

# Zero Waste Strategic Plan

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& Associates



Materials Sustainability  
**MSP2**  
Pollution Prevention

**PREPARED FOR:**

Sandia National Laboratories, Albuquerque, New Mexico

## Executive Summary

### BACKGROUND

Sandia National Laboratories/New Mexico is located in Albuquerque, New Mexico, primarily on Department of Energy (DOE) permitted land on approximately 2,800 acres of Kirtland Air Force Base. There are approximately 5.5 million square feet of buildings, with a workforce of approximately 9200 personnel.

Sandia National Laboratories Materials Sustainability and Pollution Prevention (MSP2) program adopted in 2008 an internal team goal for New Mexico site operations for Zero Waste to Landfill by 2025. Sandia solicited a consultant to assist in the development of a Zero Waste Strategic Plan. The Zero Waste Consultant Team selected is a partnership of SBM Management Services and Gary Liss & Associates.

The scope of this Plan is non-hazardous solid waste and covers the life cycle of material purchases to the use and final disposal of the items at the end of their life cycle. The Zero Waste Consultant Team performed the following tasks:

- Reviewed recent trends of and current infrastructure for waste disposal and diversion.
- Reviewed recent waste diversion opportunity analyses and reports.
- Interviewed current potential partners and stakeholders, including the following groups over a 3-day period in Albuquerque:

#### **SNL STAKEHOLDER MEETINGS**

- MSP2 staff and Manager
- Facilities (Offices/Construction/Grounds & Roads/Structural Services/Warehouse/EMS)
- Vehicles Management
- Food Services & Retail
- Procurement (Offices/Construction/Manufacturing/Logistics/Policy/Infrastructure/JIT)
- Recycling & Waste staff (Custodial/ Solid Waste Collection & Recycling Center/Recycling Field Techs/Environmental Compliance)
- Line Operations and procurement (Manufacturing/Computer Support)
- Logistics (Warehousing and Distribution/ Shipping and Receiving/ Property Management & Reapplication Services)
- Senior Management (David Gibson, Fran Nimick, and Jeff Jarry)

#### **TOUR OF FACILITIES**

- Office/Cube and common areas
- Conference Rooms
- Copy/Print
- Cafeteria/Break Areas
- Laboratories
- Shipping/Receiving and Warehouse
- Exterior
- Reuse, Recycling, Composting & Waste Infrastructure

#### **TOUR OF PARTNERS**

- Friedman Recycling
- Bio-Pappel
- Soilutions
- Albuquerque Bernalillo County Water Utilities Authority
- ABQ Metals

#### **ADDITIONAL ANALYSIS**

- Evaluated the existing system, what's in the MSP2 program elements, what's being accomplished and what needs enhancement and/or modification to make considerable improvements in Materials Sustainability.
- Included a marketing plan for upper management and the workforce as part of the Zero Waste Strategic Plan.
- Developed this Zero Waste Strategic Plan with interim milestones.

## KEY FINDINGS

- **Sandia achieved a diversion rate of 65.3% by weight in 2013** (Routine Commercial Solid Waste).
- The MSP2 team has done a great job of setting up reuse, recycling, composting and other waste diversion programs.
- Procurement and logistics offices are providing real leadership to eliminate wasteful practices.
- Reuse, recycling and composting infrastructure and processes are advanced. The current program covers all the major material categories and appears to be implemented well throughout the facilities.
- Sandia employees and contractors embrace the goal of Zero Waste and want to help get there.
- Sandia Zero Waste program supports multiple internal and external Sandia and DOE policies, including:
  - Executive Order 13514 Sustainability goals for Federal agencies
  - U.S. Department of Energy Strategic Sustainability Performance Plan (SSPP)
  - Sandia/New Mexico Site Sustainability Plan
  - City of Albuquerque Climate Action Plan
  - Sandia FY11-15 strategic objectives:
    - Lead the complex as a model 21st century Government owned Contractor operated national laboratory
    - Commit to a learning, inclusive and engaging environment for our people

## KEY RECOMMENDATIONS

Focus on employee and contractor education, more emphasis on reduce and reuse and buying Green policies and programs, and successful implementation of new simplified recycling and composting programs to get to 90% and be recognized as a Zero Waste Business. Our recommendations are laid out in six categories in order of importance and are explored in detail in the “Policy, Program and Facility Recommendations” section starting on page 22:

### 1. Simplify the Process

- Modified Single Stream Recycling
- Capitalize on Public's recognition of new CABQ recycling program
- Desk Collection or Central Trash/Recycle
- Ensure Bin availability and co-location
- Clear and Concise labeling
- Re-address Sensitive Paper Process

### 2. Culture Change

- Green Teams
- Awareness
- Education
- Training
- Reinforcement, Incentives

### 3. Expand reduction, reuse, recycling and composting programs

- Compost Expansion
- Lean Path or Trim Trax for Cafeteria Operation
- Electronics and Peripherals collection system

- C&D collection expansion
- Lab Recycling Optimization
- Junk Mail Reduction
- Glass Recycling

#### 4. Develop and Adopt new Policies, Procedures, Rules and Incentives

- Data Tracking, Accountability and Periodic Review of Progress/Status
- Align with Corporate Lean Six Sigma
- Compliance as a performance measure
- Develop guidelines and policies for selection of scrap sale to vendors
- Include Zero Waste Requirements in Contracts

#### 5. Support use of materials locally in Closed Loops for Highest and Best Use

- Food Donation
- Compost
- Sustainable Development and increasing Green Industry
- Federal and/or Regional Cooperation

#### 6. Product Stewardship and Extended Producer Responsibility

- Extended Producer Responsibility (EPR)
- EPEAT
- Redesign of Products and processes
- Bans of Problem Materials

### TOOLS FOR ENSURING PROGRESS

- Monthly Data Tracking
- Recycling Opportunity Assessment every 4 years
- Waste Characterization Study every 2-3 years
- Internal Waste Analyses annually
- Tactical Road Map – list steps required to complete the strategy each year
- Annual Budget - Develop forecast of requirements and targets for upcoming year
- Semi-annual Business Review to leadership

### TIMELINE

- Much of the impactful programmatic change is compressed into the first 3 years
- Zero Waste performance of 90% or better **could** be reached by 2018

### NEXT STEPS

- Gain High Level Management Support for Zero Waste Corporate Goal
- Initiate steps to launch recycling and compost expansion
- Determine team for branding, signage and education project
- Integrate findings from 2014 Waste Characterization Study
- Join USZWBC for info and to get certified