUp (WU) Lan products
 - Define reporting parameters for quarterly data collection on NW progress, savings
- Promote the reuse, donation, or recycle of 100 percent of excess electronics products,
 - Complete contract with UNICOR.
 - Assist Org 10264-1 regarding used computer reapplication and computers to schools program implementation.
- Work with Org 9343 to reduce unnecessary network and individual printers:
 - Networked copiers
 - Standardize on printers:
- Work with SNL CSU, printer vendors and a customer focus group to develop a process improvement work plan to consolidate the number of printers available for purchase at SNL. Identify Senior Manager Champion to concur with work plan. Q4
- Continue participation in the Federal Electronics Challenge (FEC) and seek FEC-Silver level recognition or higher. Q2

4.6 Recycling of Solid Waste

These activities will encourage recycling of solid waste by diverting materials, suitable for reuse and/or recycling, from landfills, thereby minimizing the economic and environmental impacts of waste disposal, and long-term monitoring and surveillance. The P2 Staff assists waste management, line and support organizations in implementing, maintaining and improving comprehensive and effective programs for reuse and recycling of routine and non-routine wastes.

Printed copies of this document are uncontrolled.

The controlled copy is at http://info.sandia.gov/esh/c_docs/prg.htm

- Direct support to Corporate EMS target:
 - By FY12, divert 60 percent of non-hazardous solid waste, i.e., that which can be disposed in landfill (excluding construction and demolition debris).
- Support recycling targets established in FY11 Division EMS action plans,
- Assist the SWTF to improve customer service and tracking of requests,
 - Complete review of TeamTrack or similar supported software, and
 - Create implementation plan.
- Support the maintenance and operation of existing recycle streams as needed.
- Update the Material Recycling Assessment spreadsheet (Y:\07 Reuse & Recycling\Materials for Recycle) for current status and current P2 Staff personnel, as applicable.
- Collaborate where possible with KAFB on routine and non-routine waste recycling and use of recycled content products
 - Answer question posed by WPAFB - Is your recycling program cost effective?
 - Interface with KAFB and SWTF personnel on changes to SWTF's support for KAFB recycling programs

4.6.1 Recycling Opportunity Assessment

- Rank order and address the high priority actions of the FY09 Recycling Opportunity Assessment.
- Address medium and low priority actions where practical.
- Report progress quarterly for what has been completed and what is in process.
- Compile at end of FY.

4.6.2 Office Recycling

- Using Sandia's Leadership in Energy and Environmental Design (LEED) certified buildings, develop a basic set of criteria for an optimum building recycling set-up (e.g., typical material segregation, bins, signage, points of contact, additional recyclables) and pilot use,
- Support the collection, segregation and processing of packing foams at the SWTF.
 - Assist with periodic (3-4 times per year) grinding of foam
- Observe operations on the SWTF floor (waste and recycling) to be familiarized with process and identify materials of diversion interest. Complete by Q3
 - Date and keep log of observations, e.g., by approximate percentages
 - In particular, note extent of cardboard in waste stream
- Continue to expand the mixed paper recycle stream through awareness, collection bin distribution, and adding more yellow mixed paper dumpsters around the site.
- Work with Custodial and their management on pilot collection of Mixed Paper recycling bins with solid waste removal. By Q3
- Pursue the diversion of shredded paper from solid waste to being recycled. Depending upon funding:
 - Implement SWTF equipment addition (conveyors, rolloff and pad),
 - Establish process using Unicor Inc as the local vendor recipient.

4.6.3 Reapplication & P2 Tent

- Work with Property Reapplication/Reclamation to improve equipment and material reuse, especially regarding computers,
- Optimize plastics collection, processing and labeling for best possible value recovery,
- Improve the Toner Exchange program by:
 - Automating inventory control using barcode scanning database,
 - Bringing awareness of new interface of Toner Exchange program with Toner JIT purchase website to Sandia staff, CSU personnel and Office Administrative Assistant (OAA) personnel.
 - Implement quarterly Toner Exchange awareness SDN articles.
- Improve the Binder Exchange program by:
 - Establish an inventory management system at P2 Tent,
 - Seek new avenues for awareness efforts.
- Investigate opportunities to establish formal office supply reuse program.

4.6.4 Construction & Demolition (C&D) Waste Recycling

- Continue to support implementation of standard construction specification 01505, Construction Waste Management (Ongoing),
 - Be proactive on waste characterization of new C&D projects for reuse or recycling potential. Strive for at least four projects this FY
 - Work with contractors to facilitate construction waste recycling and reporting,
 - Coordinate activities between construction contractors and recycling vendors, the SWTF and Reapplication
 - Spec 1505 is candidate for updating.
- Track usage, supply technical support and conduct awareness training for the construction and demolition (C&D) Recycle Center (Ongoing),
 - Obtain “customer satisfaction” feedback from C&D Recycle Center users to identify potential improvements to process and/or service,
- Contact the Kirtland Air Force Base (KAFB) landfill management personnel to investigate the feasibility of diverting KAFB-generated asphalt debris for recycling by SNL. This includes investigating potential teaming opportunities for concrete and asphalt recycling by both sites.
- Investigate and determine the relative cost-effectiveness of recycling roof membrane and insulation. Document findings, Q2.
- SNL use of KAFB C&D waste landfill
 - Explore possibility of instituting cost-neutral landfill tipping fee to Construction Contractors, improving the incentive for recycling over disposal.
 - Prepare white paper on reason to update the calculation for annual fee paid by SNL/NM for use of landfill, currently ~\$385,000 per year

4.6.5 Scrap Metal

- Investigate methods to improve efficiency of metal recycling, including segregation of different metal types.
- Support the rebid of the bulk scrap metal collection and hauling contract
- Interface with scrap metal contract SDR on the deployment and tracking of scrap metal roll-off bins.

- Small quantity scrap metals:
 - Identify routine generators (buildings/areas and contacts),
 - Input locations into Recycling GIS,
 - Establish location-specific processes to maintain metal segregation.

4.6.6 Wood

- Improve efficiency of the Wood Pallet reuse/recycling program by:
 - Investigate opportunities to salvage broken pallets through local pallet recycling company (Rite-Way Pallet Recycling).
 - Continue to improve all other wood scrap recycling through Wood U Recycle or Soilutions (Ongoing)

4.6.7 Decontamination and Demolition (D&D)

- Provide support to D&D program through identification of opportunities to reduce, reuse, and recycle deconstruction waste for FY11 projects.

4.6.8 Concrete and Asphalt Recycling Area (CARA)

- Promote and support use of the CARA to concrete and asphalt debris generators,
- Provide oversight to CARA operations and maintenance (Ongoing),
- Promote conphalt use by KAFB. Prepare and give upper management briefing. Research and possibly identify other US Bases that utilize CCBC/Conphalt.
 - Utilize existing AF report on Alkaline Silica Reactivity
 - Address periodically stated concerns, e.g., leaching of pollutants, of using processed asphalt debris on dirt roadways on KAFB. Utilize report “RAP Leaching Study” to prepare informational paper for internal release. By Q2
- Identify end-users of the crushed material and secure commitment to use for dust control on remote area dirt road, base course for roadway reconstruction, and track-off pad replacement (Ongoing),
 - Coordinate with Facilities to install conphalt on one mile of dirt road and update documented annual savings (\$, water, chemicals, etc.)
 - Find new user of existing stockpile of 3”minus concrete/asphalt crushed 9/09
- Coordinate crushing of the material if supply and demand exists. (Q4),

4.6.9 Recycling Geographic Information System (GIS)

- Map and populate with data all tilt-hoppers and paper recycling totes onsite,
- Provide cross-training/familiarization for P2 Staff.

4.6.10 Reinvestment of Recycling Revenues

- Develop a preliminary budget of expenses from the Recycling Revenues P/T, using a figure of \$175K:
 - Recycling Field Tech labor
 - SWTF physical improvements (design and phased construction)
 - Infrastructure investments
 - Potential purchases made for Facilities, Line recycling participants, Fleet, Reapplication, CSU

- Track and revise monthly, submitting revised spreadsheet to financial analyst for verification of transactions.

4.7 Awareness and Outreach

Awareness activities are used to inform the public and the Sandia workforce about the benefits of environmental sustainability, and P2 as well as to reward and encourage Sandia personnel and organizations that create and/or participate in environmentally sustainable practices.

- Conduct a plastics recycling awareness campaign,
- Submit P2 award nominations (e.g., DOE, WasteWise, GreenGov and others),
- Assist line organizations to submit nominations for annual EMS Environmental Excellence Awards. (Q1)
- Update R3 factsheets for new hire orientation, in view of DOE SSPP awareness requirements. (Q3)
- Publicize P2 tips during National P2 Week (3rd week of September)
- Develop short video(s) for awareness and motivation on the reduce/reuse/recycling and/or buy green messages
- Attend and/or present technical papers at workshops and conferences as possible
- Maintain and Revise P2 websites (internal and when possible, external)
 - Update Green Purchasing and Electronics Stewardship pages of internal website
 - Upgrade internal website design and content, including use of enterprise mapping tool for recycling infrastructure display if technology permits.
 - Complete external website updates for current Corporate programming requirements and content
- Participate in Earth Day and other EMS coordinated events,
 - For Earth Day 2011, create a “WasteShed” poster to demonstrate the far reaching nature of waste management disposal and recycling for material streams managed by the SWTF, the HWMF and by P2.
- Review and contribute to applicable ES&H P/P/P Revisions, and
- Aim to give one presentation to class/school in Albuquerque Public Schools district on the Reduce/Reuse/Recycle and Buy Green theme.

4.8 Data Analysis and Reporting

The collection, analysis, and reporting of waste generation, recycling and SA data is a key function of the Sandia P2 Program. Specific reports are detailed in section 5.0.

Data Analysis and Reporting activities include:

- Maintain formal, routine quality assurance review of all data and reports,
- Provide P2 portion (waste minimization, sustainable acquisition, electronics stewardship) of first draft of FY10 Site Sustainability Plan by 11/12/2010.
- Improve ease and accuracy of reporting of SA data:
 - Work with Procurement and Oracle purchasing personnel and management to improve identification of SA products at time of purchase, and

- Work to eliminate JUSTIFIED categories from CPG reporting.
- Revise construction AP report to reflect updates to DOE reporting requirements
- Revise reporting methods for JIT CPG reporting to reflect updates to DOE reporting requirements
- Implement a reporting procedure for Border States Facilities maintenance contract, to capture biobased and recycled content purchases
- Update and refine tracking spreadsheet for contract Sustainable Acquisition language tracking, since this is to become reportable in FY11.
- Implement biobased product purchase tracking, according to established procedure
- Post quarterly Waste Chargeback reports on the internal P2 websites and notify ESH coordinators et al,
- Compile quarterly data to the EPA WasteWise program and provide annual WasteWise report (due March 31, 2011),
- When available, utilize new WIMS data to do a multi-year historic data analysis of waste stream ultimate disposal paths, and
- Provide requested activity reports to management.

4.9 Self-Assessment (SA) - Activities

Each program is assessed annually through review and revision of program plans. Additionally, formal SAs may be conducted according to center procedures and requirements. Independent assessments of the P2 Program are scheduled at least once every five years by the P2 Program Coordinator in coordination with the group's manager and the ES&H Self Assessment Project Lead. The last P2 program SA was conducted in May 2008.

SNL/NM has an established ES&H Functional Area Self-Improvement Program. Self assessments (SAs) are required based on guidance in the [Corporate Procedure: CG100.6.3 Perform Assessments](#) and conducted according to guidance in the *Environmental Programs Quality Assurance Plan*, [QUA 94-06](#).

SA activities include:

- Track progress of P2 Program Plan activities in an annual spreadsheet. The P2 group will meet to record progress by the end of March and the end of August each FY.
- Review and Revise P2 Program Plan activities annually.
- Conduct and document Evaluation of Compliance

Work Planning and Control activities include:

- Create a P2 Primary Hazard Screening (PHS) and determine necessary additional training.
- Implement Work Planning and Controls (WP&C) for activities under the P2 PHS.

5.0 Reporting

Below is a summary of the Sandia P2 reporting requirements.

Printed copies of this document are uncontrolled.

The controlled copy is at http://info.sandia.gov/esh/c_docs/prg.htm

5.1 Annual P2 Performance Reporting to DOE

DOE HQ requires that each site prepare an annual report on its waste generation and recycling, sustainable acquisition and electronics stewardship for the previous FY. The P2 staff collects and compiles the information, completing the web-based data entry on the DOE Pollution Prevention Tracking and Reporting system (PPTRS), reviewing the report with DOE/SSO for approval and then final submittal to DOE Headquarters. Some requested data, such as green house gas emissions, are tracked and submitted by other programs at Sandia. The data submittal is due by the end of November.

- P2 collects and compiles the data quarterly and follows procedures for each category in order to assure data quality for official reporting and for trending purposes. These procedures are maintained on the P2 program shared directory on one of Sandia's corporate computing servers.

P2 also reports on annual site environmental sustainability accomplishments to PPTRS, by submitting nominations to the DOE P2 Awards nomination process.

5.2 RCRA Waste Minimization Certification

Per the RCRA and Hazardous and Solid Waste Amendments (RCRA/HSWA) permits issued, Sandia is required per Section B.1 to certify annually that it has a program in place to reduce the quantity and toxicity of hazardous wastes generated in compliance with EPA guidance. The P2 staff is responsible for ensuring this certification is completed and provided to the Environmental Compliance department to be filed in the operating records of the permitted facilities.

SNL/NM submits this certification by December 1 for the previous FY and it must be signed by a Sandia officer (i.e., Vice President or higher) and the DOE/SSO Manager.

5.3 RCRA Biennial Report

Sandia is required by RCRA to report the hazardous waste generated, treated, disposed, and minimized by the facility. The report is submitted biennially by March 1 of even-numbered years to the New Mexico Environment Department. The P2 staff provides the documentation of waste minimization efforts and results for the RCRA Biennial report.

5.4 EPA's WasteWise Program

The EPA's WasteWise Program is a voluntary partnership program to help businesses and institutions find practical methods for reducing solid waste. The P2 Program joined WasteWise in 1997 to demonstrate SNL/NM's commitment to implementing waste reduction activities. WasteWise focuses on three areas: waste prevention, recycling collection, and buying or manufacturing recycled-content products. As a WasteWise partner, SNL/NM submits an annual report documenting waste reduction efforts in the three focus areas. In addition, P2 annually seeks to submit award applications to the EPA for recognition from WasteWise in the three focus areas.

5.5 Annual Site Environmental Report (ASER)

Per [DOE Order 231.1A, Environment, Safety and Health Reporting](#), Sandia is required to prepare an ASER that describes all environmental releases, environmental monitoring activities, significant environmental compliance programs, and waste management programs. The P2 Program staff is responsible for preparing and submitting the portions of the report relevant to P2 including accomplishments in waste reduction, awareness, EPP, reuse/recycling, and awards as well as waste generation and recycling data. Each program submittal is due by the end of February for the previous calendar year (CY).

5.6 Waste Generation and Chargeback Reports

The P2 staff provides quarterly reports to division ES&H coordinators and EC Coordinators. The quarterly reports are posted on the internal P2 website.

The reports are based on WIMS data and contain charts showing trends in waste generation volumes and chargeback values for each division. This information enables line organizations to identify sources of waste and to work with generators to analyze how to reduce waste generation and associated costs. A summary is also provided that contains the waste category types and a sum of the total quantities of waste generated and recycled during the quarter.

5.7 P2 Progress Reports

The P2 staff compiles monthly P2 progress reports and P2 coordinator provides highlights to DOE/SSO and the NNSA Service Center that describe the recent activities of the P2 programs.

Appendix A – Regulatory Framework for P2

FEDERAL LAWS

The Pollution Prevention Act of 1990 establishes a national policy for P2 and introduces what is known as the Waste Management hierarchy. The hierarchy requires facilities to prevent pollution at the source whenever feasible, followed by reuse/recycle, then treatment, and compliant disposal as the last resort. It established an EPA P2 office and national P2 program.

National Environmental Policy Act (NEPA) requires the consideration of options to reduce environmental impacts, including P2, for governmental projects.

The Resource Conservation and Recovery Act (RCRA) established a cradle-to-grave management framework and a regulatory system for solid waste. Waste generators must have a waste minimization program in place that reduces volume and toxicity of waste.

Another section of the act (RCRA 6002) requires procurement of products that contain recycled-content or recovered materials. EPA's Comprehensive Procurement Guidelines (CPG) program is authorized by Congress under RCRA 6002 and by E.O. 13101, since superseded by E.O. 13423. The CPG is the driver for Sandia's affirmative procurement (buy recycled content) requirements.

EXECUTIVE ORDERS (EO)

EO 13514, Federal Leadership in Environmental, Energy and Economic Performance, signed October 2009. Implementation of the Executive Order will focus on integrating achievement of sustainability goals with agency mission and strategic planning to optimize performance and minimize implementation costs. EO 13514 superseded EO 13423.

DOE ORDERS (as listed in Sandia's Prime Contract baseline of directives)

DOE Order 450.1A, Environmental Protection Program, (6-4-08), establishes the requirements for EMS and responsibilities necessary to achieve the five performance-based SES goals listed below. The goals are to be achieved through site implementation of the accompanying sustainable practices, as appropriate, and their integration into EMS.

1. Reduce or Eliminate the Generation and/or Toxicity of Waste and other Pollutants at the Source through Pollution Prevention.
2. Reduce or Eliminate the Acquisition, Use, and Release of Toxic and Hazardous Chemicals and Materials.
3. Maximize the Acquisition and Use of Environmentally Preferable Products in the Conduct of Operations.
4. Reduce or Eliminate the Environmental Impacts of Electronic Assets.
5. Reduce Degradation and Depletion of Environmental Resources through Post-Consumer Material Recycling.